Entries in the 15th Annual
ACHS Quality Improvements
Awards 2012

Summary of entries
Clinical Excellence &
Patient Safety

Supported by:
Project Title
IMPROVING ANTIMICROBIAL USE IN HOSPITALS: THE IMPACT OF FORMAL ANTIMICROBIAL STEWARDSHIP IMPLEMENTATION

Name of EQuIP Member Organisation
ALFRED HEALTH, VIC

Department, Unit Service or Group submitting the project
DEPARTMENT OF INFECTIOUS DISEASES
DEPARTMENT OF PHARMACY

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Aim
To improve the use of antimicrobial agents within Alfred Health to minimise the development of antimicrobial resistance and to optimise patient antimicrobial management through the development of a sustainable antimicrobial stewardship strategy.

Abstract
There is both national and international concern about the ‘dwindling pipeline’ of available antimicrobial agents for the treatment of resistant organisms, with a decline in the development of new antimicrobial agents over recent years. The emergence of antimicrobial resistance can have significant impact on patient morbidity and mortality. The development of novel strategies to address these issues is essential to ensure the ongoing availability of treatment options for infections. Traditional methods to address these concerns, including restricting the use of specific antimicrobial agents and preparation of prescribing guidelines have been used to date, however antimicrobial resistance continues to be an issue. Substantial challenges are faced by acute care facilities such as the Alfred Hospital, where the patient demographics support the use of large quantities of broad spectrum antimicrobial agents. We describe the success of implementing a multidisciplinary antimicrobial stewardship program at our organisation that is able to be adapted to a variety of healthcare settings.

A formal antimicrobial stewardship program, including implementation of web-based antimicrobial approval system (Guidance MS®) and appointment of a full time antimicrobial stewardship pharmacist was introduced at Alfred Health in January 2011. Antimicrobial stewardship wards rounds, designed for rapid clinical patient review were subsequently implemented at the Alfred Hospital at this time. This has resulted in a reduction in the utilisation of key classes of antimicrobial agents, improved antimicrobial prescribing across the hospital, and the development of clear consensus guidelines for the management of various conditions including surgical prophylaxis.

Application of EQuIP Principles

Consumer / Patient Focus
- Studies suggest that up to half of antimicrobial agents prescribed in hospitals are inappropriate.
- There is both national and international concern about the ‘dwindling pipeline’ of available antimicrobial agents for the treatment of resistant organisms, with a decline in the development of new antimicrobial agents over recent years.
The emergence of antimicrobial resistance can have significant impact on patient morbidity and mortality

In January 2011, a formal antimicrobial stewardship program was implemented across Alfred Health to complement existing infectious diseases liaison services, including the rollout of a web-based antimicrobial approval system (Guidance MS®), appointment of a full time antimicrobial stewardship pharmacist and the implementation of formal antimicrobial stewardship ward rounds.

The antimicrobial stewardship pharmacist, infectious diseases physician and infectious diseases registrar undertake antimicrobial stewardship ward rounds from Monday to Friday to review the use of restricted antimicrobial agents prescribed for indications outside hospital guidelines.

The stewardship team review the patient’s medical record, and relevant microbiology or laboratory results and then have an informed discussion with the treating team. Any suggestions to antimicrobial therapy are documented in the patient’s medical record, and recorded by the pharmacist.

This model of antimicrobial stewardship explicitly recognises that appropriateness of antimicrobial therapy must be considered with each patient in mind, and a “one size fits all” guideline may not improve the quality use of medicines in individual patients.

Effective Leadership

Antimicrobial stewardship is a relatively new concept in Australian hospitals, and there is no clearly defined gold standard stewardship model.

The Australian Commission on Safety and Quality in Healthcare published recommendations for antimicrobial stewardship in Australian hospitals in 2011 that require adaptation and development within individual hospitals.

One essential strategy recommended “Reviewing antimicrobial prescription with intervention and direct feedback to the prescriber – this should, at a minimum, include intensive care patients”. A recent Victorian Department of Health survey of 113 responding hospitals, only 10% had dedicated funding for a stewardship pharmacist, whilst 8% of responding hospitals had dedicated funding for medical staff. The Alfred Hospital antimicrobial stewardship program uses these stewardship ward rounds to address this essential strategy, and this underpins the stewardship program.

The evaluation and dissemination of our stewardship program results can be demonstrated through the presentation of our multidisciplinary program at the following national and international forums:

- The Australian Society for Infectious Diseases (ASID) Annual Scientific Meeting 2012
- The National Medicines Symposium 2012
- The Making a Difference in Infectious Diseases (MAD-ID) Pharmacotherapy 15th Annual Meeting (2012) in Orlando, FL. The poster presented at this conference was judged as the best original research poster and was invited to present an oral platform presentation to the conference delegates.

Publication of Australian based antimicrobial stewardship experience is scant. The Alfred Hospital was the first Australian hospital to publish their antimicrobial stewardship program, particularly the early experience associated with the implementation of antimicrobial stewardship ward rounds.

Continuous Improvement

The EQuIIP principles of continuous improvement include looking for ways to improve as an essential part of everyday practice and monitoring outcomes to improve care and its results. We have embedded these principles into our stewardship program to ensure we are constantly improving our antimicrobial utilisation.

Additional principles of continuous improvement that have been incorporated into our stewardship model to optimise antimicrobial utilisation are further summarised using the FADE acronym – Focus, Analyse, Develop and Execute.
Evidence of Outcomes

- For the period January 2011 to April 2012, 1953 patients were identified as being suitable for review on the stewardship ward rounds
- 962 recommendations to antimicrobial agents were suggested in 675 patients. 75% of these recommendations were accepted by the treating team within 48 hours
- We observed an immediate but non-sustained reduction in total cephalosporin use between the pre-intervention and post-intervention periods (-32%, p<0.001)
- No immediate change occurred in carbapenem, fluoroquinolone and glycopeptide prescription, however a reduction in the trend of prescribing these antimicrobial agents has been observed (carbapenems: -3%/month; fluoroquinolones: -3.7%/month; glycopeptides -1.8%/month; all p<0.05). A non-significant increase in the use of beta-lactam/beta-lactamase inhibitors has been noted
- Feedback from these junior doctors includes appreciation for the time taken to explain antimicrobial treatment decisions, an improved knowledge of antimicrobial agents and their appropriate use and increased confidence when prescribing antimicrobials

Striving for Best Practice

- There is no clearly defined gold standard stewardship model. The Australian Commission on Safety and Quality in Healthcare published recommendations for antimicrobial stewardship in Australian hospitals in 2011
- It is the adaptation and interpretation of these recommendations that underpin our antimicrobial stewardship program

Innovation in Practice and Process

- The stewardship program is multifaceted, multidisciplinary program and has been developed as a sustainable approach to improve the prescription of antimicrobial agents
- Implementation of antimicrobial stewardship ward rounds to provide direct intervention and prescriber feedback
- The rounds, designed to review non-complex patients, have the ability to review large numbers of patients in a relatively short period
- Appointment of a full time antimicrobial stewardship pharmacist. The availability of a full time pharmacist enables the development of a comprehensive stewardship program, including identification of areas of need, education and training of pharmacists, medical officers and nursing staff and regular stewardship activities
- A recognition of a multidisciplinary model of stewardship which incorporates pharmacy, infectious diseases physicians, infection prevention services and clinical microbiology
- A active model of engagement with clinicians, rather than passively expecting adherence to guidelines or waiting for referrals
- A recognition that the appropriateness of antimicrobial therapy may not be easily captured in written guidelines, and requires case-by-case review in partnership with clinicians
- Incorporation of education of junior medical staff into the stewardship model.

Applicability to Other Settings

- Antimicrobial stewardship has recently been incorporated into the criteria for hospital accreditation standards (ACHS, EQUIP5 and ACSQHC)
- We believe that our model of engagement meets these standards and is a sustainable intervention to improve quality use of antibiotics. It is able to be adapted to other Victorian hospitals, other Australian hospitals, international hospitals, other healthcare settings (eg. residential aged care facilities) and other clinical settings (eg. high risk drugs)
Project Title
THE DEMENTIA CARE IN HOSPITALS PROGRAM- 2004 -2012

Name of EQuIP Member Organisation
BALLARAT HEALTH SERVICES, VIC

Department, Unit, Service or Group submitting the project
SUB-ACUTE SERVICES

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Aim
The aim of this program is to improve the quality of care provided to people with dementia and their carers in acute hospitals by improving staff awareness of and communication with those with cognitive impairment through a hospital wide approach to education and the use of a bedside alert for cognitive impairment the Cognitive Impairment Identifier.

ABSTRACT
Australian hospitals are not well equipped to meet the needs of people with cognitive impairment. It is widely accepted both within carer groups (Alzheimer’s Australia National Conference 2003) and in recent reviews of dementia care, that acute hospitals are not geared to best meet the needs of people with cognitive impairment and the care given can be compromised. (Victorian Dementia Taskforce)

Improving the Care for people with Dementia in Acute Hospitals is one focus of the Australian Governments 2012-13 Living Longer Living Better budget initiative.

The lack of easy identification of people with cognitive impairment often results in ineffective targeting of support, lost opportunity for vital carer engagement and poor staff awareness of its prevalence.

In recognising the challenges of providing quality care for people with cognitive impairment and their carers Ballarat Health Services (BHS) in partnership with Alzheimer’s Australia Vic. ran a series of focus groups of people with dementia and their carers to identify key issues related to acute hospital care. An all of hospital education program and a bedside Cognitive Impairment Identifier (CII) were generated from this engagement of consumers. This education program targeting direct and non-direct care staff, including introduction of the CII, was first tested at BHS in 2004 and later became the DCHP. Over the last 8 years the DCHP has been developed and tested across multiple public hospital sites.

On initial testing using a single site pre and post intervention analysis the project produced a 23% positive shift in carer perception and knowledge of one or more of the key communication or support strategies for people with dementia and families. Overall 76% of staff reported the CII and education had changed the way they interacted with patients with cognitive impairment. And 40% of staff also reported the CII and education had changed their response to carers.

In 2006 a re-evaluation of the single site results was conducted in partnership with 8 public hospitals both Metropolitan and Regional. The independent assessment of this roll-out concluded that the CII Program was transferable and resulted in demonstrable improvement in the outcomes of care for patients with memory and thinking difficulties similar to those seen at Ballarat Health Services.

Up until 2010 the DCHP had been rolled out to 23 Hospitals in Victoria and has been adopted into the Victorian Governments Best Care for Older People Everywhere – The Toolkit. Testing in the Private Sector began in 2011 and is expected to report in 2013.
Application of EQuIP Principles

Consumer / Patient Focus
- Focus groups comprising of people with dementia and their carers were used to develop the Cognitive Impairment Identifier
- Focus groups were used to develop key learnings for education package for staff
- Carer satisfaction was used as an outcome measure
- The programs aim is to improve the hospital care experience for people with cognitive impairment and their carers

Effective Leadership
- Leadership is demonstrated through the role of the BHS program team mentor and support other health services, raising their awareness of cognitive impairment and best practice approaches to communication and carer engagement

Continuous Improvement
- The project was based on continuous improvement principles, in which there was a process of planning, implementing, evaluating and moving the project forward. Participating health services in partnership with BHS and the Australian Institute for Primary Care are evaluating the successful adoption of the model utilising carer satisfaction surveys and staff perception surveys as used in the initial pilot to inform the health services of there success in implementing this model

Evidence of Outcomes
- The use of the Cognitive Impairment Identifier (CII) is supported by people with cognitive impairment and their carers to alert staff to the patients need for additional support.
- The bedside CII facilitates the uptake of best practice communication skills and support for people with cognitive impairment by both direct and non-direct care staff.
- The CII assists in the implementation of an all of hospital approach to the care of people with cognitive impairment
- An all of hospital education program linked to a cognitive impairment identifier improves the hospital experience of people with cognitive impairment as measured by satisfaction of their carers and family.

Striving for Best Practice
- Until the introduction of the CII, hospital staff was often unable to identify which patients have difficulty with memory and thinking and require additional support. The development of the education package was based on best practice principles for the care of the person with cognitive impairment

Innovation in Practice and Process
- Extensive literature searches failed to yield a hospital based education program linked to a CII developed through the consumer engagement has been attempted in Australia or internationally.

Applicability to Other Settings
- This education and awareness program linked to a bedside alert for cognitive impairment has been introduced into 22 hospitals across the state of Victoria.
Project Title
ASSESSMENT OF ‘NOURISHING SNACK’ CONSUMPTION ON AGED CARE REHABILITATION WARD

Name of EQuIP Member Organisation
BENTLEY HOSPITAL
BENTLEY HEALTH SERVICE, WA

Department, Unit, Service or Group submitting the project
NUTRITION AND DIETETICS, PATIENT SUPPORT SERVICES AND CATERING DEPARTMENTS

Author/s Position Title
Sarah Leighton Coordinator Nutrition & Dietetics
Graeme Lowry Catering Coordinator, Patient Support Services

Aim
The aim of this project was to optimise nutritional care for the patient, by coordinating and communicating across hospital services and responding to individual patient needs.

Abstract
The provision of “high energy, high protein” snacks to those inpatients identified as “at risk of malnutrition” is standard practice in many hospitals. A gap was identified between the provision and consumption of these snacks. With the cooperation of patient support, catering and dietetic staff a system of recording and reporting on snack consumption was devised. The outcome is early identification of patients who do not consume the snack, enabling individual assessment and consideration of alternative intervention to prevent further nutritional deterioration.

Application of EQuIP Principles
Consumer / Patient Focus
EQuIP5 Criterion 1.5.7 : The organisation ensures that the nutritional needs of consumers / patients are met

Effective Leadership
This project demonstrates that you don’t have to hold a senior position to be a leader, and shows that with respect and listening, leadership can come from the ground up.

Continuous Improvement
The organisation’s continuous quality improvement system and its commitment to improving the outcomes of care and service delivery is demonstrated by the evolution of this communication tool and the cooperation across services to benefit patient care.

Evidence of Outcomes
Documented records of snack intake, resulting in improved patient care and reduced food wastage.

Striving for Best Practice
Optimum nutrition is a vital ingredient in patient rehabilitation and a Team approach has been utilised.

Innovation in Practice and Process
As a Patient Support Staff driven project, this is innovative and inclusive.

Applicability to Other Settings
This simple system is applicable to any inpatient or residential care facility.
**Project Title**
PHONE FOLLOW-UP OF PATIENTS DISCHARGED FROM THE EMERGENCY DEPARTMENT

**Name of EQuIP Member Organisation**
CABRINI HOSPITAL
CABRINI HEALTH, VIC

**Department, Unit, Service or Group submitting the project**
EMERGENCY DEPARTMENT

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**Aim**
The aim of this pilot project was to improve patient care and satisfaction with a follow up phone call by a senior nurse to all patients discharged from the Cabrini Hospital Emergency Department within 24 to 48 hours of attendance to:

- Assess the patient's clinical status and assist with resolving any ongoing clinical issues
- Assess the patient's understanding and compliance with the discharge plan
- Assess the patient's satisfaction and receive feedback on the quality of care received in the Emergency Department

**Methodology**
The project was conducted on 8 separate days during the period 18/3/12 – 2/4/12. On each of the 8 days, a senior nurse worked ~8 hours (during business hours) to contact all the patients who had been discharged from the Emergency Department the previous day. Each patient (or their caregiver) was asked a series of set questions (see Appendix), and advice or assistance was provided as needed.

**Results**
290 discharges were identified from PAS:

- 278 patients (95.8%) were phoned at least once
- 185 patients (62%) were successfully contacted
- 82.7% of patients reported they were feeling better following their ED attendance.
- 93% of patients stated they had received clear instructions and had no questions with regard to their follow up instructions. 7% of patients were provided with clarification or further information regarding their medical condition and/or treatment.
- 20 patients accepted the offer of assistance with issues related to their ED visit. Assistance included advice, arrangement for follow up investigations and clarification of instruction for procedures.
- 88.6% of patients were very positive about their overall experience and were grateful for the follow up call. Only 21 (11.3%) patients made negative comments, and these mainly related to waiting times and the cost of the service.
- Feedback from patients provided information for further quality improvement and individual staff development

**Application of EQuiP Principles**

**Consumer / Patient Focus**
The project targeted the needs and expectations of the patients, demonstrated that they are the priority and provided them with an opportunity to provide a direct evaluation of the service from their perspective.
Effective Leadership
The project was developed to improve patient satisfaction and quality of care, and to signal to staff the high priority placed on quality of care to inspire and motivate them to provide the best possible care at all times.

Continuous Improvement
By monitoring outcomes and feedback from patients, the project emphasised the importance of consistently achieving and maintaining quality care and also identified other areas for quality improvement within the department.

Evidence of Outcomes
Positive results and feedback were used to reward and reaffirm staff practice where appropriate and negative feedback was used constructively improve both individual and department performance.

Striving for Best Practice
This project was based on successful initiatives used in other Emergency Departments, and the department monitors its performance through Press Ganey evaluations.

Innovation in Practice And Process
Providing follow up for emergency department patients provides an additional safety net for a potentially at risk group of patients.

Applicability to Other Settings
This project follows a simple methodology that could be applied to all Emergency Departments and to other outpatient services.
**Project Title**
NURSE INITIATED THROMBOLYSIS IN RURAL FACILITIES [NIT]

**Name of EQuIP Member Organisation**
CESSNOCK DISTRICT HOSPITAL
HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT, NSW

**Department, Unit, Service or Group submitting the project**
CARDIAC STREAM HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT

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**Aim**
To address the need in rural and remote areas for rapid patient access to acute treatment of myocardial infarction in the absence of a medical officer.

**Abstract**
The Nurse Initiative Thrombolysis project was started under the leadership of Professor Fletcher and the Cardiac Stream and was designed to give early reperfusion to ST elevation myocardial infarction [STEMI] patients in the absence of a Medical Officer. Cessnock, Tomaree and Singleton were chosen as Pilot sites.

Data showed 80% of chest pain patients walk into Rural Emergency departments and those showing STEMI's had thrombolysis delayed by no Medical Officer onsite.

To ensure a safe, best practice model of care Standing orders were sought and a communication link with a Cardiologist for rapid ECG confirmation was developed. The LifePac 15, with 95% ECG interpretation accuracy, was used in the trial. When STEMI identified at site the ECG was downloaded to the Cardiologist for confirmation and the Thrombolysis process, under Standing orders, was implemented.

The project highlighted the need for up skilling of rural staff to provide safe practice for patients and staff. An extensive education program was developed to ensure competency standards were met. All rural emergency staff had to hold competency in Advanced Life Support, Cannulation, Rural Adult Emergency Clinical Guidelines and have completed the Cardiac Learning package. Once these standards were met the rural nurse then completed a written and practical component before being deemed competent to give Thrombolysis without a Medical Officer being present.

This project has provided a safe, timely method of reducing cardiac muscle damage in patients having an infarction in rural settings.

**Application of EQuIP Principles**
**Consumer / Patient Focus**
This project was developed with the intent of providing safe, best practice management to patients having a myocardial infarction in rural areas. Its focus is the care of the patient and making immediate emergency care a priority.
Effective Leadership
Leadership was effectively provided by the Cardiac stream and the members of the committee who motivated the staff to develop and learn.

Continuous Improvement
Annual reassessment of staff has been attended to maintain the initial high standards set. Fine tuning the project has also been attended to ensure best practice.

Evidence of Outcomes
The number of patients treated with thrombolysis are not large however the patients treated have received timely interventions for their infarctions.

Striving for Best Practice
The project learnt from others and this increased efficiency and improved patient outcomes.

Innovation in Practice and Process
This project was a new process for nurses in rural areas and has allowed prompt and timely management of infarct in the absence of a medical officer.

Applicability to Other Settings
The process is being expanded to many other rural and remote sites. In these sites it will be of great advantage to both staff and patients in ensuring prompt, timely and best practice interventions.
Project Title
PERFECT PEGS

Name of EQuIP Member Organisation
CESSNOCK DISTRICT HOSPITAL
HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
CESSNOCK DRUG AND ALCOHOL SERVICE AND COMMUNITY ENGAGEMENT AND ACTION PROGRAM

Author/s Position Title
Helena Hodgson Project Officer Community Engagement & Action Program
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Gail Laker RN/Case Worker

Aim
Increase knowledge and raise awareness about the negative effects of drug and alcohol use on oral health, prevent deterioration by increasing oral health awareness and promote timely access to treatment.

Abstract
Drug & Alcohol (D&A) clinicians and the Port West Community Drug Action Team (CDAT) were concerned about the poor oral health of adult and adolescent substance users. There were few educational materials available to show the effects of substance use on oral health, which include an increased risk of gum disease, caries, dry mouth and oral cancer. Health promotional material was developed to provide education and referral advice to adolescent & adult drug users in the HNELHD. This material was disseminated across the community by local CDATs. Clients accessing the Cessnock D&A Service were surveyed and referred to HNELHD Oral Health and to GP's for referral to Dental Services under Medicare with private dental practitioners.

Application of EQuIP Principles
Addresses:
1.1.1 Assessment ensures current and ongoing needs of the patient/consumer are identified
1.1.2 Care is planned in collaboration with the consumer to ensure the best possible outcomes
1.1.6 Systems for ongoing care of the consumer are coordinated and effective
1.2.1 The community has information on health services appropriate to its needs

Consumer / Patient Focus
- Consumer involvement in treatment planning
- Survey relating to oral health
- Population health focus - Health promotion - Addressing lack of knowledge of impact of substance use on teeth and gums
- Brief intervention and referral addressing lack of knowledge on treatment options
- Health Prevention - Oral health care packages containing: toothbrush, toothpaste, floss, mouth wash, sugar free gum and information brochures
- Development and distribution of Perfect Pega brochure for general and Aboriginal communities

Effective Leadership
- Project provides a framework for implementation for other drug and alcohol services, community drug action teams and other community organisations
- Success of project provides inspiration and motivation of employees to develop and implement continuous quality improvement programs
- Ongoing development of strategies, systems and methods through liaison and collaboration with other services and organisations
• Creative and innovative proposals received from other organisations to enhance Perfect Pegs resource

**Continuous Improvement**

• Substitution of sugar and alcohol free medications
• Ongoing promotion of sugar free gum to promote ph balance and produce saliva
• New consumers/patients continue to be surveyed regarding oral health
• Referral of patients for treatment
• Referral pathway for children to access early intervention
• Evaluation of project across a broad range of service providers and organisations.
• Amendment and implementation of approved strategies
• Eventually self-sustaining as clients receive information and complete self-referral

**Evidence of Outcomes**

• 150 clients surveyed and given information/product packs
• 28.5% were referred to private dentists.
• 56% now have dentures
• 33% had treatment
• 11% failed to attend.
• 58% remaining clients engaged with HNELHD oral health services
• 40 children from 17 families receive oral treatment
• Perfect Pegs brochures distributed across NSW to 80 community drug action teams and their networks etc
• Qualitative feedback from clients - Dentures increased self-esteem, wellbeing, employment opportunities and decrease in pain
• Evidence for employment from improved self-image and esteem
• Documentation regarding strategies and outcomes in individual client medical record files.
• Number of new referrals for treatment following survey for oral health
• Uptake of treatment following referral

**Striving for Best Practice**

• Distribution of Perfect Pegs brochures to raise awareness of oral health issues related to substance abuse.
• Ongoing research into new techniques and technologies by liaising with oral health and other services
• Ongoing discussion with consumers/patient re oral health and chronic illness issues
• Implementing health prevention and health promotion strategies into frontline service delivery
• Provision of brief intervention and referral
• Increased consumer satisfaction
• Improved health outcomes
• Standardised quantitative and qualitative report format from participating organisations regarding implementation and uptake of service
• Developing sustainable practices for future service delivery

**Innovation in Practice and Process**

• Effective resources don’t have to be elaborate or expensive through use of social networking and promotion
• Small changes to practice can result in significant savings to service
• Increased awareness and education will see reduction in oral disease, hospitalization for treatment, chronic diseases exacerbation and cost to public health sector
• Ongoing consultation with stakeholders

**Applicability to Other Settings**

• Perfect Pegs brochures being used across the state in a variety of organisations
• Change to sugar and alcohol free medications
• Introduction of sugar free gum to produce ph balance and saliva
INTRODUCTION OF AN INTEGRATED CLINICAL DETERIORATION FRAMEWORK ACROSS A HEALTH NETWORK

Name of EQuIP Member Organisation
EASTERN HEALTH, VIC

Department, Unit, Service or Group submitting the project
INTENSIVE CARE SERVICES

Authors                                Position Title
Andrea Dori                            ICU Redesign Project Lead
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                                        Director Eastern Health Intensive Care Services
                                        Clinical Director Box Hill ICU
Janet Compton                          Executive Director, Acute Health

Aim
To improve detection, recognition and response to clinical deterioration across a health network.

Abstract
Signs of clinical deterioration often precede cardiac arrest, unplanned admission to the intensive care unit and unexpected death. Early intervention in response to signs of deterioration has been shown to reduce morbidity and mortality.

An expert advisory committee was formed at Eastern Health in April 2011 to set the standards, develop and implement a clinical deterioration framework across the network. The “National Consensus Statement: essential elements for recognising and responding to clinical deterioration”, acknowledged as the national approach formed the foundations of this work. A current state analysis was undertaken and meetings held with stakeholders. Comparison of the acute sites revealed different rapid response systems with different response criteria, responders and resources.

Observation and response charts were developed for specific areas including paediatrics, obstetrics and neurology to complement the implementation of the adult national observation chart. Escalation of care processes and resuscitation planning were standardised across the network, together with resuscitation equipment, processes and education. A standardised database was implemented to enable monitoring and evaluation of the rapid response system, planning and benchmarking.

The introduction of the framework is contributing to improved detection, recognition and response to the deteriorating patient at Eastern Health. Since the introduction of the new observation charts, observation measurement and recording practices have improved, together with escalation and response to deterioration. A trend to improved survival is also emerging. Previously those patients who deteriorated on the ward and required admission to the intensive care unit had a mortality rate of around 30%. This mortality rate is now around 10%. Positive feedback has also been received from nursing, medical and allied health staff together with patients and their family members.

Application of EQuIP Principles

Consumer / Patient Focus
- The clinical deterioration framework is patient focused and designed to improve patient outcomes.
- Escalation of care is consistent and appropriate to the clinical needs of the patient.
- Consensus resuscitation planning enables treatment appropriate to the individual, taking into account patient and/or family wishes.
- Feedback from patients and their families assisted in guiding development and will continue to assist with ongoing evaluation of this framework.
Effective Leadership
- The Director of Intensive Care Services, with support from the Chief Executive Officer, Executive Director of Acute Health and ICU Redesign Project Lead has led this project, providing the passion, communicating the vision and leading by example.
- The formation of an expert advisory committee comprising broad representation has assisted in developing champions across the network.
- Site resuscitation committee members, ICU liaison nurses and clinical nurse educators have also provided leadership.
- A key element in the success of this project has been communication. Communication between programs, across sites, to staff, patients and families has been open and consistent, enhancing a team approach.

Continuous Improvement
- Auditing and monitoring of resuscitation care plans, observation charts, escalation of care.
- Data collection and analysis using a standardised database for recording emergency call data across the network, enabling comparison between sites and benchmarking.
- Monitoring and follow-up of VHIMS reports.
- Ongoing education and provision of feedback to staff on a regular basis.

Evidence of Outcomes
- Increased rapid response call rate at all sites
- A trend to decreased mortality for ICU patients – both ICU and hospital mortality reduced
- Positive feedback from staff, patients and their families

Striving for Best Practice
- Early intervention to signs of clinical deterioration has been shown to reduce adverse events such as morbidity, mortality and unexpected ICU admission.
- Rapid response activation criteria and response have been standardised across the network.
- Resuscitation resources, education, policies and procedures have also been standardised.

Innovation in Practice and Process
- The implementation of the clinical deterioration framework was innovative as it involved a suite of interventions and changes both in practice and process.
- Although a medical emergency team (MET) response was in place at two of the three hospitals, they were quite different. The MET response was standardised and relaunched to provide consistency of practice across the network.
- The third hospital was one of the few hospitals in Australia without a MET response so it was effectively a ‘blank canvas’. The MET response was introduced simultaneously with the rollout of the national observation chart and a new consensus resuscitation planning policy.

Applicability to Other Settings
- The importance of effective leadership, communication and strategic planning may be applied in other settings.
Project Title
AN INNOVATIVE APPROACH TO THE MANAGEMENT OF CANCER RELATED FATIGUE

Name of EQuIP Member Organisation
GOSFORD HOSPITAL
CENTRAL COAST LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
PSYCHO SOCIAL TEAM, CANCER SERVICES

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Aim
To develop an intervention that provides patients with the skills and information they need to reduce or manage cancer-related fatigue.

Abstract
Fatigue is one of the most common and ongoing symptoms associated with cancer and cancer treatment. Cancer-related fatigue can be disabling, overwhelming and has a significant impact on quality of life.

