Healthcare in the Digital Age

Medicine, Nursing and Allied Health

Cairns Hospital Auditorium
Wednesday 9 August

Cairns and Hinterland Hospital and Health Service
Professor Lynne Parkinson is a Fellow of the Australian Association of Gerontology, and Editor in Chief of Australasian Journal on Ageing. She is an internationally prominent population health gerontologist. Her current research portfolio has three main streams: healthy ageing with chronic disease; optimising aged care practice and aged health care delivery; and best practice in scholarly publication. She undertakes qualitative, quantitative and mixed methods research in these streams. She is currently a Professorial Research Fellow at Central Queensland University, based in Rockhampton, Queensland.

**Workshop Program**

- Introductions-aspirations and questions for the workshop
- Getting started: tips and tricks to publication
- Choosing a journal
- What to make of the reviewer feedback
- The Working Abstract
- Questions and paper mentoring

**Tuesday 8 August 2017 5-7pm**
# Research and Quality Symposium

## Healthcare in the Digital Age

## PROGRAM

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<td>08:30</td>
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<td>Symposium Opening</td>
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<td>The Digital Transformation of Healthcare</td>
<td>Dr Richard Ashby AM Chief Executive eHealth Qld</td>
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<td>09:25</td>
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<td>A modern and integrated electronic health system for our regional and remote healthcare services</td>
<td>C Taunton S Pickard</td>
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<td>09:40</td>
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<td>Cairns Health pathway improving outcomes for patients in the Cairns and Hinterland and Torres and Cape Hospital and Health Service Districts</td>
<td>Dr M Stuttgan</td>
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<td>Consumer perspectives of electronic health privacy</td>
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<td>10.25am-10.45am (20 Mins)</td>
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<td>Session 2</td>
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<td>Piloting a novel multidisciplinary tele-pharmacy medication review service in a rural community</td>
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<td>11.05</td>
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<td>Tele-audiology: A digital solution to a clinical problem</td>
<td>K McMillan, N Winter</td>
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<td>Optimising the scale and mix of services in Orthopaedics and Neurosurgery</td>
<td>A Smith</td>
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<td>An innovative telehealth model of care enabling antimicrobial stewardship in small rural hospitals</td>
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<td>‘Swallow assessment in the digital age - preliminary outcomes of the Dysphagia Telehealth Assessment Service</td>
<td>N Winter, R Rusch</td>
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### Session 4
**03.15pm - 05.15pm**
**Improving the quality of care**

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| 15:15  | Opportunities for health services research in Queensland              | Professor Christian Gericke  
Deputy Executive Director  
Medical Services, CHHHS |
<p>| 15:45  | Evaluation of General Surgical Outreach on Thursday Island            | Dr A Foster, A/P R Gunnarsson, A/P A de Costa                                |
| 16.00  | Will management of hypoglycaemia within hospitalised patients be improved with the introduction of ‘hypo boxes’? | N Hinton, S Wilsesmith, E Buikstra                                            |
| 16.15  | Waste reduction in Haemodialysis: A multicentre quality activity      | K Dunbar-Reid, E Buikstra                                                   |
| 16.30  | Alarm fatigue – Customising default telemetry alarms in the Medical Assessment Unit to reduce ‘nuisance’ alarms | T Pitts                                                                     |
| 16.45  | Physiotherapy Defined Scope of Practice Prescribing Trial            | J Dunstan, T Collins, T Cavanagh, K Donald                                  |
| 17.00  | Improving discharge process from hospital for older people with dementia - an integrated knowledge translation study | K Layton                                                                   |
| <strong>17.15pm</strong> | <strong>Presentation of Awards</strong>                                           |                                                                            |</p>
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<td>Symptoms and diagnostic criteria of Acquired Mega colon - A systematic review</td>
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<td>The correlation between Diverticulosis and Redundant Colon</td>
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<td>Quality of life in patients with Mild to Moderate Redundant Colon</td>
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<td>Prediction Model for the Presence of Redundant Colon</td>
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<td>The Cairns Southern corridor: providing primary care for a growing population</td>
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<td>Nutritional Anti-Inflammatories in the treatment and prevention of Type 2 Diabetes Mellitus and the Metabolic Syndrome</td>
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<td>Environmental determinants of the spatial distribution of melioidosis in Far North Queensland, Australia</td>
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<td>Improving the quality of services to Aboriginal and Torres Strait Islander patients by increasing health professionals' cultural and historical knowledge</td>
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<td>Men with a Meal Plan</td>
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<td>Principles of Community Engagement for Researchers collaborating with Aboriginal and Torres Strait Islander Communities: Insights and Reflections from the Healthy Aging Team (HART)'s work in the Torres Strait</td>
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<td>Improving anaemia management for patients having elective surgery - National Patient Blood Management Collaborative</td>
<td>K. Bowles</td>
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<td>Dissemination of a GDM Model of Care: A Tale of two Cities</td>
<td>A. Kempe, B. Sellwood</td>
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*Morning tea, lunch and afternoon tea will be provided on the outdoor terrace adjacent to the auditorium foyer*
Keynote Speaker

The Digital Transformation of Healthcare

Dr Richard Ashby AM,
Chief Executive eHealth Queensland

Most Health Academics, Futurists, Planners, and Health Advisory Companies agree that the major health agendas over the next 5-10 years are:
- Integrated Care
- Precision Medicine
- Population Health
- The Higher Reliability Healthcare Organisation
- The Intelligent Healthcare Enterprise

None of these agendas can be addressed by healthcare organisations without Digital Health. This paper will address various aspects of the digitisation of healthcare and enabling technologies in relation to these agendas as well as briefly touching on the impact of the digital world on work and human life more generally.

A modern and integrated electronic health system for our regional and remote healthcare services

Caroline Taunton, Principal Business Analyst, Regional eHealth Project
Scott Pickard, Project Director, Regional eHealth Project

Background and rationale
The Regional eHealth Project has been established to deliver an integrated electronic health system for regional and remote services across Far North Queensland. The new system will be utilised by around 58 Queensland Health facilities, from Saibai Island to Tully. In order to support the design and implementation of the new system, an initial analysis of healthcare service providers and existing clinical systems was undertaken at two healthcare facilities.

Methods
Information was collected during visits in late 2016 to a Primary Healthcare Centre and a Hospital-based facility in the region. Interviews were undertaken and information collected about paper-based and electronic clinical systems in use. Information was also collected via email from a limited number of visiting healthcare providers. Staffing and healthcare provider lists were verified by the Director of Nursing at each facility.
Only information collected about primary and specialty Queensland Health clinical systems was analysed. However, in addition to these systems, it is known that there are at least 30 further clinical systems and registers in use at Queensland Health facilities in the region.

**Results**

82 visiting and 110 locally-based administration and healthcare providers were identified. Interviews were undertaken with 49 (26%) of the 192 people, including with 18/58 (31%) from the Primary Healthcare Centre and 31/134 (23%) from the Hospital-based facility.

A total of 23 different Queensland Health clinical systems were in-use. This included 3 types of paper-based patient record, and a further 20 electronic clinical applications. On average, interviewees used 2.7 (range 1 – 5) clinical systems at the Primary Healthcare Centre and 4.6 (range 1 – 9) clinical systems at the Hospital-based facility.

**Implications for practice**

The collection and storage of patient information in multiple disparate systems poses significant challenges to the delivery of safe and effective healthcare to patients in the region. The reliance on paper-based patient records also limits access to comprehensive patient health records across facilities.

**Key message**

A modern and accessible electronic health system for our regional and remote healthcare services is much needed. The new system should provide a shared primary patient record and should replace as many existing disparate systems as possible.

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**Cairns Health Pathway improving outcomes for patients in the Cairns & Hinterland and Torres & Cape Hospital and Health Services District**

**Dr Melanie Stuttgan, General Practitioner Clinical Editor**

**Background and rationale:**

Cairns Health Pathways is a web-based resource for local primary care physicians to assist with patient assessment and management and appropriate referral within the Cairns and Hinterland and Torres and Cape Hospital Health Service. It is based on a program developed in New Zealand and was launched locally in April 2017.

At present Cairns Hospital receives approximately 4500 external new referrals for outpatient services per month.

Based on the success of this program in other Hospital and Health Service districts, it is anticipated that the flow on effect of launching this program will be:

- a decrease in long wait list patients and ultralong wait list patients (2-5 years)
- an increase in correct categorisation.

**Methods:**

Program role out includes working with senior clinicians as subject matter experts, to identify high referral areas and localising pathways identified as being of high demand, such as Zika. The program would work towards a launch of at least 80 completed pathways with a further commitment to develop 10 pathways each month based of consumer feedback.

