BOOK OF ABSTRACTS

Cairns Hospital Auditorium

Wednesday 16 October 2019
## PROGRAM

**Cairns Hospital Auditorium 16 October 2019**

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<td>9.00am</td>
<td><strong>Registration opens</strong></td>
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<tr>
<td>8:45</td>
<td><strong>Welcome to Country</strong></td>
<td>Traditional Owners</td>
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<tr>
<td>9:00</td>
<td><strong>Symposium Opening</strong></td>
<td>Professor Edward Strivens</td>
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<tr>
<td>9:05</td>
<td><strong>Understanding Integrated Care and its Effective Implementation: Lessons for Australia</strong></td>
<td><strong>Keynote speaker</strong> Professor Nick Goodwin</td>
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<td>9.40</td>
<td><strong>OPEN ARCH: A model of integration for the older person with complex needs</strong></td>
<td>Jennifer Mann</td>
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<td>9:50</td>
<td><strong>Building Healthier communities through multidisciplinary community-based lifestyle interventions</strong></td>
<td>Justin Chapman</td>
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<td>10:00</td>
<td><strong>Long term safety and cost effectiveness of Endoscopist Directed Nurse Administered Propofol Sedation for routine endoscopy at Cairns Hospital</strong></td>
<td>Peter Boyd</td>
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<td>10:10</td>
<td><strong>Discussion</strong></td>
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**Morning tea break: 10.25am-10.55am (30 mins) Poster viewing**

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<td><strong>Indigenous Research: A Solution to a Health System Free of Racism and Inequality</strong></td>
<td><strong>Keynote speaker</strong> Professor Roianne West</td>
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<td>11.30</td>
<td><strong>Kimberley Mum’s Mood Scale</strong></td>
<td>Yvonne Cadet-James, Jo Neville, Di Jans</td>
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<td>11.40</td>
<td><strong>Community-driven research: capacity strengthening in the Torres Strait</strong></td>
<td>Malcolm McDonald, Luisa Roeder</td>
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<td>11.50</td>
<td><strong>Primary prevention of cardiovascular disease in minority Indigenous populations</strong></td>
<td>Lea Merone</td>
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<td>12.00</td>
<td><strong>Incidence and consequences of early childhood anaemia among Aboriginal and Torres Strait Islander children in remote communities of far North Queensland: a retrospective cohort study</strong></td>
<td>Dympna Leonard</td>
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### Exploring evidenced-based risk assessment for Aboriginal and Torres Strait Islander people who come to the emergency department with possible heart attacks

Tania Davis, Katrina Starmer

**12.10**

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### Evaluating the utility of the Kimberley Indigenous Cognitive Assessment short form (KICA screen) in a telehealth setting

Rachel Quigley

**12.15**

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### Discussion

**12.20**

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**Lunch Break: 12:35pm - 01:15pm (40 mins) Poster viewing**

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### Medical Marvels

**Chair: Rachel Quigley**

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<td>On the road to making ‘Cairns Hep C Free by 2020’ – are we there yet?</td>
<td>Carla Gorton</td>
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<td>1.25</td>
<td>Cardiovascular Outcome in Pregnancy in Far North Queensland</td>
<td>Mimi Wong</td>
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<td>1.35</td>
<td>Clozapine use in Cairns: how do we compare?</td>
<td>Tahnee Bridson</td>
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<td>1.45</td>
<td>Experimental Hookworm Infection in Humans with Metabolic Disease: A Phase 1b Trial</td>
<td>Doris Pierce</td>
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<td>1.55</td>
<td>Optimizing intensive care unit management of leptospirosis to reduce mortality</td>
<td>Yu-Hsuan Dave Liu</td>
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<td>2.05</td>
<td>Battle in the backyard: Inter-species competition between two dengue vectors in Queensland – lessons from the Torres Strait</td>
<td>Odwell Muzari</td>
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<td>2.10</td>
<td>“Biblical” bat mortality owing to climate change; surprising public health challenges!</td>
<td>Carlie Thirwell, Juliet Esmonde, Lea Merone</td>
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<td>2.15</td>
<td>Vaccine Empirical Integrated Model: A Systematic Approach to Evaluate Novel Tuberculosis Vaccination Strategies</td>
<td>Visai Muruganandah, Andreas Kupz</td>
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**Afternoon tea Break: 02.30pm – 02.40pm (10mins) Poster viewing**
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<tr>
<td>2.40</td>
<td>How well is Phase 1 Cardiac Rehabilitation implemented in Hospitals of North Queensland?</td>
<td>Patricia Field</td>
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<td>Risk factors, morbidity and mortality associated with Airway Foreign Body Inhalation (AFBI) in children: A Queensland experience</td>
<td>Lua Saylany</td>
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<td>3.00</td>
<td>Normal Saline versus Heparin Saline for implantable ports (Central Venous Access Device) Time for practice change</td>
<td>Sara Hurren, Jennifer Faulkner</td>
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<td>3.10</td>
<td>&quot;Little by Little&quot; - Developing a Men’s Health Strategy in rural Far North Queensland</td>
<td>Mal Fraser</td>
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<td>3.20</td>
<td>Refugee perceptions of healthcare in regional Australia: a study of Townsville, Queensland</td>
<td>Michael Au</td>
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<td>3.30</td>
<td>Systemic work of carers of community dwelling older people with complex care needs: A qualitative study of carers’ experiences</td>
<td>Rachel Quigley</td>
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<td>3.35</td>
<td>Gynaecological Oncology in Far North Queensland – Introducing Telehealth</td>
<td>Meghan Aitken, Emer Flannery</td>
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<td>3.40</td>
<td>Dietitians inserting and managing nasogastric tubes: an evaluation of the first 18 months</td>
<td>Laure Baumgartner, Rhonda Anderson, Kara Cronin, Amanda Keating</td>
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<td>3.45</td>
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<td>3.55pm</td>
<td>Presentation of Awards</td>
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**Post Session: posters will be displayed in the auditorium foyer**

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<td>Talking after Stroke or Brain Injury</td>
<td>Natasha Barlow, Michelle Dougan</td>
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<td>2</td>
<td>Prevalence of Acute resuscitation Plans (ARP) and Advanced care planning documentation in maintenance Haemodialysis patients within the CHHHS</td>
<td>Chetana Naresh</td>
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<td>3</td>
<td>A pilot study: Cross sectional survey of medical students’ knowledge and awareness of oral health in relation to cancer therapy</td>
<td>Madeleine Werder, Tejal Kothari, Jennifer Hamilton, Hannah Cernusco</td>
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<tr>
<td></td>
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<td>4</td>
<td>Efficacy and Cost Effectiveness of Thyroid Function Tests - An Analysis of Outcomes in the Geriatric Wards of a Secondary Hospital in Regional Australia</td>
<td>Jim Wong</td>
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<td>5</td>
<td>At what point can I lift things? Women's satisfaction with lymphoedema prevention information after breast cancer surgery</td>
<td>Sara Hurren</td>
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<td>6</td>
<td>Concordance with current clinical guidelines for the management of community acquired pneumonia (CAP) in Far North Queensland: a retrospective clinical audit</td>
<td>Julian Harris, Naveen Manchal, Sean Leow</td>
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<td>7</td>
<td>A single centre retrospective analysis of immunotherapy outcomes for patients with non-small cell lung cancer (NSCLC) in Cairns and Hinterland Hospital and Health Service (CHHHS)</td>
<td>Mutsuki Marukawa</td>
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<td>8</td>
<td>Using a validated tool to assess a Whole-body Cadaveric Simulation Course on Open General and Emergency Surgery – The Anatomy of Surgical Exposure (ASE) Program</td>
<td>Callie Killoran</td>
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<td>9</td>
<td>Mortality within 30 days of receiving checkpoint inhibitor immunotherapy in an Australian regional cancer centre</td>
<td>Katherine Kang, Saw Htut, James Fletcher, Megan Lyle</td>
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<td>10</td>
<td>Implementing a pharmacist-led high-risk medication management service in a rural community</td>
<td>Sarah Tinney</td>
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<td>11</td>
<td>Survival outcomes for BRAF wild type advanced melanoma treated with first line immunotherapy in a regional cancer centre: experience from the Liz Plummer Cancer Centre</td>
<td>Katherine Kang, Saw Htut, James Fletcher, Megan Lyle</td>
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<tr>
<td>12</td>
<td>Woman-centred care in complex pregnancy situations: a review of the literature</td>
<td>Simone Naughton, Clare Harvey, Adele Baldwin</td>
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Session one: Innovation in Care Delivery

Keynote Speaker

Professor Nick Goodwin

Director, Central Coast Research Institute, Faculty of Health and Medicine, University of Newcastle, NSW, Australia
Director of Research, Central Coast Local Health District, NSW, Australia

Understanding Integrated Care and its Effective Implementation: Lessons for Australia

The move towards developing integrated care systems as a means to promote value in care has become a key policy development worldwide, but the implementation and effectiveness of such innovations has not always led to expected results. Drawing on international evidence, this presentation will outline the essential building blocks for integrated care systems. It will argue that despite good knowledge on the nature of these system capabilities there remain significant and recurrent gaps in the design and delivery of integrated care programmes. Specifically, greater appreciation and attention needs to be paid to supporting the transformational change required to achieve successful implementation. The presentation will conclude on some possible lessons for the future of integrated care in Australia.

OPEN ARCH: A model of integration for the older person with complex needs
Jennifer Mann, Project Manager, Older Persons Sub-acute and Rehabilitation, Cairns and Hinterland Hospital and Health Service

Background and rationale
Older persons with complex needs experience frequent and repeated health care interactions, have longer hospital stays and are more likely to require formal supports to continue living at home. They are also vulnerable to system complexities which can be costly to the health system and life threatening to the individual. To avoid preventable hospitalisation and premature institutionalisation, these older people require comprehensive, patient-focused medical and social supports. Evidence suggests that engagement with primary care and improved access to specialist health care and preparatory social supports early in the trajectory of the person’s illness can prevent avoidable hospitalisation and assist the older person to stay living at home for longer.
Methods
OPEN ARCH is an Australian-first model of care that combines specialist outreach, care coordination and primary care partnership for the provision of comprehensive care for the older person. OPEN ARCH (Older Persons Enablement and Rehabilitation for Complex Health Needs) is a co-designed integrated care program delivered at the primary-secondary interface. OPEN ARCH provides preventative focussed multidisciplinary comprehensive geriatric assessment, and social care coordination for older persons at risk of functional decline or hospitalisation. OPEN ARCH aims to improve access to comprehensive care for the older person that is otherwise only available through hospital admission.