Cancer patients, recruited by advertising through multidisciplinary networks, are invited to participate in a 6-week fatigue management group program with the following features:

1. The application of health coaching techniques for behavior change in order to empower patients to utilise the information we have about fatigue management;
2. Inclusion in the group is by self-reported fatigue because we believe that patients are the best people to decide if and when to engage in fatigue management strategies.
3. The use of a group format is a deliberate strategy to promote modeling, problem-solving and accountability;
4. Carers were encouraged to participate as well because they also need to be educated about the role of self-management in cancer-related fatigue so that they can support patients effectively.

Outcomes: Outcomes are measured both quantitatively and qualitatively using the Quality of Life and Fatigue Scale (EORTC-C30, version 3), completed pre- and post-group. A group evaluation was completed at the end of each session and a structured telephone interview undertaken six weeks after the completion of the group.

Since its inception, 3 groups have completed the program, a total of 24 patients. Of the 14 patients who have completed both pre- and post- measures, significant differences were found for Quality of Life (p=0.0034) and fatigue (p=0.0479). There were no significant differences for physical functioning.

The group evaluations were overwhelmingly positive (i.e. “agreed” or “strongly agreed” that the group was well run, informative, relevant).

Thematic analysis of the quality data indicated an overall improvement in participants’ quality of life through the application of newly acquired skills and strategies to manage fatigue. Participants also
reported significant changes in their perception of fatigue as something which is manageable as opposed to insurmountable.

**Application of EQuIP Principles**

**Consumer / Patient Focus**
The management of cancer related fatigue is clearly a major factor in enhancing the quality of life for cancer patients. This project aimed to empower patients through both education about the management of cancer related fatigue and support in the application of fatigue-management strategies.

Patients were invited to participate in the program at whatever stage of treatment suited them best. Carers were invited to participate along with patients, acknowledging their role in fatigue management.

**Effective Leadership**
A group of cancer nurse coordinators, psychologist, social workers and other allied health professionals involved in cancer care committed to meet together to encourage best practice and collaborative patient-centered care in Oncology.

The group, known as the psycho social team, met weekly and developed an action plan which included:

1. A literature review
2. Peer education regarding cancer related fatigue strategies, programs and research;
3. A patient survey
4. Consultation and liaison with colleagues in other services
5. Review of a number of fatigue assessment tools
6. Expressions of interest sought from other departments (e.g. occupational therapy, physiotherapy), such that we were able call on their expertise from time to time.

Since embarking on this project, the team has experienced the development of strong multi-disciplinary working relations, through which participants have been encouraged to contribute, develop and learn.

**Continuous Improvement**
With the continued roll-out of the program, the psycho social team has incorporated strategies for evaluation and review in the following ways:

1. Ongoing data collection from patients, both quantitative and qualitative, in order to monitor and evaluate outcomes against our objectives;
2. Ongoing evaluation of the facilitators’ handbook and accompanying patient resources, in order to monitor and evaluate outcomes against our objectives;
3. Ongoing evaluation of the course content and accompanying patient resources, in order to keep up to date with research findings and to maintain best practice;
4. Beyond the fatigue program, the team is looking for further innovative and creative opportunities that may benefit from a collaborative approach, such as survivorship.
5. Submission of abstracts and the presentation of findings in order to share our results with a wider audience, with the advantage of gaining peer review that will help us to improve this project.

**Evidence of Outcomes**

Measures indicate that participants are reporting positive changes in fatigue and fatigue management.

**Striving for Best Practice**
The project grew out of a commitment of a collaborative approach and a desire for best practice. Stages leading up to the group’s establishment followed best practice, and included literature reviews, conferring with colleagues in other cancer services, surveying patients, and incorporating pre- and post- measures in the running of the groups.
Innovation in Practice and Process
The project has taken a step away from the medical model and is innovative in its emphasis on the role of psychological factors and strategies, such as motivation, expectations, problem-solving, assertive communication and self-management. The program is cost neutral, reliant only on the time and dedication of the staff involved.

It has included the development of a facilitator's manual and accompanying worksheets for group members, the purpose of which is to encourage the ongoing application of fatigue management strategies and to facilitate replication of the initiative within other clinical settings.

Importantly, this program has created a fatigue management intervention for patients undergoing cancer treatments when none was in place previously.

Applicability to Other Settings
The use of a structured 6 week program integrating self-management principles and the development of a comprehensive fatigue management manual allows the intervention to be transferred to other health services and the content to be delivered by a range of clinicians. With some minor modifications, there is also potential to apply this intervention in other practice contexts external to Cancer care, utilising the same format.
Project Title
SAFE PAEDIATRIC ADMINISTRATION OF MEDICATIONS (SPAM)

Name of EQuIP Member Organisation
GOSFORD HOSPITAL
CENTRAL COAST LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
CHILDREN’S WARD

Author/s                                Position Title
Lorraine Love                           A/CNC Paediatrics

Aim
To reduce medication errors in Children’s Ward, Gosford Hospital by 50% by January 2012, to enable safe evidenced based paediatric practice.

Abstract
Paediatric patients are at an increased risk of medication errors predominately due to small dosage calculations that are required to meet the needs of size, immature organ function and decreased communication skills in children. The need to review medication administration practices in Children’s Ward, Gosford Hospital, was evidenced by the significant increase in medication incidents reported on IIMS from 2010 - 2011 and a critical incident which occurred on the ward in May 2011, An expression of interest was sought from the nursing staff on the Children’s Ward to participate in the project to review current practices. Changes in practice and culture were implemented to ensure safe clinical care. As a result of the project there has been significant decrease in reported IIMs for medication errors.

Application of EQuIP Principles
Consumer / Patient Focus
• Paediatric patients are at an increased risk of medication errors predominately due to small dosage calculations that are required to meet the needs of size, immature organ function and decreased communication skills in children.
• There has been an increased staff awareness of safe medication administration to children and a significant decrease in reported IIMs for medication errors.

Effective Leadership
• An expression of interest was sought from the nursing staff on Children’s Ward to participate in the project team in order to gain a person centred approach.
• Focus groups were held with the staff and a working party was formed.
• The team reviewed current medication administration practices in Children’s Ward and changes were implemented to ensure safe clinical practice.

Continuous Improvement
The trends in medication errors on Children’s Ward, Gosford Hospital are monitored by:
• Medication chart audits conducted by the CNC Paediatrics annually.
• Incidents reported on the Incident Information Management System
• Incidents requiring Root Cause Analysis (RCA)
• Case reviews of Neonatal Emergency Team transfers and critical incidents.

The need to review medication administration practices in Children’s Ward was evidenced by the significant increase in medication incidents reported on IIMS and a critical incident which occurred on the ward in May 2011, which required a Root Cause Analysis investigation.
The interventions that required implementation were introduced through the Plan, Do, Study, Act (PDSA) approach.

**Evidence of Outcomes**
- IIMs are reviewed regularly and reported on the monthly Children's Ward report and tabled at the ward meeting.
- Since the implementation of the change in practice of medication administration on Children's Ward there has been a significant decrease in the amount of medication errors.

**Striving for Best Practice**
Ensuring safety when administering medications is the responsibility of all clinicians. Strategies developed to sustain the changes include:

- Development of a local procedure for all clinicians to adhere to the process
- Reporting process for non-compliance of reflective procedures, IIMs and ward level clinical practice review.
- Regular education for staff to keep heightened awareness.

**Innovation in Practice and Process**
- Sharing incident data with ward staff
- Installation of an alert for double checking of medications in the clean utility room
- Use of the risk register to record and review medication associated risks.

**Applicability to Other Settings**
- Education on safe paediatric administration of medications has occurred to other areas throughout CCLHD that care for paediatric patients.
- The improved clinical care ensures safe quality care is given to paediatric patients and is easily transferable to other paediatric units in NSW.
Project Title
INCREASING THE EFFECTIVENESS AND APPROPRIATENESS OF CARE BY REDUCING INCIDENCE OF RELAPSE WITHIN A DUAL DIAGNOSIS RECOVERY PROGRAM

Name of EQuIP Member Organisation
THE HAYMARKET FOUNDATION, NSW

Department, Unit, Service or Group submitting the project
THE BOURKE STREET PROJECT

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Aim
To improve client outcomes by reducing incidence of relapse and implementing three new evidenced based community activities to the program.

Abstract
Introduction
The Bourke St Project, auspiced by The Haymarket Foundation and located in East Sydney, is a nine month dual diagnosis transitional living skills program for men (over 18 years) with co-occurring substance abuse and mental health issues. Clients are referred to the service from a number of detoxification/rehabilitation services in the area. The project aims to promote recovery from substance abuse and mental health issues through a range of strategies including living skills development and strong peer support.

Method
During 2009 it was identified that there was an unacceptably high and increasing relapse rate among clients of the Bourke St Project (2008 = 28 relapses; 2009 = 31 relapses). As a result of this the project was reviewed against the best practice NSW Health, Drug and Alcohol Treatment Guidelines for Residential Settings, 2007 and the referring agencies’ practices. Based on the outcomes of this review, in 2010 three new interventions were sequentially implemented. These were a Transitional Review Process, a Morning Exercise program and the establishment of an Alumni community (Note: ‘community’ in this context is the pre and post program consumers).

The Transition Review (TR) process was implemented in February 2010. It involves self-reflection, goal setting, story time, peer feedback, client and staff debriefing every three months for each client. Similar processes are in place at several of the services who refer to the Bourke Street Project and clients are therefore often familiar with the process. TR is based on the Minnesota / Hazelden Model of substance abuse treatment and was adapted for the Bourke St Project.

The Morning Exercise was initiated in July 2010 and is held on Wednesdays and Fridays at 7.30am. The mode of exercise varies and clients have a choice as to their level of participation; a walk through the botanical gardens or a game of basketball. The exercise is consistent with a Cognitive Behavioural Therapy (CBT) approach, used by the referring agencies and provides staff with opportunities to highlight awareness around issues like sleep hygiene and nicotine replacement therapy (NRT).

The Alumni Group was initiated in November 2010 to create a greater sense of community for the clients within the program. It is run by consumers who graduated from the program and then return to offer support to current clients. There is a monthly Alumni group meeting and the Alumni also arrange
guest speakers for the weekly dinner night activity. Alumni also taking current clients to social events such as sporting activities, volunteer work (e.g. Gethsemane community), employment and education bodies (e.g. TAFE). Most importantly they offer compassion and fellowship. The Alumni encourages a broader network of peer support for current clients and also facilitates an effective mode of aftercare for clients who have graduated from the program (Alumni).

Outcomes
The impact of these three interventions (Transitional Review, Morning Exercise, and the Alumni Group) has been monitored regularly since implementation. Impact has been measured through: client/group feedback, length of stay in the program and relapse rates.

As of January 2012 the outcomes were:
- 61% decrease in incidence of relapse
- 20% to 46% increase in clients exiting to independent living
- 80% decrease in the annual number of unplanned exits
- 60% increase in membership of the Alumni
- 83% increase in average days in program

Application of EQuIP Principles
Consumer / Patient Focus

- The core focus of the Bourke St. Program is the empowerment of the consumer to achieve their individual goals within the context of community.
- Each client entering the program undergoes assessment which discerns individual client needs, informs the client more specifically about the program and invites the client to allow other supporters involved in his care to remain engaged.
- A survey conducted in January 2010 allowed the case management team to discern client’s attitudes and opinions of the program and discuss the implementation of changes.
- Follow up surveys of client feedback have been used strategically since January 2010 to gauge the clients’ perspective and ensure their engagement with, and sense of ownership within the program.
- The Transition Review process is multidisciplinary, all staff and clients are involved. The process requires the client to firstly complete a written questionnaire the week before he presents to peers, allowing plenty of time to ask for assistance from the caseworker on any of the ten questions. The assignment is read out to staff and peers in a “story time” like fashion. Immediately following the primary client’s narrative peers, give written constructive feedback to the transitioning client. The client then discusses his story time; goals and feedback with Caseworkers in a debriefing session. Following the client’s’ debriefing, the Caseworkers have further discussion with the CEO and Clinical Psychologist. The process is very much consumer focused, requiring the input of the whole community.

Effective Leadership

- The improved outcomes of clients at the Bourke Street Project are a direct result of effective leadership.
- The Senior Caseworker and CEO met with the Board of Directors in March 2009 to address the rising incidence of relapse. From this meeting a common direction for change within the program was agreed upon. This change included enhancing collaboration with stakeholders, collaboration with referring services to ensure congruency of practice and evidenced-based review of the current model of care.
- The Bourke Street team led the implementation of the project reforms. The case management team developed a program for change and implementation, which was incorporated into the weekly staff meetings with the CEO and supervision sessions with the Clinical Psychologist.
- Members of the client group were consistently encouraged to assume leadership roles at various stages throughout the program. Some of these initiatives included: hosting weekly in-house dinners, ‘chairing’ house group meetings, organising house duty rosters, or participating in the orientation of new clients to the program. At these times Leadership was demonstrated as caseworker’s supported/observed clients in the performance of these tasks.
- The Bourke Street team developed the capacity of clients to drive their change process. The Alumni elected a secretary from the group to liaise with staff on issues concerning the
program and client group. Caseworkers were on hand to assist and support the secretary, being mindful of the group’s autonomy.

Continuous Improvement
- Continuous improvement is a feature in all the programs of the Haymarket Foundation. In 2012 Bourke St received an EA status in both Criterion 1.1.4 – “Outcomes of clinical care are evaluated by healthcare providers and where appropriate are communicated to the consumer / patient and carer” and Criterion 2.1.1 – “The organisation’s continuous quality improvement system demonstrates its commitment to improving the outcomes of care and service delivery”.
- For the Bourke Street Project, strategies for continuous improvement were revised and updated: a case review policy, procedures and pro forma were developed to assess and review the new initiatives (Transition Review Process, Morning Exercise and Alumni Group).
- De-identified data was collected on the Alumni community and clients in care. This data gives invaluable insights into assisting consumers sustain their recovery post advancement from Bourke St. Data collection is made possible by keeping contact with consumers via the Alumni community. As numbers within the Alumni continue to grow, this data will be used in a longitudinal study to monitor the appropriateness and effectiveness of the program.

Evidence of Outcomes
A data log was developed to more effectively monitor clients’ time in program, incidence of relapse and the stage within the program when it occurs, in order to evaluate the effectiveness of the strategies for change.

The following outcomes were achieved as of January 2012, since implementation of the innovations in 2010.
- 61% decrease in incidence of relapse,
- 20% to 46% increase in clients exiting to independent living,
- 80% decrease in the annual number of unplanned exits,
- 60% increase in membership of the Alumni,
- 83% increase in a client’s average days in program,
These improvements have been sustained to date.

Whilst the focus of this submission has been on client outcomes, additional benefits of the Bourke Street Project initiatives have been noted:
- Increased demand for client access to the Bourke St. Program from referring agencies.
- A higher job satisfaction for staff. Anecdotally staff report this is due to improved practice and working with happier and more motivated clients, in contrast to 2008/9 when staff spent a majority of their time working with ‘lapsed’ clients who required referral to detoxification units or crisis accommodation.

Striving for Best Practice
- The Bourke Street Project utilises the Drug and Alcohol Treatment Guidelines for Residential Settings (NSW health 2007) as a standard for best practice, although this service is not a residential ‘treatment’ facility (as defined in the document). Some of our referring agencies are cited in the document as contributing to its content, thereby setting best practice standards for the field.
- The Bourke St Project networks regularly meet with staff from referring services from the city and rural NSW and interstate. This is done primarily through referral of clients, though much work is done via service visits and sharing resources. This approach is in accordance with NSW Health, 2007 Drug and Alcohol Treatment Guidelines for Residential Settings, which directs services who are unable to continue care for the client to develop relationships with services which can do so (p.19).
- Staff and management regularly attend training through the Network of Alcohol and other Drug Agencies (NADA) peak body and various other organisations. This education was critical in ensuring staff of the Bourke Street Project were skilled in the management of clients with dual diagnosis (substance use and mental health) capable service. For example the whole Haymarket Foundation staff attended the Mental Illness Substance Use (MISU)
training, delivered by Kedesh, in 2010 as part of the co-occurring substance abuse mental health awareness initiative. This teaching highlighted the need for the introduction of morning exercise to the Bourke St Project program.

**Innovation in Practice and Process**

- Prior to 2010 Bourke St was limited to being a supported living skills program. Since implementing its new program initiatives, Bourke St has demonstrated an innovative approach to continuing client care post residential rehabilitation and treatment. It has achieved this by ensuring that the changes to the Bourke St program are congruent with the care initiated by the referring treatment agencies to ensure optimum continuity of care for the individual client, in accordance with best practice. (NSW Health (2007) Drug and Alcohol Treatment Guidelines for Residential Settings (p15) and ACHS EQuIP5 Guidelines Clinical Standards, 1.1 Consumers/patients are provided with high quality care throughout the care delivery process, Criterion 1.1.6).

The introduction of an innovative range of data more effectively depicts the results and outcomes of the initiatives taken to enhance continuous improvement. This information provides feedback to clients, staff, Board of Directors and key stakeholders.

- These innovations were introduced proved cost-effective. Improved outcomes were achieved with no increase or changes to the staff or the size of their workload hours.

**Applicability to Other Settings**

- The Bourke St Project program is not a drug and alcohol treatment facility (as defined by NSW Health Drug and Alcohol Treatment Guidelines for Residential Settings 2007, p.4). Rather it offers a process of ongoing care which empowers and challenges the client to be more self-directed and to apply the tools he has learned in treatment to the program. This ethos is therefore not only applicable but vital to other services taking referrals from residential treatment facilities, if they are to achieve the optimum outcomes for their clients.

- This program has the potential to be applicable to all supported accommodation services which offer clients placement for 12 months or more, post completion of a rehabilitation program.

- The innovative elements of the Bourke Street Project are simple and cost-effective. As such they could be applied to wide range of settings with little new investment.
Project Title
PATIENT SAFETY THROUGH QUALITY MANAGEMENT SYSTEM IN DECONTAMINATION AND STERILIZATION

Name of EQuIP Member Organisation
HONG KONG BAPTIST HOSPITAL

Department, Unit, Service or Group submitting the project
CENTRAL STEREILE PROCESSING DEPARTMENT AND OPERATING THEATRE

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Aim
To enhance PATIENT SAFETY through implementation of quality management system in decontamination and sterilization in Central Sterile Processing Department.

Abstract
Hospital-acquired infections (HAIs) are largely preventable. Surgical site infections (SSIs) account for about 40% of all HAIs (1). To achieve optimal infection control in the Operating Theatre (OT), organisations must consider both environmental and clinical factors.

One environmental factor to prevent SSIs is the effective decontamination and sterilization of medical devices. Reusable medical devices, if not properly handled, cleaned, disinfected or sterilized will be a source of infection to both patients and staff. The provision of well-controlled and validated decontamination and sterilization standards and practices mean the difference between a successful surgical outcome with a smooth recovery and a long, arduous recovery plagued by infection.

With the support of Hospital Administration, a working group was formed in 2011 aiming at enhancing patient safety through a series of strategies and actions, namely 1) develop a surgical instrument track and trace system; 2) conduct surgical instrument inventory analysis to inspect the physical status of the instruments; 3) monitor water and steam quality in Central Sterile Processing Department (CSPD) to minimize causative factors of surface changes; 4) conduct instrument set optimization to standardize the set content; 5) keep the momentum on by training and audit programs.

How to ensure what we are doing is best practice and evidence based? We have set up a Quality Management System (QMS), adopting ISO 13485 as framework. The QMS serves as a practical foundation to address the many and increasing demands from regulations and responsibilities. It also demonstrates a commitment on safety and quality in the reprocessing of medical devices.

It is acknowledged that the setup and implementation of the whole QMS is a multidisciplinary team effort, involving colleagues from OT, CSPD, Infection Control Team and decontamination consultants from overseas. Their commitment and the support from the Hospital Administration are highly appreciated.

Application of EQuIP Principles
Consumer / Patient Focus
- This QMS aimed to ensure safety of patient, who undergo surgical procedures performed in various clinical settings.
- Positive feedback from surgeons regarding surgical instruments being used are well maintained which in turn facilitate their operations.
- The instrument track and trace system keeps all instruments reprocessing data electronically in a central filing system in CSPD and in respective patient's medical records. When there is a break in sterilization or outbreak of infection, which would call for tracking and tracing of patients, the electronic system could sort out the information and retrieve relevant and accurate information promptly.
• **Colleagues (nurse, supporting staffs)** in OT and CSPD are benefit: it saves manual work, storage space and cost.

• During the process of implementation of Instrument Tracking, oversea expert team visit, work on standardization of instrument set; Hospital Administration through weekly Hospital Bulletin; monthly Doctor’s Newsletter, quarterly Baptist 222 newsletter, Baptist 100 Lunch Forum for All Staff to keep informed and have the **involvement from all staffs** including doctors (in house and associate).

**Effective Leadership**

• With the support from **Senior Administration (Chief Executive Officer, Director of Medical Services, Chief Nursing Officer, General Manager)**, overseas consultant was invited to conduct a comprehensive survey of the Hospital decontamination policy. Gaps were identified and improvement plans were suggested, including 1) centralization of decontamination services in dedicated department; 2) implementation of track and trace of used surgical instruments; 2) performing validation test for all equipment used for decontamination and sterilization.

• **A Working Group** was formed to implement the recommended improvement plans.

• During the sharing of own experience in conference, **nursing leaders from other organisations** learnt from us of the development and success of Instrument Tracking. After the visit to us, our development had stimulated them to develop, adopt or modified our system then to have their own.

• The **leaders of this program** attended the overseas training course in Sterilization Technician Course (Level I) in Germany in October 2011.

• With the learnt knowledge and networking with **overseas specialist team**; a series of training program was introduced since February 2012.

• **Leaders** customized the curriculum of Sterilization Technician Course and launched in March 2012, 56 department staffs attended the first class all passed the examination, both written and oral.

• Having identified the problems, **Hospital Administration** support working team implemented a list of improvement plans.

**Continuous Improvement**

• Developed in-house **Instrument Tracking System** start in tray level in OT. This tracking system had rolled out to all clinical wards and centers since 3Q 2011.

• Work with an expert team from overseas to conduct **QuickScan®** in February 2012. which a few sets of surgical instruments are randomly selected and inspected on the surface condition.

• To enhance the **water quality** in CSPD, RO System was installed. Water and steam quality test had been scheduled regularly to monitor the water and steam quality.

• In April 2012, the Hospital rolled out **Inventory Analysis**. The overseas expert team performed detail inspection of all instruments from OT and other clinical areas.

• In July 2012 the phase of **Set Optimization** reached, Mobile Instrument Showroom was set up in OT for one whole week. More than 1000 state-of-the-art instruments were shown. Surgeons were invited to give input on set content and instrument selection. More than 70 surgeons participated, standardizing more than 40 sets and replacing 100 outdated instruments.

• **Standard Operation Procedures** (SOP) for all working processes are drafted.

• Invite consultancy to guide us to obtain **ISO 13485** in 3Q 2012. This will be an ongoing exercise in quality improvement.

• **In-service training** to ensure staffs are well informed of updated standard, knowledge and practice.

• Conduct **ISO Internal Auditor Training** within organisation in March 2012. 25 internal auditors from various departments were trained, providing adequate support to our subsequent auditing programs.

• Form Taskforce and work with academic organisations (local and overseas) to coordinate **professional training course** in Sterilization Quality Enhancement and Surgical Instruments Maintenance. The course will be launched in 2Q 2013 and probably open to the profession in Hong Kong, Macau and China. This course is also recognized by the European Academy.
Evidence of Outcomes

- After implementation of Quality Management System in 3Q 2011, Surgical Site Infection (SSI) rate remarkably decreased.

- According to the Hospital Authority Annual Report on Sentinel and Serious Untoward Events (1 Oct 2010 – 30 September 2011), retained instruments or other material after surgery accounted for 18 cases (40.9%). 7 of those 18 reported cases were related to broken segment or chip of instruments. The impact could not be under-estimated. With the implementation of our quality management system, we are able to minimize this type of incident from 2 incidents in 1Q 2011 to zero incident up till now.

- Electronic record for instrument track and trace **save storage space**.

- Input data using barcode scanner **eliminate transcription error** and **save man-hour**.

Striving for Best Practice

- ISO 13485 is a standalone QMS standard; it is a process based model for regulated medical device manufacturing and reprocessing environment. ISO 13485 was written to support organisation in designing QMS that would establish and maintain the effectiveness of their process. It ensures the consistent design, development, production, installation, and delivery of medical devices that are safe for their intended purpose.

- When instruments are reprocessed for use, patient safety greatly depends on the quality and consistency of the reprocessing process. To ensure its effectiveness, control, and maintenance by QMS is crucial to customers, stakeholders, and regulatory organisations.

- With all these in mind, and for service quality and patient safety sake, the Working Group started to work for ISO 13485 certification since 1Q 2012.

- The ISO 13485 certification will be conducted in 3Q 2012 for CSPD. This will become a yearly exercise to ensure our practice and standard are well maintained. More medical industries are expected to go for this certification, showing that this is a global, updated and well accepted standard among our profession.

Innovation in Practice and Process

- Our Instrument Tracking System is a self-developed, low cost, user-friendly system with integration of the workflow of MS® Excel, Bar code scanner, label printer and development of standard form for record keeping in patient’s medical record.

- First we create the label template, input details of the label into the Excel file. With the aid of the label printer software, all details will appear in the barcode label to be stuck in the sterile set and then the record form.

- The used set details, namely set description and sterilization batch will be scanned into the central file together with patient’s episode number.

- The use of barcode scanner and barcode label will avoid transcribing error and save manpower and time.

Applicability to Other Settings

- After the launching of In-house Instrument Track and Trace System, positive feedback from surveyors, colleagues and Government organisations – Department of Health, Centre for Health Protection.

- Sharing the development journey and outcome of our system in several international conferences:
  - Poster presentation in International Society for Quality in Healthcare Conference (ISQua) 2011,
  - Oral presentation in 2nd Asian Perioperative Nurses Association (ASIORNA) Conference – Korea 2011,
  - Poster presentation in Hong Kong Infection Control Nurses Conference 2012.

- All participants (local and overseas) showed interest in our system and many of them already paid site visit to our facility.

- Sharing of our experience and let others learn from us: In 2011, we had 2 large group of professionals from Japan and China; 5 local groups from private and public hospitals paid visit to us. After the sharing, with the framework from us, they started to develop their system.

- One of the public hospitals in Hong Kong has also adopted our instrument tracking system. Inspired by our system, other public and private hospitals also developed their own system.
In response to ACHS accreditation requirements, the Hospital decontamination and sterilization policy had undergone tremendous changes, of which having the most far-reaching impact would be the new outsourced CSPD to be housed in an off-site premises. This facility (Figure 8) will be commissioned in 1Q 2013. All the aforesaid items in the quality management systems will be carried on in this new facility which is four times bigger than existing CSPD, aiming at ensuring quality of surgical operation and safety of patients.

Reference List
1. Pear S. Patient risk factors and best practices for surgical site infection prevention: Managing Infection Control, pp.56-64, Mar. 2007
Project Title
PARTNERS IN DEPRESSION – SUPPORTING THOSE WHO CARE

Name of EQuIP Member Organisation
HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
HUNTER INSTITUTE OF MENTAL HEALTH

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Aim
To undertake a national dissemination of an evidence based psycho-educational program for people who love or care for someone experiencing depression; so as to improve the mental health and wellbeing of this target group.

Abstract
Over one million people in Australia have a family member or friend with depression and supporting a person with depression can take a toll on the carer’s own mental health and wellbeing. Partners in Depression (PiD) is a group support and education program for those who love, live with or care for a person experiencing depression. It was developed and piloted by Hunter Institute of Mental Health (HIMH) (pilot co-funded by beyondblue: the national depression initiative) in the Hunter New England region with 99 people attending the program across six sites. Evaluation of the pilot indicated that it met participants’ expectations, addressed the stated information goals and was associated with a significant improvement in participants’ psychological distress (as measured by the DASS). Furthermore, positive outcomes were achieved regardless of whether the program was delivered by HIMH clinicians or other health professionals trained in the program.

As a result of these positive findings, a national dissemination of PiD was conducted from August 2009 to April 2012. With funding from nib foundation, 405 health and community professionals from metropolitan, regional and rural areas of Australia were recruited and provided with free training to become facilitators of the program. These facilitators were then provided with a range of clinical, administer and resource support at no charge by HIMH to deliver PiD in their local communities.

During the national dissemination, over 1200 carers of people with depression across Australia participated in PiD. The evaluation found that after attending the program, the number of carers experiencing high levels of psychological distress was significantly reduced (as measured by the K10). The evaluation also demonstrated that the majority of participants were able to apply what they learned from the program and felt that they had made improvements in the important areas of knowledge, awareness of the impact of depression, communication, self-care and coping techniques, and help-seeking behaviour. 98% of participants said they would recommend PiD to others.