**Results:**

HealthPathways launched with a successful 112 live pathways and 80 in draft. Early indications about the program from local GPs is positive and it is anticipated that the hospital will see an improvement in more timely referrals. This was recently demonstrated by Mackay Hospital Health Service. New external referrals numbers were mapped against pathway usage. The data identified an increase in pathway usage and a decrease in new referrals.

**Evaluation/Implications for practice:**

HealthPathways team need to continue working with clinicians on the high volume areas and promote the use of the pathways across all health care professionals.

**Key message:**

HealthPathways has the potential to improve patient outcomes by referring the patient to the right place at the right time.
Consumer Perspectives of Electronic Health Privacy

Dr Steven Gordon, Senior Lecturer, School of Engineering and Technology, CQUniversity

Background and rationale
There is rapid growth in the use of electronic health records, devices and applications. Unfortunately, users may not be aware of the privacy implications; essentially manufacturers, telecommunication providers, and other third parties may access sensitive data. Despite controls being available, privacy intrusions occur and are expected to increase. This project explored the usage of smart-health systems in Australia, and the views of users on privacy. The results will inform recommendations to assist consumers in keeping their data private.

Methods
Data was collected from 1,225 randomly selected Australian households. The target population designated for telephone interviewing was all adults living in Australia. Participants were asked ten questions regarding electronic health privacy. The data was analysed according to age and sex using significance testing.

Results
One third of participants were recording health information. Participants trusted healthcare providers to access their data but did not trust health insurance and drug companies, telecommunication providers, and software developers. Participants considered their privacy to be important and were highly concerned about information being known. However, most participants reported never or rarely reviewing privacy policies. If their health information was made public, participants were concerned about changes to health insurance costs, their mental health and the time involved with having to deal with the consequences.

Evaluation/Implications for practice
The majority of consumers strongly value their health privacy and trust healthcare providers to protect their data. Extensive precautions must be made to prevent data intrusions. Manufacturers need to provide accessible and comprehensible privacy policies, and should not be permitted sell on information to third parties without clear communication of this. There is a significant discrepancy between consumer expectations and the reality of health data collection and management.

Key message
Privacy of information competes with consumers’ desire for easy-to-use smart-health systems. This project contributes knowledge that leads to a fairer balance, providing ease-of-use and privacy. Reducing privacy concerns will likely increase use of smart-health systems, enabling the self-efficacy of individuals to improve their health outcomes and consequently decrease personal and societal economic burden.

Tools for monitoring and investigating access to digital medical records

Jacqueline Wilkinson, Registered Nurse

Background and rationale
With the implementation of a digital medical record (ieMR) at Cairns Hospital, access to information has increased greatly. When access to ieMR is given, staffs are able to view the full medical record of all patients registered in the digital medical record program, regardless of whether they are involved in their treatment. Due to the increase in the availability of information regular checks of staff access are required. Investigations have also been requested to provide detailed information on particular medical records or staff. This presentation will consider the first full chart investigation undertaken by Cairns Hospital.

Methods
Tools such as P2Sentinel, Lights On, Smart Auditor and Cerner reporting were utilised to gather full information regarding all access to a particular medical chart. Information on date and time of all chart opens was gathered in the first instance. This list was then cross-checked with the medical record to
check for any entry in the medical record. This resulted in a list of staff that had opened the chart but had not made any entry. Further information, including video, was then sought to ascertain what those staff had accessed within the chart.

Results
This investigation showed that there are many instances where staffs need to access a patient's medical chart without any entry being necessary. It also resulted in a list of staff that appeared to have accessed a patient's medical record for no reason related to that patient's care.

Evaluation/Implications for practice
Many of the tools used in this first investigation were found to be ineffective and some false data was found. Through discussing this investigation with eHealth Program staff and other sites appropriate tools were found for future investigations. A procedure for conducting chart investigations will now be written to guide future investigations in a timely and effective manner.

Key message
Your digital footprint is everywhere

Session two: Technology in regional healthcare

Ensuring clinical information arrives before the patient’s GP appointment

Dianne Shkurka, General Practitioner Liaison Manager

Background and rationale
The project aims to influence improvements to communication with external health providers through facilitating a service-wide roll-out and implementation of existing secure messaging services. In addition this, the hospital health service will see consequential efficiencies in administrative work processes, and financial savings through decreased use of postage, printing, and stationary. The use of secure messaging will positively impact communication with external health providers by delivering clinical information in less time, and in a more secure, reliable, and convenient delivery method.

Methods
Early stage investigations revealed a lack of standardisation in work practices across hospital departments. Workflow analysis, recommendations and Secure Messaging Implementation Plan provided to stakeholders (Executive Committees and Clinical Council) for feedback & endorsement. Initially workplace assessments were conducted to departments expressing an interest by a) assess unit processes for the purpose of providing process improvement recommendations and b) ensuring advice is tailored to suit each unit's individual practices.

Over the last 12 months a staged installation of Secure Web Transfer (SWT) software and Secure File Transfer (SFT) Kiteworks across departments within the hospital health service commenced. The delivery of secure messaging training rolled out to internal staff and external recipients by the GP Liaison Service.

Results
The GP Service responded to requests from departments and commenced training groups and individuals. It soon became apparent that follow up sessions were needed to keep the momentum going and address any issues staff had before they returned to the snail mail!

25% of the departments including Day Surgery, Paediatric Outpatients, and some Allied Health are sending 80% of letters to external health providers via secure messaging.

Mossman Hospital has taken the challenge with a whole of service approach.

Evaluation/Implications for practice
So far stakeholders have provided positive feedback and the GP Service will conduct its annual GP survey in October 2017. It is anticipated that feedback will encourage a change in practice that will benefit both the patient and service delivery.
Key message
Managing patient care in the community can have a positive outcome if all the relevant clinical information is there when the patient arrives.

Piloting a Novel Multidisciplinary Telepharmacy Medication Review Service in a Rural Community

Michelle Rothwell, Senior Pharmacist Atherton Hospital

Background and rationale
In Australia, studies show the percentages of hospital admissions due to medication related problems range from 5.6% in the general population to 30.4% in the elderly population; patient medication adherence is as low as 50–60% and 59% of adults do not reach the minimum level of literacy required to understand health information all of which contributes to these admissions and readmissions. A novel telepharmacy medication review service, to rural patients in their home via a nurse with an iPad, can decrease medication misadventure.

Methods
Thirty-three patients took part in the study which was set in a rural town with the pharmacist based in a rural hospital 19 kilometres away. Patients considered at immediate or high risk of medication misadventure were eligible and were identified by the community nurse on home visits using a standard risk assessment tool. If identified as at immediate risk of medication misadventure the nurse would phone the pharmacist to request an opportunistic medication review; if identified as high risk a medication review was arranged for within a 5-7 day period.

Results
All thirty-three patients were comfortable with the use of the technology and patient feedback indicated satisfaction with the method of service delivery. A total of 361 medications were being taken with an average of 11 medications per patient. A total of 119 pharmacist recommendations were made averaging at 3.6 per patient.

Evaluation/Implications for practice
Data collected indicates collaborative telepharmacy home medication reviews are an acceptable and effective service delivery model for rural communities.

Key message
Medication misadventure can cause hospital admissions and readmissions. Collaborative telepharmacy into the patient’s home through a tablet device can decrease medication misadventure and prevent hospital admissions and readmissions. This exciting new model of care could have many implications for the future of rural pharmacist service delivery and could be replicated state-wide.

Tele-audiology: A digital solution to a clinical problem

Katie McMillan, Director of Speech Pathology
Natalie Winter, Advanced Speech Pathologist

Background and rationale
An audit of the Cairns and Hinterland Hospital and Health Service (CHHHS) ENT waiting list conducted in 2016 found 460 patients (41%) required audiology assessment. Of these, 52% identified as Aboriginal or Torres Strait Islander. There are currently no Queensland Health audiology services in CHHHS. Patients who need audiology assessment are required to go to a private provider in Woree. High FTA rates, impaired communication between specialists, delayed and unnecessary/duplicate appointments for patients, and high cost to the CHHHS have been observed. A collaborative between CHHHS, The University of Queensland (UQ), and the Allied Health Professions Office of Queensland has allowed a trial of audiology assessment delivered via telehealth. This will provide an effective audiology service that is accessible to our patients, delivered in a timely fashion, and is cost effective for our CHHHS.

Methods
From June to October 2017, the trial tele-audiology service will run three days per week, co-located with ENT in Surgical Outpatient Clinics at Cairns Hospital. Eligible children (5 and over) and adults from the ENT or paediatric caseloads requiring standard audiology assessment will be seen in the tele-audiology
Audiologists at UQ will dial in to Cairns Hospital using the eHAB platform. They will remotely conduct audiology assessments, with a local facilitator assisting the patient in Cairns. Documentation will be immediate to allow timely clinical decision making by the specialists.