Results
This presentation will discuss the elements of clinical innovation embed in the OPEN ARCH program, with a focus on integration and the benefits of partnership in health service design. The OPEN ARCH model of care achieved integration through the consideration of many core components of integrated care, namely: a targeted approach for older persons with complex needs; utilisation of primary care financial incentives; shared medical records; a collaborative culture; effective leadership.

Implications for practice
OPEN ARCH is an example of clinical and service integration for improved care for the older person.

Key message
OPEN ARCH demonstrates that interdisciplinary and integrated thinking can result in comprehensive solutions to the delivery of care.

Building Healthier communities through multidisciplinary community-based lifestyle interventions
Justin Chapman, QIMR Berghofer Medical Research Institute, Herston, Qld

Background and rationale
Physical activity (PA) has diverse benefits for physical and mental health in people with mental illness; however, it is unclear how to effectively promote PA in this group. The aim of this study was to evaluate two compare the effectiveness of community-based programs in promoting PA in adults with mental illness.

Methods
This study was an evaluation of PA interventions implemented at PCYC Queensland, funded by North Queensland Primary Health Network (NQPHN). Participants could choose from one of two 8-week programs delivered by an exercise physiologist: (1) supervised gym exercise (GYM); (2) PA motivational coaching and self-monitoring using fitness trackers (MOT). Participants were adults receiving mental health support from public mental health, primary care or community organisations in Cairns and Hinterland. Outcomes include change in self-reported PA, exercise motivation, psychological distress, and physical capacity (six-minute walk test).

Results
143 individuals were referred, 95 of whom completed baseline measures (GYM=60; MOT=35). Participants had a mean age of 43 years and were predominantly female (66%); most (59%) reported at least two mental health diagnoses, the most common of which were anxiety (52%) and depression.
For the 59 participants who completed their program (GYM=34; MOT=25), median attendance to group sessions was high (GYM=85%; MOT=71%). At baseline, MOT participants had higher psychological distress, waist circumference, and externally regulated motivations for exercise than GYM participants. GYM participants had significant improvements in autonomous motivation and psychological distress; MOT participants had significant improvements in self-reported PA and physical capacity.

Implications for practice
Motivational interventions can increase PA and physical capacity and may appeal to people with lower exercise confidence and intrinsic motivation. Combining motivational interventions with practical exercise support may improve longer-term PA maintenance by promoting autonomous motivation. Allowing participants the option of participating in the motivational component only (without gym) may appeal to a broader community group.

Key message
High rates of referrals and participant completion and attendance rates indicate the acceptability of the programs and high need in the area. NQPHN continues to fund this model, which is being adapting based on these outcomes for the next 12-month iteration.

Long term safety and cost effectiveness of Endoscopist Directed Nurse Administered Propofol Sedation for Routine Endoscopy at Cairns Hospital
Peter Boyd, Clinical Director of Medicine, Cairns Hospital

Background and rationale
Despite lack of any evidence for improved safety, the utilisation of specialist Anaesthetists for provision of sedation for low risk endoscopy has become routine practice. This has been accelerated by the National Guidelines (PS09) restricting the use of Propofol to medically trained sedationists. Patients and Endoscopists prefer Propofol because of its short half life, rapid onset and quick recovery properties. Despite the guidelines and because of an excellent safety record, the Cairns Hospital Endoscopy Unit has continued to use Propofol for Endoscopist supervised sedation. We employ a registered nurse to monitor the patient and administer propofol at the direction of the endoscopist. We present a five year prospective safety audit of this practice.

Methods
The audit was approved by the FNQ HREC. Between Dec 2012 and June 2019 we used the Statewide endoscopy reporting platform(ESIS, Provation) to prospectively record patient demographics, sedation drugs and doses and sedation related complications for all routine endoscopy procedures at Cairns Hospital. High risk and out of hours procedures were performed with Anaesthetist supervision and excluded from the study.

Results
24,958 endoscopic procedures were performed using propofol sedation with this model. There were no deaths and no patient required emergency intubation. There were 40 recorded sedation related incidents (0.16%) including 5 MET calls, all with good outcomes and no long term sequelae. There was an expected higher incidence of adverse events in higher risk(ASA 3) patients. 97.1% of patients expressed a high level of satisfaction with the sedation process. Over the period Cairns hospital saved $8.1 million in Anaesthetic salaries.
Implications for practice
This audit confirms that endoscopists supported by registered nurses can safely administer Propofol sedation for routine procedures. This has major implications for endoscopy practice in Australia with very substantial cost savings possible. A limited roll out of the model to 50% of endoscopy procedure rooms across Qld Health Hospitals would produce annual savings of $13.5 million.

Key message
Routine endoscopic sedation using Propofol can be safely provided without Anaesthetic support with major cost savings.

Session two: Aboriginal and Torres Strait Islander People's Health and Wellbeing

Keynote Speaker

Professor Roianne West
Inaugural Professor and Director of the First Peoples Health Unit, Griffith University, Queensland

Indigenous Research: A Solution to a Health System Free of Racism and Inequality

In 2017 the Queensland Anti-Discrimination Commission and the Queensland Aboriginal and Islander Heath Council released a report on an audit to contribute to the national goal of a public health system free of racism and inequality. This presentation will explore the critical role of Indigenous Research and the value of Indigenous knowledges in realising this vision.

Kimberley Mums’ Mood Scale (KMMS)
Yvonne Cadet-James; Jo Neville; Di Jans, Health Professionals and Researchers Apunipima Cape York Health Council

Background and rationale
Perinatal mental health is a major public health issue affecting 20% of Australian mothers within the first year post birth. Perinatal depression and anxiety are the most prevalent mood disorders associated with
childbirth, with an incidence of 14% in Australia. With the increased incidence of post-traumatic stress among Aboriginal Australians high levels of loss and grief and trauma and limited availability/uptake of accessing mental health supports, routine screening and effective early intervention for perinatal depression/anxiety is critical. Currently the Edinburgh Post Natal Depression Scale (EPDS), is used to assess anxiety and depression in perinatal women and this has been found to be limited in terms of being culturally responsive for Aboriginal and Torres Strait Islander women.

Aim: To improve mental health screening practices for perinatal Aboriginal and/or Torres Strait Islander women in North Queensland by determining the acceptability of the KMMS for staff and clients and validating the use of the KMMS.

Methods
Two phases:
Assess the acceptability of the KMMS by staff and clients. (completed)
Validate the use of the KMMS clients in north Queensland. (current)

A cross-sectional design is being used to determine the reliability and validity of the KMMS in identifying women with anxiety and/or depression compared to a Reference Standard GP Assessment. A qualitative approach will be used to further determine KMMS’ acceptability to patients and staff.

Results
Phase 1 – KMMS found to be acceptable by staff and clients.
Phase 2 – currently in progress.

Implications for practice
Knowledge translation will influence policy and practice regarding mental health screening practices for Aboriginal and Torres Strait Islander women in the perinatal period.

Key message
Effective mental and social and emotional wellbeing screening is crucial to improve care and outcomes for women in the perinatal period.

Community-driven research: capacity-strengthening in the Torres Strait
Malcolm McDonald, Physician, researcher and educator. Australian Institute of Tropical Health and Medicine
Luisa Roeder, Research Support, James Cook University Cairns Clinical School

Background and rationale
At the Hot North Conference on Thursday Island in July 2018 many participants expressed the view that it was time for a locally-driven program for Torres Strait and NPA research and researchers. Participants at a subsequent November seminar made it clear that research was a ‘dirty word’ in the Torres Strait, largely because local people felt exploited by outside researchers over decades. They cited lack of respected and consultation. There were few, if any, benefits for Torres Strait people.

Methods
The Australian Institute of Tropical Health and Medicine [AITHM] has a research facility on Thursday Island. There was initial consultation through the Torres Strait Consultative Group of elders and senior health providers to develop a program focussed on local cultural and health needs. The intention was to
foster home-grown research skills through a learn-by-doing approach rather than didactic teaching. This was designed around a series of workshops with ongoing between-workshop support for participants developing their own research proposals. Several established Indigenous researchers from across Northern Australia were invited to be Guest Mentors at each workshop. Participant feedback and input was essential at each step. The program has the support of the AITHM-JCU, Hot North and Queensland Health-TCHHS.

**Results**
Initially, 24 people expressed an interest to participate; three times the expected number. None of the participants had previous research experience. As the year has progressed, the workshops have evolved, and more people have asked to join up. Feedback has been positive [the data will be presented] and 12 participant research proposals are now being developed.

**Implications for practice**
This is a long-term investment in research capacity-strengthening of the Torres Strait and NPA; and the health of the people. We’re careful not to call this a project; projects come to an end. This is a beginning. This model may have application in other communities, especially in rural and remote Australia.

**Key message**
Community-driven and community-owned research can flourish through a process of local capacity-strengthening.

**Primary Prevention of Cardiovascular Disease in Minority Indigenous Populations: A Systematic Review**
Lea Merone, Public Health Registrar, Cairns and Hinterland Hospital and Health Service

**Background and rationale**
Cardiovascular disease (CVD) is the commonest cause of death across the globe; incidence and prevalence rates are increasing. Together, CVD and diabetes mellitus are responsible for a quarter of the health gap observed between Aboriginal Australians and Torres Strait Islanders, and non-Indigenous Australians. Numerous programs have been proposed and implemented to Close the Gap; ideally, these should be evidence-based. The aim of this review is to evaluate primary prevention measures and programs that aim to reduce CVD risk in minority Indigenous populations around the world.

**Methods**
A search of PubMed, the Cochrane Library and the Elsevier Scopus Database was initially conducted using the terms "cardiovascular disease", "population groups", "primary prevention", "health services, indigenous", "indigenous health", "risk assessment" and "risk management". Results were then assessed per inclusion/exclusion criteria. A second reviewer independently evaluated the publications and review process to ensure agreement.

**Results**
The initial search produced 37 publications; 19 met the inclusion criteria and were incorporated into a comparative table. Most were descriptive, mixed-methods, audit or intervention studies. Heterogeneity of study design prevented statistical analysis.
Implications for practice
Addressing CVD risk in minority Indigenous populations is a multifactorial challenge; there is substantial room for improvement in routine risk assessment and management. Holistic approaches need to embrace local cultural perceptions of health and wellbeing. Validated risk reduction tools, individualised management plans, polypills and computer-based decision support tools are promising to improve outcomes for those at risk.

Key message
More focus on addressing CVD risk in minority Indigenous populations globally, with emphasis on holistic and culturally sensitive care.