Application of EQuIP Principles
Consumer / Patient Focus
Over one million people in Australia have a family member or friend with depression. The practical and emotional demands of supporting a loved one with depression can be great. The PiD program was developed in response to an identified need for those who care for someone with depression to have access to relevant information and support. Previous research highlights that carers:
• Are at risk of developing mental health problems themselves (Jeglic et al., 2005)
• Have higher levels of psychological distress than the general population (Kim & Salyers 2008; Jeglic et al., 2005).
• Value opportunities to connect with others in a similar situation (Hightet et al., 2005)
• Are interested in learning and strengthening coping and self-care strategies (Muscroft & Bowl, 2000)

Prior to PID, few mental health or counselling services specifically targeted the information or support needs of carers of people with depression. They were often the forgotten allies in the battle against depression. PID was developed to address this identified gap in Australia.

The initial consultation phase during the pilot drew information from: a literature review of the evidence base and focus groups with carers. The national dissemination was guided by a national reference group (with a carer representative on board) and involved a number of feedback loops for facilitators (phone line, email, focus groups, regular teleconferences, post-program delivery surveys) and participants alike (baseline, post-program and 6 month follow-up surveys, focus group and in-depth interviews).

Effective Leadership
The national dissemination included 3 distinct phases; stakeholder engagement and strategic endorsement, facilitator recruitment and training and support of program delivery in the community. This approach was considered novel and ambitious for a mental health initiative given that program delivery was designed to be integrated into ‘usual’ mental health practice and the ‘core business’ of facilitators. Facilitators did not have to pay to attend training, were provided with a range of clinical, administrative and resource support (e.g. participant manuals, summary reports, dedicated phone and email line) at no charge and were not paid by the project team to deliver the program.

During the stakeholder engagement and strategic endorsement phase the team:

• Conducted project briefing meetings in each state and territory with representatives from the state mental health service, state division of general practice, peak carer organisation and other relevant peak non-government organisations.
• Established a reference group of key national mental health and carer stakeholder organisations to provide guidance and leadership to the project team.
• Engaged the services of Mrs Lucy Brogden as the program patron.
• Developed a comprehensive evaluation plan measuring the outcomes and effectiveness of the national dissemination model, training phase, support offered to facilitators and the program itself. An external evaluator was engaged to conduct this element.
• Negotiated a co-funding agreement with beyondblue to translate the practice based evidence being collected through this and associated projects into publications.

Facilitators were then sourced through a partnership approach with state mental health, as well as peak carer NGOs, other mental health NGOs and private practitioners in each state. To be eligible to be trained, interested people had to show they had:

• relevant tertiary qualifications (e.g. psychology, mental health nursing, counselling)
• relevant knowledge or experience in mental health
• relevant group work experience
• commitment and capacity to run the program at least 3 times in 12 months
• support from their employing organisation to be involved in the project.

Facilitators were then expected to deliver the program at least three times in a 12-18 month period to become accredited facilitators. A comprehensive clinical governance process was established to support facilitators and ensure groups were delivered in accordance with the values of the program and evidence based practice.

Continuous Improvement
The PiD team carries out a continuous review of the quality of the PiD groups run by facilitators in the community. As part of the continuous review, facilitators are required to fill in a fidelity check list with which they assess how their delivery of the program adjusts to the quality criteria established by the team. The PiD team also provides ongoing support and advice to facilitators who need to discuss
difficulties or incidents and enters data regarding these in a database to which an external evaluator has access.

In addition, the Partners in Depression team reviews the feedback provided by program participants after each session and follows up with program facilitators as required. An example of a change implemented as a result of this ongoing evaluation of the PiD program, is the development of information sheets on specific topics which have been made available via the Partners in Depression website. Another example is the modification of the delivery of the program so that facilitators in rural areas, where physical access to the program has proven more difficult, could run the twelve hours of content over fewer than the standard six sessions (i.e. 3 session of 4 hours).

Evidence of Outcomes

All elements of the national dissemination were evaluated by an external evaluator (Dr Deanna Pagnini). Data was collected from facilitators (training evaluation survey, post-program delivery survey, fidelity checklists of each group, focus groups) and participants (baseline, post-program and 6 month follow-up surveys, in-depth interviews and focus groups).

During the facilitator training phase:
- 405 health and community professionals were recruited and trained as facilitators.
- 32 free training courses were delivered in metropolitan, regional and rural areas of all states and territories = 512 hours of free training offered (2 day course).
- 6480 hours supplied ‘in-kind’ by private, public and non-government organisations to support staff to attend training and offer an in-principle commitment to support the delivery of the program in their local community.

Analyses of the facilitator training evaluation data found:
- The training met (or exceeded) the expectations of 98% of facilitators.
- Facilitators found the content and the structure of the training to be useful both in preparation for delivering the PiD program itself, as well as for understanding how group member participants might experience the PiD program.
- The most valuable aspects of the training were found to be the role plays, networking with other potential facilitators, the PiD program resources, the support offered by the HIMH PiD project team, the feedback given on the “practice runs” and the interaction with and skills of the HIMH PiD trainers.

During the facilitator delivery and program support phase:
- Over 1200 Australians supporting someone with depression attended a group.
- The number of carers experiencing high levels of psychological distress was reduced by a statistically significant amount (as measured by the K10).
- The majority of participants:
  - Were able to apply what they learned from the program (84% at program end, 83% at 6 month follow-up)
  - Believed the program had a positive impact on their relationship with the person with depression (82% at program end, 80% at 6 month follow-up)
  - Felt that they had made improvements in the important areas of knowledge, awareness of the impact of depression, communication, self-care and coping techniques, and help-seeking behaviour.
  - Were extremely or very satisfied with the program as a whole (86%)
- 98% of people who have attended PiD would recommend it to others.
- Groups were run in all states and territories, in rural, regional and metropolitan areas.
- Groups were delivered to a range of culturally and linguistically diverse communities and Aboriginal and Torres Strait Islander communities.

Striving for Best Practice

In late 2011, PiD was awarded additional funding from nib foundation to enhance the program based on the learnings of the national dissemination. Such enhancements include:
- Carer participation strategy – This strategy has been designed to address a need from many participants for the program to be longer and for the need for there to be an increased awareness of the program in the community. A PiD Peers Program will facilitate structured opportunities for carers to continue to meet and support one another once they have
completed the program and an Ambassadors Program will empower carers to advocate for their rights and needs and share their stories with each other and the wider community.

- Facilitator peer training model pilot – This model is designed to address facilitator attrition over time and in particular, balance the availability of a comprehensive and quality training program to continue to add to the pool of facilitators, against the cost and logistics of actually delivering such training (a key finding of the national dissemination). It involves pairing an accredited facilitator who undertook face to face program training (known as a trainer) with a health or community professional (who meets all the application criteria but has not undertaken the training before) (known as a trainee) and supporting them with an online training course and other supports to be trained ‘on the job’ in the program. The trainer will act as a mentor and will support the trainee in the delivery of at least 2 groups by the end of January 2013. We have forty (40) trainee positions available and will be researching the effectiveness of this model of training compared with the face to face version which we used during the national roll-out project.

Please see Appendix A for a more detailed overview of how PID is currently and planning to continue to be a best practice mental health promotion, prevention and early intervention program that aligns with national mental health policy.

**Innovation in Practice and Process**

Prior to PID, few mental health or counselling services specifically targeted the information or support needs of carers of people with depression. They were often the forgotten allies in the battle against depression. PID was developed to address this identified gap in Australia.

The national dissemination was considered novel and ambitious for a mental health initiative given that program delivery was designed to be integrated into ‘usual’ mental health practice and the ‘core business’ of facilitators. Facilitators were sourced through a partnership approach with state mental health, as well as peak carer NGOs, other mental health NGOs and private practitioners in each state. They did not have to pay to attend training, were provided with a range of clinical, administrative and resource support (e.g. participant manuals, summary reports, dedicated phone and email line) at no charge and were not paid by the project team to deliver the program.

**Applicability to Other Settings**

The program has been implemented in all States and Territories, with the support of over 40 organisations from state health and social care services, non-government organisations and private practice, whose staff trained to become accredited Partners in Depression facilitators.

Over 1200 participants have attended the program to date, including people in rural areas, migrants and Aboriginal and Torres Strait Islander people. The Partners in Depression model has proven to be effective in building the capacity of carers to improve their own mental health and wellbeing and in building workforce capacity without providing a financial incentive to do so. As such this model could be transferred to other health promotion and disease prevention projects.

**References**

Project Title
RESI-DENTAL CARE PROGRAM

Name of EQuIP Member Organisation
HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
ORAL HEALTH SERVICE

<table>
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Aim
The Resi-DENTAL Care Program aims to improve the oral health of residents of aged care by overcoming barriers to accessing dental treatment and providing oral health education and training to aged care staff

Abstract
Access to dental care for residents of aged care facilities is often difficult and complicated. A lack of onsite dental facilities and the complexities of transporting the frail aged to external services often preclude residents from receiving dental treatment.

The Resi-DENTAL Care Program is the first of its kind for NSW and is an initiative of Hunter New England Oral Health Service. It seeks to improve the oral health care and access to dental services for this sector of the population. This program, based on primary care principles, encompasses provision of oral health education for carers, residents and works collaboratively with private dental practitioners to coordinate and support the provision of dental care in the residential care setting. Suitable portable dental equipment has been sourced to be used by private dental practitioners to provide dental care at the aged care facility. To date 1155 residents from fifteen Hunter New England aged care facilities now have access to regular onsite dental services with 263 examinations and nearly 400 restorations performed since the implementation of this program so far.

Over 320 staff from ten aged care facilities have participated in the Better Oral Health in Residential Care education and training program. Following this training staff become aware of the link between oral health and general health and the impact poor oral health can have on quality of life.

Application of EQuIP Principles

Consumer / Patient Focus
Dental decay and periodontal disease are often forgotten diseases. They impact on general health causing pain and discomfort, difficulty eating and quality of life issues for the elderly population. The Resi-DENTAL Care Program specifically targets residents of aged care facilities. This program brings regular dental services to the resident, overcoming access to services and transportation issues. The education and training section of the program provides aged care staff with the skills and tools to perform an oral health assessment, develop an oral health care plan, manage oral hygiene and identify residents requiring dental intervention.

Effective Leadership
The Hunter New England Oral Health Service is seen as the lead team within NSW in implementing this contemporary program and the initial success and intent of this program to date has seen this innovative program embedded in current strategic directions for oral health services within NSW. The collaboration between the public and private dental providers that has been established as a result of the Resi-DENTAL Care program is truly unique. It provides a way for the public sector to show leadership in putting forward models of care. It raises the profile of public dentistry that is inventive and demonstrates its willingness to be involved in the community.
Continuous Improvement
Participating dentists and aged care facilities are contacted regularly to monitor processes, satisfaction with the program, equipment and identify areas of improvement. Each dentist provides information as to the types and range of treatment provided and provides comment on the standard of oral hygiene at each facility.
Data from evaluation surveys is collected to monitor the education and training section of the program.
The regular collection of data, surveying of practitioners and aged care staff will assist in evaluating the success and direction of the program in years to come.

Evidence of Outcomes
Prior to the implementation of the Resi-DENTAL Care program the majority of aged care facilities throughout the HNE region received limited dental services. Some facilities reported local dentists would provide ad-hoc emergency services for those residents unable to be transported to external services.
With the implementation of the Resi-Dental Care program the following has been achieved:

- 15 aged care facilities within HNELHD are involved in the program
- 1155 aged care residents now have access to regular on site dental services
- 263 dental examinations have been performed
- 397 teeth have been restored
- 320 aged care staff have received oral health education and training.

Striving for Best Practice
The education and training package incorporated in the Resi-DENTAL Care Program is an evidenced based resource developed by SA Dental Services funded by the Australian Government Department of Health and Ageing under the Encouraging Best Practice in Residential Aged Care Program.
Aged care residents can have extensive dental treatment needs which may be complicated by their complex medical histories and or cognitive issues. To support private dental practitioners participating in this program advice from clinical leaders in treatment philosophies for the elderly is available on the Resi-DENTAL Care DVD.

This multidisciplinary team approach will improve the oral health outcomes for aged care residents and consequently improve their overall health and wellbeing as good oral health is essential for healthy ageing.

Innovation in Practice and Process
The Resi-DENTAL Care Program is innovative and proactive in encompassing oral health education for carers and residents, early intervention and assessment, prevention and the identification of appropriate oral health treatment pathways. This has been achieved by:

- Working collaboratively with private sector dentists and aged care facilities
- Sourcing and developing a kit of suitable portable dental equipment
- Producing an instructional DVD
- Identifying dental treatment and payment pathways
- Development of a service level agreement.

Applicability to Other Settings
The Resi-DENTAL Care Model can be adapted to other target groups such as mental health facilities or other residential groups when access to dental services is difficult and funds are limited. To date oral health services within NSW and internationally are reviewing the Resi-DENTAL Care Program with the aim to implement similar programs.
RURAL PREHOSPITAL ACUTE STROKE TRIAGE (RURAL past) PROJECT

JOHN HUNTER HOSPITAL
HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT, NSW

ACUTE STROKE SERVICE, DEPARTMENT OF NEUROLOGY

A/Professor Mark Parsons
Senior Staff Specialist Neurologist

Professor Christopher Levi
Director of Acute Stroke Services

Dr Neil Spratt
Staff Specialist Neurologist

Aim
To provide rural communities with access to best evidence and high quality acute stroke care.

Abstract
Background. In metropolitan regions Pre-hospital Acute Stroke Triage (PAST) protocols have improved access to intravenous thrombolysis [1] however, there have been no implementation or evaluation of prehospital stroke protocols in rural regions. We developed and tested a rural PAST protocol [2] to facilitate rural community access to stroke thrombolysis.

Method
Thrombolysis rates pre versus post implementation were compared in a quasi-experimental design multidisciplinary collaborative health systems re-design project (Ambulance Service of NSW and Acute Stroke Team (AST) at the John Hunter Hospital (JHH)). A Transport Decision Matrix, utilising road and road/helicopter expedited patient transfers to JHH, bypassing local hospitals with no thrombolysis service. The AST were consulted to activate the protocol and pre-notified of estimated arrival time in order for the team to meet the patient at emergency triage and expedite patient care.

Results
The pre and post cohorts were similar in age (75.5 v 73.8 yrs; p=0.158) and gender (51.8 v 51.7% male; p=1.0). In the year preceding implementation none of the 228 patients in the catchment received thrombolysis. From 6-4-09 to 28-8-11 40 patients were transported under protocol. 15 received thrombolytic therapy (number needed to transport in order to treat= 2.7). This equated to 3.2% (95%CI: 1.8 to 5.2%) of the 470 strokes in the rural catchment, a statistically significant increase (p=0.004). 23 were transported by road and 17 by road/helicopter with a median straight line distance travelled of 66km (min 35, max 152). Five (12.5%) patients were mimics. Median minute times (min, max) were: onset to door=124 (71,220); door to needle=62 (44, 386).

Conclusion
The rural PAST protocol was successful in providing rural stroke patients access to thrombolysis. Number needed to transport in order to treat one patient were superior to a similar trial in a metropolitan region. Implementation of the protocol required an effective acute stroke team and strong, effective collaboration between ambulance and hospital services.

Application of EQuIP Principles
Consumer / Patient Focus
Stroke is Australia’s second leading cause of death and leading cause of long term adult disability. There are approximately 50,000 acute stroke cases each year in Australia and approximately 1 in every 5 acute stroke patients reside in a regional or rural geography. Intravenous thrombolysis with the drug alteplase is the only proven effective acute medical therapy for stroke. One of the major challenges in delivering alteplase is the narrow time window for therapy delivery (maximum guideline approved onset-to-treatment time 4.5 hours). The “tyranny of distance” and the often limited workforce and hospital infrastructure in regional and rural Australia has meant that rural stroke victims do not, as a rule, have access to alteplase therapy. The rural PAST protocol has been designed to accurately identify and rapidly transfer acute stroke patients from the rural catchment area of the John Hunter Hospital to the acute stroke care unit. The rural catchment – the upper Hunter Valley, Great Lakes...
and Manning districts, has population of approximately 140,000 people. It is served by small local hospitals and one rural referral hospital that do not have the required personnel or infrastructure for delivery of alteplase therapy. The principle aim of the protocol is to provide stroke victims in these regions with access to alteplase therapy. In order to evaluate the rural PAST protocol, a non-randomised, pre-and post-implementation clinical trial design was used.

**Effective Leadership**

Rural PAST is a multi-disciplinary health system re-design project conducted by an experienced clinical team lead by senior stroke care researchers and designed in collaboration with NSW Ambulance senior management and NSW ambulance paramedics. The study has used a collaborative leadership model with the NSW ambulance service, senior hospital clinical management and also interstate clinical leaders with expertise in pre-hospital acute stroke care with its success being evidence for the effectiveness of leadership.

**Continuous Improvement**

This project is part of a long-term regional stroke care systems improvement strategy where the innovative models of care are implemented, tested and, if proven effective (as was the case with the initial metropolitan PAST project) modified, improved and expanded to support, in this specific case, stroke care in the rural Hunter Region.

**Evidence of Outcomes**

The rural PAST protocol evaluation has recently been completed and results have been presented at the European Stroke Conference, Lisbon, May 2012. The protocol trial period saw a highly statistically significant increase in stroke patient access to alteplase therapy along with an encouraging absolute increase in the proportion of rural stroke patients gaining access to this evidence-based treatment. The trial also involved testing of a novel (“in the field”) stroke assessment tool which has been successful in improving the proportion of patients eligible for treatment on arrival at John Hunter Hospital.

**Striving for Best Practice**

Given alteplase is the only proven effective acute stroke therapy, strategies to boost implementation and provide patient access, are clearly indicated. It is important to recognize that intravenous alteplase is one of only a handful of treatments known to medical science, that if used appropriately, result in an actual health care cost saving of approximately $500,000 rest-of-lifetime cost saving per person treated.

**Innovation in Practice and Process**

Prior to this study, there have been no trials of advanced models of care aiming to deliver best evidence, best quality management for rural stroke patients living in regions where the hospital workforce and infrastructure are not adequate for the safe delivery of alteplase therapy. The models of care that have now been tested and show effective in the rural PAST project will provide guidance to health policy development and to those planning service provision for stroke in the many regions of Australia which share the constraints of limited workforce, limited infrastructure and large distances between the occurrence of the stroke and the availability of expert care. In addition, this trial has demonstrated that the novel “in the field” 8 point NIHSS assessment tool shows great promise as a feasible, acceptable, reliable and adequately specific measure in identifying likely alteplase eligible patients.

**Applicability to Other Settings**

The rural part of the Hunter Region is similar to many parts of Australia in that there are scattered small community hospitals across distances up to 150 kms from a large tertiary care centre. This model of care would be readily transferrable to any region that has a comprehensive stroke care centre servicing a region within which the community hospitals are not equipped for high level stroke care.
Project Title
CHRONIC PAIN IN THE EMERGENCY DEPARTMENT

Name of EQuIP Member Organisation
JOHN HUNTER HOSPITAL
HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
DIVISION OF EMERGENCY MEDICINE

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Aim
The aim of this project is to improve the acute care management of patients with chronic pain, facilitate access to pain services, decrease Emergency Department presentations and avoid unnecessary admissions.

Abstract
The Pain in the ED Patient Journey project, which commenced in March 2010, was a project that sought to improve services and processes for frequent presenters with persistent pain that present to The John Hunter Hospital. The John Hunter Hospital (JHH) Emergency Department (ED) executive and the Hunter Integrated Pain Service (HIPS) identified a need to better manage patients who frequently present with complaints of pain and established the project with the aim of developing and implementing a model of care that is transferable across other chronic and complex care conditions. This project is built on previous redesign initiatives in HNE Health:
- Persistent Abdominal Pain (PAP) Project
- Older Person’s journey & Frequent Presenters
- Chronic Disease Care Co-ordination Program

This project improves the care and outcomes of chronic pain sufferers presenting to the John Hunter Hospital Emergency Department.

The journey for patients presenting with chronic pain now includes care coordination, clinical pathways and individualised Emergency Department management plans.

An audit of 21 patients showed:
- 94% compliance with Patient Management plans
- 53% reduction in number of Emergency Department presentations
- 50% reduction in hours spent in the Emergency Department
- 59% reduction in the number of admissions
- 41% reduction in Admission Length of stay

By improving links between pain services, primary and tertiary care with simpler pathways for patients and their carers, unnecessary hospitalisation can be prevented in keeping with the National Pain Strategy and National Emergency Access Targets.

The process has transferability for frequent presenters across the health system.

Application of EQuIP Principles
Consumer / Patient Focus
In the past, acute care systems have treated each ED visit for people with persistent pain as a new presentation. There were excessive steps in the ED process and no clear pathway for patients with persistent pain. Conflict, hostility between teams, patients, families and staff with no integration between Ambulance, acute care and chronic disease programs

Patients with chronic pain have very high resource use with frequent ambulance transports, Emergency department presentations, sometimes recurrent surgery, multiple and long lengths of hospital stay, leading to deterioration in patient function.
Treating each Emergency Department visit as a new presentation with no pathway does not consider a patient’s complexity of health system interactions. Emergency Department Pain pathways, providing care coordination, educating staff and patient regards pathways, improves access to quality health care by early identification and fast tracking care.

This model of care allows for early identification of patients presenting to the Emergency Department with persistent pain, facilitates referral to Hunter Integrated pain service and patients early access to multidisciplinary pain team support and management. The chronic pain in the ED project allows the patient with persistent pain, carers and family to work with the multidisciplinary team to develop a pain management plans.

Patient management plans for frequent presenters has bought a greater consistency of care in the ED to this complex cohort of patients. Previously the number of investigations, treatment and referral to medical/surgical specialties were dependent on the skill level of the ED medical officer assessing the patient. Now, with the introduction of a management plan with clear ‘red, orange and yellow flags,’ care should be consistent across the spectrum of skill mix in the ED. This also provides clear boundaries for patients re: use of opiate analgesia and a strict criteria for admission. Although there are recommendations around the value of repeating investigations, the “flags for exacerbation of persistent pain” guidelines are not to be substituted for clinical judgement and allows the ED medical officer the opportunity to use their discretion in the use of investigations.

Effective Leadership
Through continued professional development, regular communication meetings and continuous monitoring of service quality, the Chronic pain in the emergency department team strives to improve the quality of care delivered and review model of care.

Patients presenting with persistent pain and have management plans, receive care coordination throughout the Emergency department journey and receive follow up phone calls post discharge from the emergency department. Feedback received from patients is considered when developing strategies for delivering quality care.

Regular meetings, consultation and with the Hunter Integrated Pain service team members and Division of Emergency Medicine Senior staff consultant to discuss case reviews allows The role of the Chronic and Complex care coordinator in John Hunter hospital Division of emergency medicine includes.

The model of care developed for the patient with Chronic pain in JHH ED is able be transferred across other cohorts of patients who frequently represent including patients with chronic disease, mental health and other frequent presenters.

The role of the Chronic and complex care coordinator in JHH ED ensures:

- Improved identification process of patients presenting to ED with management plans.
- Rapid assessments and fast tracking according to ED “red flags” guideline for persistent pain.
- Appropriate and current management plans.
- Electronic storage of management plans to increase accessibility and maintain validity.
- Seamless management with decreased investigations or interventions.
- Improved experience for patients who frequently present to The John Hunter Hospital Emergency Department.
- Create partnerships and improved communication processes with Primary and Community networks to improve co-ordination between all care providers involved in the management of patients.

Evidence of Outcomes
Quantitative data was collected from an audit of electronic medical records to compare the number of John Hunter Hospital Emergency Department presentations, Emergency Department Length of stay, number of admissions and occupied bed days in 2011 compared to 2009 and 2010 for 21 patients with patient management plans in place in 2009/2010.

Compliance with management plans was also reviewed.
• 94% compliance with Patient Management Plans
• 53% reduction in number of Emergency Department presentations
• 50% reduction in hours spent in the Emergency Department
• 59% reduction in total number of admissions
• 41% reduction in total admission length of stay

The Chronic pain in the ED project team consult regularly and report to Emergency department management and clinical staff providing evidence based information and actions with the aims of improving emergency department journeys for patients with persistent pain.

The project team members communicate with all care providers, value all feedback, review patient management plans and develop project strategies which will ensure excellence in care is provided.

Continuous Improvement
Through continued professional development, regular communication meetings and continuous monitoring of service quality, the Chronic pain in the emergency department team strives to improve the quality of care delivered and review model of care.

Patients presenting with persistent pain and have management plans receive care coordination throughout the Emergency department journey and receive follow up phone calls post discharge from the emergency department. Feedback received from patients is considered when developing strategies for delivering quality care

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• 94% compliance with Patient Management Plans
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• 50% reduction in hours spent in the Emergency Department
• 59% reduction in total number of admissions
• 41% reduction in total admission length of stay.

Striving for Best Practice
Patients, as well as staff, have welcomed the new coordinated care approach that has seen the introduction of management plans, improved communication, and improved coordination between the Emergency Department, inpatient teams, Hunter Integrated Pain Service, NSW Ambulance service and General Practitioners.

Reduction in Emergency Department presentations and length of stay by frequent presenters with chronic pain further increases the ability of John Hunter Hospital Emergency Department to achieve National Emergency Access target

Further improvement of Emergency Department Persistent Pain pathways and processes in line with NSW Ministry of Health and the National Pain Strategy

Further potential savings in occupied beds days

Improved coordinated care between the tertiary and primary care sector is the future for chronic pain treatment.

Innovation in Practice and Process
A new model of care has been created for patients frequently presenting with pain however a few key elements of the model have proven to be unsustainable without constant championing. The model has provided the ED with improved organisational processes related to communication in the department, patient care plans, clinical documentation, discharge and referral processes. The model should be broadly applicable to all chronic and complex care conditions across the area health service; however, the barriers regarding identification will continue to be an issue unless addressed.

The data demonstrates that just under half this cohort were not identified at triage as having frequent presentations with pain and a patient management plan; this may suggest a need for more intensive education and championing, or may be the result of a flawed system of identification. However if the
recommendations surrounding this issue are taken into consideration and are rectified, then I feel this model would provide a perfect framework for managing other complex care conditions.

There is strong support for a role of Chronic and complex care coordination in the Emergency department, incorporating the model of care for patients presenting with persistent pain and those with chronic disease. This role was found to raise awareness, educate staff, facilitate the identification of new patients and provide a central point of contact for patient care between Ambulance, General Practitioners, ED and the Pain Service.

Often with healthcare improvement projects there are benefits outside the original project objectives and hence sometimes not captured specifically with an analysis of just the primary objectives. These other benefits, both tangible and intangible, that were associated with this project were identified through the staff satisfaction survey.

These include:
- Increased profile of the management of chronic pain in the ED according to “Red Flags” guideline
- Shared alerts with the NSW Ambulance Service (NSWAS) to allow flagging of patients so that management plans can be activated on scene
- Prevention of inappropriate analgesia being administered in the pre-hospital setting for chronic pain
- The patient knows exactly what to expect when they present to the ED with an acute exacerbation of their chronic pain
- It removes bargaining from the patient encounter
- It provides the novice ED medical officer with some reputable authority to support their clinical decision
- Prevents inappropriate prescribing and provides clarity regarding appropriate forms of analgesia
- Removes validation of aberrant behaviours surrounding chronic pain presentations
- Provides patients with a better understanding that ED cannot provide solutions for their chronic problem
- Prevents unnecessary expenditure on repeat investigations
- The access to CAP provides information regarding outpatient appointments that was previously inaccessible

**Applicability to Other Settings**
The Chronic pain in the Emergency department is transferrable to other settings including HNELHD Emergency departments and New South Wales Ambulance service. Patients with persistent pain, chronic disease and complex comorbidities often present via NSWAS and present to multiple local Emergency departments.

Future scope includes:
- Presenting the project strategies, with evidence of positive outcomes, to the HNELHD Emergency Department stream
- Share plans with NSW Ambulance Service
- Electronic access to management plans between all health professionals via Clinical Applications portal (CAP), electronic patient clinical information system
Project Title
ACE-ing EMERGENCY CARE OF PEOPLE IN RESIDENTIAL AGED CARE

Name of EQuIP Member Organisation
JOHN HUNTER HOSPITAL
HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
EMERGENCY DEPARTMENT

Aim
By providing Residential Aged Care Facility (RACF) staff support, enhancing relationships and establishing clear patient goals of care, the aim was to reduce unnecessary presentations to ED from RACFs by 5% over six months.

Abstract
There is global recognition of the need to better manage both the demand placed on Emergency Departments (EDs) and the quality of care of older people who present to the ED from Residential Aged Care Facilities (RACFs). An Aged Care Emergency (ACE) Service was piloted during 2011 at the John Hunter Hospital Emergency Department (JHH ED). The nurse led ACE Service provided support and liaison to 4 RACFs. A case control methodology was used, matching the 4 facilities with 8 RACFs by numbers of beds, ratio of high to low care beds and presence of dementia specific beds. Over 9 months, ACE reduced presentations to ED from the facilities by 16% saving 590 hospital beds days (35% reduction) and improved the experiences of older people from the RACFs.