**Results**
Data on technical issues, cost compared with current model, and staff and patient satisfaction and experiences will be collected.

It is anticipated that this service will:
- Provide a same day and/or co-located patient experience with results immediately available to specialists in ieMR.
- Improve multidisciplinary collaboration and clinical decision making.
- Reduce FTAs and unnecessary appointments.
- Achieve high satisfaction from patients, staff, and specialists.

**Evaluation/Implications for practice**
It is anticipated that data from this trial will allow demonstration of need for ongoing Queensland Health audiology services for our patients.

**Key message**
This service uses a digital solution to address issues of access, efficacy, and cost in the delivery of audiology services to our patients.

**Optimising the scale and mix of services in Orthopaedics and Neurosurgery**

Tania Cavanagh, A/Director of Allied Health  
Maree Raymer, Metro North Hospital and Health Service  
Nicole Moretto, Metro North Hospital and Health Service  
Dr Tracy Comans, Metro North Hospital and Health Service / Menzies Health Institute Queensland, Griffith University  
Dr Angela Chang, Metro North Hospital and Health Service  
Dr Shaun O’Leary, Metro North Hospital and Health Service / The University of Queensland  
Dr Sonya Osborne, Australian Centre for Health Services Innovation, Queensland University of Technology

**Background and rationale**
High demand on Orthopaedic and Neurosurgery Specialist outpatient services in Cairns and Hinterland HHS has resulted in extended waiting lists and waiting times. Services, using a physiotherapist with advanced education to assess and manage selected patients, have been shown to be highly cost effective in managing demand. The scale and mix of specialist and physiotherapist led services should be examined in order to optimise access and resource allocation.

**Methods**
A simulation model was developed to quantify the current and projected future demand-capacity gap and to identify the scale and mix of services required to meet waiting time targets. The model was populated with data on growth in demand, waiting lists, activity and outcomes for the period from March 2016 to May 2017.

**Results**
Modelling identifies demand on Orthopaedic and Neurosurgery Specialist outpatient service’s exceeds capacity, such that no Category 2 and 3 patients would be seen within target timeframes from 6–18 months onwards if services remain unchanged. Advanced physiotherapy services currently manage 23% of new Orthopaedics cases but no Neurosurgery new cases. They could manage up to 58% of new cases in Orthopaedics and 51% in Neurosurgery. Expanding the overall scale of services by double in orthopaedics and by 50% in neurosurgery would be required to meet waiting time targets within 2.5–3 years. Further modelling demonstrated that changes to the mix of services, specifically increasing physiotherapy led services, would be an important component in managing demand in both orthopaedics and neurosurgery in the medium term.
**Evaluation/Implications for practice**
Simulation modelling can inform service planning providing decision makers with evidence of projected demand and the impact of alterations to services prior to making service changes.

**Key message**
Simulation modelling can inform the scale and mix services to efficiently manage demand over the medium term. Physiotherapy led services can make a larger contribution to managing demand than currently occurs. Modelling was used to explore different combinations of surgeon and physiotherapist led services to address demand, providing a variety of options for health service planning.

**An innovative telehealth model of care enabling antimicrobial stewardship in small rural hospitals**

**Michelle Rothwell, Senior Pharmacist, Atherton**

**Background and rationale**
In 2013 antimicrobial stewardship became an accreditation standard for all Australian hospitals. A pharmacist-led antimicrobial stewardship telehealth model utilising off-site infectious disease expertise can help smaller rural hospitals with no on-site pharmacist meet this accreditation standard. This quality activity evaluated an antimicrobial stewardship telehealth intervention to determine its effectiveness in increasing the appropriate use of antimicrobials.

**Methods**
A multidisciplinary team comprising of the medical superintendent and the director of nursing were convened at two small rural facilities and weekly case review conferences were established with the remotely located pharmacist utilising telehealth. Patient clinical information was supplied to the pharmacist prior and health service wide data systems were accessed for relevant pathology. Pharmacist recommendations were made according to the health service wide antimicrobial stewardship formulary and governed by an off-site infectious disease consultant. The number and type of pharmacist interventions and the number and type of infectious disease consults were included in the evaluation.

**Results**
Data was collected for 24 months with a total of 112 case conferences being held. There were 260 patient cases reviewed with a total of 212 pharmacist recommendations made. Recommendations included the following categories: choice of antibiotic, dose (including adjustment for decreased renal function), allergy advice, length of treatment and advice for infectious disease consult as per formulary. Recommendations to seek infectious disease advice on the use of restricted antibiotics were given on 22 occasions in the first twelve months compared to eight occasions in the following twelve months. On fourteen occasions in the second twelve months the hospital teams spontaneously sought advice from infectious disease consultants indicating a change in clinician behaviour.

**Evaluation/Implications for practice**
Innovative models of care utilising telehealth can deliver effective antimicrobial stewardship and change prescribing culture in small rural and remote hospitals.

**Key message:** The post-antibiotic era is here and it is imperative to preserve efficacy of antibiotics through judicious and effective prescribing. Innovative methods of service delivery can assist clinicians and facilities achieve this and to also meet accreditation standards.
Swallow Assessment in the Digital Age – Preliminary Outcomes of the Dysphagia Telehealth Assessment Service

Natalie Winter, Advanced Speech Pathologist, Cairns Hospital
Rukmani Rusch, Senior Speech Pathologist, Cairns Hospital
Dr Clare Burns, Speech Pathology & Audiology Depart, Royal Brisbane and Woman’s Hospital
Professor Elizabeth Ward, Centre for Functioning and Health Research, Metro South HHS
Mrs Brooke Cowie, Speech Pathology Department, Caboolture Hospital
Ms Robyn Saxon, Speech Pathology Department, Nambour General Hospital
Ms Amy Gray, Speech Pathology Department, Gayndah Community Health, Wide Bay HHS
Mrs Lisa Baker, Wide Bay Rural Allied Health & Community Health Service, Wide Bay HHS
Sarah Bignell, Speech Pathology Department, Charleville Hospital, South West HHS
Jodie Turvey, Clinical Nurse Consultant - Telehealth Services, South West Hospital and Health Service

Background and rationale
Mossman Multipurpose Health Service (MMPHS) is a thirty-two bed facility with a one day per week on-site speech pathology (SP) service. Between speech pathology visits patients have limited access to timely swallow assessment and are often unexpectedly discharged from the hospital with dysphagia. The lack of a full time service results in risk of inadequate care and unsafe discharges. CHHHS SP participated in a multi-site project implementing and evaluating a new model of care providing adult clinical swallowing assessments via telepractice. Validated through prior research, this service model uses videoconferencing to link the Cairns Hospital (CH) speech pathologist with the patient and trained healthcare assistant at a remote site. This presentation reports on the clinical, service and cost outcomes and clinician and consumer satisfaction of this new model of care within CHHHS.

Methods
The Dysphagia Telehealth Assessment Service (DTAS) was established between CH and MMPHS. Service development was guided by an implementation package. Collaboration between speech pathologists, professional and operational managers resulted in service roll-out and endorsement of a new procedure. Training for the speech pathologists and allied health assistants was conducted via video-teleconference, with practical sessions delivered remotely and supported by the project lead. Clinical, service, and cost measures, as well as clinician and patient satisfaction data were collected.

Results
Over 13 months (March 2016-April 2017), three speech pathologists and two allied health assistants completed training and worked in the telehealth service. All patients were assessed for dysphagia via telehealth (n=6). Preliminary results have demonstrated improved time and cost efficiency of service delivery and a reduction in wait time for assessment. 50% of patients had their diet/fluids modified as a result of the assessment, indicating that earlier intervention reduced risk of aspiration and supported recovery and/or quality of life. Qualitative results indicate high patient and clinician satisfaction.

Evaluation/Implications for practice
Results support continuation of the DTAS and a plan for expansion to include other sites across the CHHHS.

Key message
Implementing a telehealth service to assess adult dysphagia supports patient safety, service efficiency and reduced costs while providing high consumer and clinician satisfaction.
Session three: Aboriginal and Torres Strait Islander health and wellbeing

Keynote Speaker

Dr Kristen Smith

Medical Anthropologist, University of Melbourne

Kristen Smith is a medical anthropologist at the Centre for Health Equity (Indigenous Studies Unit), at the University of Melbourne. Her current research spans the areas of Indigenous digital health, alcohol management and regulation in Australian Indigenous settings and Indigenous community and health agreements. She has developed the theory and practice of multi-sited ethnography and case study research, working on innovative research methodologies within interdisciplinary frameworks. She has contributed to research for the Australian Government in building capacity and the evidence base for the development of alcohol policy in northern Australia, with a particular focus on how this impacts Aboriginal communities.