Incidence and consequences of early childhood anaemia among Aboriginal and Torres Strait Islander children of the remote communities of Far North Queensland; a retrospective cohort study
Dympna Leonard, Nutritionist/Dietitian, PhD Candidate, James Cook University

Background and rationale
The incidence of early childhood anaemia is high among young Aboriginal and Torres Strait Islander of the remote communities of Far North Queensland (n = 708 children age 6-23 months, 61.3% anaemic (95%CI 57.7%, 64.9%)). Anaemia due to iron deficiency can compromise neurological development in early life. This study investigated the association of early childhood anaemia with indicators of child development at school-age.

Methods
During the triennial Australian Early Development Census, teachers assess each child in his/her first year of full-time school against five domains of childhood development; physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school-based), communication skills and general knowledge. Children scoring below the tenth centile for any domain are considered developmentally vulnerable on that domain. Children who were developmentally vulnerable on two or more domains were considered ‘DV2’. Health information was linked with AEDC assessments.

Results
AEDC assessment reports were available for 250 of 708 children with haemoglobin measurement(s) at 6-23 months. Among children who had had early childhood anaemia, more (DV2 n = 66/143 (46.2%) [95%CI 37.9%, 54.4%]) were developmentally vulnerable on two or more domains compared to children who had not had early childhood anaemia (DV2 n = 25/107 (23.4%) [95%CI 15.2%, 31.5%] p < 0.001). Multivariable analysis found that children who had had early childhood anaemia had double the risk of developmental vulnerability on two or more domains (DV2) at school age (OR 2.2 (1.2, 4.1) p = 0.016) compared to children without early childhood anaemia.

Implications for practice
The World Health Organization recommended interventions to prevent/reduce early childhood anaemia - and the associated neurological deficit - combine nutrition promotion with multi-micronutrient preparations (MMNs) for fortification of complementary foods. Consultations with communities and health service providers are planned to discuss these findings and their preferred intervention(s).
Key message
Reducing the incidence of early childhood anaemia is feasible, and provides the potential to improve child development indicators at school age and subsequent educational attainment.

Exploring evidenced-based risk assessment for Aboriginal and Torres Strait Islander people who come to the emergency department with possible heart attacks
Tania Davis, Advanced Aboriginal Health Worker, Cardiology Department, Cairns Hospital
Katrina Starmer, Staff Specialist, Emergency Department, Cairns Hospital

Background and rationale
Aboriginal and Torres Strait Islander people have a high burden of cardiovascular disease. Observed rates of major coronary events are 7 to 9 times higher in people aged less than 45 years for this population when compared with non-Indigenous Australians. The Improved Assessment of Chest pain Trial (ImpACT) protocol is an evidenced-based ADP which combines sensitive troponin testing, objective testing and clinical criteria, including age, to identify patients at high, intermediate or low risk of acute coronary syndrome (ACS). Aboriginal and Torres Strait Islander patients were underrepresented in the original ImpACT study, and it is unclear whether risk stratification should be altered for this group. The aim of this research is to determine if the ImpACT protocol should be amended for the assessment of Aboriginal and Torres Strait Islander patients who present to an Emergency Department (ED) with suspected Acute Coronary Syndrome (ACS).

Methods
The ImpACT Aboriginal and Torres Strait Islander study is an innovative, collaborative single-centre prospective observational trial being conducted in partnership with the Queensland Health Clinical Excellence Division and the Australian Centre for Health services Innovation (AusHSI). Aboriginal and Torres Strait Islander patients to present with symptoms of suspected ACS are prospectively recruited and managed according to intermediate or high-risk pathways, including objective testing for coronary artery disease. 30-follow up with cardiologist adjudication of events is occurring.

Results
Patient recruitment commenced in November 2017 and to date 235 participants have consented to take part in this trial. With support from the Aboriginal Community Controlled, Primary health and public health sectors, the vast majority of patients have 30 days outcomes reported.

Implications for practice
The results of this research will facilitate improved care and validate assessment processes for Aboriginal and Torres Strait Islander people with suspected ACS.

Key message
All Australians are deserving of high quality, evidenced based assessment when experiencing the frightening symptoms of a possible heart attack.
Evaluating the utility of the Kimberley Indigenous Cognitive Assessment short form (KICA screen) in a telehealth setting

Rachel Quigley, Physiotherapist / Principal Research Officer, Healthy Ageing Team

Background and rationale
The aim of the study was to evaluate the utility of the KICA screen in a telehealth setting. The KICA was originally developed as a culturally appropriate assessment tool for screening for dementia in Aboriginal and Torres Strait Islander people living in remote regions of Australia. The KICA-screen has 10 questions resulting in a score out of 25, where 21 or less indicates possible dementia.

Methods
A total of 33 Aboriginal and Torres Strait Islander people medically stable inpatients or outpatients of the Cairns and Hinterland Hospital and Health Service participated in the study. Mean age was 62.9 (SD9.8, range 45-81) and mean education was 9.4 years (SD1.4, range 7-12). Of these, 21% (n=7) had a previous diagnosis of dementia, 21% (n=7) had mild cognitive impairment, and 57% (n=19) had normal cognition. The KICA screen was administered twice to each participant, once face to face and once via videoconference with order of presentation counterbalanced to reduce practice effects.

Results
Overall means of KICA-screen scores for the sample were 21.36 (SD 3.6, range 8-15) face to face and 21.67 (SD 3.4, range 11-25) via videoconference. The two types of test delivery showed not only a good correlation (Pearson’s r =0.851; p<0.01) but also good agreement (ICC = 0.85; p<0.01).

Implications for practice
This study has demonstrated the validity of a culturally appropriate dementia screening tool for telehealth. This is a valuable addition for clinicians working with Aboriginal and Torres Strait Islander clients in remote communities.

Key message
Dementia screening via telehealth has the potential to reduce the inequitable access to timely dementia diagnosis and care that many rural and remote Aboriginal and Torres Strait Islanders experience.

Session three: Medical Marvels

On the road to making ‘Cairns Hep C Free by 2020’ – are we there yet?

Carla Gorton, Sexual Health Coordinator, Cairns Sexual Health Service

Background and rationale
Cairns was one of the first locations to lead a micro-elimination response in Australia. Pre-empting the release of the new Direct-Acting Agents (DAAs) on the Pharmaceutical Benefits Scheme in 2016, the Cairns and Hinterland Hospital and Health Service (CHHHS) initiated a HCV micro-elimination campaign which aimed to ‘Make Cairns Hep C Free by 2020’. Stakeholders, including the Cairns Hepatitis Action Team (CHAT), the Cairns Hospital Liver Clinic, Cairns Sexual Health Service, Lotus Glen Correctional Centre, the physician Outreach team that services the Torres Strait and Cape York communities, general practitioners (GPs), and the local community of people living with hepatitis C were engaged.
Methods
The campaign was led by a strong community education component designed to improve awareness of HCV cure and address stigma and discrimination and supported by a comprehensive, integrated HCV service delivery model. The service delivery model included educational outreach to the primary health care workforce which resulted in large numbers of GPs in Cairns prescribing DAAs and engagement with people who inject drugs via the largest needle and syringe program in Cairns.

Results
Successes have been seen in treating nearly all known people with hepatitis C. Lotus Glen Correction Centre achieved a reduction in prevalence of hepatitis – from 12% to 1% by 2017, and currently the Liver Clinic receives on average fewer than 10 referrals for treatment per month. In 2016 a convenience sample found hepatitis C RNA rates of 22-33% (n=61); in 2017 rates of 15-20% (n=138) were found; in 2018 a rate of 21% (n=105) and in 2019 13.3% of 30 PWID tested were RNA positive. Many of these individuals have since completed a treatment course.

Implications for practice
Increasing efforts have been put into reaching people who inject drugs, though engagement remains challenging. We believe, however, that we are on track to be virtually hepatitis C free by the end of 2020.

Key message
Elimination of hepatitis C as a public health issue is possible in the Cairns and Hinterland Hospital and Health Service.

Cardiovascular Outcome in Pregnancy in Far North Queensland
Mimi Wong, Obstetric Medicine Advanced Trainee, Cairns Hospital

Background and rationale
In Far North Queensland, cardiovascular disease, namely rheumatic heart disease (RHD) remains an important health issue. In pregnancy, pre-existing and antenatal cardiac disease are both associated with adverse maternal and neonatal outcome.

Methods
A retrospective study was conducted between June 2010 to June 2017 at Cairns Hospital. Patients with cardiovascular disease in pregnancy, which included pre-existing and antenatal conditions, were identified via the clinical coding database. Patient demographics, details on cardiovascular disease, and maternal and neonatal outcome were recorded. Cardiac risk score was calculated and included sum of risk factors.

Results
63 patients were included in this study. Demographics: Median age was 28 (range 16 to 45), and the majority of patients were of Indigenous background (74.6%, n=47). Cardiovascular Disease: The predominant cardiovascular condition was RHD (58.7%, n=37). Echocardiogram revealed 25.4% had no valvular heart pathology, whilst 38.1% and 36.5% had one and more than one valvular pathology respectively. 14.3% of patients had mixed mitral valve disease (n=9) and 19% had mitral and aortic valve disease (n=12). Mean cardiac risk score was 0.64 +/- 0.817. Outcome: Median gestational age at delivery was 38 weeks, with 42.9% delivered via spontaneous vaginal delivery (n=27), 15.9% with assisted vaginal delivery (n=10) and 34.9% required caesarean section (n=22). There were 9 maternal cardiac. Although cardiac risk score was not statistically associated with maternal complication, score of > 1 had a
complication rate of 50%. Neonatal outcome included 1 case of stillbirth. Median APGAR was 9 +/- 1.34 and 9 +/- 0.87, at 1 and 5 minutes respectively. Median birth weight was 3100 +/- 631.87g.

Implications for practice
Despite the burden of cardiovascular disease, there was a low risk of maternal and neonatal adverse outcome found in this study. Cardiac risk score > 1 was associated with a high maternal complication rate.

Key message
There was a low risk of maternal and neonatal adverse outcome found in this study. The cardiac risk score used appears to be reasonable in predicting adverse maternal outcome.

Clozapine use in Cairns: how do we compare?
Tahnee Bridson, Psychiatry Registrar, Cairns Hospital

Background and rationale
Clozapine is the most effective antipsychotic available for treatment-resistant schizophrenia. Unfortunately, it is often underutilised or administered late in the treatment course, if at all, given the potential for rare but serious side effects. This issue is further augmented in rural and remote regions where access to treatment is sparse and there is a large proportion of Indigenous patients. Currently, there are no studies available to demonstrate the use of clozapine in this population. The aims of this study were to (i) determine the proportion of individuals affected by psychotic disorders who are commenced on clozapine, (ii) the demographic and clinical characteristics of those commenced on clozapine and (iii) adherence to national clozapine guidelines.