Application of EQuIP Principles

Consumer / Patient Focus
Demand on ED services for management of acute exacerbations of chronic disease for residents from RACF has increased. A number of studies have found that, for certain conditions, particularly care provided in RACFs have similar, or better, survival rates and fewer complications compared to hospitalisation and treatment. For example, those with acute infections treated in their residence have similar or better survival and fewer complications compared to those transferred to hospital for treatment, even accounting for severity. While there is evidence that there are conditions that have resulted in presentations by older people to the ED which could be equally or better managed in other settings, the ED is likely to remain an important point of entry to the health care system for older people and that the older person’s health care needs are different to other populations in both ED and hospitals. There is a need to determine and respond to the goals of care for older people from RACFs who largely seek symptom management and palliation, not diagnosis, and to ensure the person’s goals of care are met in both the RACF and ED.

Older people who become acutely unwell in RACFs constitute a significant number of ED presentations. Residents in RACFs have more frequent presentations and longer length of stay in ED and are at higher risk of adverse consequences related to attending EDs and hospitalisation.
In 2009, over 500 residents from four RACFs were transferred to three Emergency Departments in the Newcastle area, with over 300 admissions equating to more than 8 occupied bed every day of the year.

Focus groups examined factors that enable and inhibit transfer to the ED from RACFs. Staff in RACFs sought clarity and support in managing acute onset symptoms in the RACF and guidance about when to refer the older person to the ED. RACF staff want to manage residents at home. As experts in aged care, they know the patients well and recognise the distress a hospital transfer causes for frail complex patients. They believe ED staff have limited expertise in dementia management. They described frail, frightened older people returning from ED with pressure ulcers, delirium, wet, hungry and thirsty. They were concerned that ED does not always address the reason they felt they transferred the patient for and challenges when transfer letters were not received or medication changes were not managed.

In managing acutely unwell patients in RACF, they have limited equipment, medication, staff and skills to manage an emergency. They felt chronic disease plans and advanced care plans help identifying patients’ needs and supported care. The RACF staff asked for standardized guidelines for common problems and enhanced ED support. They also volunteered standard procedure for transfer to and from ED and respectful ED staff as important solutions. General Practitioner and family support also facilitated good care decisions.

Effective Leadership
With concerns raised by ED staff that patients were presenting unnecessarily to the ED from RACFs and reviewing factors determined by RACF staff about the challenges in managing acutely unwell residents and transfer to hospital, the ED director and Nurse Manager sought funding from NSW Health Ministerial Taskforce for Emergency Care as part of the Commonwealth “Taking pressure off public hospital” funding to implement the Aged Care Emergency (ACE) Service lead by a Clinical Nurse Consultant (CNC) who had skills and practice in both emergency and aged care.

The ACE CNC developed and coordinated the ACE Service. The ACE Service is designed to ensure older people receive the ‘right care in the right place’. The focus of the Service is on the management and care of older people from RACFs who may be considered for transfer to the hospital ED for non-emergency events. The ACE Service is an evidence based telephone liaison service provided from JHH ED to staff from 4 pilot RACFs who have a history of frequently transferring patients to JHH ED. The Service was also intended to provide consultancy, education and support to staff of the RACFs involved in the pilot.

Continuous Improvement
The ACE Service provides consultancy, education and support to staff in RACFs. Its focus is on the management of residents when transfer to the ED for acute onset events is being considered.

The Service operates between 8am and 8pm, 7 days a week. It provides a telephone service to RACF staff regarding residents with urgent care needs, and determines whether a transfer to ED is required. Out of hours, the calls are taken by the Aged Service Emergency Team (ASET) who assess older people in the ED, particularly around transitions of care back to the community. The ACE decision-making process uses evidence-based guidelines for clinical advice to staff in RACFs. If transfer is not necessary, the ACE nurse advises appropriate alternatives. Where a resident transfers to ED, the ACE Service can potentiate rapid ED treatment focused on the person’s needs.
RACFs were identified as having high volumes of patient transfers to the ED.

4 Residential Aged Care Facilities in 2009
- Mixture of higher, lower and dementia specific facilities
- 825 ED presentations
- 451 Hospital admissions
- 2984 Occupied bed days
- 6.6 Average Length of Stay
- 8.2 acute hospital beds filled at all times with residents from the 4 facilities.

The project was undertaken in partnership with 4 RACFs using the following process:
- Consultation with all stakeholders including nursing, medical and allied health staff of JHH ED, RACF personnel and management; General Practitioners (GPs), Hunter Urban Medicare Local and NSW Ambulance Service.
- Evidence based clinical guidelines and algorithms were adapted and information about their use was provided to direct care staff in RACFs and ED.
- Senior staff in the RACFs were provided with copies of the manuals and requested to approve these for implementation in facilities.
- Agreement was reached between ED and the RACFs that the priority was to identify the goals of care for the person and establish if ED presentation was aligned to these or if the person’s goals (e.g. pain relief, commencement on antibiotics, management of breathlessness) could be met without presentation to ED.
- Information brochures for Ambulance, GPs, RACF staff and residents and their families were developed, explaining the rationale for the Service, in particular why the ED is often not the best place for care of older people from RACFs.
- Regular meetings were held with representatives from the 4 RACFs and ED to review progress.

Evidence of Outcomes
University of Newcastle are partners in the evaluation.

A case control methodology was used. Control facilities were matched by size; ratio of high and low care beds and dementia specific beds.

Between March and December 2011 there were 146 calls to the ACE Service:
- 36%, the resident was managed in the RACF. One RACF made a repeat call to the Service within 24 hours of an initial call.
- 40% were managed in the ED and returned to the RACF.
- 23% were admitted giving an admission rate of 35%. This compares with an admission rate of 65% for all people who present over 75 years.
- Timely ED care is facilitated by the Service including communicating to ED the goals of care for transfer and nurse initiated analgesia, radiology and pathology

March to December 2011 (Figure 1, 2 and 3)
- A statistically significant decrease of 16% (P=0.009) in ED presentations from the 4 RACFs compared to 2010. Control RACFs had a 4% increase in presentation.
- 566-day (32%) reduction in hospital bed days in the 4 RACFs. while the control facilities had a 50 (3%) increase in bed days.
- High levels of satisfaction with the Service among staff, residents and families in RACFs.
- Strong relationships that enhance quality care for acute conditions in the RACF have been established.
- No adverse events or complaints.
- ED LOS was reduced where presentation was preceded by an ACE call amongst case RACFs (p=0.025) compared to control RACFs (p=0.175)
Striving for Best Practice
The availability of the Service improved relationships between ED and the 4 RACFs and highlighted shared philosophies of care for older people between RACF and ED. The Service has guided RACF staff in relation to care practices and resulted in a reduction in calls to the Service and transfer of older people to ED. A greater appreciation of the context of residential aged care for ED staff and vice versa has been highlighted. Knowing the patient’s pre-emergency condition and function assists with improved emergency care along with establishing the patient’s goals of care. Clear guidelines and empowerment of RACF staff to enact on them has assist in supporting RACF staff.

With expected increases in older people and patients with multiple chronic and complex conditions, service such as ACE which improve relationships, collaboration and support between Emergency Department and RACF staff will become increasingly important. Reducing non-urgent transfers and better aligning care patients’ goals of care with ED intervention will lead to better outcomes.

Innovation in Practice and Process
EDs will continue to experience growth in demand for service. The ACE Service has been successful in reducing presentations from RACFs to the ED. An experienced RN can effectively discriminate among the needs of older people in terms of a decision to transfer or not to the ED. Support for RACFs by both emergency department and geriatric specialists have been established elsewhere. The ACE service builds on these services, works with both low and high care RACFs and has focused on establishing patients and their caregivers wishes prior to transfer by establishing clear goals of care for the emergency department.

Applicability to Other Settings
The Service can be expanded to a broader number of EDs and RACFs to determine impact at a regional level. 22 RACFs are now supported by this service. The challenges for managing acutely unwell residents in rural settings have a further dynamic of scarcity of resources and distance residents are required to travel to access Emergency Care. The model of care principles are adaptable with extension into tele-health with improved technology a reasonable next step development. Plans are underway to develop the guidelines as an e-resource.
Project Title
OPTA-MISING THE ED CARE FOR OLDER PEOPLE AT RISK OF DELIRIUM

Name of EQuIP Member Organisation
JOHN HUNTER HOSPITAL
HUNTER NEW ENGLAND LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
EMERGENCY DEPARTMENT

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Aim
To improve the care of older people in the ED through the introduction of systematic screening and supportive care of older people provided by technical assistants.

Abstract
EDs are designed for acutely ill and injured people. The work environment, and priorities of care provided mean that the older patients’ needs can be overlooked. Challenges include increasing demand and complexity of patients. Older people, in particular those over 75, are at risk of developing delirium. They may present to the ED with delirium or develop delirium in hospital. A non-professional assistant workforce in the ED, known as Older Person Technical Assistants (OPTAs), can provide supportive care to improve delirium management and patient and family experience, as well as screen older people to assist in defining their care needs both in hospital and their transition home.

A study of OPTAs demonstrated a positive impact on the care of older people in the ED; improving screening rates for risk factors, including pressure ulcer, pain, cognition and delirium, falls, carer strain and nutrition among elderly people and potentiating workforce redesign for ‘right job, right person’.

Application of EQuIP Principles
Consumer / Patient Focus
The traditional ED model aligns to patients with single new problems, at odds with complex care needs of frail older people. Older people presenting to ED are at risk of falls, pressure injury, delirium and hospitalisation itself. NSW Health policies require screening for these risks, a challenge with competing ED priorities.

NSW ED patient surveys and John Hunter Hospital ED Experience Based Co-Design identified patients and their families priorities including being together; and consideration for their physical, social and psycho-social needs, the same priorities as best practice delirium management.

An assistant workforce, Older Person’s technical assistant (OPTA) was developed in order to address this gap in care delivery with 3 priority areas:

- Screening of older people for risk factors known to compromise older people in the ED
- Improving the patient and carer experience of ED
- Providing support to older people aimed at assisting with delirium prevention
Effective Leadership
The OPTA workforce was introduced in 2010 under the leadership of the ED director and nurse manager, developed from the findings of the John Hunter Emergency Department Co-design project. Given it was a new and innovative role with a new scope of practice, consultation was required with a wide range of stakeholders including nursing and medical leadership, NSW Nurses Association, Emergency Department clinical staff including the Aged Services Emergency Team (ASET) who supervised and supported the new non-professional workforce, OPTAs, whilst delivering care in the ED. At NSW state level, the Ministerial Taskforce for Emergency Care required regular reporting of progress and outcomes.

The role were embedded in the ED, over a short period of time. Since undertaking the role, 2 of the OPTAs have enrolled in nursing degrees, demonstrating a commitment to ongoing learning and career development.

Evaluation demonstrated that with appropriate training, a non-professionally qualified workforce can undertake screening using a range of tools that are intended to identify older people at risk as well as undertake supportive care.

Continuous Improvement
Identifying the problem:
The care of older people who require non-urgent medical care is a significant component of work in Emergency Departments (EDs) in Australia and overseas. Older people are at greater risk of hospital admissions and unplanned readmissions than any other population group. Currently, they account for greater than 60% of all hospital admissions (Australian Institute of Health and Welfare 2010). There is national and international recognition that there is a need to better manage both the demand placed on EDs and the quality of care of older people who present to the ED (McCusker, Ionescu-Ittu et al. 2007; Rich, Hustey et al. 2009). The Society for Academic Emergency Medicine (SAEM) Geriatric Task Force (Terrell et al. 2009) has identified three conditions where there are quality gaps in the care of older patients who do present to the ED. These are cognitive assessment, pain management, and transitional care in both directions between RACFs and EDs.

Chart review and hospital audit indicated screening for falls and pressure ulcer risk was 30%. Screening for delirium or management of delirium risk was not standard.

Change process:
- Staff of the ED were consulted and a change process commenced using the Accelerated Implementation Methodology (AIM)
- Scope of practice for the OPTA was determined with 3 core priorities being supportive care, delirium prevention and management and screening for over 75 year olds presenting to the ED.
- Consultation with multi-disciplinary stakeholders identified pain, falls, pressure ulcer, cognition, delirium, carer strain, nutrition, personalised patient care information and Identification of Seniors At Risk (ISAR) screens for the OPTA to undertake.
- Pathways were developed for each screening tool where patients screened positive.
- Delirium management and support measures include ensuring families are bought into the ED as soon as they are available. Orientation goals include ensuring OPTAs introduce themselves, and orientate patients, ensure call bells are within reach and sensory aids are working. Pain interventions included massage and distraction. Support included acknowledgement of fears and anxiety. Safety and comfort measures included assistance with toileting, mobilisation and management of pressure ulcer risks, assistance with feeding and drinking. OPTAs are also able to deliver one-to-one care for disturbed and confused older people.
- Job descriptions were developed in consultation with stakeholders
- Formal notification about the project was provided to the NSW Nurses’ Association
- Recording of OPTA activity was developed in the ED Information Management System, available for evaluation
- Recruitment for the OPTA position was undertaken
- A period of training for OPTAs occurred during March 2011
- Information sessions for ED staff about the OPTA role occurred
**Evidence of Outcomes**

Evaluation demonstrated OPTA and ASET screening provide similar results on screening tools. From April to December 2011 four OPTAs provided the following care:

- 3506 patients were seen
- 2157 had cognitive screening with Six Item Screener, 643 Confusion Assessment Method for delirium
- 2771 falls risks attended
- 2414 Waterlow pressure ulcer risks recorded. Hospital wide audit demonstrated an increase in pressure ulcer risk assessment in the ED from 35% in 2010 to 72% in 2011 for over 75s.
- Nutrition screening in 2122 patient
- Carer Strain Index in 1918 carers and 657 family questionnaires completed.
- Delirium care delivered included mobility assistance, assistance with access to food and water, toileting, orientation, assistance with sensory aides and distraction activities.
- 120 patients had one-to-one care.
- 2637 were admitted representing 23950 bed days.

100 randomly selected medical records were reviewed before and after the introduction of the OPTAs demonstrating an increase in pain scores for over 75 years from 74% to 84%, an increase in falls screening from 30% to 74% and an increase in pressure ulcer screening from 42% to 62%.

Nursing Unit Managers when notified of a positive CAM, escalate the care of the older person within the ED, particularly prioritising access to a bed so that OPTA interventions can be initiated.

ASET staff felt the screening tools formalised and standardised much of the initial assessment they previously undertook. During interviews, ASET nurses indicated:

- Screening is very useful in assisting targeting by ASET
- Has changed work flow but not workload necessarily
- OPTAs use the score as well as their general observation to inform discussion with ASET
- Screening facilitates engagement in issues by the medical staff (eg delirium screen results indicate need to address cognition)
- There have been no complaints about the quality of supportive /preventive care in the ED since the OPTAs were introduced from people who were in the ED during OPTA work hours

**Striving for Best Practice**

It is well known that older people require emergency care more often than other populations, and that they have longer Emergency Department (ED) length of stay and higher admission and readmission rates. Older people account for greater than 60% of hospital admissions and are at risk from hospitalisation itself, particularly delirium.

When older people do present to the ED, they often require supportive care to ensure their immediate safety and other needs are met in the ED environment. There is also a need to minimise risks associated with ED attendance, hospitalisation and readmission (in particular delirium, disorientation, pain and falls) through screening for risk factors and providing early intervention.

Delirium is under recognised and under diagnosed. Consequences of delirium include extended hospital stay, high risk of falling, rapid functional decline and premature admission to aged care facilities and death. Early detection of delirium using screening tools and early intervention is essential. However strategies are often considered ‘niceties’ rather than core elements of care.
Innovation in Practice and Process
Screening of patients by a non-professional workforce in the ED is new and innovative. Professional staff are required to interpret the results, undertake further assessment and implement and identify care for patients and their carers based on screening results. Some of these screening tools are mandatory for NSW Health but not necessarily performed in EDs.

The introduction of a supportive workforce to care for patients and their carers as well as undertake tasks to prevent and manage delirium will be increasingly required as our community ages with increase chronic disease and complex care needs.

Sustaining change
With increasing older patients and patients with chronic and complex needs, a supportive ED is essential. The ED makes decisions about admission to hospital or transition back to the community, critical to best patient outcomes. Task delegation to a non-professional workforce assists with increasing demands. In line with National Emergency Access Targets, OPTAs will increase RN capacity, allow early systematic identification of patients at risk for disposition decisions as well as improving patient experience

Applicability to Other Settings
The introduction of an assistant workforce as part of older people care in the ED has application to all EDs in NSW. Rural settings could potentially utilise OPTAs to support older patients and assist in identifying patients who need further geriatric assessment, including via tele-health. OPTA training has potential for one-to-one care for disturbed inpatients (Specials)

EDs currently use technical assistants for procedures. Assistants supporting and screening of older people, as well as performing technical tasks needs to be explored further.

Evidence based multidisciplinary record of care for delirium management has been developed to embed the interventions in the ED
Project Title
‘IN SYNC’ AT KARITANE (Based on Circle of Security Program)

Name of EQuIP Member Organisation
KARITANE, NSW

Department, Unit, Service or Group submitting the project
LIVERPOOL FAMILY CARE CENTRE

Author/s Position Title
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Aim
The ‘In Sync’ At Karitane Program uses attachment based principles to strengthen a parents’ ability to observe and understand their child and to improve their care by offering clear pathways to a secure relationship between parent and child.

Abstract
It is based on the Circle of Security principles and is a 6 week parenting education program, integrating over 50 years of early childhood research. It assists parents to understand the child’s emotional world and teaching them to identify the emotional needs that lies beneath the child's behaviour.

Participants are given a post group evaluation form to complete at the end of the group.

Results of the first group facilitated at Liverpool FCC - 2010
87.5% stated they now have a better understanding of their child’s emotional needs and are better able to recognise and help manage their child’s feelings as a result of attending the group. Furthermore, when their child was "whiny or throwing a tantrum" 75% of participants did not attribute this to their child's misbehaviour. This is a startling result, because it highlights a potential shift in their reflective functioning to keep their child in mind, their own emotional response and to consider other alternatives for the child’s misbehavior.

“(The group) has helped me learn to help kids with emotions. It’s Ok to be feeling their feelings (the child) because I never knew how to. How I was parented has affected the way I parent and the group opened me to new ways of parenting. What I was doing wasn’t working. I knew I had to emotionally equip them. They need emotional help”.

This change in her mentalisation ability has been a great outcome of the program. We were overjoyed and received great job satisfaction from not only this mothers response but from the other 2 participants as well (please see comments). Participants did not need years of individual psychotherapy to achieve enhanced reflective functioning but within a matter of weeks. This timing is crucial, because if a parent is able to keep the baby/child in mind, then the baby/child health outcomes will also be improved, as well as reducing further risks.

This has encouraged us to further expand the Circle of Security Parenting program to those who are most vulnerable in the community. In comparison to many mainstream behavioral parenting programs e.g. Triple P Positive Parenting Program and 123 Magic they would see the child as the cause of their misbehaviour. In addition, more than 50% of participants reported a more positive relationship with their child since starting the program. The results clearly highlight the objectives of the group were met. The qualitative comments of key messages further support this finding (see comments below).
Qualitative analysis of three key messages participants liked about the Circle of Security Program:

- Helped to understand the role of emotion
  Helped to recognise the child’s needs
  Helped to have a healthy relationship with my child

- Makes me understand parenting a bit better
  Realised I’m not alone
  My childhood played a big role in me as a mum

- Recognise your shark music and how it can affect your relationship with your child
  It is not about blame
  You can always repair

Application of EQuIP Principles

Consumer / Patient Focus
Karitane believes in empowering consumers and families by facilitating education and by assisting parents to develop skills and confidence to enable effective functioning and empowerment. Karitane achieves this by supporting and helping families with children from birth to five years of age who are experiencing complex issues concerning breast feeding, sleep and settling, toddler management, attachment, parent craft issues, complex psychosocial issues and mental health conditions such as postnatal depression and anxiety disorders.

We believe that by creating a space for women and their families to be listened to and supported and build parenting confidence is imperative for the recovery process. A team of highly skilled multidisciplinary professionals work at Liverpool F.C.C. to nurture and develop secure relationships in early parenting. In this environment mental illness is destigmatised and individual strengths are acknowledged and celebrated.

Since 1993 Liverpool FCC has cared for many of the families in the Liverpool LGA, and continues to operate the day stay unit for vulnerable parents experiencing lack of parental skills and confidence. One of the evidence based innovative programs that is run at the F.C.C. is the “In Sync” (Circle of Security) program designed to alter the developmental pathway of parents and their young children.

Effective Leadership
Karitane has been the leader of parenting services in NSW since 1923. In 2005 Karitane LFCC won the Consumer Involvement category in the AHA Baxter National health care innovation awards for their innovative WAM (woman as mothers) program.

As a result of the success of the program the team at LFCC then developed a training manual and, since 2009, has delivered the WAM facilitators training to over 120 health professionals all across NSW.

Karitane was one of the first parenting organisations in NSW to facilitate a Circle of Security group.

Continuous Improvement
Karitane LFCC strives for continuous and quality improvement to
- improve efficiency
- improve customer satisfaction
- increase productivity
- improve safety
- long-term competitive advantage
- ensure best use of resources

The region’s distinct cultural diversity and the continued settlement of new arrivals/humanitarian entrants in the region, means that Karitane has needed to respond appropriately with flexible service models and in a timely manner to the needs of these communities.
- There is a large Indigenous population in the area that we service but with a relatively small NGO infrastructure – Karitane LFCC has developed strong partnerships and
demonstrated effective engagement with the aboriginal organisation KARI Brighter futures in Liverpool

Consultation occurred between the KARI and LFCC staff to plan services that could be offered to Indigenous clients in Liverpool. Over the past 12 months, as part of expanding services and programs to engage more Aboriginal families and communities in Liverpool, LFCC has co-facilitated several parenting programs with KARI Brighter Futures. Staff from KARI and LFCC attended the Indigenous training for the Positive Parenting Program and Circle of security. We recognised the importance of these programs so staff are up skilled and this ensures Aboriginal families have the opportunity to access culturally appropriate information and support. We have adapted the programs so they are culturally sensitive adaptation of the mainstream group that takes into consideration the cultural values, traditions and needs of the Indigenous community. Sessions are adapted to have more time to discuss issues, language/images have been changed (more sharing of personal stories), less homework activities and slower pace of presentation is offered. LFCC staff also participate in regular “Yarn Up” sessions at KARI.

The extent of locational disadvantage in the region means that coordinated effort at a local level is often required. It also means a particular focus on prevention and early intervention is warranted. Karitane LFCC has also developed partnerships with the Non Indigenous Brighter futures program in the Liverpool LGA and has delivered two circle of security programs with the vulnerable Brighter futures clients that are often referred by Family and community services

Evidence of Outcomes

The ‘In Sync; program at Liverpool Karitane has now supported over 50 families in the Circle of Security program. The results clearly highlight the objectives of the group were met. After evaluating the program, the main outcomes appeared to have been achieved (from both the qualitative and quantitative results):

- An increase in caregivers’ reflective functioning
- It helped caregivers develop more accurate internal representations of the self and other (especially by targeting negative attributions of the child)
- It improved attachment outcomes for children at risk for insecure attachment

Striving for Best Practice

Karitane continues to review the current evidence based practices and we constantly reassess our clinical and non-clinical practice and continue to seek the most up to date current research and adapt our practice accordingly. We have regular quality improvement meetings, and this is a standard agenda item on all staff meetings. We have also developed a quality data base for all staff to enter any new quality improvements. We participate in the accreditation process of ACHS and all staff believe that quality improvement is an ongoing process.

Innovation in Practice and Process

Future Research Proposal

There is no current research to date which has measured the effectiveness of the Circle of security program with reliable and validated international measurement tools. The Liverpool FCC staff has written a research proposal to demonstrate the effectiveness of this program in increasing reflective functioning, improved mother/infant relationship and parenting confidence. We believe this research plan is innovative and one of the first of its kind in Australia. We have written a research proposal to submit to the Karitane research ethics Committee regarding the above and awaiting ethics approval. The Staff at Liverpool Family care Centre have also proposed that for future groups Circle of Security groups we administer Pre and Post measures to demonstrate effectiveness of this program in increasing reflective functioning, improved mother/infant relationship and parenting confidence as reflected in our client feedback.
**Applicability to Other Settings**

The client feedback from the past 4 groups has shown that participants were eager and have requested for the Circle of Security Parenting Program to be more publically available to further communities and extended to more fathers. To date the LFCC has provided the groups for parents of toddlers and in July – August will facilitate the first circle of security program to parents of babies (under 6 months) as an early intervention strategy.

In addition, Liverpool FCC will trial a group for solely fathers by the end of 2012.

There has also been a request to take the program to aboriginal families in the rural communities of south western NSW (Dubbo, Gilgandra and Coonamble).

Liverpool Family Care Centre has been asked to facilitate the In Sinc group again at the KARI Aboriginal Brighter Futures in August and an in-service on the Circle of Security principles will be conducted with the indigenous staff at Kari prior to the program for an increased understanding of the concepts so they can better support their clients.
**Project Title**
END OF LIFE CARE (EOLC) PATHWAY SUPPORT PROGRAM

**Name of EQuIP Member Organisation**
KYABRAM AND DISTRICT HEALTH SERVICE (KDHS), VIC

**Department, Unit, Service or Group submitting the project**
CLINICAL SERVICES

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**Aim**
To develop an End of Life Care Pathway for expected deaths (education, resources, information targeted to allied health/nursing/medical staff and patients and their families), resulting in end of life processes and choices that then guide a fully integrated delivery of end of life care encompassing pre-death needs, at time of death and after.

**Abstract**
This project is Stage I End of Life Care (EOLC) Pathway for expected deaths in an Acute Ward, Aged Care Facility and in the community.

This EOLC Pathway an example of a collaborative and innovative approach to Clinical Excellence in the End of Life Care. Families and healthcare professionals work together to make compassionate decisions for patients who lack decision-making capacity, taking account of previously expressed patient wishes where known.

An internal audit of expected Inpatient deaths highlighted seven main areas of need in the care of the dying patient:

- Improvement in symptom management;
- Lack of understanding of a person's wishes due to difficulty with end of life conversations;
- No information resources and little evidence of support systems in place for patients and families;
- Inconsistent documentation of NFR’s;
- No Advance Care Plans (ACP) in place;
- Poor palliative care referral processes; and
- No Loss and Grief counselling follow up services undertaken.

Outcomes include staff training in the End of Life Care, formal tools and resources for clinical staff and families, review and development of new policies and procedures and the implementation of an End of Life Care Pathway across the Health Service (Acute, District Nursing and Residential Aged Care). Support for families is also a key element.

**Application of EQuIP Principles**

**Consumer / Patient Focus**
KDHS acknowledges that appropriate care and decision making at the End of Life can only occur when death and the dying process are acknowledged, worked with, and regarded as an integral part of modern health care. Many health professionals (allied health, nursing and medical) in the treating team play a significant role in End of Life Care and a collaborative approach was fostered through the EOLC Pathway.

Families of deceased patients were consulted in regards to their needs at the End of Life Care phase. A Family Info Pack was developed to support families and carers during the end stage and grieving process. The EOLC Pathway improved clinical care and established a clinical review framework that facilitated its implementation on evidence base practice and patient centred care.
Effective Leadership
KDHS Board of Management approved the funding for the End of Life Care proposal that was prepared and submitted by Executive Management. The EOLC Pathway related directly to the KDHS Strategic Plan Pillars: Connected with our Community “We listen, learn and lead within our Community; we are influential in improving the health and wellbeing of everyone through being deeply connected to our Community.” Quality People Centred Care “Our patients residents, clients, carers and families are at the centre of everything we do; all our decisions and actions begin with these people in mind.” Inspiring Our People “We foster a culture that inspires our people”, Innovation “We are a learning place; we are excited by new and relevant advances in thinking, technology and opportunities.”

The EOLC Pathway KDHS is aligned to the KDHS Clinical Governance Framework in the key areas of Consumer Participation, Development of activities and Clinical Effectiveness.

An appointed End of Life Care Coordinator (Palliative Care specialist District Nurse) responsible for communication of best practice to staff, collating data, developing policies, updating resource folders roll-out of training and much more.

Continuous Improvement
The EOLC Pathway is people and family centred, promoting a continuous improvement culture by providing an opportunity for clinicians to participate in teaching, research of best practice and development of quality improvement processes across the different health service settings. Establishment of End of Life Care Committee to review patient deaths and promotion of Clinical Care.

Improved relationships and more collaborative approach to care between Acute and Aged Care staff, Allied Health staff and GPs in the continuity of care and the quality of care provided to patients and families at end of life.

Evaluated comparative clinical performance data prior to and throughout the project period and relayed analysis back to GPs, clinical units and clinicians, essential steps in fostering continuous quality improvement.

Comprehensive End of Life Resource Folder for Staff located in each Department

EOLC Pathway highlighted significant need to extend EOLC Pathway project to provide Advanced Care Planning (ACP) support to wider community. Proposal submitted to the KDHS Board of Management (pending).

Evidence of Outcomes
An End of Life Care (EOLC) Pathway was introduced across the health facility (District Nursing, Acute and Residential Aged Care). The clinical review framework affirmed the value of accountability through peer review and community participation.