From health information kiosks to ‘Indigital’ community hubs: Pathways beyond the Indigenous digital and health divide

While recent research indicates high uptake of some digital technologies including mobile phones and social media by Indigenous youth, Indigenous Australians remain underserviced by digital technologies and are two thirds less likely than non-Indigenous people to have any Internet connection. However, digital technologies can be used as an effective means to reduce Indigenous disadvantage through improving capacity to build local economies, affirm Aboriginal identity and provide culturally relevant information to rural and remote communities in the area of health. This presentation will discuss the findings of a multidisciplinary, mixed methods study that focused on the end-user practices of a network of touchscreen health kiosks (HITnet) across Australia to provide a set of strategies for the future deployment of digital resources in remote Indigenous communities. Participants in the study expressed a need for: (1) access to a broader range of locally relevant information; (2) information that is responsive to community needs; (3) timely provision of information that is regularly updated; and (4) more input to the information. HITnet are trialling a number of initiatives to address these possibilities in Indigenous Australian communities in remote and regional contexts, including the adaptation of cross platform technologies, such as smart phones and tablets, into the HITnet kiosk network. This research demonstrates the potential for digital infrastructure, such as the HITnet kiosks, to enable the generation of new evidence about the evolving needs of Indigenous people in this space. This is essential in providing a foundation for developing the types of services and facilities that are not only valued, but contribute to building strong Indigenous capacity in digital health literacy.
**Helen Travers**

**Director of Creative Production at Hitnet**

Helen Travers is Director of Creative Production at Hitnet (www.hitnet.com.au), an innovative Australian ‘Communication for Development’ company that builds the smart digital ecosystems needed to reach and engage the most marginalised of people, to:

- Co-create the information that empowers them to make healthy life choices
- Prepare them for life in rapidly changing societies, and
- Connect them with other communities now participating in and benefiting from the global digital economy.

Using cutting edge technology, Hitnet co-creates content at the grass roots to produce interactive learning materials, distributed to its audience across a unique digital platform of touchscreen kiosks, mobile and Web, enabling democratic access to information.

**HITnet – co-creating a platform for knowledge exchange**

Hitnet’s purpose is to co-create a platform for knowledge exchange, to build vibrant included communities. The voices of the people who use the Hitnet platform in those communities help to inform its design. They have done so since the early proof-of-concept work in 2001. While we can bring tech advancements into contact with peoples’ lives, only they can provide direction on how that technology can be applied in context.

To that end, the report ‘Digital Futures in Indigenous Communities - From Health Kiosks to Community Hubs’ was published in 2016. It presents a review of the application of Hitnet’s kiosks in three remote Northern Australian communities. One of the most important outcomes of the study was that it offered some broad suggestions for building on Hitnet’s existing capabilities to expand the functionality of the Community Hubs. Informed by this community-led R&D, this presentation will demonstrate the current evolution of Hitnet’s digital health ecosystem.

**Remodelling service delivery to support culturally appropriate holistic health care- analysis, strategy, challenges, more challenges and evaluation**

**Debra Malthouse, CEO Wuchopperen Health Service**

**Background and rationale**

Following rapid growth at Wuchopperen Health Service a review of the way in which services were delivered was necessary. Historically, funding for services tended to be piecemeal and resulted in compartmentalisation of programs rather than considering a more holistic and coordinated approach to client’s health care needs. The Executive Team initiated a service review in order to ensure that Wuchopperen was in a position to deliver timely, holistic, integrated and effective services whilst still being competitive in the new funding environment.
Methods
Using a Participatory Action Research (PAR) methodology the service review defined the issues, explored needs, assessed existing data, literature and research, and planned the implementation of a new service delivery model for the organisation.

Results
Information gathered through the Service Review resulted in changes to the way in which services are delivered as well as the organisation’s structure.

Evaluation/Implications for practice
Changes in the location of services have enabled greater integration between clinical and social and emotional wellbeing services. Following the PAR methodology, Wuchopperen is undertaking ongoing review and evaluation of service delivery.

Key message
In order to close the gap in Aboriginal and Torres Strait Islander health the clinical needs of clients cannot be considered and treated in isolation. A holistic approach is required despite the way in which funding mechanisms operate.

Something to smile about: The evolution of dental services at Wuchopperen, 2013 to 2017

Manjunath Rajashekhar, Dental Officer, Wuchopperen

Background and rationale
Oral health is poor in low income populations without fluoridated water, including those accessing Wuchopperen, the Cairns-based Aboriginal community controlled health service. Dental caries is a known independent risk factor for diabetes and has more recently been implicated in cardiac disease, preterm delivery of low birth weight babies, respiratory diseases, osteoporosis, renal failure and stroke: all chronic conditions that contribute to the significant health gap for the Aboriginal and Torres Strait Islander community. Oral health is neglected due to the high costs of oral care services, contributing to dental conditions being the third-highest potentially preventable cause of hospitalisations in QLD during 2007-08. Dental emergency presentations at hospital emergency departments, medical practices and pharmacies can be decreased by providing continuous comprehensive oral health services. Wuchopperen Health Services has provided oral health services to its clients for over ten years. The service audited its recent practice in 2017.

Methods
The oral health service provided over a four year period was analysed including: number of patients with chronic diseases referred to dental services; patient characteristics; and types of dental services provided.

Results
The pattern of oral health services delivered has changed from those limited to emergency treatments and extractions to restorative and preventive services appropriate to comprehensive primary oral health care. Wuchopperen self-funds its dental service, meaning more accessible services and improved follow-up, including for prevention.

Evaluation/Implications for practice
Continuity of care is critical to achieve best outcomes, especially for patients with chronic diseases. Sustainable and accessible oral health care services at primary health organisations can not only reduce the financial burden on health system but provide better quality of life for our patients, improve the course of other chronic diseases, and provide interventions to ensure children have better knowledge about looking after their teeth and gums, to improve longer term family oral health.

Key message
Focussing on preventive dental care means less chronic disease, better client quality of life, and potentially improves community prevalence of oral diseases.
Reciprocity, research and results: Tips for undertaking research with Aboriginal Community Controlled Services

Anita Seinen, Research and Evaluation officer, Wuchopperen Health Service
Karla Canuto, Research Co-ordinator, Apunipima Cape York Health Council

Background and rationale
Aboriginal Community Controlled Health Services (ACCHS) provide comprehensive primary care for Aboriginal and Torres Strait Islander people. In Far North Queensland, between 60 and 100% of Aboriginal and Torres Strait Islander residents attend their local ACCHS for primary health care. ACCHS are therefore often approached by universities, governments and other parties to undertake research in the field.

ACCHS support and benefit from research, however, the volume of research requests received often exceeds the capacity of ACCHS to support them. ACCHS therefore need to ensure that the research activities that are supported will: align with the research priorities of of the ACCHS; benefit Aboriginal and Torres Strait Islander people, the local community, and participants; contribute to improving Aboriginal and Torres Strait Islander health and wellbeing through changes in policy or procedure; be within identified priority areas; be undertaken in a ethically and methodologically sound manner; and be within the capacity, or sufficiently resourced, for the ACCHS to support. In order to manage requests ACCHS require pathways and governance structures to manage internal and external research in an efficient manner.

Methods
A Research Request Form has been developed collaboratively between Wuchopperen and Apunipima and trialled at Wuchopperen Health Service.

Results
Implementation of the Research Request Form has enabled researchers to clarify the impact of their project and resource and support requirements. Researchers have now started to engage with Wuchopperen during the development stage which has enabled researchers to: align with the ACCHS health priorities; understand the processes within the organisation; modify protocols and documents to ensure the successful implementation of their project; and ensure the planned research benefits are realised.

Evaluation/Implications for practice
Feedback to date on the Research Request Form being used at Wuchopperen has been positive and the form, with minor organisational changes is planned to be used at Apunipima. This will lead to simplification of processes for projects that use multiple sites, provide mutual support and align processes within ACCHS.

Key message
Undertaking research is a reciprocal process. ACCHS have their own research aspirations and skills and early contact by researchers with these organisations will ensure better compliance with ACCHS protocols and lead to more successful outcomes.

How an American program is improving the lives for Aboriginal and Torres Strait Islander families in the Cairns region

Samantha Lewis, Nurse Supervisor, Australian Nurse-Family Partnership Program, Wuchopperen Health Service
Joanne Henry, Family Partnership Worker, Australian Nurse-Family Partnership Program, Wuchopperen Health Service

Background and rationale
In the 1970s, the Nurse-Family Partnership (NFP) program, created by Professor David Olds, began in the United States of America as a nurse-led home visiting program for low income women having their first baby. Following three randomised control trials over the next 35 years, NFP is now identified
Selected in 2008 by the Australian Federal Government as part of their Closing the Gap initiative, the NFP was introduced within Australia for Aboriginal and Torres Strait Islander families. The Australian Nurse-Family Partnership Program (ANFPP) commenced operations in 2009 with one major adaptation; the development of the Family Partnership Worker role.