Methods
This was a retrospective chart review of patients commenced on clozapine between June 2013 and June 2018. Relevant clinical information was sourced from electronic medical records and descriptive statistical analysis performed.

Results
Over a six-year period, a total of 63 individuals with a diagnosis of treatment resistant schizophrenia were commenced on clozapine. The majority of patients were male (n=50, 79.4%) and the mean age was 33.9 (SD 11.0). A total of 34.9% (n=22) identified as Aboriginal and/or Torres Strait Islander (ATSI). The mean length of time between diagnosis and commencement of clozapine was 7.2 years (SD 4.6 years), while the mean number of antipsychotic medications tried prior to clozapine was 4.2 (SD 1.6 antipsychotics). Clozapine was discontinued in 57.1% of the patients in this study (41% within the first 12 months). The most common cause for cessation was poor compliance (n=19, 30.2%). Metabolic monitoring was not congruent with national guidelines.

Implications for practice
This study is the first of its kind to investigate the use of clozapine in a regional area of Australia with a high proportion of Aboriginal and Torres Strait Islander patients. Over half of the study population discontinued clozapine over a five-year period, with the main reason being poor compliance. Whilst clozapine remains the most effective antipsychotic treatment, it is vastly underutilised in clinical practice and often ceased prematurely.
Key message
Further work is required, particularly in our rural/remote populations to ensure treatment adherence for optimal patient outcomes.

**Hookworm Infection in Humans with Metabolic Disease: A Phase 1b Trial**

Doris Pierce, PhD Candidate, Australian Institute of Tropical Health & Medicine, JCU Cairns

**Background and rationale**
Abdominal obesity and presence of the metabolic syndrome (MetS) significantly increase the risk of developing Type 2 diabetes mellitus (T2DM), constituting a significant global public health crisis. Lower prevalence of inflammatory diseases such as T2DM in countries with higher incidences of worm infections suggests a role for symbiotic parasites in the prevention and management of inflammatory diseases. Importantly, worm infections may have significant and long-lasting consequences on metabolic function in the host (PMID:23509143). Possible mechanisms include the modulation of immune responses and the microbiota but also direct regulation of bodyweight. Results of a recent meta-analysis (PMID:27596058) supported the potential protective nature of worm infection against MetS and T2DM.

**Methods**
This Phase 1b safety and tolerability trial aims to assess the effect of inoculation with the human hookworm *Necator americanus* on body fat composition, inflammation, immune responses, and microbiome in adults with central obesity and additional features of MetS. In a randomised, double-blind, placebo-controlled design, three groups will receive either 20 or 40 stage three larvae or the placebo for a duration of 24 months. Outcome measurements include safety and tolerability of infection, changes in metabolic and immunological parameters, and changes in the composition of the faecal microbiome and their metabolites.

**Results**
Sixteen participants (15 females, 1 male) are currently enrolled in the trial. All participants will have completed their first evaluation visit by mid-August, which will allow an interim analysis of baseline and post-intervention (6 months) data.

**Implications for practice**
Rising cost of healthcare associated with obesity-induced metabolic diseases urgently calls for new approaches in disease prevention. Discovery of novel immuno-regulatory, worm-secreted molecules may attract investment from pharma for development of publicly acceptable therapeutics.

**Key message**
Controlled infection with the human hookworm *Necator americanus* in adults with metabolic disease could lead to the discovery of a new therapeutic approach in the prevention of T2DM.

**Optimising intensive care unit management of leptospirosis to reduce mortality**

Yu-Hsuan Dave Liu, Intensive Care Unit Registrar, Cairns Hospital

**Background and rationale**
Severe leptospirosis can have a case-fatality rate of over 50%, even with intensive care unit (ICU) support. Multiple strategies - including protective ventilation and early renal replacement therapy (RRT) - have been...
recommended to improve outcomes, however management guidelines vary widely around the world and there is no consensus on the optimal approach.

**Methods**

All cases of leptospirosis admitted to the Cairns Hospital ICU between 1998 and 2017 were reviewed. The patients' demographics, presentation, management and clinical course were examined.

**Results**

The 55 patients' median (interquartile range (IQR)) age was 47 (32-67) years and median (IQR) APACHE III score was 67 (48-105). All 55 received appropriate antibiotic therapy, 45 (82%) within the first 6 hours. Acute kidney injury was present in 48/55 (87%), 18/55 (33%) required RRT, although this was usually not administered until traditional criteria were met. The acute respiratory distress syndrome developed in 37/55 (67%), 32/55 (58%) had pulmonary haemorrhage and mechanical ventilation was required in 27/55 (49%). Vasopressor support was required in 34/55 (62%). Corticosteroids were prescribed in 20/55 (36%). The median (IQR) fluid balance was in the initial three days of ICU care was 1493 (175-3567) ml. Only 2/55 (4%) died, both were elderly men with multiple comorbidities.

**Implications for practice**

In patients with severe leptospirosis in Cairns, prompt ICU support which includes early antibiotics, protective ventilation strategies, conservative fluid resuscitation, cautious RRT initiation and corticosteroid therapy is associated with a very low case-fatality rate. Prospective studies are required to establish the relative contributions of each of these interventions to optimal patient management.

**Battle in the backyard: Inter-species competition between two dengue vectors in Queensland – lessons from the Torres Strait**

Odwell Muzari, Senior Medical Entomologist with the Tropical Public Health Services Cairns

**Background and rationale**

The Torres Strait region has experienced seasonal dengue outbreaks transmitted by *Aedes aegypti* at various times since at least the 1890s. However, another dengue vector, *Aedes albopictus*, the Asian tiger mosquito, was detected for the first time in 2005 and it rapidly expanded across the Torres Strait. For purposes of risk analysis and disease response preparedness, it is essential to periodically determine the relative densities and distribution of the two vector species in areas where they are prevalent.

**Methods**

The current distribution of the two dengue vector species was recently investigated in all communities of the Torres Strait through house to house yard inspections and collection of larval samples from all accessible larval habitats for identification by microscopy and PCR.

**Results**

The mosquito surveys showed that *Ae. albopictus* has progressively displaced *Ae. aegypti* on 13 of the 15 islands infested by the Asian tiger mosquito.

**Implications for practice**

The competitive advancement of the Asian tiger mosquito could spread to other Australian regions, causing major public health challenges. Some of the recently developed dengue control methods like the release of the *Wolbachia*-infected mosquitoes would not be effective against *Ae. albopictus* at this stage.
Key message
The displacement of *Ae. aegypti* by *Ae. albopictus* could cause a significant shift in the possible transmission and control of dengue, Zika and chikungunya outbreaks in Australia. There is no room for complacency towards container-breeding mosquitoes and there is urgent need to develop sustainable techniques for reducing the risk caused by *Ae. albopictus*.

“Biblical” bat mortality owing to climate change; surprising public health challenges!
Carlie Thirlwell, Juliet Esmonde, Public Health Specialist Nurses
Lea Merone, Public Health Registrar

Background and rationale
The association between climate disruption and extreme heat events is irrefutable; heatwave events will inevitably become increasingly frequent and intense. Mass-mortality of insectivorous bats has been documented during previous heatwaves; Cambodia (2016) and India (2010). Far North Queensland experienced a record-breaking summer in 2018-19, including the hottest day for the region on record. Extreme heat decimated the local flying bat population by almost a third. Management of mass-bat mortality posed new challenges for the local public health team, from increased exposure to bat-scratches and subsequent risk of Australian Bat Lyssavirus, to large-scale disposal of decaying bodies from residential areas.

Methods
Public health teams from communicable disease control and environmental health were deployed to sites of mass-bat mortality to assess the public health implications. Amongst the multiple noted issues were increased bat exposures and requirement for post-exposure prophylaxis, lack of a co-ordinated clean-up plan, multiple emergency department presentations for “free” pre-exposure prophylaxis and an overwhelming odour from rotting carcasses.

Results
Co-ordinated response from the Tropical Public Health Service and local council included: a public health media campaign regarding bat exposure, a co-ordinated clean-up effort for residential areas and mass-education surrounding the handling of injured/dead bats.

Implications for practice
Whilst the crisis was handled effectively by the team, there are many lessons to be learnt for future events. Climate change will bring foreseen and unforeseen challenges. It is the unforeseen challenges that will pose potentially the greatest threat. It is imperative that we develop flexible responses, expect and prepare for the unexpected.

Key message
Expecting the unexpected in Far North Queensland as climate change progresses is vital and overlooked.

Vaccine Empirical Integrated Model: A Systematic Approach to Evaluate Novel Tuberculosis Vaccination Strategies
Visai Muruganandah, Medical Student, James Cook University
Andreas Kupz, NHMRC Career Development Fellow at AITHM, James Cook University

Background and rationale
Tuberculosis (TB) is the largest cause of infectious death worldwide. Bacille Calmette-Guérin (BCG), the only licensed TB vaccine affords variable protection against pulmonary TB. Despite this shortcoming, BCG remains the safest, most effective TB vaccine. To improve efficacy, current vaccinology is focused around three strategies: recombinant BCG strains, heterologous routes of administration and booster vaccination. However, it is currently unknown whether combining these strategies is safe and affords enhanced protection. To address this and to facilitate stage-gating in the TB vaccine pipeline, we developed a simple empirical model to systematically rank vaccination strategies by integrating multiple parameters of safety, immunogenicity and efficacy.

Methods
We assessed 24 vaccination regimens, comprised of three BCG strains and eight combinations of delivery including subcutaneous vaccination, mucosal vaccination and combined administration. Protection was determined through an aerosol Mycobacterium tuberculosis (Mtb) challenge model. Flow cytometry and multiplex serum analysis was conducted to elucidate vaccine-induced immune responses. Vaccine safety was determined through the use of clinical, pathological and biochemical parameters.

Results
The only strategy that improved disease outcomes whilst remaining safe was the use of recombinant BCG that expressed immunodominant Mtb-antigens. Our data supports a growing pool of evidence that live recombinant TB vaccines should express key Mtb virulence factors in order to enhance protection against pulmonary TB.

Implications for practice
The model presented here provides a step forward in the development of a much-needed strategy to evaluate and rank data obtained from vaccine studies using different routes, strains or animal models. The results from this study are being used to guide vaccine clinical trials and human challenge models.