The EOLC Pathway Project was implemented over six months in 2011/2012. Improved Audit Results post project comparing expected deaths after EOLC Pathway implementation to pre project audits of expected deaths, demonstrated substantial increases in admission as a palliative care patient; palliative care referral during admission; palliative care service recommendations for patient; in NFR order in place; pain assessment at least once per shift; administration/offer of analgesia when pain identified; pain reassessment after analgesia administered; breakthrough order availability for analgesia; assessment of agitation assessment at least once per shift; administration/offer of anxiolytic if agitation identified; anxiolytic was administered/offered when agitation was identified; breakthrough order availability for anxiolytic; family option to stay with patient 24 hrs/day and consideration of patient religious and/or cultural beliefs.

Post project staff quotes:
- “I felt confident that I was doing what was needed, nothing forgotten,......just fantastic” and “At least I knew what symptoms to expect, and if I forgot they were there on the Pathway” (New Graduates)
“The pathway helped me address all the issues I needed to. So helpful especially when you get caught up in the sadness and emotions of the situation; it's easy to forget something”

“The pathway enhanced the clinical care I provided. Helped me better assess all the symptoms experienced”

**Striving for Best Practice**

EOLC Pathway was driven by a strong focus on continuous learning and being able to readily apply new best knowledge to improve the delivery and organisation of health services including review/update of Policies.

Review of current best practice and evidence based literature. Driving innovation and learning at the local level through knowledge transfer and the translation of evidence to everyday practice in an effective and pragmatic manner.

Improved inter-professional learning across the health professions in meeting the needs of the dying. Increased capacity for developing interdisciplinary teamwork; improving collaboration between the professions and the patient and family; increasing the workforce skill mix; and supporting innovative work practices.

Dissemination of innovation and evidence of the EOLC Pathway to the coalface effected real improvements in the end of life stage.

End of Life Care Committee to act as Champions – assess needs of staff, use of Pathway and Audit patient histories.

**Innovation in Practice and Process**

The EOLC Pathway has demonstrated improved care and support to the patient and families through commitment to improving service delivery partnerships and new educational opportunity for nurses. The Pathway empowers families at a significant time in life and minimises potential for complicated grief for families.

**Applicability to Other Settings**

This EOLC Pathway has the potential to improve care of the dying person as well as the relationships between clinicians and medics, in any setting where carers / families are at the bedside of the dying person. The EOLC Pathway is applicable to the home, hospital or residential aged care setting.
Project Title
EFFECTIVENESS OF A HOME-BASED PULMONARY REHABILITATION PROGRAM (PRP) IN PATIENTS WITH COPD WHO ARE UNABLE TO ATTEND A HOSPITAL-BASED PULMONARY REHABILITATION PROGRAM: A RETROSPECTIVE REVIEW

Name of EQuIP Member Organisation
LIVERPOOL HOSPITAL
SYDNEY SOUTH WEST LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
PHYSIOTHERAPY DEPARTMENT

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Aim
To assess the effectiveness of a semi-supervised Home-Based PRP in improving exercise capacity and quality of life in patients with COPD who are unable to attend hospital-based programs.

Abstract

Background: Pulmonary Rehabilitation Program (PRP) has been shown to be one of the most effective interventions for Chronic Obstructive Pulmonary Disease (COPD). However there are several barriers including access, illness severity and lack of perceived need, which has limited participation. To overcome some of these barriers a Home-Based PRP was offered to patients who were unable to attend the Hospital-Based PRP from January 2009.

Aim: To assess the effectiveness of a semi-supervised Home-Based PRP in improving exercise capacity and quality of life in patients with COPD who are unable to attend the Hospital-Based PRP.

Methods: A retrospective review of the patients recruited to the Home-Based PRP at Liverpool Hospital between January 2009 and November 2010. The 6-Minute Walk Test (MWT) and St George Respiratory Questionnaire (SGRQ) were used as outcome measures and data analysed using the Paired T-Test to assess the within subject difference.

Results: 87 patients were enrolled into the Home-Based PRP, 67 of who met the inclusion criteria. At post-program review 6MWT improved by 37.6m P<0.001 (53% meeting the 6MWT Key Performance Indicator) and SGRQ improved by 10.5% P=0.003. At 12-months post-program the effects of 6MWT and SGRQ was less than baseline though not in the Minimal Important Difference (MID) range.

Conclusions: A Home-Based PRP can be a suitable alternative for patients who are unable to attend a Hospital-Based PRP.

Application of EQuIP Principles
Consumer / Patient Focus
This project aims to improve access and provide an effective Home-Based PRP to patients with COPD who are unable to attend the Hospital-Based PRP. Pulmonary rehabilitation is one of the most effective interventions for COPD (ATS, 1999).
However, only approximately one percent of people with COPD receive pulmonary rehabilitation services in Australia. A previous audit of the Hospital-Based PRP showed that following completion of PRP, the annual rate of hospital encounters significantly reduced by 62% (P<0.01) and the annual number of bed-days significantly reduced by 66% (P<0.01).

This audit also showed that over 40% of all patients referred to the PRP are either too unwell or unable to get to the PRP due to parking or transport issues.

A Home-Based PRP, designed to operate within existing resources to ensure sustainability, commenced in January 2009 to overcome these barriers.

Patient feedback to date has been very positive.

**Effective Leadership**

A Home-Based PRP was commenced following a literature review and consultations were conducted between the physiotherapy and respiratory department to review possible solutions to overcome barriers.

Multi-disciplinary team Home-Based PRP was utilised when needs arose (ie smoking cessation, coping issues, energy conservations, safe swallowing issues, etc)

**Continuous Improvement**

Identifying the problem

It is well documented in various literature that less than one percent of all patients with COPD receive Pulmonary Rehabilitation services in Australia.

Extent of the problem

A previous audit between 2007 and 2008 showed that 36% of patients refused to enroll into the Hospital-Based PRP; and only 36% continued on to complete the Hospital-Based PRP.

The top 3 reasons for non-attendance and completions being: patients not interested, transport or parking issues, and or patients are too unwell.

Possible Solutions

Possible solutions to overcome these barriers discussed includes: Subsidised parking; Taxi vouchers; Hospital transport; and Home-Based Pulmonary Rehabilitation Program. Problems with the first 3 possible solutions include: No budget or funding are available to provide taxi vouchers and subsidised parking; Portable oxygen are not subsidised for patients requiring oxygen 24hrs/day and those who can afford portable oxygen are not permitted; Oxygen cylinders not permitted on public transport; For those who can access transport to the gym, are required to walk more than 200m to get to the gym.

Home-Based PRP was the most viable option as it could be implemented utilising existing resources.

**Implementation**

An outline of the Home-Based PRP was written in consultation between the physiotherapy and respiratory department. The program would consist of a number of meeting points: Initial assessment; mid program review at 1 month; post program review at 2 months; and then a 3, 6, and 12 months post program follow-up. Patient evaluation surveys were given to all patients at the post program follow-up. Feedback was taken on board for continuous improvement.

**Preparation for Implementation**

The Home-Based PRP is based on Hospital-Based PRP.

No additional resources were required to implement:

- Education booklet and exercise program were amended to ensure both the Hospital and Home Based Pulmonary Rehabilitation Program are similar;
- Assessment points are offered either in the hospital or at the patient's home.
- Car already available for booking through general services;
• Assessment tools required (spirometer, pulse-oximeter, tape measure, stop watch) already available with the Hospital-Based PRP;
• No additional staffing required to ensure sustainability of the program should we achieve positive outcome.

Evidence of Outcomes
87 patients were enrolled in the Home-Based PRP, 67 patients met the inclusion criteria. At post-program, 6MWT improved 36.7m (Minimal Important Difference (MID) =35m) and SGRQ improved 9.5% (MID=4%).

At 12-months results were less than baseline although not within the MID.

KPI comparison between Home and Hospital PRP demonstrated comparable outcome: 53% and 48% respectively met the KPI.

Home-Based PRP can improve exercise capacity and quality of life therefore helps overcome barriers such as parking, transport, and severity of disease.

Striving for Best Practice
Ongoing evaluations are made through outcomes (6MWT and SGRQ) and patient evaluation surveys. Results of evaluation and patient feedback provided information to drive change and quality of care, delivered in collaboration with the team, outcome and patient feedback. Referral and uptakes consistently increased over the last 4-5 years.

The project outcomes support the target of NSW plan 2021 relating to keeping people healthy and out of hospital by improving the way certain conditions are managed in a community setting. Since the commencement of the Home-Based PRP, we have been able to more than double the monthly average number of clients.

Innovation in Practice And Process
Liverpool Hospital is the only hospital in the Sydney South West Local Health District to offer this Home-Based PRP. This program is unique as it combines the essential components of our Hospital-Based PRP with the functionality of being able to conduct this in the home setting. Patients are provided education and health coaching with a focus on self-management. Home-Based PRP have equipped patients with knowledge and confidence to do more exercise therefore improving their health and fitness, slowing progression of their disease and preventing avoidable admissions through earlier detection of exacerbations.

Applicability to Other Settings
This model of basic education on self-management and gentle exercise could easily be adopted by other chronic diseases programs (such as cardiac failure and diabetes) and especially in the rural setting to make a real life impact in patient confidence, maintaining function and independence, and ability to detect and treat exacerbations earlier thus preventing avoidable admissions and therefore health care costs.

The result of this project was presented at the 2011 Ingham Showcase and the SWSLHD Pulmonary Rehabilitation Network Group. This project has also been accepted for poster presentation at the European Respiratory Congress 2012 in Vienna September 2012.

A discussion paper is being written up for publishing in a respiratory journal with a view to conducting a randomised control trial in the future. Feedback from the network group and from the discussion paper will be taken on board for consideration towards future trials and quality improvement.

References
Project Title
RENEW – IMPROVING THE HEALTH CARE EXPERIENCE FOR RENAL PATIENTS PLANNING FOR DIALYSIS

Name of EQuIP Member Organisation
LIVERPOOL HOSPITAL
SOUTH WESTERN SYDNEY LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
RENAL SERVICES

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Aim
To improve the journey of patients with Chronic Kidney Disease from the point of referral to the Renal Team, increasing coordination and collaboration between the multidisciplinary arms of the health care team.

Abstract
In March 2011 a Renal Redesign Project (RENEW) was undertaken to assess the pre-dialysis phase of a patient’s journey in the South Western Sydney Local Health District Renal Service. The project was conducted within the Redesign methodology, involving clear project phases, end dates and deliverables. In October 2011 Implementation Phase of the project commenced with majority of Stage 1 solutions being completed within the specified timeframe and with early indication of positive outcomes. The initial 6 months of implementation has resulted in increasing the coordination of patient care and the uptake of patients on home therapies, reduce occupancy in the acute dialysis unit, prevented avoidable admissions and increased support to patients at home. It also resulted in avoidable expenditure of over $280,500 in 6 months.

Application of EQuIP Principles
Consumer / Patient Focus
End Stage Renal Failure (ESRF) has been highlighted as an increasing public health problem in Australia with renal replacement therapy being one of two treatment options (the other being renal transplantation). There are a number of treatment modalities available for renal replacement therapy. Incentre Haemodialysis, Satellite Haemodialysis, Home Haemodialysis and Peritoneal Dialysis (both at home and in a nursing home based environment). Home dialysis modalities are under represented in the South Western Sydney Local Health District with less than 43% of patients utilising this service. This form of therapy has proven lifestyle and survival outcome advantages for patients, however the reasons behind why this modality is under represented is complex and results in many patients who are able to self manage their treatment, dialysing in hospital based treatment facilities which have reduced survival rates, and less autonomy for the patient to manage their own health care.

Effective Leadership
RENEW continues to maintain a strong Governance Structure with the Implementation Committee Meetings chaired by the Operational Sponsor and committed leadership within the Project Team. Change champion’s consisting of medical, nursing, allied health and administrative staff has ensured
commitment and leadership to the change direct from the renal service. A strong patient/consumer focus through interviews and surveys has provided insight into the renal health care service delivery.

Continuous Improvement
The project has improved co-ordination and collaboration between the multidisciplinary arms of the health care team, developing new or enhancing existing key performance indicators and accountabilities enabling formal and informal in house evaluation to continually improve service performance and processes. Follow up patient satisfaction surveys have also been implemented to provide feedback to improve service delivery and future service directions. The results of the project have the potential to create greater opportunities for enhanced patient care, modality planning, and empowering patients towards self-management of their health care.

Evidence of Outcomes
(1) Revised case management model resulting in:
- Increased the rate of pre dialysis patients planned for home therapy from 19% to 26% in 6 months.
- Patients educated earlier which allowed for better self-management and empowerment.
- Case Manager Surveillance managed two patients on community dialysis who would otherwise have suffered acute deterioration, and identified. Five patients to commence on Home Therapy directly by negotiating a revised dialysis plan.
- Reduction in number of pre dialysis patient waiting education from 49% to 38%.

(2) Renal eMR developed and piloted in December 2011.
- 4 weeks after ‘go live’ staff described the eMR as ‘easy to use’, ‘all the information is right there’ and ‘doctors have access to full, current dialysis information when they are reviewing the patient’.
- Resulted in an immediate positive impact on communication and patient safety.

(3) Home Therapies solutions have seen:
- Previous decline in Home Peritoneal Dialysis numbers arrested and reversed, with a 13% (21 patient) increase since July 2011 (Graph 1), saving of $262,500 in 6 months for the health system.
- Increase home visiting by experienced nurses, saved patients out of pocket expenses and travel time associated to clinics attendance in the hospital.
- Ten visits to haemodialysis patients at home troubleshooting issues - prevented hospitalisation and/or clinic admission, saving of $18,000 in 6 months.

Striving for Best Practice
The implementation of the RENEW redesign process has:
- Optimised management of pre-dialysis patients as patients are managed by an individualised care plan/dialysis initiation pathway.
- Reversed the trend of decrease in peritoneal dialysis and increased the uptake of both home therapies in the dialysis population of the South Western Sydney Local Health District.
- Reduced the number of preventable admissions due to the home visit and troubleshooting nurse service.
- Improved pre-dialysis patient education providing appropriate education in all modalities resulting in greater patient autonomy and empowerment in the management of their health care.

Innovation in Practice and Process
The RENEW project is unique and original with no other project of its kind being undertaken within Australia. This project contributes to International studies developing new insights into the influence integrated care pathways have on modality planning and the empowering of patients towards self-management of their chronic kidney disease. Early outcome data have demonstrated how redesigning existing resources and processes improve quality and efficiency whilst challenging and breaking down traditional perceptions of facility based dialysis treatment versus home dialysis treatments.
Applicability to Other Settings
While hospitals face challenges of increased demand, the model developed and implemented by Renal Service provides direction to meet these challenges and provide a real life impact on patients and capacity of the health system. Our model and the resources developed by our project can easily be adopted by other renal service providers. The success of this program is attributable to the dedicated clinical and governing leadership and the provision of realistic clinical support via redesign of current service. The continuance of the Renal Case Manager and Trouble Shooting Nurse reflects their sustained commitment to maintenance of change. It has been demonstrated that this model of care, can, by bridging the knowledge/practice gap, be replicated to produce sustainable improved clinical and financial outcomes, improving quality of care, patient safety and efficiency.
Project Title
THERAPY ACTIVITY GROUP

Name of EQuIP Member Organisation
LOURDES HOSPITAL AND COMMUNITY HEALTH SERVICE, NSW

Department, Unit, Service or Group submitting the project
ALLIED HEALTH

Author/s  Position Title
Genevieve Menzies  Quality Coordinator
Kaylene Green  Manager, Nursing & Inpatient Services

Aim
For the patients to engage in therapy based activities in a communal, safe and fun environment and in doing so experience a variety of therapy related activities that can be mimicked on the ward by staff, patients and visitors and volunteers.

Abstract
It was identified that patients at Lourdes spend considerable time inactive. This is in line with current research however it was thought that by looking at it from a multidisciplinary approach activities could be designed for patients on the ward. A working party was formed and an eight week program developed with each discipline taking a different week and organising the event.

Application of EQuIP Principles
Consumer / Patient Focus
1. Understanding the needs and expectations of present and potential consumers / patients.
2. Evaluating the service from the consumer / patient perspective.
3. Ensuring consumers / patients are the priority.

Effective Leadership
1. Inspiring and motivating the workforce and encouraging employees to contribute, develop and learn.
2. Pursuing the ongoing development of strategies, systems and methods for achieving excellence.
3. Considering proposals that are innovative and creative.

Continuous Improvement
1. Looking for ways to improve as an essential part of everyday practice by demonstrating to patients that therapy activity could be incorporated into everyday leisure activities.
2. Consistently achieving and maintaining quality care that meets consumer / patient needs
3. Monitoring outcomes in consumer / patient care and seeking opportunities to improve both the care and its results-

Evidence of Outcomes
1. Providing critical data and information about key processes, outputs and results
2. Reflecting those factors that lead to improved health and/or quality of life for consumers /patients or to better operational performance

Striving for Best Practice
1. Discovering new techniques and technologies, and using them to achieve world-class performance
2. Improving consumer / patient satisfaction and outcomes
3. Learning from others to increase the efficiency and effectiveness of processes
Innovation in Practice and Process
There was little identified research to suggest multidisciplinary therapy activity groups existed. Many group therapy activities are done as stand alone activities for each allied health department for example circuit training in the gym with the physiotherapy team. This project was unique because it involved all departments in the planning and implementation of the project including:

- Speech Therapy
- Physiotherapy
- Occupational Therapy
- Divisional Therapy and
- Nursing

Applicability to Other Settings
Patient Activity Group Therapy is definitely applicable to other rehabilitation setting and worthy of consideration as many rehabilitation facilities recognize the amount of idle time patients have this is well documented in research.
Project Title
TRANSFER OF CARE

Name of EQuIP Member Organisation
LOURDES HOSPITAL AND COMMUNITY HEALTH SERVICE, NSW

Department, Unit, Service or Group submitting the project
INPATIENT SERVICES

Author/s | Position Title
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Kaylene Green | Manager, Nursing and Inpatient Services
Caroline Squires | Nurse Unit Manager

Aim
To identify a comprehensive strategy for implementation of transfer of care from admission through to discharge.

Abstract
Clinical handover is now conducted at the bedside. Nursing staff use a proforma that includes the SBAR acronym.

- In September 2011 a My Discharge Planning checklist was introduced for patients to complete as they planned for their discharge.
- All patients and their GP’s receive a discharge summary.
- In October 2011 discharge phone calls re commenced with a scripted proforma for completion by the discharge planner 72 hours after discharge.
- A Standard of Practice has been developed and approved for use, with consultation by the Clinical Care Committee and Continuous Improvement Committee.
- Discharge education information is individualised for patients and includes information about exercises for continued rehabilitation.

Application of EQuIP Principles
1.1.5 Process for clinical handover, transfer of care and discharge address the needs of the consumer/patient for on-going care.

Consumer / Patient Focus
Transfer of care is a patient focused program which assists patients to identify needs and obstacles for discharge, developing the most mutually acceptable solutions to these problems to enable seamless discharge planning.

Effective Leadership
Management facilitated consultation and discussion between all key stakeholders in relation to the change in practice. Education was provided and discussions and the opportunity to comment on draft documents were held at the clinical care meeting. All comments were debated and recorded in the minutes of this meeting.

Continuous Improvement
1. Clinical Handover is now conducted at the bedside.
2. Patient Satisfaction surveys have been updated and now allow the patients to rate the environment in which the care is received.
3. A Booklet have been developed called Planning Your Discharge
4. A process for phoning patients who have been discharged gathering information about the process and any of their concerns has been introduced. A Standard of Practice CLIN005 Follow Up Phone Calls Post Discharge has been written along with a Form for recording information and prompting staff who make the calls.
Evidence of Outcomes
1. Patient Satisfaction Surveys.
2. Follow up Phone Calls 72 hours after discharge.
3. Feedback from external agencies.

Striving for Best Practice
Lourdes continues to participate in both state and national data entry such as Palliative Care Outcomes Centre (PCOC) and Australasian Rehabilitation Outcomes Centre (AROC).

Innovation in Practice and Process
A collaborative consultative method was used in the change management process to put in place the Transfer of Care guidelines using a continuous improvement model.

Applicability to Other Settings
There is relevance to all inpatient health care providers and Transfer of Care is mandated in NSW by the Ministry of Health.
RESULTS ACKNOWLEDGEMENT: IT ENABLED CARE TRANSFORMATION

MATER MISERICORDiae HEALTH SERVICES, BRISBANE, QLD

INFORMATION & INFRASTRUCTURE DIVISION, MATER HEALTH SERVICES

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Aim
To overcome the risk to patient safety from missed pathology and radiology test results by introducing a technical solution to ensure clinicians receive and acknowledge results in a timely manner.

Abstract
Clinical staff at Mater Health Services (MHS) recognised that a risk to patient safety was present due to the potential for missed or unacknowledged pathology and radiology test results. This is an all-too-common risk in the Australian Healthcare system and Mater is not immune from this risk.

When the Mater Electronic Health Record (EHR) Program submitted a business case to enable the organisation to achieve an electronic health record, it was the clinical impact on patient outcomes that resulted in the commitment of significant resources to build a Results Acknowledgement (RA) solution. MHS selected a clinical portal solution (Verdi) to commence this journey and the RA function was built within this framework. The clinical portal solution enabled a clinician to view a broad selection of clinical and administrative patient information available from the varied clinical databases at MHS via a single sign-on.

The RA development piece delivered:

- A tick box under the test report to enable acknowledgment
- An ‘Unacknowledged Test’ list that shows outstanding results to be acknowledged. This can be filtered by the clinical team, Consultant or Ordering Clinician
- An alert on the patient record to indicate that there are unacknowledged results over 3 days old
- An electronic test request form – which enables mandatory capture of the key data elements upon which the RA solution depends. This replaced the paper request process.

The RA solution also incorporated a Governance model that triggers an email/pager to senior clinicians when results for their unit have exceeded appropriate management timeframes. To quote our Project Advocate, Dr Geoffrey Hirst (Director Urology Services, MHS; Clinical Advisor EHR Program):

“The governance structure is vitally important for the success of a project like this. While doctors will adopt change that is seen as clinically valuable they also need to know that someone is ’watching’.”

By the end of 2011 the project team had deployed RA to two of the facilities on the MHS campus – the Mater Adult’s Hospital and Mater Mothers’ Hospitals. This comprised 3100 clinical staff across Public and Private services in both hospitals.

The rollout of RA to clinical staff was successful as the solution demonstrates that there is now a robust system to ensure that test results do not fall through the cracks and potentially jeopardise patient safety. Other benefits include efficiencies gained by pathology and radiology services from complete and legible request forms.
In terms of outcomes, we have come from a position of having zero technical capability to manage and acknowledge results to having a robust system in which clinicians acknowledge 93% of results within 3 working days of being reported.

**Application of EQuIP Principles**

**Consumer / Patient Focus**

Mater is an acute care, tertiary referral health service with 1029 beds across hospitals for Adults (MAH), Children (MCH) and Maternity patients (MMH). It is estimated that over 1000 test requests are generated every day. Senior clinicians recognised that there was a lack of a clear policy or direction which ensured that all test results were acknowledged. Results were reported both in paper reports and electronically, however, there were no reminders or alerts built in to the system to prompt clinicians to follow up results, enable them to view their list of requests or acknowledge results. This was a risk to patient safety as poor test follow-up is one of the major processes contributing to unsafe patient care, the potential impact of which is adverse patient outcomes with the associated medico legal implications (Callen 2011).

This risk was particularly concerning as quantifying the extent and impact of results which are missed would be extremely problematic: The risk to patients was therefore a ‘known unknown’. This perceived risk provided the trigger for the Mater to create a technical solution to ensure that all results were acknowledged and the potential risk to patient safety minimised.

**Effective Leadership**

From the early project initiation stage there has been a very focused approach, driven by the MHS Executive, on delivering a solution for Results Acknowledgement. The potential safety benefits for patients were clear which has resulted in visible clinical buy-in and commitment. To quote our CEO, Dr John O’Donnell:

“We didn’t need to sell Verdi and Results Acknowledgement to staff. It was clear that there was a problem to be solved and this was the solution to that problem”

The introduction of formal Change Management Methodology introduced key project positions that allowed an innovative approach to project leadership. The three key positions that enabled a successful project were:

1. **Project Sponsor**
   This was an MHS Executive Clinical Director. This person chaired the Project Steering Committee and provided clear direction regarding project priorities.

2. **Project Advocates**
   These were Senior Clinical Division Directors. All had a current clinical practice and were crucial for inspiring and motivating the clinical workforce and encouraging employees to contribute, develop and learn.

3. **Project Champions**
   These were MHS staff who had been specially trained in Verdi and RA and were located ‘on the floor’ in the business across all streams of activity eg, Medical, Nursing, Allied Health, Pharmacy, Administration.

These roles were complemented by an IT project team who worked alongside clinicians to build, test and deploy the RA solution. The innovation was enabled by MHS clinicians working hand in hand with the project team to focus on achievement of the business goal to improve patient safety. Our clinicians did not see this as an ‘IT project’ but rather a clinical workflow transformation, enabled by IT. A picture of the Verdi team is included in Appendix 1 (provided to ACHS in the full submission).
Continuous Improvement

Once the first version of the clinical portal, which included an early RA model, was complete, the project team coordinated pilots in the Mothers’ Hospital and in the Respiratory Unit of the Adult’s Hospital. The primary purpose of the pilots was to:

1. Demonstrate to clinicians that the RA functionality would decrease the risk to patient safety of missed results;
2. Test the day to day operation of the technology with clinicians and
3. Obtain feedback to be incorporated into the final solution.

The initial reaction to RA was cautiously supportive; many enhancements were suggested by clinicians which were incorporated into the final build. However, the pilots demonstrated that the system was not ready to deliver upon the goal of enhancing patient safety. Project staff realised that to reach this goal, the Mater would also have to replace paper order pads with an electronic method of requesting tests. This was because the reliance on paper:

1. Contributed to errors due to poor hand writing
2. Enabled incomplete forms as doctors would often complete the bare minimum of information on the forms
3. Created uncertainty about which doctor had made the order if the signature could not be deciphered
4. Enabled a lack of accountability for the test result as fields for ‘ordering clinician’ and ‘ordering team’ were often absent or inaccurately completed.

The project team realised that an Electronic Request Form (ERF) would overcome these problems by mandating that all essential fields were complete and that ordering clinician information and team could be pre-filled based on the doctor’s single login.

Replacing paper order pads with ERF was a very challenging change management exercise. Paper pads were convenient and an entrenched work practice. However, the importance of making this change was pivotal to the success of implementing RA. The Project Sponsor provided clear leadership to clinicians by demonstrating that ERF was a fundamental enabler to RA which meant that the change process gathered significant momentum in the hospitals.

This project used the Pilot approach both to test the electronic request form development and the technical results acknowledgement solution in the clinical portal. In both cases feedback from the users provided an opportunity to improve the solution, re-trial and then deploy.

This approach was critical in determining that the software solution was a ‘good fit’ for the organisation, and in gaining knowledge around organisational and clinician readiness for the change.

Continuous improvement continues post project deployment with Verdi users having many avenues available for requesting improvements to any component the clinical portal. There is a quarterly update schedule in which these new enhancements are prioritised and released. To quote Project Sponsor Dr Mark Waters (Executive Director, MMH, MCH and MAH):

“We don’t have to force them (clinicians) to accept new enhancements to Verdi, in fact, the Doctors tell us what they want next!”

For more detail regarding the ERF and RA process, please consult Appendix 2.

Evidence of Outcomes

The first goal of the project team was to implement the new electronic request form. The following graphs demonstrate that uptake of ERF was swift and continued to grow from initiation.

Once ERF was introduced to the hospitals RA soon followed. The move to RA went from a baseline to zero to over 30,000 results acknowledged per month by end June 2012.
Clinicians often comment on how easy Verdi is to access and navigate around. In addition, many clinicians prefer the ERF in Verdi to paper for ease of use and for saving time. This is because clinicians can create their own “favorite” test lists and run custom lists such as ‘tests ordered’ and ‘unacknowledged test results’ which helps gives them peace of mind that a test will not fall through the cracks. For screen shots of how Verdi and RA works in practice, please consult Appendix 3. The acceptance of Verdi and RA is in line with evidence from the United States which shows that over 90% of physicians considered an automated system to track results would be useful (Murff 2003).

The focus of the Verdi/RA project has always firmly been on patient safety. However, other benefits have also come to light:

- The cost of MHS’s indemnity insurance has decreased by 75% from year 2000 to 2012. Our insurers have viewed Verdi and RA in action at the hospital which was one significant factor in the reduction in premiums
- An enhanced ability to match the correct pathology/radiology result to the correct patient. This means results are far less likely to be reported against the incorrect patient
- A reduction in printing paper and filing information into the patient record. Pathology and radiology results are no longer printed and filed as they can be viewed in Verdi
- Improved security of clinical information via tools such as the audit trail, an absence of generic logons and specific role profiles for Administrative vs Clinical access
- The ability for results for Mater patients from external pathology and imaging companies to be shared with the Mater
- The ability to analyse and interpret hospital wide ordering practices, the costs of tests and where efficiencies may be gained
- Improved Medicare billing practices for pathology and radiology due to the implementation of a standard Medicare compliant test request form with mandatory fields

Striving for Best Practice
The World Health Organisation’s World Alliance for Patient Safety has identified that rates of test follow up remain suboptimal across the globe resulting in serious lapses in patient care (WHO 2008). WHO recommends that Health Information Technology, such as automated systems to track results, can provide solutions to this problem. Mater believes it has met the challenge set by WHO by demonstrating that it is possible to address lapses in patient care through information technology solutions.