**Methods**
From inception, the implementing Aboriginal Medical Services across Australia strongly advocated for the development of an Indigenous role within the nurse-led program to ensure a holistic approach that conceptualised the ideology of Aboriginal Controlled Community Health Care. The Family Partnership Worker (FPW) is a pioneering role within Professor Olds’ model with Australia being the only NFP program to incorporate a comprehensive, culturally appropriate model of service delivery.

**Results**
Akin to Aboriginal and Torres Strait Islander health workers, FPWs are crucial to the success of the ANFPP in improving the health and social outcomes of Aboriginal and Torres Strait Islander families. Working in partnership, the Nurse Home Visitors (NHVs) and Family Partnership Workers have delivered the program to over 300 first time mothers within the Cairns region.

**Evaluation/Implications for practice**
The focus on social and emotional culturally appropriate support delivered by the FPWs in partnership with the nurses has become the cornerstone of success of ANFPP with Aboriginal and Torres Strait Islander clients.

**Key message**
A partnership approach between NHVs and FPWs is proving to be a sustainable method to affect immediate positive health outcomes for Aboriginal and Torres Strait Islander clients, their families and future generations.

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**Session Four: Improving the Quality of Care**

**Keynote speaker**

**Professor Christian Gericke**

Professor Christian Gericke joined Cairns and Hinterland Hospital and Health Service as Neurologist and Deputy Executive Director of Medical Services in May 2017. Concurrently he is Adjunct Professor of Medicine and Public Health at James Cook University and Specialist Advisor for the Therapeutics Goods Administration. He also chairs the Far North Queensland Human Research Ethics Committee.

His research interests span a wide area – from health systems and policies research, safety and quality, to health services research, implementation science and translational neurology. Over the last 12 years, he has attracted over $12 million in research grants from diverse funding agencies including large national competitive grants (NHMRC, ARC, NIHR), Federal and State Departments of Health in Australia,
the UK and Germany, as well as from international organisations including WHO, OECD, the European Commission, as well as philanthropic and industry funding.

He is the editor of the Health Systems in Transition (HiT) profiles for Poland (2005), New Zealand (2014) and Singapore (2017) on behalf of the World Health Organization and Associate Editor for the Australian Health Review and BMC Health Services Research.

Christian studied medicine in Berlin, Montpellier and Boston and received an M.D. research doctorate on Alzheimer’s disease from the Free University of Berlin. After completing clinical specialist training in neurology including a fellowship in epilepsy/clinical neurophysiology in Berlin, Strasbourg and Geneva, he studied tropical medicine at the University of Aix-Marseille, obtained an M.P.H from the University of Cambridge, an M.Sc. in Health Policy, Planning and Financing from the London School of Economics/London School of Hygiene & Tropical Medicine, an MBA from Deakin University in Melbourne, and a higher doctorate in public health (Habilitation) from Berlin University of Technology. He is a Fellow of the Australasian Faculty of Public Health Medicine (FAFPHM) of the Royal Australasian College of Physicians (RACP), the American College of Physicians (FACP), the American Neurological Association (FANA) and the Royal College of Physicians of Edinburgh (FRCP Edin). He was a delegate for the health stream of the Australia 2020 Summit convened by the Prime Minister of Australia.

Evaluation of General Surgical Outreach on Thursday Island

Andrew Foster, Surgical Intern, Cairns Hospital  
Ronny Gunnarsson, Associate Professor in General Practice and Rural health, JCU  
Alan de Costa, Associate Professor of Surgery, JCU

Background and rationale
Surgical outreach is generally accepted as an effective method to overcome many of the barriers to effective healthcare in rural areas. The Cairns Hospital conducts outreach to a number of communities in North Queensland, the most significant of which being Thursday Island (TI). There is however a paucity of data describing these programs and evaluating their effectiveness.

Methods
A retrospective review of non-emergency General Surgical Outreach consultations spanning 03/2015 to 08/2016 was performed to 1) describe the context of this outreach program, and 2) identify factors associated with successful management. Markers for successful management included 1) whether the initial patient consultation was made within the nationally adopted maximum time frame from referral to consultation, and 2) whether the patient was managed solely in the outreach setting rather than requiring travel for further investigation or management regardless.

Results
89 cases were evaluated, 72% of which were Aboriginal or Torres Strait Islander Peoples. The most common presenting complaints were cholelithiasis (26%) followed by abdominal hernias (17%). Most (40%) patients lived locally on TI however 36% had to travel by plane and 20% by boat to attend the clinic appointment. 62% of patients had completed their consultation within maximum time frame. 63% were managed entirely on TI, 37% of which were surgically managed in the local operating theatre. Common reasons for needing to travel to Cairns regardless included need further imaging (CT scan) or subspecialty management (vascular, plastics, breast). No demographical or clinical factors were associated with timely referral completion or local management.

Evaluation/Implications for practice
Surgical outreach on TI allows a significant proportion of patients to be managed locally, thereby breaking a barrier to accessing health care. This research has identified that it is common for patients to be seen beyond the recommended time frame however most patients are managed locally without the need for further travel. Further research is needed to identify the patients that are most successfully managed in this setting in order to improve the effectiveness of the program.

Key message
Surgical outreach allows the majority of patients to be managed locally on Thursday Island however it is common for patients to be seen beyond the recommended time frame, usually due to non-adherence at the first clinic appointment. Further efforts are required to optimise the effectiveness of this program.
Will management of hypoglycaemia within hospitalised patients be improved with the introduction of ‘hypo boxes’?

Nicola Hinton, Nurse Unit Manager, Cairns Diabetes Centre
Sharon Wilesmith, Nurse Educator, Cairns Hospital
Elizabeth Buikstra, Clinical Services Support Co-ordinator, Cairns Hospital

Background and rationale
People with Diabetes treated with either insulin therapy or certain oral hypoglycaemic agents are at risk of hypoglycaemia, whereby blood glucose levels can fall to below normal. This is often precipitated by illness, and therefore common in hospitalised patients.

Ward staff in the Cairns Hospital report that hypoglycaemia treatment can be inconsistent with limited availability of treatment options, leading to delays in treatment or inappropriate management. There is also a lack of understanding regarding the management of hypoglycaemia despite protocols in place.

Hypoglycaemia is associated with serious adverse outcomes including cardiac events, increase in mortality and length of hospital stay. It is our aim to improve staff knowledge in managing hypoglycaemia through the implementation of a ‘hypo box’ which contains all that is required for a hypoglycaemic event to be treated appropriately and effectively at the bedside. A ‘Hypoglycaemia Treatment Record’ serves as a prompt to assist staff in following hospital protocol when hypoglycaemia occurs.

Methods
The project is being conducted on two inpatient wards and includes two data collection methods. Staff questionnaire is being completed pre and post implementation of the hypo box. Chart audit to examine numbers of hypoglycaemic events and appropriateness of treatment via electronic patient records 1 month prior to implementation and 3 months post.

Results
Initial chart audit confirms that both treatment and management of hypoglycaemia do not meet current guidelines. Of the 41 patients with diabetes a total of 9 hypoglycaemic events occurred with only 1 patient receiving appropriate treatment. Repeat blood glucose level at 15 minutes was only performed on 3 occasions and only 4 occasions at 1 hour post treatment. Patients received follow up slow acting carbohydrate on only 3 occasions. The study has yet to conclude.

Evaluation/Implications for practice
This quality improvement activity provides a management process to ensure that hypoglycaemia is treated effectively and safely. We expect that the utilisation of a ‘hypo box’ will steer adherence to guideline and best practice.

Key message
Standardising management of hypoglycaemia improves outcomes.

Waste reduction in Haemodialysis: A multicentre Quality Activity

Kylie Dunbar-Reid, Nurse Educator, Cairns Hospital
Elizabeth Buikstra, Clinical Services Support Coordinator

Background and rationale
The delivery of haemodialysis comes at a high financial and environmental cost. A quality activity in waste reduction in a regional haemodialysis centre has been commenced with promising waste reduction and cost savings results with no negative implications to patient safety or healthcare delivery. Modification of the draining procedure on the haemodialysis circuit will minimise the weight of clinical waste, resulting in positive financial and environmental outcomes.