Key message
- Novel BCG strains should possess the capacity to express Mtb virulence factors
- BCG booster dosing strategies may be unsafe, especially if the booster dose is administered mucosally
- A ranking system, much like the VEIM presented here, is needed to facilitate stage-gating in TB vaccine development

Session four: Kaleidoscope of Care
How well is Phase 1 Cardiac Rehabilitation implemented in Hospitals of North Queensland?
Patricia Field, PhD Candidate, James Cook University, Townsville
Background and rationale
Heart disease continues to have high mortality and morbidity rates, and contributes to disability, poor quality of life and high health care costs in Australia. Cardiac rehabilitation is known to improve health and wellbeing, reduce mortality and health care costs of people with heart disease. However, referral rates and access to outpatient's cardiac rehabilitation continue to be low. Hospital in-patient cardiac rehabilitation (Phase 1), that includes education on disease, treatment and risk factors; discharge planning and referral to Phase 2 out-patients cardiac rehabilitation is essential to ensure that the patient is on the right pathway to optimal health and wellbeing. This study reviews Phase 1 cardiac rehabilitation in tertiary hospitals in North Queensland.

Methods
An interpretive descriptive case study series that combined a qualitative data collection (purposeful sampling and semi-structured interviews) of in-patients and staff, with a medical record audit (triangulation).

Results
- Rates of Phase 1 cardiac rehabilitation remain sub-optimal but were greater in hospitals that employed Cardiac Educators
- There is no evidence of the recommended multidisciplinary team approach to Phase 1 cardiac rehabilitation
- Less than 3% of medical discharge summaries mentioned cardiac risk factors or referral to Phase 2 cardiac rehabilitation.
- Patients were often unclear about their discharge plans, despite being seen by cardiac educators/cardiac rehabilitation co-ordinator and provided with written information

Implications for practice
Even in hospitals that employ Cardiac Educators, implementation of Phase 1 cardiac rehabilitation remains low. There is no evidence of a comprehensive multidisciplinary team approach. Without this, Phase 1 cardiac rehabilitation cannot be achieved, with subsequent poor attendance to Phase 2 cardiac rehabilitation.

Key message
Provision of Phase 1 cardiac rehabilitation needs to include a multidisciplinary team approach including medical officers and consultants. To achieve this, policy change and education is required to ensure that staff have the necessary confidence and skills to provide Phase 1 cardiac rehabilitation. This is essential if Phase 2 cardiac rehabilitation and secondary prevention, that is known to improve health and wellbeing and reduce health care cost, is to be achieved.

Risk Factors, morbidity and mortality associated with Airway Foreign Body Inhalation (AFBI) in children: A Queensland experience

Background and rationale
AFBI is a common cause of respiratory emergency in children. Accurate diagnosis of AFBI is a problem resulting in increased morbidity. Due to the poor diagnostic sensitivity of clinical assessment, rigid bronchoscopy has low pre-test probability; therefore, negative bronchoscopies (no foreign body is found) are expected in the management of suspected AFBI. Limited studies address the morbidity associated with bronchoscopy; there is minimal focus on statistically significant predictors of morbidity.
Methods
Retrospective analysis of electronic medical records for patients who underwent bronchoscopy for suspected AFBI. Data was analyzed using multivariate binary logistic regression to evaluate the pre-bronchoscopy, bronchoscopy, and post-bronchoscopy factors.

Results
There were 150 patients (92 males and 58 females) who underwent bronchoscopy with median age of 22 months (IQR14 months–43 months). An airway foreign body was found in 58% of the patients (i.e., positive bronchoscopy). Multivariate analysis demonstrated that wheeze on auscultation (OR6.0[CI95%1.7-21], p<0.01), reduced air entry on auscultation (OR6.0[CI95%1.7-21], p<0.001), collapse and/or consolidation on chest X-ray (OR5.2[CI95%1.7-16], p<0.01), hyperinflation and/or air trapping on chest X-ray (OR4.4[CI95% 1.3-14], p<0.05), and a radiopaque finding on chest X-ray (OR6.0[CI95% 2.5-14], p<0.01) were significant findings indicative of positive bronchoscopy. Both rigid and flexible bronchoscopy were done in 77 patients (51.3%). Bronchoalveolar lavage was done in 41 (27.3%) patients. Desaturation for >2 minutes under general anaesthetic occurred in 20 patients (13.3%). 22 (14.7%) patients were admitted to PICU. Post-bronchoscopy steroids were given to 25 (16.7%) patients. Follow-up bronchoscopy was done for 12 (8%) patients. There were 3 deaths (2%), all of which had positive bronchoscopy findings.

Implications for practice
Positive bronchoscopy is associated with various complications that require significantly escalated management plans that can be anticipated for by clinical assessment and imaging prior to bronchoscopy. There is clear evidence to support the implementation of both flexible and rigid bronchoscopy in the management of a suspected AFBI.

Key message
Clinical findings (wheeze and reduced air entry on auscultation), and radiological findings (consolidation, collapse, hyperinflation, air trapping, radiopaque) are significant predictors of positive bronchoscopy and increased morbidity.

Normal Saline versus Heparin Saline for implantable ports (Central Venous Access Device) Time for practice change
Sara Hurren, Nurse Educator, Cairns Hospital
Jennifer Faulkner, Nurse Unit Manager, Oncology Services, Cairns Hospital

Background and rationale
This project examined the literature and current evidence around the practice of heparin locking of implantable ports. The aim of the quality activity was to actively clinically change practice of locking implantable ports in the ODU with normal saline rather than using heparin saline for a period of time to measure effectiveness.

Heparin solution e.g. 50 units in 5 mls is routinely used to maintain the patency of implantable ports. Literature supports the alternative use of normal saline solution for flushing and locking intravenous infusion devices. Normal Saline is considered a safe alternative for heparin as a locking solution in totally implantable venous access devices. The incident rate of partial occlusion with the use of normal saline is estimated at 4%. The type of treatment, blood sample collection, and treatment schedule are important determinants of partial occlusion. Positive Pressure bungs in addition to normal saline locks reduces the incident rate of partial occlusions.
Methods
During the 3-month trial in the Oncology Day Unit at CHHHS 240 individual patient episodes were charted as being saline locked in an implantable port. The proposal of this being implemented across all CHHHS sites and update the current CHHHS procedure of locking solution for implantable ports is recommended as a change of practice.

Results
The results were overwhelmingly positive and demonstrated that normal saline is an effective as heparin saline for keeping patency in the adult cancer population. No adverse events or blockages occurred during this time. The practice of normal saline locks for implantable ports for the Oncology Day Unit has continue the practice with over 1000 patients and no adverse events or complications.

Implications for practice
The change of practice to be implemented across all CHHHS sites and update the current CHHHS procedure of locking solution for implantable ports.

Key message
A savings of $672 over a 12month period from one clinical unit potential savings of over $1000 a year for the CHHHS and more efficient practice for medical and nursing care.

“Little by Little” - Developing a men’s health strategy in rural far north Queensland
Mal Fraser, Clinical Nurse, Atherton Community Health, Primary Health Care
in collaboration with Atherton Community Health team

Background and rationale
Australian men experience poorer health outcomes than women across a variety of fatal and non-fatal diseases. Tablelands Regional Council (TRC) research 2018, underpinned by the National Men’s Health Strategy 2020-2030, demonstrated service delivery gaps for rural men on the Atherton Tablelands. Five population groups – Aboriginal and Torres Strait Islander males, remote, socioeconomically disadvantaged, males born overseas, and older males are overrepresented against the national average in the Tablelands community. Consequently, Atherton Community Health (ACH) embarked on a strategic plan of growth and development of Men’s Health Services in order to achieve greater participation and improved health outcomes for men.

Methods
A multipronged approach implemented over the past 18 months included:
- Engaging male focused community stakeholders. e.g. Men’s Shed
- Delivering specific male targeted health promotion and education programs
- Implementing a male friendly environment in the Primary Health Centre,
- Upskilling staff on male friendly communication styles,
- Networking health professionals interested in Men’s Health,
- Advocating through representation on local health committees,
- Membership and partnering with National Men’s Health research bodies.
- Presenting at forums outside the region to promote other services to develop a Men’s Health strategy
ACH has implemented strategies resulting in increased engagement of men and a reputation for male friendly services, evidenced by enquiries from outside the Atherton Tablelands on developing Men’s Health initiatives. Three targeted programs were delivered during Men’s Health Week 2019:

- “Launch” at Atherton Men’s Shed - TRC Mayor,
- “Reaching Men in Rural Communities” and “Healthy Men at Work”, delivered by Nationally renowned Men’s Health consultant and educator, Greg Millan.

Raised public profile of Men’s Health with opportunities for further development, implementation, evaluation and research.

Implications for practice
Evaluation recommended:

- Strong community appetite for Men’s Health initiatives.
- Request for more program delivery
- Atherton identified as pilot site for “Healthy Men at Work” Program, to be re-evaluated in 12 months, then delivered nationally.

Key message
Developing a Men’s Health Strategy within a rural primary health setting is achievable through community development, client friendly services, staff education and engagement leading to improved health outcomes for men.

Refugee perceptions of healthcare in regional Australia: a study of Townsville, Queensland

Michael Au, Final year medical student, James Cook University

Background and rationale
Current Australian Government settlement policy involves settling refugees in regional Australia. Little is known about the refugee experiences of healthcare in regional Australia. A qualitative case-study examining refugee perceptions of healthcare was performed in Townsville, Queensland.

Methods
An interpretive approach to a narrative inquiry methodology was undertaken to investigate refugee perceptions of care. Purposive sampling and an interview guide were developed in partnership with the local settlement agency. Semi-structured interviews were performed. Narrative analysis was then undertaken which thematically organised and sequenced transcripts into a story which participants confirmed. Analysis of narratives was then undertaken. Using QSR NVivo 12, transcripts and narratives were coded and developed into themes. Findings were validated with community members.

Results
Fourteen refugees participated in the study consisting of 4 males and 10 females arriving from 4 different countries of origin. Six broad themes were described by refugees. They include service issues (“you are the problem”), self-advocacy (“speak up”), having insufficient knowledge about health and the health system (“they don’t know”), interpreter use (“on Fridays, there’s no interpreters”), regional-metropolitan...
differentials ("everybody loves to live here"), and the influence of the past on present behaviour ("they use to be in the refugee camp and that’s why").

Implications for practice
The study describes complex interactions between a refugee’s environment, their community, culture, and the services provided. By taking a socioecological framework to consider their experiences, the study has widespread implications to health workforce, service delivery, education, public health, and policy. The study largely confirms the Model for Experiences of Refugees in Australia and affirms the need to overcome ongoing barriers in the system. Refugees in Townsville face unique challenges and facilitators to their health.