At present, there are no best practice guidelines in Australia for the use of Results Acknowledgement, EHR or even eHealth. To address this, Mater has commenced collaboration with the Centre for Health Systems and Safety Research at the University of New South Wales. The aim of this collaboration is to illustrate how RA impacts patient outcomes and the key benchmarks within Mater’s system which enable these outcomes. This will position Mater as a leader in the field of Results Acknowledgement and in the unique position of creating benchmarks and best practice for other hospitals to follow.

Innovation in Practice and Process
The final RA build incorporated an innovative process for escalating alerts to senior clinicians if results have not been acknowledged for their Unit within appropriate time frames. The MHS standard is for results to be acknowledged within three working days. As each unacknowledged day passes, alerts are first sent to the Unit’s Registrar and by Day 10 the Director of the Division (who is also a Project Advocate) is notified which clinical unit is aberrant in managing their results, a process most Registrars would prefer not to occur! To quote Project Advocate Dr Simon Bowler (Director of Medicine, MAH):

“In reality, very little stick gets used”

A further innovation is that the Mothers’ Hospital decided to have an extra field in RA which prompts clinicians to record the ‘action’ taken as a result of acknowledging the result and allowed midwives to ‘escalate’ an abnormal or concerning result to the Registrar of the clinical team.
The RA system at the Mater is unique in its ability to provide a customisable tool to busy clinicians who are continuously striving to achieve the best outcomes for their patients. RA not only prevents results falling through the cracks; it reinforces a strong governance and safety culture at the Mater which is a benefit to clinicians, patients and their families.

**Applicability to Other Settings**

Many hospitals both in Australia and internationally are currently attempting to transform their ICT infrastructure to accommodate an approach to an electronic health records (EHR). However, the introduction of comprehensive EHR systems into hospitals in Australia is fraught with difficulty and real life examples of successful implementations of EHR in the hospital setting are limited. Our experience at the Mater demonstrates several lessons which may help other hospitals with their own EHR journey:

1. The need to focus benefits messages on real patient outcomes
2. The importance of strong clinical governance that actively supports a change in medical culture
3. The importance of tailoring IT to fit with existing workflows, not vice versa.
4. A formal change management methodology backed by a dedicated change team.

Most importantly, it is possible to achieve what was previously thought ‘impossible’ by partnering with clinicians and crafting the technology to enhance patient safety.
**Project Title**
HARDWIRING EXCELLENCE AND CUSTOMER SERVICE

**Name of EQuIP Member Organisation**
THE MATER HOSPITAL, NSW

**Department, Unit, Service or Group submitting the project**
QUALITY AND RISK DEPARTMENT

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**Aim**
The aim of the Hardwiring Excellence project at the Mater is to improve patient safety, patient family and carers satisfaction and staff engagement and satisfaction.

**Abstract**
The Mater is focused on providing a high standard of care and services resulting in excellent patient outcomes. The Mater had a history of inconsistent patient satisfaction results and increasing falls. The hospital executives are committed to improving and maintaining consistency in our results. In partnership with the Studer group the Mater began a journey to improve patient satisfaction and safety. Hardwiring Excellence is typically implemented with a focus on two key areas:

- Hardwiring Clinical and Service Excellence – effectively and consistently meeting the needs of customers so that they have positive, professional and caring experiences.
- Hardwiring Cultural Excellence – Lifting outcomes through accountability, engagement and performance management.

Some of the initiatives implemented as part of our commitment to clinical excellence include: Manager rounding on patients and staff, hourly patient rounding, individualised patient whiteboards and bedside clinical handover. From September 2011 six wards have implemented the project, with positive results in patient satisfaction and safety. The results focus on patient centred care, some of the questions included from Press Ganey are: nurses include you in decision making and extent to which nurses kept you informed. The project is based on a model of care which focuses primarily on consistent communication across the organisation.

Since implementation of Hardwiring overall falls have decreased from 0.42 per 1000 bed days in September 2011 to 0.10 per 1000 bed days in May 2012. Patient satisfaction has increased as shown in our Press Ganey results and there has been an improvement in our percentile rankings (benchmarked against 25 private hospitals of similar size) in all nursing care questions. During the implementation we have seen positive feedback from both VMOs and patients.

The success of this innovative project and its sustainability involve consistency of communication between all areas of the organisation. Our key message to our patients, families and carers is that they are important to us and we care about their health and safety and encourage their active participation in their care.

**Application of EQuIP Principles**
**Consumer / Patient Focus**
The Hardwiring project focuses on individualised patient care and involvement of patients, carers and their families. Each inpatient has a temporary white board in their rooms. These care boards are used as a communication tool for the patients and their families. Communication is the key to ensuring patients satisfaction and safety.
Effective Leadership
The effectiveness of Hardwiring Excellence is based on commitment from our senior leaders. The Mater has shown commitment to the success of the project by the appointment of a Hardwiring Project Coordinator in Oct 2011. All Operational Managers were involved in the successful implementation and ongoing success of the project. Operational managers supported mandatory attendance by all staff at one 2hour clinical training session or a 1 hour non-clinical session, prior to the commencement.

Continuous Improvement
Prior to the commencement of the project patient satisfaction results and falls were reviewed. Since the introduction of the project monthly patient satisfaction results of Nursing Care are reviewed and the quarterly results disseminated to all areas and action plans put in place for any areas of concern. Monthly falls data is reviewed and disseminated to Managers and nursing staff. One of the changes as a result of the project is that all results are disseminated to all staff not just Managers as had been the practice previously. Score boards are in each clinical area and results displayed for both patients and staff to see. Transparency of results is an important factor to ensure ongoing success of the program.

Evidence of Outcomes
The Mater has proven results of patient satisfaction and safety with a decrease in falls since the introduction of the tools in the first ward in September 2011. This project is ongoing and results will be closely monitored. Overall falls have decreased from 0.42 per 1000 bed days in September 2011 to 0.0010 per 1000 bed days in June 2012. Overall patient satisfaction with nursing care has increased from a mean score of 87.0 in April June 2011 to 89.7 in April – June 2012. Percentile rankings for nursing care have improved overall in the first quarter 2012.

Patient satisfaction for non-clinical areas is measured through Press Ganey and patient feedback/complaints. We have seen improvements in Courtesy of Non clinical areas since the introduction of the AIDET communication tool.

Striving for Best Practice
The Mater partnered with Studer group to implement the Hardwiring Excellence Program. The Studer Group is one of the world’s leading healthcare cultural change and organisational improvement organisations.

Innovation in Practice and Process
The Hardwiring Excellence program includes four clinical tools that have proven to make a significant impact on patient safety and satisfaction. Monthly and quarterly results are used to evaluate and drive changes where necessary to ensure consistent results are achieved. This project involves staff across all disciplines ensuring are patients’ are kept safe at all times.

Applicability to Other Settings
The program could be implemented in other health care facility worldwide. We have had interest from other facilities within St Vincents Mater Health Australia about the introduction of some or all of the tools.
Project Title
IMPROVING TRIAGE OF PREGNANT WOMEN IN THE EMERGENCY DEPARTMENT

Name of EQuIP Member Organisation
MERCY HOSPITAL FOR WOMEN, VIC

Department, Unit, Service or Group submitting the project
EMERGENCY DEPARTMENT

Author/s                              Position Title
Mary McCarthy                      Nursing & Midwifery Unit Manager, Emergency Department, Mercy Hospital for Women

Aim
The aim of this quality improvement activity was to improve triage for pregnant women who present to Emergency Departments with specified obstetric problems, by implementing condition specific triage decision aid algorithms and a triage education program, and consequently improving outcomes for pregnant women.

Abstract
Application of the Australasian Triage Scale to pregnant women attending Emergency Departments is difficult as the descriptors may not reflect the urgency of the obstetric condition. Knowledge of physiological changes in pregnancy and signs and symptoms of obstetric complications is required to accurately assess these women, and determine clinical urgency for assessment and treatment.

A quality improvement activity was conducted for two common presentations, preeclampsia and antepartum haemorrhage, to examine whether condition-specific algorithms with a decision aid and triage education, improved triage assessment and documentation of pregnant women presenting to the emergency department. The activity consisted of the development of triage decision aids and audit tools and ED midwives received education on triage and conducted audits on triage events as a learning activity. Pre and post-audits of 50 consecutive presentations of women with each condition (total of 200 triage events) were done to evaluate the impact of the quality improvement activities on triage assessment and documentation.

The introduction of triage education and condition-specific algorithms markedly improved triage assessment and documentation. The quality of documentation of specific clinically significant symptoms of preeclampsia improved considerably including the presence of headache, visual disturbances, epigastric pain and the presence of fetal movements. Documentation of descriptors for ante-partum haemorrhage improved for estimation of blood loss, patient “appearance” and importantly, descriptions of patient’s own assessment of their wellbeing.

Further development of this project included the incorporation of the triage decision aid algorithm and automatic allocation of the triage score according to the symptom, into the Emergency Department Information System (EDIS) software. The application of the decision aid used in triage may reduce the clinical risk resulting from the sub optimal triage of pregnant women who present to emergency departments. The triage decision-aid could be used as a tool by general ED nurses to improve the consistency of triage assessment of a pregnant woman presenting to a general ED with vaginal bleeding in the second half of pregnancy for example.
Application of EQuiP Principles
Consumer / Patient Focus
- Patients presenting to an Emergency Department (ED) expect to be assessed by a Medical Officer in a timely manner.
- Triage nurses allocate a triage category based on a 2-3 minute survey of the patient, i.e. evaluation of the presenting problem and nursing assessment, with the triage category dictating how quickly a patient is assessed and treated by medical staff in the ED.
- The Australasian Triage Scale (ATS) is utilised in all Australian EDs, however, it was not developed with pregnant women in mind, and some elements of the ATS do not match the triage needs of the pregnant woman.
- It is well recognised that there are problems with consistency of triage of pregnant women, and that triage of this group exposes women to higher clinical risk.
- Effective, safe treatment and improved wellbeing of the woman and fetus is the motivation to improve triage processes.
- This study found that even experienced midwives could improve their triage assessment using this method and the application of the algorithms may reduce the clinical risk resulting from sub-optimal triage of pregnant women who present at Emergency Departments.
- The resulting improvement in triage assessment of pregnant woman has become part of the standard treatment for women who present at the MHW ED with either of these conditions.

Effective Leadership
- The Mercy Hospital for Women (MHW) is a tertiary maternity hospital in Melbourne, Australia.
- Innovation is one of Mercy Health's six organisation values – we strive to create a dynamic environment which encourages creativity and diversity and we:
  - Embrace change as an opportunity for renewal and improvement;
  - Seek opportunities to try new ideas and acknowledge people for their contribution;
  - Focus on present and future actions.
- MHW is dedicated to achieving advances to patient care by research with staff supported by the Midwifery Professorial Unit; a collaboration between La Trobe University and Mercy Hospital for Women.
- The MHW ED caters for approximately 15,000 women per annum – the majority of women present with pregnancy-related problems. The staffing profile of the ED comprises registered midwives/nurses, and obstetric and gynaecology medical trainees.
- It is widely known that pregnant women presenting to emergency departments pose specific challenges to the triage nurse. Knowledge of the physiological adaptations of pregnancy and signs and symptoms of obstetric complications are required to accurately assess these women and determine clinical urgency for assessment and treatment. There have been examples of adverse outcomes for pregnant women who have presented to Emergency Departments both in the UK and Australia due to a lack of understanding of the physiology of pregnancy and a failure to recognise the severity of a problem. The adverse events that followed highlighted the need to improve pregnancy descriptors for the triage of pregnant women presenting to emergency departments.
- The Emergency Department NUM identified a need to improve assessment of pregnant to women who presented at the ED in response to concerns about the difficulty in applying the Australasian Triage Scale (ATS) to women presenting in the Emergency Department. Whilst this had been acknowledged as a risk and adverse outcomes for patients noted, there is an absence of triage tools specific to presentations by pregnant women to guide practice.
- This project broke new ground and established a systematic process to improve the consistency of triage decision making for a group of women vulnerable to adverse events.
- The development of the algorithm and support education by the ED NUM shows innovation and a genuine commitment to provide excellence in the delivery of care to pregnant women who present to Emergency Departments.
Continuous Improvement
A project to improve the triage of pregnant women presenting to the Mercy Hospital for Women Emergency Department was undertaken as a continuous improvement activity, underpinned by research principles. This was a multi-faceted project and consisted of a pre and post-audit and a set of interventions (Figure 1).

- Algorithms and associated audit tools were developed for two common and serious conditions that pregnant women present with to the Emergency Department – preeclampsia and antepartum haemorrhage.
- Each algorithm consists of a triage decision tool and a care pathway for assessment and management by the clinician for the episode of care within the Emergency Department and was used in the education program as part of the intervention (Appendix A).
- The triage decision aid component was used to test if there were improvements in consistency of assessment and documentation of these presenting problems. The care pathway was not tested in this project.

Interventions implemented to improve triage
- The two algorithms were implemented and displayed in the common staff areas of ED and alongside the triage computer. All staff received education on the two algorithms outlining the minimum systematic assessment required for each condition to determine an appropriate triage category.
- All midwifery staff in the ED participated in the continuous improvement project by auditing 10 triage events that displayed variations in assessment occurring in current practice and attending education on the purpose and process of triage decision making.

Assessing effectiveness of the interventions
- Prior to the intervention, the triage documentation for 50 women who had consecutively presented to the MHW ED with each of the nominated conditions, were examined against the audit tool (Appendix B)
- The same audit tool was used to assess improvement in triage by auditing triage documentation for a further 50 women who had consecutively presented to the MHW ED with each of the nominated conditions after the intervention

Incorporating processes into everyday practice to maintain improvements
- The introduction of triage education and condition-specific algorithms markedly improved triage assessment and documentation. The application of algorithms may reduce the clinical risk resulting from the sub-optimal triage of pregnant women who present to emergency departments.
- The triage decision aid has been incorporated into the Emergency Department Information Solution (EDIS) software as an essential component of everyday practice and is used as a basis for every triage category awarded for women presenting to the ED with the two nominated complaints (Appendix C & Figure 2).
- More triage decision aids are in development for other common pregnancy-related conditions.

Evidence of Outcomes
The introduction of both the algorithms and education markedly improved the quality of triage documentation in some areas.

Effect on triage for women who presented with preeclampsia
- There was a marked improvement in the documentation for descriptors on past obstetric history and health in current pregnancy. A considerable improvement was also demonstrated for documentation of symptoms of headache, visual disturbance, oedema, epigastric pain and how the patient looked and felt (Figure 3).
- Analysis of the descriptor “fetal movements” revealed that the senior midwives with more than 10 years’ experience documented fetal movements consistently and significantly better than midwives with less than 5 years’ experience (P<0.001).

Effect on triage for women who presented with antepartum haemorrhage
- There were significant improvements exhibited in the documentation for: history on arrival, events around the bleeding, estimation of blood lost before arrival and past obstetric history and health in current pregnancy, (P< 0.05). (Figure 4) In the triage for descriptors of symptoms for ante-partum haemorrhage improvements were noted for estimation of blood lost on arrival how patient feels and blood group.
Striving for Best Practice

Whilst, triage decision making for pregnant presentations is known to be variable and sub-optimal, there is no recognised ‘best practice’ for this task. This continuous improvement project sought to contribute to the knowledge base on what constitutes ‘best practice’ in the documentation of triage for pregnant women presenting to an ED. Improvement in documentation of highly relevant clinical signs and symptoms was demonstrated in this project.

Innovation in Practice and Process

This project filled a gap in knowledge on the practice of triage documentation and decision making for pregnant women presenting to the ED with preeclampsia or vaginal bleeding after 20 weeks’ gestation. The development of the algorithms is particularly innovative, as they provide a structured and systematic process for triage nurses/midwives to assess two potentially serious clinical presentations. The incorporation of the algorithms into the Emergency Department triage software (EDIS) further assists the triage nurse/midwife to consistently assess women with these conditions who present to ED.

Applicability to Other Settings

- Registered nurses, who generally have very limited training on assessment of pregnancy related problems, perform triage in most EDs and the introduction of condition specific descriptors may assist them to perform a more systematic assessment and allocation of a triage score.
- EDIS, is a common software program used in EDs in all states and territories of Australia and the triage decision aids could feasibly be incorporated and used to assist general nurses in those EDs.
- The wide dissemination of the project findings maximises the impact of the project and its adoption to other settings. The project findings have been disseminated widely including:
  - The MHW ED staff
  - The MHW community at a Perinatal Medicine Grand Round
  - The full explanation of the project was published in the British Medical Journal Group’s Emergency Medicine Journal. This is a leading international journal on the developments and advances in emergency medicine and critical care with less than one in four papers submitted to the journal accepted for publishing (Impact Factor is 1.44) (Appendix D).
- Triage of pregnant women has been identified as a serious clinical risk across general Emergency Departments in Victoria and the triage decision aid is presently being tabled to the Victorian Maternity and Newborn Clinical Network to address these concerns.
Project Title
FALLS PREVENTION INNOVATIONS WITH MUSIC AND DANCE

Name of EQuIP Member Organisation
MORUYA HOSPITAL
SOUTHERN NSW LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
PHYSIOTHERAPY DEPARTMENT

Author/s                                Position Title
Rachel O’Loughlin                      Physiotherapist

Aim
To devise a program using music and dance to improve mobility and reduce rates of hospital admissions in the elderly population, including those with dementia and in residential care.

Abstract
A research project conducted by a regionally based physiotherapist was designed to improve and maintain the mobility status of residents of aged care facilities. The project also represented a concrete expression of the idea that dance and music can benefit the health of people beyond perceived age limitations. One local facility enjoyed the benefits which integrated approaches of arts (dance and music) with exercises for strength and mobility. A grant from HETI as part of the Rural Research Capacity Building program enabled implementation and evaluation of such a program. (RRCBP, 2007) Although completed in 2010, the interest and dissemination of the idea has continued, with presentations and workshops to numerous conferences both statewide and nationally.

Application of EQuIP Principles
Consumer / Patient Focus
This program was inspired by the desire to reduce the number of hospitalisations for people from aged care facilities, who were returning to an acute care hospital on a regular basis due to issues of deteriorating mobility or from injuries related to falls. The highest level evidence (Gillespie, et al. 2009) supports effectiveness of group exercise programs in reducing falls. Empowering patients is also a part of this project as literature suggests that music has unique potential to reach people who have conditions such as dementia (Sacks, 2007).

Effective Leadership
Frequent and recurring admissions of elderly people with poor mobility and in the absence of other medical problems to an acute care hospital seemed to make up the bulk of a therapist’s caseload. Many were from residential facilities and this observation was the catalyst for this clinician to try to figure out a better solution. When there is some degree of dementia, being admitted into hospital is disorienting and not the ideal setting for improvement. Falls in the elderly population is well recognized as a preventable problem which can lead to lengthy hospitalizations.

Continuous Improvement
Despite completion of this particular program, invitations to speak locally and statewide are ongoing. A workshop delivered at the 5th Rural Allied Health Conference (NSW RAHC, 2011), saw over a hundred allied health professionals participating while being provided with tools and examples on how to translate their existing skills into a dance and movement program using music.

Evidence of Outcomes
Mobility tests performed included a Timed Up and Go test and the Tinetti balance scale. Both gave falls risk categories which aligned with each other. Each participant also completed the geriatric depression scale, which gave an indication of mood, revealing levels of depression. Results after participation in the 14 week program showed movements away from the high risk category for falls and also away from the severely depressed category. While the results were not statistically significant, all participants with intact memories stated that they would like to continue (14/17) and one
of the three who could not remember doing the classes stated that she would probably like to do that sort of thing. There were very positive comments from other staff and the director of the aged care facility, including observations that there were more smiles on faces.

**Striving for Best Practice**

The Eurobodalla region of NSW boasts 24% of its population over the age of 65 compared with 12% across the rest of the state and country. (Eurobodalla, 2009) Improving the management of the elderly population is in urgent need for innovative solutions and change, as the local statistics will become more prevalent Australia wide. The issues which plague the elderly include dementia and chronic diseases such as diabetes, chronic lung conditions and osteoarthritis. Neurological problems are prevalent, and these may be stable (after recovering from a stroke) or progressive (such as Parkinson’s disease.) All of these conditions contribute to decreased mobility and have been major causes for hospital admissions requiring physiotherapy assessment and treatment. Existing programs in the community aimed at maintaining mobility available for the elderly are typically for those who can access transport and exclude those with limited mobility, dementia and progressive neurological problems.

**Innovation in Practice and Process**

As this clinician was a dancer as well as a physiotherapist, the idea of using dance and music to help maintain health was self-evident. Historically, however, the fields of arts and of health were quite separate. In 2007 a stream acknowledging benefits of arts in health was showcased in the 9th National Rural Health conference in Albury and further development of this theme was one of the priority recommendations to emerge. (Rural Health Alliance, 2007). A grant from the then Institute of Rural Clinical Services and Teaching (now) HETI, in 2007 enabled the project to be undertaken as a controlled, quantitative study. Literature reviews were undertaken to determine the feasibility of such a program and to review recommendations. Numerous research studies supported the idea that group exercise with the inclusion of music and dance in these populations can very beneficial in residential aged care facilities. (Raglio, et.al, 2006; Sung et.al; 2006; Van de Winckel et al, 2004; and Hackney, et al 2007) The clinician used her dance teaching methodology combined with skills and knowledge as a physiotherapist to devise exercises designed to improve balance while at the same time allowing creative expression through movement with the motivating atmosphere of music. Safety and consent concerns were addressed with the approval of the ethics committee. Medical release forms were used, and consent was obtained from all participants and also from family members if dementia was present. All participation was voluntary. Objective tests were used to measure mobility and mood. One facility was chosen on the basis of an enthusiastic response to a letter of invitation which had been sent to all local facilities. The implementation of the program required staffing support from Rural HETI and the aged care facility as well as the local Community Health managers.

**Applicability to Other Settings**

In the course of the study it became evident that the facilitator of such a program requires clinical judgment (such as those possessed by Allied Health practitioners) to enable adjustments of the program to suit the abilities of the participants. Once a program is established, the ongoing running could be taken up by experienced therapy assistants. Locally, skills learned by the facilitator have also been useful in conducting other group falls prevention programs such as Stepping On, which is ongoing and in collaboration with the Occupational Therapy department. There is not a “one size fits all” package to be delivered, however with some planning and development, there is much potential for further implementation of a much wider scale.
Project Title
NURSE INITIATED HYPOTENSION PREVENTION IN HAEMODIALYSIS

Name of EQuIP Member Organisation
FRESENIUS MEDICAL CARE, NEPHROCARE CLINICS, NSW

Department, Unit, Service or Group submitting the project
HAEMODIALYSIS CLINICS

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Aim
Nurse initiated Hypotension prevention protocols were introduced to reduce the number and severity of hypotensive episodes experienced by patients on haemodialysis.

Abstract
It was identified in early 2011 through review of incident reports that hypotension during haemodialysis treatments was reported infrequently and indications were the incident was somewhat avoidable. A review of current practice of every Clinic (n=19) was initiated and a hypotension prevention protocol introduced. Results indicate that 2 out of 5 steps of the introduced protocol have been implemented into each clinic at a rate of 100% with improvement seen in the remaining 3 out of 5 components. Incident reporting has improved and remained consistent.

Application of EQuIP Principles
Consumer / Patient Focus
This quality improvement project aimed to improve the patients’ haemodialysis treatment by:

1. Reducing the likelihood of a hypotensive episode from occurring
2. Reducing the severity of symptoms experienced during a hypotensive episode.

Haemodialysis is a routine treatment performed in satellite centres or outpatient facilities without direct medical supervision. Hypotensive episodes have been reported to occur between 5-40% of haemodialysis treatments (Davenport A, 2006). Hypotension during haemodialysis has traditionally been accepted as a common occurrence, primarily due to the removal of excess fluid volume from the patient, however the occurrence of symptomatic hypotensive episodes are an indication of oxygen deprivation to the body and can represent both a symptom and precursor to cardiac complications in haemodialysis patients and therefore should not be viewed as a normal consequence of treatment.

Cardiac events are the major cause of death in patients undergoing dialysis therapy. Data from the Australian New Zealand Dialysis and Transplant Registry (ANZDATA) indicates that 35% of haemodialysis patient deaths in Australia can be classified as cardiac in nature (McDonald S, 2011).

When a patient experiences a hypotensive episode during and after haemodialysis the symptoms can include: cramps, dizziness, decreased sight and hearing, nausea, vomiting, incontinence, seizures, loss of consciousness or death.

By reviewing the types and causes of hypotensive episodes, strategies can be implemented to reduce the number and severity of incidents occurring. This would benefit the patient by reducing the discomfort of experiencing hypotensive symptoms whilst also improving their long term outcomes with improved cardiac stability.

Effective Leadership
Our organisation manages 19 haemodialysis clinics across Australia and New Zealand. The Director of Nursing (DON) and National Quality Coordinator (NQC) review all incidents reported by all the Clinics, via an electronic risk management system. During the first quarter of 2011 hypotensive incidents were reported in 1.94% of haemodialysis treatments. The lack of reporting...
prompted a closer review of hypotension management across all the Haemodialysis Clinics by the DON and NQC. There were established protocols for management of hypotensive episodes after they occurred but there was no standard protocol for preventing hypotension from occurring.

This is an area where early nursing initiatives could make an immediate and long term impact on patient outcomes. Taking this into account the DON and NQC decided to commence a pro-active quality improvement project focusing on hypotension prevention.

Discussions with all Dialysis Clinic Managers about hypotension incident reporting led to a review of current clinic practices in relation to maximum fluid removal during treatment and blood pressure monitoring.

After a review of the problem as described in continuous improvement, hypotension prevention protocols were developed by the DON and NQC.

The National Quality Coordinator holds monthly Improving Performance Team (IPT) teleconferences with all the Dialysis Clinic Managers. In the second quarter 2011 the hypotension prevention protocols were explained during the IPT teleconferences and the Dialysis Clinic Managers were then expected to communicate and educate their dialysis staff.

From the beginning of 2011 incident summary reports were prepared quarterly by the DON and NQC. These reports benchmarked all documented incidents across the 19 Haemodialysis Clinics. The reports were then reviewed during the IPT teleconferences. Quality improvement projects were initiated from these reports and a continual review of current project results i.e. increased reporting of hypotension incidents.

Both the DON and the NQC visit all the Haemodialysis Clinics and conduct general clinic audits. The audit includes a review of compliance with the hypotension protocols.

Continuous Improvement
Identify problem areas
During the first quarter of 2011 only 38 hypotensive incidents were reported across all 19 haemodialysis clinics. That was 1.94% of the haemodialysis treatments resulting in a hypotensive episode. Davenport (2006) and Hossli (2005) have mentioned that hypotensive episodes were expected in 5% to 50% of haemodialysis treatments. This demonstrated that reporting of hypotensive episodes was below average and possibly indicated the general culture that hypotension was regarded as part of dialysis and not an incident to report.

Documenting individualised maximum fluid removal during dialysis treatment is important as patients tolerance to fluid removal can vary between individuals. Factors which affect individual fluid removal are their age, cardiac condition, weight and even nutritional status. When a patient reaches the maximum fluid removal they can tolerate in one treatment the risk of experiencing hypotensive symptoms increases as additional fluid is removed. The maximum tolerable fluid removal should be documented on the patients haemodialysis regime so all staff, new, casual and regular, know what limits are acceptable for that patient. In March 2011 47% (n=9) Clinics stated that most of their patients had individualised maximum fluid removal documented on their haemodialysis regime.

When a patient did not have an individualised UFR 53% (n=10) of the Clinics had a set default for maximum fluid removal. The defaults varied from a set maximum total of 3.5, 4 or 5 litres, to an hourly limit of 800mls/hr, 1000mls/hr or 20 ml/hr/kg. DOPPS (Dialysis Outcomes and Practice Patterns Study) recommended longer treatment time and slower ultrafiltration rate of 10ml/hr/kg (Young E et al, 2006).

Incorrectly entered fluid removal in the dialysis prescription was identified as one of the reasons patients experienced hypotensive episodes. Conducting a second nurse check of the dialysis machine entries within the first hour of dialysis was important to ensure correct dialysis treatments were delivered. 74% (n=14) of the Clinics reported that they conducted second machine checks within the first hour of haemodialysis treatment. 21% (n=4) Clinics did not conduct second machine checks.
and one clinic performed the check within one and half hours of commencing haemodialysis treatments. Monitoring blood pressures assists with early detection and avoidance of hypotensive episodes. All the Clinics monitored blood pressures before and after dialysis. 58% (n=11) of the Clinics routinely monitored blood pressures every hour. 11% (n=2) Clinics did not routinely monitor blood pressures during dialysis. 11% (n=2) Clinics had some patients with individualised blood pressure monitoring i.e. half hourly monitoring, documented on their haemodialysis regimes. 63% (n=12) of the Clinics had some patients with individualised blood pressure monitoring but this was not documented on the patients haemodialysis regime.