Methods
This is a quality improvement activity was conducted in a regional haemodialysis unit. A staff satisfaction survey was also conducted.
Results
1671 occasions of service (OOS) evaluated, comparing the average weight of clinical waste per OOS pre and post implementation. Post implementation clinical waste decreased by an average of 0.34 kg per OOS, equating to $40 000+ potential health service savings per annum. Collectively, 82 staff satisfaction surveys were distributed to nursing staff in the relevant haemodialysis units. There was a 76% response rate with 95% of responded participants stating they were confident with the new practice. 91% of responded participants believe the new practice has a positive impact on waste reduction and the environment and 86% of responded participants would like to be involved in future green dialysis initiatives.

Evaluation/Implications for practice
The decrease in clinical waste weight in a haemodialysis unit directly relates to financial savings and environmental sustainability practices. The Staff have embraced this initiative would like to be involved in future green dialysis initiatives.

Key message
Health care professionals are caring and innovative and are excellently positioned in the healthcare system to be able to identify potential areas of improvement. These professionals can then provide quality initiatives that deliver economically sustainable healthcare and environmental practice improvements whilst maintaining the highest quality of patient care and staff safety.

Alarm Fatigue – Customising default telemetry alarms in the Medical Assessment Unit to reduce ‘nuisance’ alarms

Trina Pitts, Nurse Educator, Cairns Hospital

Background and rationale
Frequent telemetry alarms are causing alarm fatigue. Alarm fatigue can be defined as an excessive number of alarms causing the nursing staff to desensitise and devalue alarms. Lack of nursing response can compromise patient safety. The purpose of this mixed method quality improvement activity is to reduce the number of telemetry alarms that do not require intervention (‘nuisance’) which will lead to a reduction in alarm fatigue.

Methods
A pre-implementation audit was conducted to measure the number of telemetry alarms occurring from all patients (n=22) assigned to telemetry, in a one week period. A pre-implementation survey was distributed to all nursing staff in MAU (n=51) to determine their perception on the frequency and impact that the telemetry alarms have on care, the number of alarms requiring action and the noise levels attributed to alarms. Customised telemetry default alarms, in accordance to telemetry indications for MAU admissions, were proposed and implemented. A post-implementation audit was conducted a week later to measure the number of telemetry alarms occurring from all patients (n=21) assigned to telemetry, in a one week period. The survey was distributed to all MAU nursing staff (n=51) 2 months post-implementation, to determine if there was a change in perception.

Results
The total number of alarms was reduced 46% after the implementation of the customised default telemetry alarms. The survey response rate was 31% pre-implementation and 39% post-implementation. Pre-implementation, 37.5% of nurses reported they always or often did not or could not respond to alarms compared to 15.79% post-implementation. Customising telemetry default alarms reduces the number of alarms and improves the nurses’ response to telemetry alarms.

Evaluation/Implications for practice:
Customising telemetry alarms reduces ‘nuisance’ alarms and increases nursing response. Nursing staff should customise alarms for each patient. Further education and training is recommended to ensure nurses are capable of doing this safely. A periodic check of the status of alarm fatigue should be embedded into the audit regimes of the unit.

Key message:
Customising telemetry alarms can reduce alarm fatigue and improve the quality of nursing care.
Physiotherapy Defined Scope of Practice Prescribing Trial

Joel Dunstan, Advanced Physiotherapist, Cairns Hospital Emergency Department
Tom Collins, Senior House Officer, Cairns Hospital
Tania Cavanagh, A/Director of Allied Health
Kere Donald, Senior Physiotherapist, Cairns Hospital

Background and rationale
Rapidly increasing demand for Emergency Department (ED) services mandates the utilisation of the entire healthcare workforce. In Australia, Primary contact physiotherapists (PCPs) in EDs independently manage the care of patients presenting with musculoskeletal conditions, often without medical input. Under section 18(1) of the Health Drugs and Poisons Regulation 1996, credentialed physiotherapists have the authority to possess, administer and prescribe medications from an approved formulary of medications under the auspice of an ethics-approved research protocol. The aims of this study are to investigate the safety and the patient, staff and stakeholder experience of prescribing by credentialed physiotherapists.

Methods
This is a descriptive, multi-centre study involving 1200 patients 18 years or older who present to ED with a primary musculoskeletal complaint and are managed by physiotherapists credentialed to prescribe. All prescribing physiotherapists in this study have completed postgraduate certificates in Prescribing and Quality Use of Medicines through Queensland University of Technology. Prescribing in this project includes both inpatient medication via a written instruction on the National Inpatient Medication Chart (NIMC), prescription for discharge, or advice on the use of over-the-counter (OTC) medications.

Data collection will include the primary complaint/diagnosis, medications prescribed, and any adverse events. The associate investigator (not the treating physiotherapist) will check both PRIME and RiskMan for any adverse incidents. Pharmacists will conduct standardised audits of the NIMC and discharge prescriptions. Secondary outcome measures include patient experience, staff experience, and stakeholder views via standardised surveys. Descriptive statistics including frequencies, percentages, means, standard deviations and ranges will be produced for all data.

Results
Data collection has commenced and preliminary results will be presented at the symposium.

Evaluation/Implications for practice: This study examines the safety and utility physiotherapists prescribing medication to patients under their care in the ED setting. The study will provide useful information locally on patient, staff and manager experience of physiotherapy prescribing.

Key points
This ground-breaking research could lead to significant advancements in the way that experienced, and appropriately credentialed physiotherapists contribute to the delivery of emergency healthcare in Australia.

Improving discharge process from hospital for older people with dementia – an integrated knowledge translation study

Keith Layton, Physiotherapist, Cairns Site facilitator for Dementia Discharge Project

Background and rationale
The level of evidence for the discharge process for people with dementia is low, with limited research in the field to date. Recommendations are primarily based upon descriptive rather than comparative research studies. The Dementia Discharge Project aims to investigate the effectiveness of a carer-inclusive discharge process (the innovation) and the feasibility of the innovation implementation strategy.

Methods
Members of the Allied Health and Nursing group of the State-wide Older Persons Heath Clinical Network partnered with members of the Dementia Clinical Network to undertake a knowledge translation study set
in three wards, one each in Cairns, Townsville and the Gold Coast. The i-PARIHS framework informs this
two-phase study.

Results
Based on the literature review, three key principles should inform discharge processes: partnership with
the consumer and family, planning begins on admission, and prevent hospital-acquired complications.
Phase one findings identified that the discharge process was distributed across several members of the
health care team, with no clear coordinator; and the person with dementia and family were a source of
information for assessment and planning but not actively engaged in the discharge process. Through
wide consultation, an integrated knowledge translation bundle has been developed for implementation in
phase 3.

Evaluation/Implications for practice
An integrated knowledge translation approach values consumer engagement in the process of
implementing innovations in health care. The five-phase discharge process will be enhanced through the
use of patient directed and patient mediated technologies. The local site committees, inclusive of
consumers, clinicians and researchers, will guide the implementation phase, with overall monitoring by
the research team.

Key message
This integrated knowledge translation project has included clinicians as novice researchers and this
model of research in a clinical setting has the potential to enhance evidence-based practice.

Symptoms and Diagnostic criteria of Acquired Megacolon - A
systematic literature review
Tahleesa Cuda, Principle House Officer, Surgery, Royal Brisbane and Women’s Hospital

Background and rationale
Acquired Megacolon (AMC) is a condition involving persistent dilatation and lengthening of the colon in
the absence of organic disease. Diagnosis depends on subjective radiological, endoscopic or surgical
findings in the context of a suggestive clinical presentation. This review sets out to investigate diagnostic
criteria and symptoms of AMC.

Methods
The literature was searched using the databases - PubMed, Medline via OvidSP, ClinicalKey, Informit
and the Cochrane Library. Primary studies, published in English, with more than three patients were
critically appraised based on study design, methodology and sample size. Exclusion criteria were studies
with the following features: post-operative; megarectum-predominant; paediatric; organic megacolon;
non-human; and failure to exclude organic causes.

Results
A review of 23 articles found constipation, abdominal pain, distension and gas distress were predominant
symptoms. All ages and both sexes were affected, however, symptoms varied with age. Changes in
anorectal manometry, histology and colonic transit are consistently reported. Studies involved varying
patient numbers, demographics and data acquisition methods.

Evaluation/Implications for practice
Outcome data investigating the diagnosis of AMC must be interpreted in light of the limitations of the low-
level evidence studies published to date. Proposed diagnostic criteria include: (1) the exclusion of
organic disease; (2) a radiological sigmoid diameter of ~10cm; (3) and constipation, distension, abdomi-
 nal pain and/or gas distress. A proportion of patients with AMC may be currently misdiagnosed as
having functional gastrointestinal disorders. Our conclusions are inevitably tentative.