Key message
Refugees in regional Australia have different healthcare facilitators and barriers that are unique to their healthcare experiences.

Systemic work of carers of community dwelling older people with complex care needs: A qualitative study of carers’ experiences
Rachel Quigley, Older Persons Liaison Service, Advanced Physiotherapist, CHHHS and Senior Research Officer, JCU

Background and rationale
Informal carers provide the majority of care to older Australians and play an essential role in assisting them to remain living in their own homes and in doing so, are navigating and co-ordinating complex service systems. This study explored carer experiences about the nature of this systemic work.

Methods
Drawing on Burden of Treatment theory, this study used a descriptive phenomenology approach and semi-structured interview methods. Participants included 16 carers of older community dwelling adults with complex care needs. An inductive thematic analysis was used to derive the themes.

Results
Two themes were identified. First, ‘Taking on the caring work’, explores the notion of burden for carers taking on the work, by way of a sense of obligation and duty and how they perceive the challenge of this work. Participants described piecing together disjointed pathways in systems that were driven for, and by, organisations and their procedural needs rather than for the client and their carer.
In the second theme, ‘Mastering the caring system’ participants described the challenge of systemic work which included managing multiple and complex organisational and administrative processes across different systems while locating, accessing and coordinating services for the older person. Participants also described the work involved in ensuring the systems were responsive to their needs. Varied skills were required to master the systems including organisational, administrative, communication, advocacy, problem-solving and negotiation abilities.

Implications for practice
Strategies for improving carer recognition, identifying carer needs, assessing for capacity and capabilities and reducing complexity are imperative to reduce the burden of the systemic work.
Key message
The systemic work associated with caring for an older adult with complex care needs is arduous and places significant demands on carers who have varying capabilities to negotiate multiple systems to access needed supports. In order to ensure carers are able and willing to provide sustainable care to the older adult it is imperative that there are deliberate processes for reducing system complexity and preventing inequalities in access to care.

Gynaecological Oncology in Far North Queensland – Introducing Telehealth
Meghan Aitken, Obstetrics and Gynaecology Principal House Officer, Cairns Hospital
Emer Flannery, Obstetrics and Gynaecology Principal House Officer, Cairns Hospital

Background and rationale
Gynaecological malignancies are the third most commonly diagnosed cancers in Australian Women. Those living in remote/rural areas have a reduced five-year survival rate in comparison to metropolitan women for Ovarian and Cervical Cancers. The Gynaecological Oncology telehealth service between Cairns Hospital and Mater Health Services was established in June 2017. It is the first in Australia that assists with management of Gynaecological Cancers for rural and remote patients. This project aimed to compare the effectiveness of Telehealth as a vehicle for providing timely referral and treatment for Gynaecological Cancer patients compared to the previous system of patient travel for assessment at a Tertiary Centre.

Methods
Retrospective Audit from 01/06/2016 – 01/06/2019 to investigate timing of diagnosis to treatment in the year prior and the first 2 years of Gynaecological Oncology Telehealth service at Cairns Hospital.

Results
The introduction of the Telehealth Service highlighted a significant reduction in time from initial referral, to diagnosis, to initial treatment at Tertiary Centre. Introduction of MDT Tumour Board prior to Tertiary Hospital appointment helped formulate management plans with input from Medical Oncology, Radiation Oncology and Cancer Specialist Nurses leading to prompt continuation of adjuvant therapies following surgery. Non-surgical cases or surgical cases undertaken at Cairns Hospital were also discussed at MDT Case Conference at the Tertiary centre proving patient care was not compromised regardless of disease extent. Patients were only required to travel to Tertiary Centres for Surgery meaning less time spent away from home and family. Majority of follow up was undertaken with local Gynaecologist (at CBH or Outreach Clinics), again reducing time spent away from home.

Implications for practice
As a result of this retrospective study, we plan to continue to expand existing Telehealth Services to patients with Gynaecological Malignancies in FNQ in hope to reduce overall morbidity and mortality in remote and rural communities.

Key message
Since the introduction of Gynaecological Oncology Telehealth at Cairns Hospital, there is no significant difference in treatment times from initial diagnosis for patients living in metropolitan or rural locations receiving healthcare through the Public System.
Dietitians inserting and managing nasogastric tubes: an evaluation of the first 18 months
Laure Baumgartner, Senior Dietitian, Cairns Hospital
Rhonda Anderson, Director Nutrition and Dietetics, Cairns Hospital
Kara Cronin, Senior Dietitian, Cairns Hospital
Amanda Keating, Senior Dietitian, Cairns Hospital

Background and rationale
In late 2017, the Cairns and Hinterland Hospital and Health Service commenced an extended scope of practice service of individually credentialed dietitians inserting and managing nasogastric tubes (NGT). Its objectives of providing a timely and safe model of care were evaluated.

Methods
Data was collected using an audit tool at each occasion of service (OOS) for the period 03.10.2017 to 21.05.2019.

Results
Until May, there have been 38 OOS: 25 OOS where attempts at NGT insertions by dietitians occurred and 13 OOS for management of NGT. Of the 25 OOS where dietitians attempted to insert NGTs, 19 were successful. The 19 OOS where dietitians were successful, the time from decision to insertion was 79/30 minutes (mean/median), required 1.26/1 attempts (mean/median) and required 1.1/1 confirmation Xrays (mean/median). Of the six unsuccessful attempts, four were successfully inserted by Medical Officer (MO) applying more advanced techniques. Two were unsuccessful. There were five complications at time of insertion: NGT exiting orocutaneous fistula requiring fibreoptic nasoendoscopy guidance; minor epistaxis; pain requiring administration of co-phenylcaine by MO on insertion; and twice NGT not adequately advanced (one requiring radiologically guided insertion). Time, number of attempts and xrays all increased if medical officer input was required indicating the complexity of those cases. Of the 25 OOS where insertions were attempted, 20 were inpatients and five were outpatients of which four occurred during scheduled nutrition reviews. Of the thirteen OOS for management of NGT which included eight successful removals, eleven occurred during scheduled nutrition reviews.

Implications for practice
Dietitians inserting and managing nasogastric tubes appears to be a safe model of care. It appears to be a timely model of care in that the majority of OOS occurred during scheduled nutrition reviews thereby decreasing need to refer to other services. Further evaluation of this service will include patient and staff satisfaction.

Key message
Having an additional profession skilled in inserting nasogastric tubes adds value by increasing patients’ access to timely care and reducing referrals to other services thereby helping reduce their workload demands.
Talking after Stroke or Brain Injury

Natasha Barlow, Speech Pathologist at Wuchopperen Health Service

Michelle Dougan, Allied Health Coordinator at Wuchopperen Health Service, Optometry Dispenser

Background and rationale
Aboriginal and Torres Strait Islander Australians experience stroke at a younger age, more than twice as frequently and are three times more likely to be disabled after stroke compared to non-Aboriginal Australians. However, uptake of stroke rehabilitation services is significantly lower. The Clinical Guidelines for Stroke Management (2017) highlight the need for further evidence to support more culturally responsive rehabilitation services for Aboriginal and Torres Strait Islander Australians.

Methods
Wuchopperen Health Service (WHS), an Aboriginal and Torres Strait Islander Community Controlled Health Organisation in Far North Queensland (Cairns) is hosting a collaborative Type I effectiveness-implementation hybrid study. This study has been informed by researchers from Edith Cowan University (ECU) through their Missing Voices Project and Wangi (Talking) Project. WHS is delivering an evidence-based, culturally responsive rehabilitation intervention for Aboriginal and Torres Strait Islander people who have an acquired communication disorder after stroke or brain injury from Cairns. Participants are engaging in 24 sessions of culturally sensitive assessment and therapy within their home. The service model (a strength based ‘yarning’ framework) was developed at ECU, by a team of Aboriginal and non-Aboriginal researchers who drew on advice from Aboriginal people from Western Australia. As implementation of this service model is being trialed in the real-world setting at WHS, the team is collecting data to measure implementation success.

Results
Three people have been recruited to the study (with two on a waiting list) and three people are currently receiving the intervention. Initial participant satisfaction is high. Facilitators include the willingness of families to engage in our service, especially as we are providing a home service. Barriers to implementation include the delivery of this program into WHS existing service model.

Implications for practice
Findings of our current study will support implementation of this culturally responsive service model into a full-scale service model that aims to contribute to closing the gap on future health outcomes.

Key message
This project is the first step in translating a culturally appropriate Speech Pathology evidence-based therapy from a university setting into a real-world setting.

Prevalence of Acute resuscitation Plans (ARP) and Advanced care planning documentation in maintenance Haemodialysis patients within the CHHHS

Chetana Naresh, Staff Specialist Cairns Hospital, Department of Renal Medicine, Senior Lecturer James Cook University
Background and rationale
An acute resuscitation protocol (ARP) informs on ceiling of clinical care in an emergency. Haemodialysis patients often have multiple comorbidities, recurrent admissions or frailty. In keeping with QH guidelines an ARP is recommended in patients with chronic diseases, before they have a crisis or have lost capacity to participate in decision making about treatment options. The prevalence of ARP in maintenance haemodialysis patients in CHHHS is unknown. Sometimes, ARP may be invalid, incomplete, their existence unknown or not accessible to clinical staff, not followed or duplicated.

Methods
An audit of ARP in 204 maintenance haemodialysis patients at Cairns Base Hospital and its satellite haemodialysis units (Atherton, Innisfail, Mossman, Yarrabah, Cairns Private) was conducted in 2018, to determine the prevalence, validity, completeness in documentation, duplication of ARP(s) in both electronic and paper format. Reference to Advanced Health Directives (AHD) Care or enduring power of attorney (EPOA) was noted. An anonymous survey of haemodialysis nurses from these units was conducted and local storage and access practices of ARP and nursing staff preferences determined. The study was approved by the Cairns Hospital Ethics Committee.

Results
Over 70% of the study population were indigenous and > 74% had multiple co-morbidities. The prevalence of ARP was low (<20%) and advanced care planning documentation such as EPOA and AHD among maintenance haemodialysis patients was very low (3%) and in some cases not accessible on IEMR. The nursing survey highlighted the need to improve ARP storage and dissemination, accessibility, and regular ARP review processes.

Implications for practice
This is the first audit in the CHHHS on maintenance haemodialysis patients with multiple co-morbidities, to inform on the low prevalence of accessible ARP, EPOA, AHD in maintenance haemodialysis patients within the CHHHS. The results highlight the need to plan, design, implement and improve advanced care planning among maintenance haemodialysis patients in a culturally appropriate manner.