Inappropriate dry weight is a common cause of hypotensive incidents (Hossli, S 2005). Patients should be assessed prior to each dialysis treatment to ascertain a history of symptoms since the last treatment. Monitoring for recurring hypotensive incidents can identify the need for dry weight adjustment. This was already being done by the dialysis staff, though documentation needed improving.

**Implementation**

Hypotension prevention management protocols were developed and communicated to all dialysis staff see Table 1 Hypotension Prevention Protocol

Quarterly incident summary reports included a focus on hypotensive incident reporting. The reports were reviewed during the monthly Improving Performance Team meetings with the Dialysis Clinic Managers. The Managers then discussed the quarterly reports along with a detailed review of incidents within their own clinics, with their staff during monthly staff meetings. Regular feedback helped encourage incident reporting and reinforced the ‘no-blame’ culture.

**Evidence of Outcomes**

Graph 1 – Hypotension incidents reported by all Haemodialysis Clinics from quarter 1 2011 to quarter 2 2012 *(not provided here)*.

Reporting of hypotension incidents improved after the first quarter with increased education of staff that hypotensive episodes were not a part of dialysis and were reportable incidents. The content of reported incidents also improved during this time. Initially just the facts of the incident were recorded. The improved reporting included comments of the cause of the incident i.e. whether the second machine check had not been conducted or the patient had recurring hypotensive incidents and reassessment of the dry weight or medications was required. Improving the content of the incident report has enabled staff to identify ‘high risk’ patients and better identify comorbid conditions.

Table 2: Improvements in clinics practices to prevent hypotensive episodes comparison of quarter 1 2011 with quarter 1 2012. *(provided to ACHS in the full submission)*

Maximum fluid removal default of 10mls/hr/kg was adopted by seven clinics. The other clinic’s defaults varied from 750mls per hour to 1000mls per hour, this was influenced by their Nephrologists preferences.

Blood pressure monitoring during dialysis did not change however documentation of individual requirements for blood pressure monitoring improved.

**Striving for Best Practice**

Hypotension prevention is influenced significantly by the nursing care administered to the patient. The future development of an audit tool to monitor compliance with the hypotension prevention protocols would assist with ensuring best possible outcomes for the patients.

Review individual patient hypotension related incidents as an indication of future hospitalisation and work proactively with Nephrologists, patient and patients’ carers to prevent possible ongoing complications.

After an initial increase in reporting of hypotension incidents a future decrease could indicate a reduction in hypotensive episodes. This is always a two edged sword because it can also indicate a complacency in reporting. Continual incident reporting reviews should maintain an active reporting
culture. A patient survey to obtain anecdotal evidence that they are experiencing a decreased number and severity of hypotensive episodes could be developed to support the reporting data.

Innovation in Practice and Process

- Management of patients during hypotensive episodes was already competently practiced with established protocols. Through nursing initiatives we developed hypotension prevention protocols to both stop avoidable incidents from occurring and identify ‘at risk’ patients who may suffer from comorbid conditions of which hypotension during haemodialysis is a symptom.
- Changing the accepted culture that hypotension was a normal consequence of haemodialysis to one in which all occurrences should be investigated individually and proactive prevention plans put in place.

Applicability to Other Settings

- Our incident management system and resultant hypotension quality improvement project was presented at the Renal Society of Australasia. 2012 conference. This initiated a discussion with the conference participants about hypotension prevention and challenging the belief that it is a routine consequence of haemodialysis.
- Improved hypotension prevention during haemodialysis treatment is relevant to all haemodialysis patients in all dialysis clinics in Australia and pro-active management can lead to both immediate and long term improved patient outcomes.

The authors would like to acknowledge the Dialysis Clinic Managers and nursing staff working within NephroCare. Their diligent application of the protocol has directly resulted in the success of this quality initiative.
Project Title
INTERPRETER EDUCATION ON END OF LIFE AND ORGAN DONATION CONVERSATIONS

Name of EQuIP Member Organisation
NORTHERN HEALTH – THE NORTHERN HOSPITAL, VIC

Department, Unit, Service or Group submitting the project
ORGAN AND TISSUE DONATION SERVICE

Author/s Position Title
Monica Dowling Nurse Donation Specialist

Aim
To educate and support interpreters involved in translating an end of life and an organ and tissue donation conversation and to provide tips for the health care professional who conducts these conversations through an interpreter.

Abstract
In all end of life and organ donation situations specific training of medical and nursing staff is considered essential and much effort has been put into tailoring courses to meet the needs of these health professionals. Interpreters are asked to deliver the healthcare professional's very challenging and often emotive discussions to grieving families without any specific training or even awareness of the orientation of these discussions. It is desirable that interpreters working in the area of end of life and organ donation are familiar with the organ donation terms and concepts, that they have some understanding of the organ donation process and that they have considered their own attitudes to, and assumptions about organ donation.

Formal training for interpreters in end of life and organ donation conversations is not currently available in Australia. A DVD highlighting the multiple conversations that occur in the emergency department and in the intensive care unit has been developed incorporating a variety of culturally and linguistically diverse families. These conversations include the breaking of bad news to family, the concept of brain death, the futility and withdrawal of treatment, the concept of donation after cardiac death, the detailed and very personal patient lifestyle questionnaire, the organ and tissue donation consent form and the donation process and aftercare.

Experienced interpreters provide tips on the successful and effective utilization of the interpreter when conducting face to face conversations and conversations through the Skype medium.

Application of EQuIP Principles
Consumer / Patient Focus
- In the end of life /organ donation setting communication demands are complex. Families are required to comprehend and express difficult and often subtle meanings associated with emotional experience. In the presence of anxiety, grief and sleep deprivation one’s capacity to communicate in a second language is further impaired.
- Family members need to provide support and assistance to each other particularly in end of life and organ donation settings. Relying on them to interpret very detailed and emotive concepts in a very stressful and personal situation is both unfair and irresponsible of the health care professional.
- The use of family members and untrained or ad-hoc interpreters, which still remains prevalent in the health care setting, will continue to present the risk of misinterpretation and/or omission of comments or questions all together. This matter causes difficulties when consent for a potential donor is required, and the next of kin available is of a non-English speaking background.
- When a family’s English proficiency is not adequate to the communication task it is the responsibility of health care staff to employ a suitably qualified interpreter. The health care professional is also required to establish a collaborative relationship with the interpreter to ensure accurate and effective communication.
• A well-briefed skillful interpreter can provide the bridge across the communication chasm between the health care team and the potential donor family when they do not share a common language.
• Health care professionals familiar with the principles of conducting a conversation through an interpreter will provide and facilitate a seamless exchange of information.
• Organ and tissue donations among the culturally and linguistically diverse communities constitute <4.5% of all donations – facilitating an environment that supports effective communication may improve donation consent rates among these communities.

Effective Leadership
• Consideration of the needs of the interpreters in highly emotive and potentially stressful patient and family discussions prompted the development of the DVD and an application for commonwealth funding through the Australian Organ and Tissue Authority was successful.
• A dearth of available supports for interpreters involved in real life challenging scenarios as experienced in end of life and organ donation discussions was identified.
• The DVD was designed to assist interpreters, as essentially lay people to understand the key concepts associated with end of life and organ and tissue donation. The validity of the content of the DVD and its affiliation to real life situations is supported by the inclusion of representatives of many of the stakeholders actually involved in real life scenarios.
• The utilization of interpreters and actors from various culturally and linguistically diverse communities to portray key messages lends credence to the information portrayed in the DVD.
• A national distribution strategy has been developed that will see the DVD circulated throughout the organ and tissue donation network and throughout the interpreter networks.

Continuous Improvement
• In the end of life and organ donation setting communication demands are complex and will always be so. Families in these circumstances may be vulnerable and brittle. Raising difficult conversations in this environment requires skill and awareness. It is essential that we continue to create the most appropriate environment possible ensuring that what we can control and engineer is done well.
• A well briefed interpreter with an awareness of the organ and tissue donation process is something we can ensure occurs through education. The utilization of such an interpreter will be instrumental in ensuring that families will not have the added stress and responsibility of interpreting devastating news to their loved ones. Instead these family members may continue in their role as a grieving family member providing and accepting support within that family.
• All health care professionals will be aware of and informed of the principles associated with the use of interpreters and will deliver meaningful communication to the culturally and linguistically diverse community.
• The DVD has the capacity to be utilised as an educational tool in a variety of settings on an ongoing basis.

Evidence of Outcomes
• There will be an increase in the number of organ donations among the culturally and linguistically diverse population.
• Interpreters will have a better understanding of the organ donation process and the orientation of the associated conversations thus enabling them to interpret not just the words but the meaning intended.
• The culturally and linguistically diverse families will have sufficient information with which to make an informed decision on end of life and organ and tissue donation for their dying relative.
• The DVD is incorporated into the formal interpreter development course component on interpreting in hospitals at various linguistic schools
• All interpreters working in the health care arena will have access to the DVD and will have acknowledged their attitude to end of life and organ and tissue donation.
• The use of family members and untrained or ad-hoc interpreters will be minimised ensuring that patient and family receive accurate and unambiguous information.
Striving for Best Practice

- The accuracy of the translations in the DVD has been independently verified to > 96% accuracy.
- The DVD has a number of different modules that may be played on their own or as part of the entire DVD. The total duration of the DVD including credits is 44 minutes. Throughout the DVD key points are made on the screen and the interpreters also highlight some significant do’s and don'ts when it comes to using an interpreter.
- An educated and well briefed interpreter will facilitate the communication of sensitive information to families with an understanding of not just the words but the meaning intended.

Innovation in Practice and Process

- This is the first formal acknowledgement of the education and support that many interpreters may require in their role of translating potentially difficult and confronting conversations in the health care setting
- Incorporating the interpreters and the culturally and linguistically diverse families in conversations based on real life scenarios further emphasises and highlights the variety of issues associated with conducting a sensitive and emotive discussion via a third party.

Applicability to Other Settings

- The scenarios included in this DVD may be a useful medium through which issues may be raised with interpreters and all health care professionals. These issues may include conducting difficult conversations, imparting and obtaining sensitive information, managing a potentially volatile situation, understanding the cultural aspects and nuances when discussing death, dying and organ donation and identifying the risks associated with using family members to translate. Many of these issues are relevant in all aspects of health care delivery.
Project Title
VASCULAR ACCESS SURVEILLANCE USING TRANSONIC® FLOW MEASUREMENT

Name of EQuIP Member Organisation
ROYAL NORTH SHORE HOSPITAL
NORTH SHORE AND RYDE HEALTH SERVICE, NSW

Department, Unit, Service or Group submitting the project
RENAL SERVICES

Author/s
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Position Title
Renal Vascular Access Coordinator

Aim
The surveillance program aims to identify dysfunctional and/or dialysis vascular access at risk of clotting in order to facilitate pre-emptive action thereby avoiding the need for central venous catheter insertion.

Abstract
A high incidence of clotted vascular access amongst the dialysis population at RNSH resulted in a significant number of patients requiring emergency admission for thrombectomy and/or insertion of central venous catheter for dialysis access.

A surveillance program to measure vascular access blood flow utilising the Transonic® flow monitor was implemented under the coordination and guidance of the Renal Vascular Access Coordinator (RVAC). Identified problematic dialysis vascular accesses and changes in Transonic® flow measurements are discussed at a weekly multidisciplinary meeting. A clinical management plan is developed and implemented.

This project facilitates early detection of dysfunctional dialysis access, minimising disruption to dialysis schedules, unnecessary insertion of central venous catheters and reduced unplanned admission to hospital. In addition to freeing up acute services (operating theatre time and in-patient beds) results indicate the service is now meeting best practice guidelines for surveillance and management of dialysis access.

Application of EQuIP Principles

Consumer / Patient Focus
At Royal North Shore Hospital there are approximately 90 regular patients on chronic satellite/in-centre haemodialysis and 24 at Mona Vale Hospital. They spend approximately 15 hours per week on haemodialysis. This group of patients is time poor as they cope with the demands of dialysis treatments three times a week, as well as other medical appointments and travel to and from dialysis, three times per week.

Dysfunctional haemodialysis access reduces the efficiency of dialysis treatments. Identifying access problems is of utmost importance in ensuring optimization of treatment and that the patient obtained maximum benefits of their treatment time. The result of identifying dysfunctional access enables outpatient procedures to be planned and prioritised to correct deteriorating accesses saving the patient time, inconvenience and anxiety. This results in fewer unplanned hospital admissions, improved quality of care, less access discomfort and pain and most significantly fewer access failures. All dysfunctional or problematic access issues are collated on a vascular access list. This vascular access list identifies all patients with access concerns and what procedures are required to correct dysfunction. Other information is also available such as the time a patient is first identified with dysfunction and when the procedure is planned. Delays, medical teams responsible for care and locations of procedures are also collated on this list.

Patients have gained an increased awareness towards their access and as a result have become empowered and are actively participating in surveillance and management. Many patients contact the
RVAC directly with concerns or to ensure the latest results from monthly Transonic flow measurements are available and prompt actions are initiated.

**Effective Leadership**
Previously data was collected to identify the number of vascular procedures, including thrombectomies and central venous catheter insertions. Analysis of this data and the daily dialysis records (flow charts) was carried out by the RVAC. Findings indicated patients were presenting with clotted access without prior warning.

This resulted in acute hospital admission, insertion of central venous catheter, surgical intervention, disruption to dialysis schedules and ultimately potential loss of vascular access. Retrospective inspection of clinical observations revealed changes in venous pressure and/or decrease in arterial pressure prior to clotting. The changes in pressure readings are an indicator of changes in the blood flow through the access due to stenotic lesions or clotting within the graft or vein of the vascular access.

It was clear that more efficient detection of the problem and earlier intervention was indicated. Best practice guidelines recommend routine surveillance, with pre-emptive correction of stenosis, for dialysis vascular access (NKF-KDOQI, 2006, ERA-EDTA, 2007 & CARI, 2008). Surveillance includes device based measurements Transonic® for access blood flow (Qa) and recirculation.

Once the Transonic® monitor was purchased, an education program to all nursing staff of the dialysis units was rolled out by the RVAC. Dialysis nurses are instrumental in undertaking the responsibility of monthly dialysis access measurements, utilising the Transonic® flow monitor and notifying the RVAC of significant abnormal findings. All monthly measurements are collated by the RVAC in preparation for the weekly multidisciplinary meeting which discusses and plans appropriate management of the patient and their access. A monthly report is also disseminated to each of the dialysis units for the nurses to access flow trends of their primary patients. Primary nursing model is employed in the dialysis units to provide continuity and high quality care. This is supported by the dissemination of access flow measurements with the monthly reports.

The education of nurses is ongoing both to develop and enhance their skills in vascular access management and to address staff turnover in the units. Eventually there will be a champion nurse in each of the units who will assist with ongoing training and interpreting of the monthly reports.

**Continuous Improvement**
A strategy which was put in place to facilitate continuous improvement was the introduction of a formal review meeting. Problematic accesses and Transonic® Flow Monitor “alerts” are now discussed at a weekly renal vascular access multidisciplinary meeting. This is coordinated by the RVAC.

Participants in this meeting include the renal physicians, advanced trainees, radiology consultant, radiology registrar, sonographers, senior renal nursing staff, the renal access coordinator, vascular surgeons and their registrars.

During the meeting all radiological, flow measurements and ultrasound images are electronically displayed for all in attendance for discussion of each image. The format of the meeting includes review and prioritising of all patients listed on the vascular access list. This assists with the transfer information to the relevant stakeholder ie: from the surgeon to radiographer, or for nursing staff to understand any issues surrounding cannulation etc.

This meeting is formally documented and minutes are disseminated to the stakeholders on a weekly basis along with the access list.

Of utmost importance is the plan that is created by the above mentioned discussion. This plan is acted on by the relevant stakeholders in attendance and timely intervention for each patient is initiated. Actions are reviewed at the next meeting.
Dialysis schedules are able to be maintained without major disruption to the patient or dialysis unit and this assists with overall management of the renal units and in the unit in meeting best practice guidelines. This is also less inconvenient and reduces treatment burden to patients.

Renal Vascular Access results are presented and discussed at a departmental Morbidity and Mortality/Quality Assurance meeting bi-annually.

**Evidence of Outcomes**

Significant improvements have been demonstrated in the two years following introduction of dialysis access surveillance using the Transonic®. In the 6 months prior to Transonic® monitoring 16 patients required hospital admission for thrombectomy. Of these patients 10 (63%) dialyse at RNS or Mona Vale hospital where they have formalised access to surveillance with Transonic®. In the first six months of 2011, 15 patients required admission for thrombectomy, of which 7 (47%) were from RNS or Mona Vale. In the last 6 months of 2011, 10 thrombectomy's were required and only 1 patient came from RNS or Mona Vale dialysis unit.

Another measure of the effectiveness of such a surveillance program is evident in the numbers of both cuffed and non-cuffed central venous dialysis catheters used. Cuffed central venous catheters are generally used when long term dialysis is required such as where patients are waiting for access surgery and when dialysis access has failed and new access is required. Non-cuffed catheters are generally used as temporary dialysis access in emergency or urgent circumstances. Review of this data shows a significant reduction in both types of catheters. In 2010, 14 cuffed central venous catheters were inserted for occluded access and in 2011 this was substantially reduced to only 5 catheters. There were 13 non-cuffed central venous catheters insertions for 2010 and only 2 in 2011. These results demonstrate the benefit of renal vascular access surveillance in outcomes both for the patient and the health service. While not all patients presenting with thrombosed access require a central venous catheter, the actual numbers for surgery to repair thrombosed access has decreased due to pre-emptive radiological or surgical intervention.

**Striving for Best Practice**

The Transonic® Surveillance program is technology which has not been used at RNHS previously. It is uses new technology introduced by Transonic Inc. in Canada.

This surveillance program is based on best practice guidelines from National Kidney Foundation’s K/DOQI Guidelines (NKF-KDOQI, 2006), European Renal Association-European Dialysis and Transplant Association’s (ERA-EDTA) European Best Practice Guidelines on Hemodialysis (European Best Practice Guidelines, 2007) and Caring for Australians with Renal Impairment (2008). According to these guidelines Transonic® indicator dilution technology is the recognized Gold Standard for access surveillance.

It is intended this program will continue to be used across the entire RNSH renal service to improve patient outcomes. This surveillance program incorporates hospital, satellite and home dialysis patients and aims to reduce acute hospital admissions for clotted access, surgical intervention, disruption to dialysis schedule and placement of central venous catheters. As a result of increased surveillance the patient experiences a greater satisfaction and improved outcome, as pre-emptive intervention can be planned and undertaken.

**Innovation in Practice and Process**

The Transonic® Surveillance program is innovative in that it has not been used at RNHS previously. It has required changes in our practice to promote collaboration between the renal, vascular and interventional radiology teams.

In order to supplement the transonic data patients are refer to the vascular laboratory for duplex scanning to further diagnose access conditions. The combined results are discussed in length at the weekly Access meetings. This planning is a change to the previous process which has allowed for more informed decisions on patient actions and has led to a broader representation in the Access meeting. Improved information availability has occurred because the meeting is held in the radiology department where images are available for review from both the radiology department and the vascular laboratory.
Attendance at these meetings has expanded to include the RVAC, Nurse Unit Managers, Dialysis Transitional Nurse Practitioner, Renal CNC, Renal Consultants and Teams, Interventional Radiologists, Vascular Surgeons and teams and sonographers from RNSH and North Shore Private Vascular Laboratory.

**Applicability to Other Settings**
The introduction of technology to provide greater surveillance is applicable to many areas. The results we have seen show the increase interest both in clinical collaboration and patient interest. More specifically, application of our findings in the Northern Area Sydney Health services have included:

- Positive expansion of the surveillance of patients treated at Mona Vale Dialysis Unit providing similar results.
- Closer follow-up and monitoring of the home haemodialysis patients managed by RNSH. Plans are currently in place to adapt this program to this group of patients in a modified form that maintains their independence but provides useful clinical information.

Interest in replicating this surveillance program has been expressed by the private dialysis units in the northern Sydney local Health Districts and other public hospital dialysis units. One limiting factor is the cost of the Transonic® monitor.

Mona Vale Dialysis Unit has been included in the surveillance program from shortly after its inception and demonstrated simular clinical results and outcomes.

Success of this surveillance program has identified a gap in the monitoring of the home dialysis patients managed by RNSH. Plans are currently in place to extend this program to this group of patients in a modified form.

The surveillance program was presented as a poster at the 2010 annual conference of the Renal Society of Nephrology Nurses. Interest in replicating this surveillance program has been expressed by the private dialysis units in the northern area and other public hospital dialysis units. One limiting factor is the cost and/or availability of the Transonic® monitor.
Project Title
RADIOGRAPHS AS DIAGNOSTIC TOOLS FOR QUEANBEYAN ORAL HEALTH SERVICES

Name of EQuiP Member Organisation
QUEANBEYAN HOSPITAL
SOUTHERN NSW LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
ORAL HEALTH SERVICES QUEANBEYAN

Author/s Position Title
Angela Masoe Oral Health Program Coordinator: Health Development

Aim
To reduce unnecessary exposure of children under 10 years of age to Panoramic Radiograph ionising radiation by 70% within six months.

Abstract
Diagnostic imaging is an essential element of dental practice. Patient safety and protection is paramount during clinical decision-making when requesting radiographs in the dental practice, especially for children. A significant increase of referrals for Panoramic Radiographs (PR) for children under 10 years of age was observed by Oral Health and Medical Imaging Services senior clinicians. Using the Clinical Improvement Practice methodology a Quality Improvement project was developed and implemented adopting a whole team and inter-departmental approach to explore and address the concerns. After 6 months, 71.20% reduction of referrals for children under the age of 10 for PR was found. A slight increase in intra-oral radiographs activities was noted with significant improvement in clinical oral health record administration processes achieved post intervention.

Application of EQuIP Principles
Consumer / Patient Focus
Radiographs in dentistry are essential for accurate diagnosis; if information obtained from such investigations does not influence treatment decisions, provide new information to support patient management and outcomes, the timing and requirement for radiographs should be questioned. Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) including Paediatric Dentistry guideline principles for taking radiographs for children are to ensure patient safety, patient protection by minimizing exposure to ionizing radiation, at the same time provide appropriate care. Children’s body tissues are more sensitive during early childhood development, therefore precautions for their protection and safety from ionising radiation is paramount (ARPANSA, 2005).

Effective Leadership
A significant number of referrals from Queanbeyan Oral Health Services (OHS) to Medical Imaging Department (MID), Queanbeyan Health Service for children less than 10 years of age requesting Panoramic Radiographs (Orthopantogram-OPG) were observed by Senior Clinicians. Oral Health Senior management requested an investigation be undertaken of clinical processes for requesting Panoramic Radiographs.

Children’s body tissues are more sensitive during early childhood development, therefore precautions for their protection and safety from ionising radiation is paramount (ARPANSA, 2005).

Continuous Improvement
Two Quality Improvement (QI) sessions (one full day) were approved by Allied Health Manager. The Senior Radiographer undertook an audit of patients referred from OHS’s to MID. The results from MID were used to conduct an oral health record audit to establish rationale for PR request referral and whether findings were utilised to influence patient clinical care. Results validated concerns raised by Senior Dental Officer and Senior Radiographer.
Consultation occurred with Manager, OHS, Allied Health Manager, Senior Radiographer, Oral Health Program Coordinator, Health Development (OHPCHD), and Clinical Director (CD) regarding opportunity to undertake the radiography project as QI project. Approval and support was obtained. Consultation with the Clinical Governance Unit, Southern, NSW occurred and support was obtained.

Whole team approach was adopted for the QI project for team communication and decision making processes. Radiography project was placed on team meeting agenda. A literature review of radiography guidelines for children was undertaken. The CPI methodology was used to provide structure and guidance. Adjustments to PR referral processes were planned, implemented, consensus reached with clinical staff members. Influencing factors identified using the CPI methodology included training/education, insufficient support after upgrade to Digital Imaging (DI), clinician decision-making approaches for radiographs as diagnostic tools, adherence to NSW Oral Health Record Policy, appropriate (DI) equipment and resources for operative procedures, clinical leadership and patient ‘coping’ issues to undertake intraoral radiograph procedures.

Tools for collecting and collating data were constructed. Oral health record was updated, presented to staff for comments prior to testing with appropriate timeframes. After testing, the oral health record was finalised with staff consensus and implemented.

Inter-clinic communication with Albury OHS’s provided the team with DI training and provision of a DI Paedo Sensor for three months trial. Audits were conducted to measure the effect of the QI project activities.

**Evidence of Outcomes**
An audit of OHS’s ‘OPG’ requests to Medical Imaging Department was undertaken; from these results a retrospective audit was conducted of oral health clinical records for patients who had ‘OPG’ radiographs taken in a 6 month period. The findings highlighted that the majority of records failed to provide adequate rationale for requesting OPG’s, further, 55% of OPG’s did not link findings of ‘OPG’ radiographs to patient treatment plan. Deficiencies were identified with the clinical oral health record document. Requests for radiographs and radiograph findings of patient clinical oral health status were mostly not recorded in the initial patient oral health assessment record. Clinicians were expected to include radiograph examinations, requests and findings documentation as standardised clinical practice. Education and training updates were required for radiography processes. Additionally mentoring and support was required after transition to Digital Imaging including the availability of appropriate resources for age specific use.

The post project audit found an overall reduction of 31.40% for PR requests. A reduction of 36.70% PR for 10 to 18 years of age and a decrease of 71.20% requests for PR for children under 10 years of age. Review and upgrade of clinical oral health record, including staff workshop activities, resulted in post audit findings of 95% commitment to NSW Oral Health Record policy. A concern raised by MID regarding clinicians not using radiographs as diagnostic tools, led to a further audit of Information System Oral Health item numbers for radiographs. The findings illustrated that despite reduction of referrals for PR there was a slight increase of intra-oral radiographs activities.

**Striving for Best Practice**
Inter-clinic communication led to Queanbeyan OHS receiving a Digital Imaging Sensor Size 0 for trial with children less than 10 years of age. Three clinicians trialled Sensor size 0 on 37 children successfully. Clinicians rationale for using Sensor 0 (i) only needed to radiograph one quadrant/one tooth and (ii) child managed smaller sensor for caries detection (iii) specific area for investigation e.g. deciduous anterior tooth investigation – trauma (iv) essential DI resource for children under 5.

Terminology change from ‘OPG’ to Panoramic Radiograph was discussed and requires further review to bring about change in documentation.

**Innovation in Practice and Process**
Documentation of essential radiograph processes, Digital Imaging processes and activities have been accepted as standardised clinical practices. Clinical case study reviews using radiograph reports are to be part of staff clinical meeting agenda. Further support and monitoring of other key areas identified from this project will be carried forward as Continuing Professional Development activities.
(appropriate use of radiographs as diagnostic tools – by all staff). QI clinical concerns as agenda item for staff meetings, where relevant the CIP will be used to resolve issues.

**Applicability to Other Settings**

Project findings may be used to inform and improve radiograph knowledge and practice for other clinical staff in the LHD. Opportunities for the provision of training for other Senior Clinicians in CPI methodology to address other identified inconsistencies in clinical processes and practice need to be scoped. In sharing knowledge and practice, where approved Oral Health Program Coordinator as Quality Improvement facilitator for the ‘Radiography’ project may be available to assist other teams with Quality Improvement projects within LHD to maintain quality care delivery. Project request to be presented at NSW State Oral Health Executive Forum, project has merit for consideration to initiate discourse to inform radiograph health policy at state-level
Project Title
A CONTINUOUS IMPROVEMENT APPROACH TO ENGAGE STAFF IN THE UPTAKE OF SMART INFUSION PUMPS WITH MEDICATION SAFETY SOFTWARE

Name of EQuIP Member Organisation
PENINSULA HEALTH, VIC

Department, Unit, Service or Group submitting the project
MEDICATION SAFETY TEAM

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Maureen Habner                            Chief Nurse, Continuing Education and Development Unit, Peninsula Health

Abstract
In 2008, Peninsula Health (PH) introduced smart pumps for large volume intravenous infusions. Smart pumps include safety software which prevents administration of wrong doses of intravenous medication through the utilization of upper and lower limits of infusion rates and concentrations. PH published a study in 2011 demonstrating that use of the safety software resulted in an 81% reduction in the risk of intravenous medication errors. However, the benefits of smart pumps are only realised if the user opts-in to use the safety software. If the safety software is not used, smart pumps are no different from conventional infusion pumps. In January 2011, the PH Medication Safety Committee (MSC) undertook the leadership role of overseeing the promotion, education and monitoring of this new technology to improve acceptance and uptake of the safety software post implementation.

The existing MSC’s multidisciplinary structure, lines of authority of its members and links to other committees were utilised. Management consisted of 3 major elements: governance and monitoring of the smart pump project; review and maintenance of the electronic drug library; and education and promotion of the safety software, each involving a cyclic review process.