Key message
Based on this review, we feel that a modality such as computerised tomography colonography using
standardised insufflation may provide accurate analysis of this condition, in hopes of progressing towards
diagnostic criteria for this enigmatic condition.
The correlation between Diverticular Disease and Redundant Colon

Tahleesa Cuda, Principle House Officer, Surgery, Royal Brisbane and Women’s Hospital

Background and rationale
Diverticulosis and redundant colon are colonic conditions for which underlying pathophysiology, management and prevention are poorly understood, although both pose significant morbidity and mortality for those affected. Historical papers suggest an inverse relationship between the two conditions. However, no further attempt has been made to validate this relationship. Using the modern day modality, optical-digital endoscopy, this study assessed the correlation between diverticulosis and colonic redundancy.

Methods
Redundant colon and diverticulosis were recorded as either present or absent during colonoscopy, in addition to basic patient demographics. Multivariate binary logistic regression was performed with the aim of developing a probability nomogram. Redundant colon was used as the dependent variable and age, gender and diverticulosis as independent variables. Nagelkerke R2 and a receiver operator curve where area under curve were calculated to assess goodness of fit and internally validate the multivariate model.

Results
Redundant colon and diverticulosis were diagnosed in 31 and 113 patients respectively. The probability of redundant colon was increased by female gender odds ratio (OR) 8.4 (95% CI 2.7-26, p=0.00020) and increasing age OR 1.7 (95% CI 1.1-2.6, p=0.017). Paradoxically, diverticulosis strongly reduced the probability of redundant colon with OR of 0.12 (95% CI 0.42-0.32, p=0.000039). The Nagelkerke R2 for the multivariate model was 0.29 and area under the curve at ROC analysis was 0.81 (CI 95% 0.73-0.90 p-value 3.1x10-8).

Evaluation/Implications for practice:
Using optical-digital endoscopy, this study found a statistically significant inverse correlation between redundant colon and diverticulosis.

Key message
An understanding of the pathophysiology of this relationship may improve our understanding of the aetiology and progression of these troublesome colonic conditions.

Predicting presence of redundant colon and its impact on quality of life (presented as two separate posters)

Tahleesa Cuda, Principle House Officer, Surgery, Royal Brisbane and Women’s Hospital

Background and rationale:
Redundant colon is a surgical, radiological and endoscopic finding describing a chronically dilated or reduplicated colon. It is a neglected finding, not held to accountability. Agreed diagnostic criteria are lacking and aetiology is unknown. A body of evidence describes an association with chronic constipation, volvulus and the use of antipsychotics. This study set out to assess the symptoms of patients diagnosed with a redundant colon during colonoscopy and compare the quality of life of this population to the general population.

Methods:
The presence of redundant colon was recorded during colonoscopy. The Talley Bowel Disease Questionnaire (TBDQ) together with medications, aperients and basic patient demographics were analysed using multivariate logistic regression, identifying variables associated with colonic redundancy. One-sample t-tests and one-sample Wilcoxon tests were performed on the eight domains of the quality of life questionnaire, the Short Form 36. This compared differences in mean and median quality of life between the patients with redundant colon and an Australian healthy control population.

Results:
Sixteen percent (31/195) of patients were diagnosed with colonic redundancy during colonoscopy. Five variables in the final prediction model had a strong association with presence of colonic redundancy: female gender (odds ratio [OR] 5.6), lack of urgency for defecation (OR 0.11), less than three bowel
movements weekly (OR 4.9), childhood abdominal pain (OR 3.7) and abdominal pain in the last year (OR 3.1). Look up tables for the probability of having a redundant colon were constructed. Internal validation of the multivariate model using a receiver operator curve (ROC) demonstrated an area under the curve of 0.83 (p-value 7.8x10^-9) and Nagelkerke R2 of 0.32. There was no statistically significant reduction in quality of life in comparison to controls.

**Evaluation/Implications for practice:**
Look up tables were developed as a practical individual risk stratification tool, predicting the presence, symptomatology and demographics of those affected. It may be that only a proportion of these patients experience significant symptoms impacting on quality of life. Our gross method of diagnosis on colonoscopy did not stage colonic findings. A computerised tomography colonography based diagnosis may provide quantitative colonic dimensions and possibly stage colonic redundancy.

**Key message:**
A computerised tomography colonography based diagnosis may provide quantitative colonic dimensions and possibly stage colonic redundancy.

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**The Cairns Southern corridor: providing primary care for a growing population**

**Jacki Mein, Director medical Services Wuchopperen**

**Background and rationale**
The rapidly growing population of southern Cairns includes many Aboriginal and Torres Strait Islander families. Wuchopperen commenced an Edmonton clinic in April 2015. We aimed to determine the size and makeup of an efficient health service able to meet the needs of this population.

**Methods**
Comparison of numbers and makeup of presentations to Edmonton clinic over a period of time and compared with Manoora clinic presentations

**Results**
Over the 2 years of service so far, numbers presenting to the clinic have trebled. The patients seen in Edmonton tend to be younger and more likely to present in families. With the addition of regular female GPs, the number of women and pregnant women seen has increased markedly. It is likely that the clinic numbers will continue to grow based on current trends.

**Evaluation/Implications for practice**
Wuchopperen needs to remain flexible in its approach to staffing Edmonton, both in numbers and the best makeup of teams suitable for the population to best respond to local needs. As a result of increasing demand, Edmonton is commencing an antenatal clinic in mid-2017

**Key message**
In rapidly growing populations, a flexible approach to staffing based on review of presentations is critical

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**Nutritional Anti-Inflammatories in the Treatment and Prevention of Type 2 Diabetes Mellitus and the Metabolic Syndrome**

**Lea Merone, Public Health Registrar**

**Background and rationale**
Obesity-fuelled metabolic syndrome and diabetes is now a global epidemic. There is increasing evidence that these and other chronic conditions have common inflammatory antecedents. There is an interest in nutritionally based anti-inflammatory treatments for type 2 diabetes and metabolic syndrome. The aim of this review is to examine the evidence from a 5-year period; 2011 to 2016, for nutritionally based anti-inflammatory treatments for the Metabolic Syndrome and Type 2 Diabetes Mellitus.
Methods
A literature search produced a total number of 1,377 records, of which 26 papers were evaluated.

Results
Literature was analysed and tabulated according to date, outcome measures and results.

Evaluation/Implications for practice
The evidence is strong for use of polyphenolic compounds, fish oils and vitamins in reducing inflammation biomarkers, however the impact on metabolic control is less evident.

Key message
Anti-inflammatory diets have some merit in the treatment and prevention of type 2 diabetes and the metabolic syndrome.

Environmental determinants of the spatial distribution of melioidosis in Far North Queensland, Australia

Gemma Todd — SHO Critical Care at the Cairns Hospital, currently working in Anaesthetics
Iain Goodrick, Environmental Scientist, NRA Environmental Consultants

Background and rationale
The environmental bacterium, Burkholderia pseudomallei, is responsible for the potentially fatal disease melioidosis.

Methods
The location of culture positive cases of melioidosis in Far North Queensland, (FNQ) Australia since 1996 were determined to assess the accuracy of recently published modelling used to predict the disease’s global distribution. The association with the region’s specific soil types was investigated and correlated to regional cases

Results
Cumulative incidence in the broader FNQ region showed no correlation with existing global scale predictive modelling; instead smaller scale factors are likely to control distribution. In Cairns, the region’s largest city, cases were clustered on alluvial fan landforms of strongly bleached gradational textured and yellow massive gradational textured soils. Cases were less numerous on beach ridges and other soil types occurring on alluvial fan landforms, despite comparable population density, suggesting that soils with high clay content and porosity, and low position in the landscape are likely to be favourable for the bacterium’s growth.

Evaluation/Implications for practice
These findings emphasise the importance of focusing on sources of variability on a local scale to predict patterns of melioidosis cases reliably.

Key message
Spatial distribution of melioidosis cases were clustered at the city scale and environmental factors determining the distribution of the causative organism may exert more control at city scales rather than regional scales
Improving the quality of services to Aboriginal and Torres Strait Islander patients by increasing health professional’s cultural and historical knowledge

Bama Buai Binal Jaal – a localised Cultural Appreciation Program

Nerelle Nicol, Cultural Appreciation Officer, Wuchopperen

Background and rationale
Understanding the local cultural and historical context of the lives of Aboriginal and Torres Strait Islander patients is a critical component of effective delivery of health services. Bama Buai Binal Jaal is a Cultural Appreciation Program developed in Far North Queensland by Wuchopperen Health Service and delivered by local Aboriginal and Torres Strait Islander people including a small group of Elders. The program explores:

- Self – the attitudes, beliefs and understandings that participants have of and toward Aboriginal and Torres Strait Islander people
- Colonial History – the impacts, effects and consequences of colonisation and how it relates to contemporary issues
- Local Community – histories, social determinants, experiences and traditional and contemporary cultural lifestyles
- Improving engagement and interaction with local Aboriginal and Torres Strait Islander people

Wuchopperen Health Service delivers high quality health care to Far North Queensland’s large Aboriginal and Torres Strait Islander communities. The organisation’s service delivery is focussed on a comprehensive primary health model of care informed by recognition that health outcomes for Aboriginal and Torres Strait Islander people are improved by delivery of holistic health care that addresses the cultural, emotional, physical, social and spiritual wellbeing of individuals, families and communities. The most effective way of providing such care is to create meaningful and respectful relationships with local Aboriginal and Torres Strait Islander people.