Key message
Further work is required to address factors that may contribute to a low prevalence of ARP and advanced care planning documentation and to improve accessibility and dissemination of such documentation throughout the CHHHS in a timely manner.

A pilot study: Cross sectional survey of medical students’ knowledge and awareness of oral health in relation to cancer therapy
Madeleine Werder, Tejal Kothari, Jennifer Hamilton, Hannah Cernusco, 5th year Dentistry students, James Cook University

Background and rationale
Oral complications from cancer therapy affect one third of patients undergoing cancer treatment. It is essential that the future medical practitioners are aware of these complications, are able to recognise them and involve a dentist in the management.
Methods
The study invited a total of 400 5th and 6th year undergraduate medical students at James Cook University to participate in a ten-question online survey. The survey questions asked about the participant’s confidence in their knowledge on oral health related complications of cancer therapy and the involvement of a dentist in their oncology placement site.

Results
There was a 10% response rate. The majority (65.85%) of participants agreed a dentist had a role in the management of cancer patients; however, 68.29% of participants recalled that no dentist was involved in the cancer management plan. Of the students who responded to the survey, 72% believed their undergraduate training did not suitably prepare them for identifying and managing oral complications of cancer therapy with 56% of the students welcoming additional training in this area. There was no statistically significant difference between where the students undertook their placement and between their year levels.

Implications for practice
Overall, this study emphasises the need for further oral health education for medical students to improve knowledge in identifying oral complications of cancer therapy in clinical practice.

Key message
More emphasis on oral health is required in the medical education.

Efficacy and Cost Effectiveness of Thyroid Function Tests - An Analysis of Outcomes in the Geriatric Wards of a Secondary Hospital in Regional Australia
Jim Wong, Geriatric Registrar, Cairns Hospital

Background and rationale
Thyroid function tests (TFT’s) incorporating Thyroid Stimulating Hormone (TSH) and Free Thyroxine (fT4) are some of the most commonly ordered investigations in Geriatric wards as a mean for screening of reversible causes of cognitive impairment. TFT’s currently cost Australian taxpayers up to $203 million per annum, with a yearly growth of 6.2%. Aim is to determine if TFT’s (TSH and fT4 testing) are related to any trends in clinical efficiency and health outcomes for both patients and health service.

Methods
Retrospective study of 329 admissions under the Geriatric Unit (mean age = 80.2, SD = 9.6, male = 45%, n = 148) between 1st January 2018 to 30th June 2018 were studied. Data was analysed to evaluate number of patients having TFT’s tested during their admission, and of those tested, number of patients with hypothyroidism (TSH > 4.5 mIU/L and fT4 <7 pmol/L), subclinical hypothyroidism (TSH > 4.5 mIU/L but fT4 within normal range), and if a change of management has been stimulated.

Results
67% (n = 219) had TFT’s tested at some stage during their admission, of which, 0.45% (n = 1) were positive for hypothyroidism while 10% (n = 22) resulted in subclinical hypothyroidism. Of the positive tests, 43% (n = 10) already had pre-existing diagnosis of hypothyroidism. Overall, only 1 patient benefited from TFT screening within the 6-month study period. (Number needed to diagnose = 222 tests, equating to $15,451.20 per annum).
Implications for practice
Efficacy of routine TFT’s screening in the geriatric population is questionable with up to 222 tests required in order to yield 1 new diagnosis resulting in change in management. Emphasis should be placed on history and clinical examination, prior to ordering further investigations to confirm a clinical diagnosis, as opposed to routine screening.

Key message
Yield of TFT screening is low, and with total cost of 203 million dollars per annum, we would recommend judicious use of TFT’s in the absence of clinical signs.

At what point can I lift things? Women’s satisfaction with lymphoedema prevention information after breast cancer surgery
Sara Hurren, Nurse Educator, Cancer Services, Cairns Hospital
Karen Yates, Deputy Director, WHO Collaborating Centre, Associate Dean Research Education, College of Healthcare Sciences, JCU

Background and rationale
There is a paucity of evidence regarding satisfaction with lymphoedema prevention information in the literature. This assessment is supported by both anecdotal discussions with health professionals in North Queensland and by searching the literature. Question: How satisfied are women with breast cancer in North Queensland with the information provided about lymphoedema prevention strategies? This qualitative descriptive study explored the views of regional women to determine aspects of satisfaction with reference to the type of information provided, appropriateness of clinical information and timeliness of information at the specific stage of their illness trajectory.

Methods
Eleven participants were recruited in North Queensland and all consented to an audio-tape, open ended, and semi-structured interview. The recordings were transcribed verbatim and analysed using Braun and Clarke’s six-step approach to inductive thematic analysis.

Results
This study identified gaps in the information provided regarding lymphoedema prevention and management. The participants in this study were not satisfied with the information provided and a gap was identified in evidence-based information on exercises and lymphoedema prevention strategies.

Implications for practice
Current provision and content of lymphoedema prevention information warrants further investigation. Further research into the different communication styles for women, brochure formats, timing of information, delivery options, and evidence-based lifestyle and behavioural practices and best practice was identified. This study’s findings clearly showed more tailored information would reduce confusion. The teaching strategies used for lymphoedema prevention and post-surgery instructions warrant further evidence-based guidelines. Evidence based guidelines would be of tangible value for both affected women and health professionals.
Key message
What this paper adds: Evidence that women with breast cancer are not satisfied with the generic information on lymphoedema prevention strategies. Therefore, further research is needed to address the gap in the evidence regarding information provided about preventative strategies and self-care activities.

Concordance with current clinical guidelines for the management of community acquired pneumonia (CAP) in Far North Queensland: A retrospective clinical audit
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Sean Leow, Staff Specialist, Medical Assessment Unit and General Medicine

Background and rationale
Community acquired pneumonia (CAP) is a common cause for antibiotic prescription and hospital admission. Guidelines are available to support clinicians in their assessment and management of suspected CAP. The objective of this study was to evaluate the assessment, investigation and management of adults admitted with a provisional diagnosis of CAP in Cairns Hospital and compare current practice with established guidelines.

Methods
A list of admissions to Cairns Hospital with a clinical code of pneumonia or lower respiratory tract infection in the 2017 calendar year was collected. Relevant information was extracted from patient demographics, triage documentation, vitals, biochemical and radiological investigation results, medical officer admission notes, advanced resuscitation plan (ARP) and scanned medication charts.

Results
1,136 episodes of care were examined, with 201 episodes from 196 unique patients meeting inclusion criteria. The median age at presentation was 66 (Range 18 to 99) with 1:1 male to female ratio. 72 (30.5%) episodes had documented severity scoring tool used. According to SMART-COP, 17 (8.5%) episodes were classified as high or very high risk of requiring intensive respiratory or vasopressor support. Blood cultures were performed in 105 (53%), sputum cultures in 82 (42%), urinary bacterial antigens for Streptococcus pneumoniae and Legionella pneumophila in 76 (38%), respiratory virus PCR in 62 (31%) and serology for atypical organisms in 33 (17%). Significant variation was noted in antibiotic prescribing with 24 different regimes recorded. The most commonly prescribed regimens were benzylpenicillin plus doxycycline (75, 38%), ceftriaxone plus doxycycline (32, 16.4%) and ceftriaxone plus azithromycin (15, 7.7%). Only 67 (34%) prescriptions were consistent with those recommended in therapeutic guidelines.

Implications for practice
There was significant variation noted in investigation ordering and antimicrobial prescription in adults who were admitted for CAP in Cairns Hospital in 2017. Concordance with current management guidelines was low. A number of postulated contributing factors are identified. Further investigation is required to examine the reasons for the observed heterogeneity in practice and to explore future effective quality improvement activities.
A single centre retrospective analysis of immunotherapy outcomes for patients with non-small cell lung cancer (NSCLC) in Cairns and Hinterland Hospital and Health Service (CHHHS)

Mutsuki Marukawa, Medical Registrar, Liz Plummer Cancer Centre, Cairns

Background and rationale
This audit evaluated immunotherapy use by CHHHS cancer centre servicing a population of 250 000 in far north Queensland. Nivolumab and Atezolizumab are available for second-line treatment of NSCLC. Landmark trials demonstrated superior overall survival (12.2mo vs 9.4mo, 13.8mo vs 9.6mo) and 1-year survival rates (51% vs 39%, 55% vs 41%) compared to docetaxel. Pembrolizumab was superior to first line platinum-based chemotherapy for PDL1 high NSCLC (mOS 30.0mo vs 12.4mo).

Methods
We performed a retrospective review of all patients treated with immunotherapy between March 2015 – March 2019. Baseline characteristics including performance status, tumour details and previous treatments were recorded. Survival outcomes (OS, PFS) were determined from first date of immunotherapy. Descriptive statistics used to analyse data.

Results
Baseline Characteristics:
• 72 patients treated over a 4-year period.
• Median age: 67 years (range 35-87). The majority were male (64%) and ex-smokers (74%).
• PD-L1 was evaluated in 23 patients; 11 patients were PD-L1 high (48%).
• 13 (18%) had brain metastases.
• 61 (85%) had prior systemic therapy; 44 (72%) had one line and 17 (28%) had multiple lines.

Survival Outcomes:
• mOS was not reached. Estimated mPFS was 6.8mo (95% CI 4.6-13.8mo).
• For second line Nivolumab and Atezolizumab, the estimated mOS was 11.4mo (95% CI 8.3-18.0mo) and mPFS was 5.5mo (95% CI 2.7-8.3mo).
• 6 patients survived greater than 24months, 4 are sustained responders.
• 25 (35%) patients responded.
• Grade 3+ immune-related toxicity occurred in 7 patients (10%) with no Grade 5 toxicities.
• 6 (8%) patients died within 1 month of commencing therapy.

Implications for practice
• These results, albeit within a small target population, were in keeping with landmark trials
• A follow up audit will analyse the 2-year survival rate in the pre-treated population with more mature data, and evaluate survival data for those treated with first line immunotherapy in PD-L1 high and low groups
• The 2-year survival rate and median overall survival are expected to be improved.