Methods
The Cultural Appreciation Program is a compulsory part of staff learning and development at Wuchopperen. It is delivered in two parts; a one day workshop and half day cultural activity with a local cultural practitioner.

Results
To date the program has been delivered to over 200 staff and state government employees. With positive feedback and a growing interest in the program, it is now being marketed externally.

Evaluation/Implications for practice
Staff feedback indicates the program has improved work practices and further in-depth evaluation is currently being developed.

Key message
An improved understanding of local First Peoples’ culture, history and the burden of local social determinants allows health professionals to better deliver appropriate services to our Aboriginal and Torres Strait Islander clients.

Men with a Meal Plan

Magreda Beacham, Get up and grow facilitator, Wuchopperen
Sue Charlesworth, Accredited Practising Dietician, Wuchopperen

Background and rationale
Men with a Meal Plan is a group program that was developed following the identification of a gap in existing services for a men’s group which incorporated health education and promotion. The concept for Men with a Meal Plan was to educate and support men to learn about food, healthy choices and some easy, inexpensive recipes. A secondary purpose of the group was to
support the men and to provide an opportunity for them to meet with male Wuchopperen Health Service staff, forming a stepping stone to other services and supports.

**Methods**
The four week group program was developed and facilitated by Sue Charlesworth (Dietitian) and Magreda Beacham (Nutritionist) with assistance from the Allied Health and male Wuchopperen Health Service Staff from various program areas.

**Results**
The group education opportunities and practical learning activities were very positively received by clients. The men often shared their stories about changes they have made to improve their health, and would learn tips and ideas from one another (for example the sharing of recipes they had used during the week). It was identified that the program also provided time for positive social interaction between the men.

**Evaluation/Implications for practice**
Due to positive feedback from participants, the initial funding for the first group has been extended and Magreda and Sue are now organising the fourth and ongoing group programs.

**Key message**
Men are interested in their health, and given the opportunity they are willing to learn and participate in a group program. Additionally, the men enjoyed sharing and passing on the key health messages they had learnt with their children and grandchildren.

**Principles of Community Engagement for Researchers collaborating with Aboriginal and Torres Strait Islander Communities: Insights and Reflections from the Healthy Ageing Research Team (HART)’s work in the Torres Strait**

Sarah Russell, Clinical neuropsychologist, Researcher
Rachel Quigley, Physiotherapist, Researcher

**Background and rationale**
Health researchers in Far North Queensland are often engaged in projects involving collaborations with local Aboriginal and Torres Strait Islander communities.

National guidelines have been published to assist researchers to develop proposals that involve community participation in all stages of their projects. This ensures that research is relevant to the community needs; facilitates the translation of knowledge in to practice; is culturally appropriate; and recognises the cultural diversity of the communities involved.

Developing effective collaborative relationships between researchers and the community is the cornerstone of community consultation but may seem daunting to new researchers unsure of how to engage in meaningful community engagement.

The aim of this paper is to outline some strategies for community engagement utilised by a small group of local researchers who have been collaborating with Torres Strait communities to promote healthy ageing for many years.

**Methods**
A review of existing guidelines will be completed to develop an outline of principles for community engagement with Aboriginal and Torres Strait Islander communities. Insights from the research team’s own experience within their own research studies will be added to provide practical examples of community engagement and consultation.

**Results**
Greater audience understanding and appreciation of community consultation and engagement with Aboriginal and Torres Strait Islander Communities
Evaluation/Implications for practice
Community consultation ensures that research is conducted in a manner that is culturally appropriate, acknowledges the values of the community and is relevant to that community's needs. Research completed without meaningful community consultation is unethical and runs the risk of failing to demonstrate practical value to the Aboriginal and Torres Strait Islander Communities involved.

Key message
Community consultation and engagement is an integral component of research that ensures projects are conducted in an ethical and culturally appropriate manner.

Improving Anaemia Management for patients having Elective Surgery - National Patient Blood Management Collaborative

Keiko Bowles, Clinical Nurse Consultant

Background and rationale
While blood and blood products can be lifesaving, there are hazards associated with their administration to patients. Research has indicated that a significant proportion of blood transfusions may be unnecessary or could have been avoided. NSQHS Standards were developed by the Commission and Standard 7: Blood and Blood Products aims to ensure safe and appropriate, efficient and effective use of blood and blood products. Patient Blood Management has been identified as a clinical area with potential to improve patient outcomes. To effectively manage patients during the preoperative phase of care, early detection and management of anaemia is necessary to improve patient outcomes.

Methods
Collaboration with the Australian Commission on Safety and Quality in Health Care from March 2015 to March 2017. Three categories of surgery were considered in this Collaborative: abdominal, gynaecological and orthopaedic procedures. Total of 883 patient’s data used.

Haematologists were the clinical leads for the PBM Collaborative team and supported by Haemovigilance Transfusion Committee members throughout the project. Data was entered monthly and the Model for Improvement was used as the framework for quality improvement.

Results
- Percentage of patients assessed for pre-operative iron deficiency increased from 4% to 82%
- Decreased numbers of blood transfusions
- Iron study is included in pre-admission assessment and iron deficiency patients are treated with intravenous iron infusion pre-operatively
- Pre-Admission screening form was updated to include iron study for major surgery.

Evaluation/Implications for practice
We have included anaemia screening in pre-admission assessment for elective surgery patients and treated patients with intravenous iron infusion pre-operatively. This minimised transfusion-associated complications and improved patient outcomes. This quality activity was guided by a multidisciplinary approach to Patient Blood Management which aims to improve patient outcomes through optimising the patient’s own blood volume and red cell mass, minimising blood loss and optimising the patient tolerance of anaemia.

Key message
Engage keen key stakeholders for implementing change practice and focus on small goals.
DISSEMINATION OF A GESTATIONAL DIABETES MELLITUS (GDM) MODEL OF CARE: A TALE OF TWO CITIES

Alison Kempe, Advanced Dietician, Cairns Hospital
Bernadette Sellwood, Senior Dietician, Cairns Hospital

Background and rationale:
Medical Nutrition Therapy (MNT) is the primary intervention in gestational diabetes mellitus (GDM). Most women with GDM do not receive evidence-based MNT. The project evaluated adaptation of a successful GDM model of care (MOC) implementation from a tertiary centre into regional sites with varied demographics, population size, and service capacity.

Methods
The project used a hub (project team)-spoke (sites) model in two centres, Far North Queensland (FNQ) and South East Queensland (SEQ). Sites selected demonstrated strong GDM team culture and service support. The project phases were: resource refinement; baseline; transition (embedding the MOC); implementation. A best-practice decision tree was provided to assess/overcome barriers to the MOC and outcomes captured with 'GDM Assist' (database).

Results
Role clarification of site members (lead, champion, clinician, researcher), management engagement, site visits, decision-tree and database update were completed in the project's first months. Unexpected organisational and team barriers prevented implementation as planned. Both sites negotiated extra resources to achieve project deliverables. The proportion of women seen according to best practice increased from 3.5 to 87.8% (p<0.001)(FNQ) and nil to 4.8% (p= 0.09)(SEQ), and the proportion of women on medication dropped from 37.2 to 33.8% (p=0.6) (FNQ) and 30.5 to 21.4% (SEQ)(p=0.024). Resources for service delivery increased significantly in both sites.

Evaluation/Implications for practice
This project demonstrates a successful facilitated MOC implementation using a rigorous evaluation strategy. Support and engagement at many levels was a key to success at both sites. This study illustrates the opportunities and challenges of conducting implementation research in routine clinical care, particularly in less well-resourced sites.

Key message
Tailoring evidence-based solutions to seemingly insurmountable barriers is an effective strategy for local change. A formalised, collaborative approach is an effective way to make change happen, emphasising site engagement early and often using defined project roles to navigate the clinical, management, and governance space, to be adaptive in care planning and delivery, as well as influential and effective when extra strategic negotiations are required. Impetus, urgency, and commitment can be generated through strategic alignment with health department goals, topical clinical areas and external support.