Key message
• In a small, real world population, second line immunotherapy is safe and the survival outcomes are in keeping with landmark clinical trials.
• The survival data for first line immunotherapy is immature and this reflects the availability of these agents outside of clinical trials.
Using a Validated Tool to Assess a Whole Body Cadaveric Simulation Course on Open General and Emergency Surgery – The Anatomy of Surgical Exposure (ASE) Program
Callie Killoran, Resident Medical Officer, Cairns Hospital

Background and rationale
Laparoscopy (key-hole surgery) has effectively replaced open surgery in most elective, and some emergency operations. Inevitably, there has been a decline in the incidence of open surgery and a concomitant loss of foundational exposure to open surgical techniques. The Anatomy of Surgical Exposure (ASE) is a cadaver-based dissection course that instructs its candidates in the techniques of exposures commonly used in open surgical operations. The objective of this study is to assess skill acquisition in a simulated environment (cadaveric model) using a validated tool, the objective structured assessment of technical skill (OSATS) template to assess candidate performance.

Methods
This cross-sectional observational study was conducted on 19 ASE candidates, eleven of which are not on the surgical training pathway. Ten stations were marked using the OSATS template, which is a 7-item score assessing general and specific surgical techniques and knowledge, using a 5-point Likert scale system. Data was collected by tutors marking each candidate with the comparison to a year two surgical trainee. Collected data sets were analysed by SPSS software.

Results
Comparing candidates total OSATS and specific item scores, from the beginning to the end of the course, has shown no overall statistical significance in improvement. However, a significantly positive correlation was observed between surgical trainees and OSATS total scores (P=0.001, r =0.720); and in post graduate years and OSATS total scores (P=0.001, r=0.691).

Implications for practice
The research findings indicate that those on the surgical training pathway and individuals who have graduated earlier, had an overall higher score than those not yet surgical training or those who had less general training years. However, there was no significant improvement within individuals marked skill sets, throughout the three-day course, suggesting no change to the individuals’ surgical skills in the short period of time based off the OSATS template.

Key message
- Surgical trainee’s overall performed better throughout the course.
- The OSATS template is a way to standardized marking of surgical skills.

Mortality within 30 days of receiving checkpoint inhibitor immunotherapy in an Australian regional cancer centre
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Saw Htut, Oncology Advanced Trainee, Cancer Services, Cairns
James Fletcher, Oncology Advanced Trainee, Cancer Services, Cairns
Megan Lyle, Medical Oncologist, Cancer Services Cairns
Background and rationale
The treatment landscape for advanced solid malignancies has changed significantly since the advent of checkpoint inhibition immunotherapy. Compared to chemotherapy, immunotherapy offers a favourable toxicity profile and greater potential for durable responses. While mortality within 30 days of chemotherapy is recognised as an important quality assurance measure, data is limited regarding immunotherapy in this context.

Methods
Retrospective review of patients with advanced solid malignancies treated with immunotherapy within Cairns and Hinterland Hospital and Health Service (CHHHS) between June 2015 and June 2019.

Results
230 patients were treated with immunotherapy and 30 patients (13%) died within 30 days of treatment. Anti-PD-L1/PD-1 therapy was more common than anti-CTLA-4 or combination regimens (80% vs. 13% vs. 3%). Median age was 70 years (38 – 87). The most common malignancies were melanoma (50%) and lung cancer (37%). Most patients were pre-treated (80%). Poor prognostic features were common: ECOG 3 – 4 (33%), brain metastases (33%), ≥ 3 metastatic sites (53%) and raised LDH (80%). The median number of cycles was 2 (1 – 61) and 13 patients died within 30 days of first treatment (6%). Most patients died of progressive disease (84%) and there were no grade 3+ toxicities. 71% died in hospital and 36% received acute treatment within 48 hours of death. Only 18% died in a palliative care unit and 11% died at home. Resuscitation plans were documented in 50% at the time of final treatment. Discussion regarding very poor prognosis and/or treatment futility was documented in 52% of cases.

Implications for practice
Thirty-day mortality rates after immunotherapy were in keeping with historically published data for chemotherapy. While there were no significant treatment related toxicities, at least a quarter of patients received acute medical care within 48 hours of death. Many patients had clearly participated with advanced care planning (ACP) and were involved with palliative care, however, further improvement on early discussion regarding ACP and treatment futility should be considered.

Key message
Mortality within 30 days of patients with advanced solid malignancies receiving checkpoint inhibitor immunotherapy within CHHHS is low at 13% reflecting appropriate patient selection for treatment.

Implementing a pharmacist-led high-risk medication management service in a rural community
Sarah Tinney, Clinical Pharmacist, Atherton Hospital

Background and rationale
Medication errors, adverse events or inappropriate use of medicines are known as medication misadventure and can be caused by medication non-adherence, poor communication across the continuum or patient confusion resulting in consequences such as unplanned hospital admissions and poor quality of life. The aim of this project was to determine whether a pharmacist-led medication management service for patients at high risk of medication misadventure, including post discharge, increases medication adherence and/or quality of life in a rural setting. Impact on acute, secondary care, service use was also investigated.
Methods
Patients identified at risk of medication misadventure, prior to discharge or during outpatient clinic review, were referred to the pharmacy high-risk medication management service. A comprehensive pharmacist medication review was completed in the clinic or via telehealth into the patient’s home. Primary outcomes were change in self-reported medication adherence using the Medication Adherence Questionnaire (MAQ) and change in Quality of Life (QOL) score using the SF-12 health survey, from baseline to six months post intervention. Secondary outcomes included comparing unplanned readmissions and emergency department (ED) visits, six months pre-and post-intervention.

Results
Of 81 patents recruited, 6 were lost to follow up leaving a final cohort of 75 of which 30 were post-discharge and 45 were outpatients. A decrease was seen in self-reported medication adherence (MAQ) scores suggesting improved adherence (mean (SEM) 0.41 (0.074) at baseline compared to 0.27 (0.055) at 6 months (p=0.047) and QOL scores improved significantly between baseline and 6 months. Mean number of hospital admissions in the 6 months following clinic visits decreased (1.09 (0.156) vs 0.60 (0.141); p=0.003) with the number of presentations to ED unchanged.

Implications for practice
Implementation of a pharmacist-led high-risk medication management service in a rural area resulted in improved self-reported medication adherence, improved QOL for post-discharge patients and decreased admissions to hospital in the 6 months post intervention.

Key message
Introduction of an outpatient pharmacy clinic in a rural area improved patient adherence and decreased hospital admissions in the six months following pharmacist review.

Survival outcomes for BRAF wild type advanced melanoma treated with first line immunotherapy in a regional cancer centre: experience from the Liz Plummer Cancer Centre
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Saw Htut, Oncology Advanced Trainee, Cancer Services, Cairns
James Fletcher, Oncology Advanced Trainee, Cancer Services, Cairns
Megan Lyle, Medical Oncologist, Cancer Services Cairns

Background and rationale
Checkpoint inhibition immunotherapy is standard of care treatment for BRAF wild type (wt) advanced/metastatic melanoma. 5-year analysis of KEYNOTE-006 demonstrated Pembrolizumab was superior to Ipilimumab for median progression free survival (mPFS) (8.4 mo versus 3.4 mo) and median overall survival (mOS) (32.7 mo versus 15.9 mo) with 4 year survival 42.3%. Grade 3+ toxicity rate was 17%. First line Nivolumab + Ipilimumab in CHECKMATE-067 showed mPFS 11.5mo and mOS not reached (95% CI 38.2 - NR). The 4-year survival rate was 53%. Grade 3+ toxicity was 59%. This study aim to determine the survival outcomes and safety of first line Pembrolizumab and Nivolumab+Ipilimumab for advanced melanoma in a regional cancer centre.

Methods
Retrospective analysis of all patients with advanced BRAF wt melanoma who received immunotherapy between May 2015 – May 2019 at Liz Plummer Cancer Centre.
Results
56 patients were treated during the study period. The majority were male (68%) and good performance status; ECOG 0-1 (87%). Poor prognostic features included: ECOG 3+ (6%), brain metastases (16%), ≥ 3 sites of metastases (43%), and raised LDH (50%). Of 9 patients with brain metastases, 7 (78%) also received local treatment (surgery and/or radiotherapy). Pembrolizumab monotherapy (88%) was utilised more than Nivolumab+Ipilimumab (13%). The clinical response rate was 55%, including 19 (34%) complete responses. The estimated mPFS was 9.0mo (95% CI 9.0-NR) and mOS was not reached (95% CI 31.2mo – NR). Grade 3+ toxicity rate was 14 (25%) and was higher for Nivolumab+Ipilimumab (71%) than pembrolizumab (18%). There were no treatment-related deaths.

Implications for practice
In our real-world population with advanced BRAF wt melanoma, the clinical response rate to first line immunotherapy was 55% and the safety profile was in keeping with clinical trials. The data for long term survival is not yet mature and will be assessed in a follow up audit.

Key message
Population with advanced BRAF wt melanoma that received first line immunotherapy at Liz Plummer Cancer Centre achieved satisfactory clinical response rate. Follow-up audit is required to establish long-term survival.

Woman-centred care in complex pregnancy situations: a review of the literature
Simone Naughton, Midwife Navigator, Cairns and Hinterland Hospital and Health Service
Clare Harvey, Associate Professor, School of Nursing, Midwifery and Social Science, Central Queensland University
Adele Baldwin, School of Nursing, Midwifery and Social Science, Central Queensland University

Background and rationale
Midwifery philosophy and practice is grounded in providing woman-centred care (WCC). The intent is supporting a woman’s self-determination in terms of choice and control to increase satisfaction with care provision and improve outcomes for women and babies.

Methods
A literature search was undertaken to better understand WCC in the context of complex midwifery care. Complexity in this context is defined as psychosocial or biomedical risk factors that place the mother and/or her baby at increased risk for adverse outcomes. Results were limited to qualitative peer reviewed articles written in English in the last 5 years.

Results
Professional power differentials create barriers to WCC. Power within maternity systems can be conceptualised as a continuum, a continuous sequence in which adjacent elements are not perceptibly different from each other but the extremes are quite distinct. At one end of the continuum is self-determination, woman centred care, and at the other end the handover of control to others. The position of the woman on the continuum towards either end is moved by different variables. Obstetric-led biomedical models of care assumption that birth is inherently risky requiring medical management pushes the marker toward the control end. Midwifery models driven by the philosophy that birth is essentially a normal
physiological process intends to push the marker back towards the autonomy end using WCC practices. This provokes professional boundary tensions which may pose a risk to a woman with complex needs ‘falling through the cracks’ of maternity services.

Implications for practice
Midwife Navigators are experienced practitioners with authority to support pregnant women with complex health and social needs during transitions across models of care and service providers. This may require moving the marker frequently to reconstruct the maternal body as competent, even when complexity exists and repositioning the woman at the forefront of her care in very different models of maternity care.

Key message
Midwife navigators support a woman with complex needs maintain autonomy, regardless of complexity or need to transfer between health professionals or models of care.