Since January 2011 there has been a 38% increase in the use of the safety software. Audits have demonstrated that software usage has increased from 66% (222/338) in the year 2010 to 71% (78/110) in 2011 and 91% (96/106) by July 2012.

Whilst PH has implemented smart pumps for large volume infusions, many intravenous drugs in high risk areas such as Intensive Care Unit, Paediatrics and Special Care Nursery are often administered via syringe pumps as concentrated small volume infusions. In 2011, the MSC lobbied, gained funding and implemented smart syringe pumps in these areas.

PH is an industry leader in the implementation of smart pumps and has published and been represented at national forums on this topic; the technology and strategies for introduction, governance and management are of key interest to healthcare organisations and the Australian Commission on Safety and Quality in Healthcare.

Aim
To decrease the risk of intravenous medication error by the use of continuous improvement and medication safety strategies to increase the uptake of medication safety software in smart pumps.
Application Of EQuIP Principles
Consumer / Patient Focus

- In 2008, Peninsula Health (PH) introduced smart pumps for large volume intravenous infusions.
- Patient experience and safety is improved by prevention of adverse drug events related to intravenous medication administration errors.
- In a US study, 61% of the most serious and potentially life-threatening adverse drug events were intravenous drug related. The US Institute for Healthcare Improvement has recommended that smart pumps offer the opportunity to identify and correct pump programming errors.
- Smart pumps include safety software which prevents administration of wrong doses of intravenous medication through utilization of upper and lower limits of infusion rates and concentrations. In 2011 Peninsula Health (PH) published a study demonstrating that use of safety software resulted in an 81% reduction in the risk of intravenous medication errors when the software was used. In that study, drug infusions using safety software had an infusion rate or concentration error rate of 3.6% (n=165), whilst infusions not run with the software had an error rate of 19% (n= 101) (p <0.001).
- The benefits of smart pumps are only realized if the user opts-in to use the safety software. This was demonstrated in the PH study with similar error rates reported in conventional infusion pumps (18% ; n=432) and the smart pumps when the safety software was not used (19%; n= 101) (p=0.8).
- In the year 2010, PH usage of the safety software was at 66%.
- By continuous quality improvement and medication safety initiatives, this project has increased staff awareness and utilization of the safety software, and focused on the potential dangers of intravenous drug administration errors for individual patients.

Effective Leadership
In January 2011, the PH Medication Safety Committee (MSC) undertook the leadership role of overseeing the promotion, education and monitoring of this new technology to improve acceptance and uptake of the medication safety software. The project involved use of the existing medication safety committee’s multidisciplinary structure, lines of authority of its members and links to other committees.

The plan included consisted of 3 major elements

- Governance and monitoring
  The MSC has responsibility for overall planning, governance and monitoring. This includes:
  - proposal of policy developments for ratification by Board Committees including:
    - mandating use of the safety software,
    - compulsory second checking when the software is to be overridden/bypassed for any reason,
    - compulsory attendance at education sessions and
    - policy to ensure that all future requests to purchase infusion pumps were referred to the MSC to ensure uniformity and monitoring of pump hardware, software platforms, software maintenance and training.
  - review and ratification of medication safety strategies.
  - reviewing and action on progress reports on medication safety strategies.

- The Medication Safety Officer/Senior Pharmacist (MSO) has responsibility for
  - development of medication safety strategies and newsletters,
  - liaison with the Continuing Education and Development Unit (CEDU) to develop smart pump scenarios for the orientation and Medication Error Prevention training programs (MEP),
  - convening meetings of Medication Safety Portfolio holders (Registered Nurse nominees from each ward/unit) and
  - undertaking and reporting on auditing and promotional activities to the MSC.
• Medication Safety Portfolio holders have responsibility for
  • attending monthly meetings chaired by the MSO and reported upwards on issue or
    barriers to using the safety software and for disseminating safety information, policy
    changes and quality audit data back to their local ward areas and encouraging
    medication safety software usage.

• Review and maintenance of the electronic drug library.
The senior clinical pharmacist has responsibility for management of ongoing review and
updating of the electronic drug library to populate the medication safety software and
matching it with the paper-based PH Parenteral Drug Administration Protocols. This includes
review of drugs newly approved onto the hospital formulary by the PH Drug and Therapeutics
Committee and updating of existing protocols. The process involves:
  • consultation with senior medical staff, nursing staff and clinical pharmacists,
  • review of current published evidence and/or guidelines,
  • preparation of protocols for approval by the Drug and Therapeutics Committee,
  • ongoing feedback from end-users to ensure relevance and currency and
  • development and updating of user guides.

• Education and promotion of the safety software
  Education sessions on the use smart pumps and the drug library is an ongoing process for
new nursing staff at orientation and MEP training (compulsory at orientation and repeated
every 2 years). In addition, the focus is on the use of local data to ensure relevance and
buy-in from end-users. Local research was published and used to promote the efficacy of the
safety software in error prevention. Data from reported incidents and clinical pharmacists’
interventions were used to highlight the real potential for intravenous infusion errors to lead
to patient harm.
  • CEDU has responsibility for:
    o provision of education sessions for general users and “super users” and
      implementation of a “train the trainer” approach to ongoing education,
    o nurse educators’ promotion of the use of the safety software and
  • Clinical Pharmacists have responsibility for
    o ensuring that the safety software is in use for appropriate IV infusions as they
      routinely reviewed medication charts.
  • Nurse Managers have responsibility for
    o promoting and encouraging use of the safety software,
    o reviewing the audit results they receive and
    o circulation of medication safety newsletters.
  • Registered Nurses have responsibility for
    o following PH protocols and
    o encouraging and assisting their peers to use of the safety software.

Continuous Improvement
• Prior to January 2011, the Pharmacy Department was responsible for the initial development
  and implementation of smart pumps. Smart pumps had been introduced to PH in 2008 after
development of a top100 drug library. This was expanded in February 2010 with dose and rate
limits for 635 drug configurations in 10 areas (including Oncology, Paediatrics, and Special
Care Nursery). This was uploaded onto 225 smart pumps over 2 acute sites with education
sessions provided to 370 nurses. In 2010, 66% of drug infusions were run on safety software.

• In January 2011, a whole-of-hospital approach was required and the MSC undertook the
governance and management responsibility to promote and improve uptake and
understanding of the technology.

• The Plan-Do-Check-Act methodology was utilised to ensure continuous review, planning and
  implementation of new actions and strategies, appropriate governance and monitoring,
improvement of the drug library, and targeted education and promotion.

• Incident report data, intervention data, audit results and feedback were collated and analyzed
  to form the basis for strategic planning and regular review by the MSC.
• Audit data was used to set targets and improve performance in specific areas.
Some examples of educational and promotional strategies have included:

- Local research data and medication safety software usage pump data were fed back to end-users via portfolio-holders and at general education sessions,
- Training sessions when new drug library was uploaded,
- Monthly medication safety newsletter to educate on policy change, drug library changes and other medication safety issues and
- Prompts on the use of the safety software such as posters including visual cues (a small picture of the smart pump) printed on drug protocols and placed on drugs stored in the wards where the drugs are included in the medication safety software.

Evidence of Outcomes

- A whole-of-hospital approach with the three essential elements of governance and monitoring provided by the MSC, ensuring the tools (the drug library) are relevant and appropriate and provision of consistent education has successfully resulted in a 38% increase in the use of the safety software. Audits of medication safety software usage have demonstrated an increase from 66% (222/338) in 2010 to 71% (78/110) in 2011 and 91% (96/106) by mid-2012.

- Initially 21% (340/1587) of nurses were trained on the smart pump in a “train-the-trainer” approach; through the ongoing MEP program all nurses receive training at orientation and on a two yearly basis. Currently 84% (1333/1587) of nurses are trained. Training targets are monitored on a monthly basis by the MSC, Operations Directors and Nurse Managers.

Striving for Best Practice

Whilst PH has implemented smart pumps for large volume infusions, many intravenous drugs in high risk areas such as Intensive Care Unit, Paediatrics and Special Care Nursery are administered via syringe pumps as concentrated small volume infusions. In 2011 the MSC lobbied, gained funding and implemented smart syringe pumps in these areas.

- In order to further improve parenteral drug administration, following a review of parenteral drug use and feedback from end-users, a recommendation was made to the MSC that PH’s existing syringe pump fleet should be replaced with smart syringe pumps.
- In order to maintain governance over smart pump management the MSC had previously directed policy development to ensure that purchases of all parenteral infusion pumps required the approval of MSC. The was to ensure that:
  - all new equipment purchased included safety software,
  - maintenance of a consistent software platform to facilitate preparation of drug libraries and education and
  - consistent management of rollout and education.

As a result the MSC ensured that the senior clinical pharmacist played a key role in the syringe pump selection, and that the MSO ensured appropriate prioritization and consistency in the roll-out plan and education.

- The implementation of the smart syringe pumps was coordinated in the following way
  - Initial funding for 33 syringe pumps. Syringe pumps were uploaded with an updated drug library and rolled out to these areas and some selected general areas.
  - Further funding for 108 syringe pumps was approved through the Targeted Equipment Program. Drug libraries were expanded to cater for the Emergency Department, Operating Theatre, and Oncology. In early 2012, syringe pumps were rolled out to these areas and remaining general wards.

Innovation In Practice And Process

PH was the first Australian Healthcare facility to develop an extensive drug library for the Guardrails GP medication safety software. PH has published and presented on this project and has been contacted as a reference source by other healthcare providers including Queensland Health, Alfred Hospital, Barwon Health, Bendigo Health, Western Hospital, LaTrobe Regional Hospital, The Royal Womens’ Hospital and Eastern Health for advice on the drug library and implementation.
Applicability To Other Settings

The Medication Safety Self Assessment for Australian Hospitals is an important tool to assist in meeting the Australian Commission on Safety and Quality in Healthcare’s National Safety and Quality Health Service Standards. Section 6.13 of this tool’s checklist supports the use of smart pump technology.

“Section 6.13 General infusion pumps with SMART PUMP TECHNOLOGY are in use with full functionality employed to intercept and prevent wrong dose/wrong infusion rate errors due to misprogramming the pump, miscalculation, or an inaccurately prescribed dose or infusion rate.”

PH is an industry leader in the implementation of smart pumps. Our experience is applicable to other hospitals looking to improve the safety of their parenteral drug administration. The principles are transferable to large and small, metropolitan or specialist hospitals.
**Project Title**  
PRO-OSTEO PROJECT (IMPROVING OSTEOPOROSIS MANAGEMENT IN THE ACUTE SETTING)

**Name of EQuIP Member Organisation**  
FRANKSTON HOSPITAL  
PENINSULA HEALTH, VIC

**Department, Unit, Service or Group submitting the project**  
PHARMACY DEPARTMENT

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**Aim**  
The aim of the PRO-OSTEO project was to improve the assessment and treatment rates of osteoporosis in the patients who were admitted with minimal-trauma fractures to the acute hospital setting.

**Abstract**  
Assessment and treatment rates for osteoporosis are low, including hospital settings after minimal trauma fractures, despite the high mortality and morbidity following major fractures. The PRO-OSTEO project was set up to improve assessment and treatment rates of osteoporosis in patients admitted to Frankston Hospital's (Peninsula Health) orthopaedic ward with minimal trauma fractures.

**Method:** An osteoporosis assessment and treatment algorithm was introduced into inpatient practice in March 2010. This was accompanied by a multifaceted intervention, which included posters, presentations promoting the project and one on one academic detailing to clinical staff. Three time periods were retrospectively reviewed to determine assessment and treatment rates, before and after the introduction of the algorithm, as well as 3 months following the introduction of the algorithm, to observe the sustainability of the intervention in a new group of doctors who had not received academic detailing.

**Results:**  
Initially, the introduction of the algorithm increased treatment and assessment rates from 19.7% and 50% at baseline to 71.6% and 87.8%, respectively (p<0.0005), with the results declining in the following period, 3 months after initial intervention and after medical/surgical staff change over, to 47.8% and 54.3%, respectively (p<0.0005).

**Conclusion:**  
An algorithm-based approach linked with academic detailing and education of the multidisciplinary team in acute hospital environment provides a clinically significant and effective strategy to improve osteoporosis management of patients with minimal trauma fractures.

**Application of EQuIP Principles**

**Consumer / Patient Focus**
- Previous research around Australian hospitals demonstrated that osteoporosis is inadequately treated and assessed, even when patients are admitted for hip, leg, back or arm fractures caused by the disease.
- This project had provided additional education to clinical staff at Frankston's orthopaedic ward to increase assessment and treatment of osteoporosis in patients admitted with minimal-trauma fractures.
- Three time periods were review as part of the PRO-OSTEO project, which showed that most of the patients who were admitted were elderly and mainly women as expected. Over half the fractures in all three periods were hip or neck of femur fractures, which carry the worst morbidity and mortality results, with 50% of patient unable to regain pre-morbid walking ability and approximately 30% mortality within the first year after the fracture.
Patients who received the guideline recommended therapy as a result can expect reduced risk of further fractures.

As the patients received treatment, they also received education on their underlying condition and the medications that are provided to manage it. The provision of osteoporosis treatment for patients with such fractures completed a comprehensive care approach to their treatment in the acute hospital setting.

Effective Leadership

- The problem of osteoporosis under-treatment was identified in 2005, which led to the introduction of the osteoporosis nurse role, but given that previous research had identified incomplete coverage with this approach, the researcher pharmacist working at the orthopaedic ward proposed the PRO-OSTEO project development. The study received support from the director of pharmacy and the medication safety pharmacist at Peninsula Health.
- This quality improvement project had utilised a multidisciplinary approach that involved collaboration from the Pharmacy Department, Endocrinology, Orthopaedic and Aged Care units.
- Drug and Therapeutic committee has approved the study implementation.
- The educational component of the project was important as previous research has demonstrated that the health-care staff are unaware of the current guidelines and treatment options, while patients tended to lack the basic understanding of the condition that led to their hospital admission.
- The PRO-OSTEO project has also been designed in a way as to not place too much time-burden on clinical staff. During the initial intervention a pre-printed pathology slip with osteoporosis assessment blood test was provided to staff to reduce the time and increase adherence to the guidelines.
- Further monitoring of the progress into osteoporosis management and extension of the PRO-OSTEO project method has been supported by the department manager and has received funding from the Research Department at Peninsula Health for continuation during the 2012-2013 periods.

Continuous Improvement

- The PRO-OSTEO project was set up to have two interventions to test out which intervention works best. The second intervention for the 3rd data collection period was specifically designed to omit academic detailing for medical staff as this is a time intensive activity with staff change over every 10-12 weeks across 3 teams.
- Despite the statistically and clinically significant, higher results in the 3rd data collection period, given the superior results demonstrated from academic detailing provision to doctors as well as the ward pharmacists, the research pharmacist has continued to provide academic detailing to orthopaedic and aged-care doctors, who are the primary teams looking after patients with such fractures.
- In addition to continued academic detailing for doctors and ward pharmacists, Peninsula Health has adopted an electronic system for pathology and prescribing, allowing the ward pharmacists to order blood tests directly, complementary to the osteoporosis nurse and the doctors. Ward pharmacists will also be able to electronically propose medications to be added to electronic charts in the upcoming electronic chart implementation.
- As the results for PRO-OSTEO project were successful, an extended version of the study has been developed and is in the process of being implemented across the entire Peninsula Health network of acute sites, with all wards that handle patients with minimal-trauma fractures to be involved.
- The extended version of the PRO-OSTEO project will also quantify the time-burden of providing comprehensive osteoporosis management via a modified staff questionnaire for the purposes of benchmarking our results.
- Other sites of Peninsula Health, rehabilitation sites, are also encouraged and had received the information used in the PRO-OSTEO project to retrospectively review their patients who have sustained minimal-trauma fractures in the past, not necessarily as part of their current admission.
- The impact on clinical staff was evaluated by a short feed-back questionnaire, which revealed the impact on the clinicians’ time was insignificant.
Evidence of Outcomes

- The introduction of the algorithm-based intervention with academic detailing and multidisciplinary approach, led to the assessment rates of osteoporosis in patients with minimal-trauma fractures to be increased from 50% to 87.8%, and treatment rates to be increased from 19.7% to 71.6% $p<0.0005$, and medical and surgical staff changed over, the assessment rates came down to 54.3% and treatment rates to 47.8% $p<0.0005$.
- The results of the trial phase of the PRO-OSTEO project have been published in the international journal, Archives of Osteoporosis, in 2011.

Striving for Best Practice

- As part of improving practice, the researcher from the Pharmacy Department has developed extended versions of the PRO-OSTEO projects to validate the approach used at Frankston Hospital, and to trial the approach at other sites of Peninsula Health and across other healthcare networks across Victoria.
- Submission to NHMRC for funding of an Australia-wide study was completed in February 2012 as part of a drive to improve the management of this disease state across all hospitals in the country as previous studies demonstrated poor results in this area of patient care.
- Other hospitals’ practices have been reviewed for their approaches in osteoporosis management and were compared to the results obtained as part of the PRO-OSTEO project. Results from NSW outpatient approach showed that over 55% patients do not get any services as they do not attend outpatient clinics. Royal Hobart Hospital showed active treatment rates increase to 24% after their intervention of inpatient fracture protocol, while the results from The Queen Elizabeth Hospital showed an 88% treatment rate after their intervention of a pharmacist-led clinical pathway for minimal-trauma fractures. The results from the PRO-OSTEO project showed that the treatment initiation was high after the intervention, but can be improved to reach a higher level of patient coverage.

Innovation in Practice and Process

- While trials of pharmacist-led studies in improving osteoporosis management are not new in Australia, development of a multifaceted, algorithm-based, academic detailing and multidisciplinary approach is new, with treatment initiation prior to patient discharge from the acute hospital setting as the primary focus.
- This approach has not been practiced for management of osteoporosis, based on publication searches conducted, but reserved for conditions such as the acute myocardial infarction.

Applicability to Other Settings

- The results of the PRO-OSTEO project are applicable in other settings such as the acute settings of the Emergency Departments or short-stay units, as the method is simple and incorporates easily available test and medications.
- The results from the PRO-OSTEO project have been presented at Peninsula Health’s celebrating research week in 2011, Society of Hospital Pharmacists of Australia Victorian summit in 2011 and an article was published in Archives of Osteoporosis in the same year for other clinicians to consider applying at their practices.
Project Title
FAST, APPROPRIATE AND SAFE TREATMENT FOR FRACTURED NECK OF FEMURS (FAST-NOF)

Member Organisation
THE QUEEN ELIZABETH HOSPITAL
CENTRAL ADELAIDE HEALTH SERVICE

Department, Unit, Service or Group submitting the project
FAST-NOF TEAM

Author/s                                      Position Title
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Aim
To implement best practice principles in the care of patients admitted with a neck of femur fracture.

Abstract
A multidisciplinary team collaborated to improve the quality of care for people admitted to the The Queen Elizabeth Hospital (TQE) with a fractured neck of femur (DRG IO8). Using a “Lean Thinking” approach, the team sought to eliminate delays in the patient journey and instigate an improved level of care based on international best practice guidelines.

Improvement strategies included – value stream mapping, use of patient stories / journeys, identification of key wastes, challenging historic practices, engaging staff from across the patient journey, regular feedback and action planning sessions.

After 6 months there was a 41% decrease in RSI (Relative Stay Index) and a 4.8 day decrease in ALOS (average length of stay). Time from emergency admission to theatre decreased to near or below international best practice guidelines (<24 hours).

Application of EQuIP Principles
Consumer / Patient Focus
Before and during the project we spoke to patients about their journey through the TQE, asking them what had impressed or concerned them (patient ‘stories’). These issues were then incorporated into the improvement process. Throughout the project, each patient journey was tracked to identify the cause of any delays and the Nurse Practitioner discussed these with the patient and or family.

Effective Leadership
A key group within the broader FAST-NOF team have provided leadership to staff. These included a senior member of the Safety & Quality Unit, who facilitated the team, gave guidance on improvement methodology and strategies to resolve issues when barriers were met. Active engagement of senior clinicians increased as the breadth of the patient journey was reviewed, including medical Heads of Unit in Orthopaedics, Emergency, Physiotherapy and senior staff from anaesthetics, nursing, gerontology and rehabilitation. These staff were essential to support and implement change across many departments.

Continuous Improvement
18 months on, the extended FAST-NOF Team continues to meet monthly to review performance and address ongoing / new barriers to best practice. The program focuses on commitment from services/departments rather than individuals only. As long as resources match demand and staff review performance regularly, this program should continue to maintain its efficiencies. Dips in performance have been identified during the changeover period between registrar groups within the various departments and this is now addressed by the consultants at the appropriate time. With consistent performance in ‘Time from ED to Theatre,’ the team have a greater focus on the interface between the post-operative management and preparation for rehabilitation.
Many members of the team have moved on to apply the same improvement principles in the treatment of patients undergoing joint replacement - 'Fast-Track Joints.'

**Evidence of Outcomes**

After 6 months of the formal project, the team achieved the following outcomes:

- 41% improvement in the Relative Stay Index (RSI)
- Day decrease in average length of stay (ALOS) for most common procedure within the DRG
- 250% decrease in the number of days that patients were 'stranded' within the acute care health system
- The time taken for the patient to progress from their ED admission to undergoing surgical repair decreased from an average of 42 to 24 hours
- Complication rates decreased from 32% to 14%
- Bed day saving of 507 days x $1500 per day per patient = $760,500 saving over 6 months

(Health Round Table comparison of DRG IO8 data for July-December, 2009 & 2010)

**Striving for Best Practice**

The team sought to identify best practice national (including Health Round Table benchmarking) and international literature. There is a plethora of information available on best practice principles in the management of hip fracture. The key to implementing best practice was to bring together staff from across departments and professions to develop a single improvement goal.

**Innovation in Practice and Process**

Staff engaged in ‘mapping’ the current patient journey and identified areas where problems could arise. Frank and open discussion occurred where each group identified opportunities and barriers from their perspectives and compared this against best practice principles. All teams/departments were committed towards ensuring that patients received evidence based care. The FAST-NOF model of care took into account the views of all stakeholders to design an outcome that did not disadvantage any group (win-win solution). Targets and goals were agreed to and change agents within each group were responsible for driving the required changes. A system of continuous performance measure was established that enabled timely intervention and feedback to be instituted.

**Applicability to Other Settings**

The principles which were utilised to design this model of care include: having overt support from key stakeholder groups; working collaboratively; using in-house corporate knowledge; utilising evidence based systems of program design; and evaluation. These principles are easily cross applicable to other settings and initiatives.

The time to theatre aspects of the FAST-NOF model of care are easily translatable to any teaching hospital as is the principle focus is on collaboration between key stakeholders and instigating best practice guidelines identified within the literature.
Project Title
24/7 CT SERVICE IN DEM

Name of EQuIP Member Organisation
ROYAL BRISBANE AND WOMEN’S HOSPITAL, QLD

Department, Unit, Service or Group submitting the project
DEPARTMENT OF MEDICAL IMAGING

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Aim
To enhance patient care through increased overnight CT (Computed Tomography) imaging services for Emergency Department

Abstract
Improved diagnostic services for ED patients has been achieved through more timely CT imaging by the implementation of a rostered night shift for CT radiographers. This critical change was achieved through extensive staff consultation within the Department of Medical Imaging (DMI) and the Emergency Department. The change has brought additional improvements in the ED and hospital wide patient flow

Application of EQuIP Principles
Consumer / Patient Focus
This change in medical imaging services was aimed at improving outcomes for both the patients and Emergency Department.

Effective Leadership
Staff engagement in this significant change, was achieved by focusing on the positive patient outcomes and continuous negotiation with staff to achieve workable and acceptable solutions.

Continuous Improvement
The CT radiographer night shift was introduced to enable more timely diagnosis and treatment decisions for patients presenting to the Emergency Department.

Evidence of Outcomes
Data showed that the average waiting time from admission to scan was reduce by almost 50%

Striving for Best Practice
The move to on-site overnight CT radiography services supports the RBWH to meet industry standards for tertiary trauma hospitals

Applicability to Other Settings
Both Gold Coast and Townsville Hospitals are now modelling their ED CT services and the change management processes, on those undertaken at the RBWH.
Project Title
EAT WALK ENGAGE

Name of EQuIP Member Organisation
ROYAL BRISBANE AND WOMEN’S HOSPITAL (RBWH), QLD

Department, Unit, Service or Group submitting the project
SAFETY AND QUALITY UNIT AND DEPARTMENT OF INTERNAL MEDICINE AND AGED CARE

Author/s | Position Title
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Prue McRae | Falls/ Evidence Based Practice Coordinator, Safety and Quality Unit, RBWH
Alison Mudge | Clinical Director, Research and Education, Internal Medicine and Aged Care RBWH

Aim
To promote early functional and cognitive recovery in elderly patients admitted to acute care, using an integrated whole-team approach

Abstract
This ward-based quality improvement intervention was undertaken over a 15 month period in a general medical ward to improve processes of care and outcomes for acute medical inpatients aged 65 years and older. Two experienced project leaders acted as facilitators, working with the local multidisciplinary teams (MDT) to identify and implement local strategies addressing three broad aims: improving nutritional intake, enhancing mobilisation and independence, and providing cognitive stimulation. Implementation included engagement of local champions, cyclical measurement and feedback on care processes, identification of barriers and solutions, interdisciplinary education sessions and an innovative multi-professional allied health assistant role. Data sources included nursing documentation, patient report, observation and routine reporting of falls and length of stay (LOS).

Sequential audits of observation and patient-reported feedback (4 cycles, n=51) showed sustained improvements in nursing documentation, patient mobility levels and availability of cognitive activities. The proportion of patients having walked recently increased from 63% to 100%, while bed-side availability of cognitive activities increased from 27 to 60%. Patients requiring assistance to eat consistently reported receiving help. These improvements were achieved without an increase in falls events or length of stay; indeed it is likely that falls and LOS have improved although trends over time are difficult to interpret due to a range of confounders.

Application of EQuIP Principles
Consumer / Patient Focus
The ageing of the population is placing major demands on healthcare. At RBWH, 50% of bed days are occupied by people aged 65 and older, consistent with national figures. In addition to a high prevalence of multi-morbidity, older patients have a high prevalence of functional dependence, cognitive impairment and malnutrition, all of which can worsen in hospital. Management requires a coordinated, interdisciplinary approach. Routine hospital processes must be designed to optimise care for older people and ensure efficient, integrated, and patient-centred care.

Eat Walk Engage aimed to refocus the healthcare team, carers and the patient on the priorities of resuming functional independence. Patients and carers were actively engaged in the program using a range of strategies including information, participation in activities, and contribution to strategy planning, with opportunities for feedback on their care and preferences. Brief patient interviews were an important source of evaluation data.
Effective Leadership
Strong interdisciplinary leadership support occurred at multiple levels (Executive Directors, senior clinicians and local clinical champions) and has been essential to successful implementation. This allowed the implementation team to inspire and motivate local clinicians to develop new systems and strategies, reflect on their success, and learn from failures, and enhanced their sense of mutual responsibility for patient outcomes. The team has ensured visibility in the organisation with powerful advocacy for care of older patients, and will use the successful pilot as “proof of concept” to guide further dissemination.

Continuous Improvement
EWE was implemented in a ward with a strong culture of continuous improvement. The local work group (consisting of senior nursing, medical and allied health staff as well as the project leaders) met monthly to identify and refine successful strategies and discard unsuccessful ones. Timely feedback of data collected in snapshot audits prompted reflection on successful processes, assisted iterative improvements in care processes and ensured ongoing engagement of staff.

Evidence of Outcomes
Process indicators were selected to monitor changes in key documentation and care processes related to nutrition, mobility and cognition. Sequential three-monthly snapshot audits were conducted based on observation, patient-reported feedback and nursing documentation. Previous high quality local research had clearly demonstrated the association between process and individual patient outcome indicators, providing credibility of measurement. Two important and relevant outcome indicators were selected from administrative data sources: falls events (from the hospital incident reporting system) and length of stay.

Striving for Best Practice
EWE built on international evidence and published local research and quality improvement initiatives which demonstrated improved functional outcomes for older medical patients while reducing falls, the incidence of delirium and length of stay. The program translated the successful aspects of the previous research projects and embedded them in routine practice to improve outcomes. Implementing evidence into practice is a complex task, especially for a program requiring a change in work practices and culture. The use of an evidence-based implementation framework assisted the implementation team to understand the critical elements required for successful implementation.

Innovation in Practice and Process
EWE is innovative as it provides a simple integrated approach to address multiple risk factors concurrently; uses evidence-based implementation methods (including education, use of champions, social marketing strategies, etc); and has used a novel workforce solution by implementing a multi-professional Allied Health Assistant.

Applicability to Other Settings
Implementation of complex healthcare interventions requires a significant investment in change management skills in order to ensure key elements of success. Learnings from a programmatic approach to implementation across other wards at RBWH will provide valuable information for other sites who wish to improve care for our major hospital users—the elderly.
**Project Title**

A PLEURAL PROCEDURES PATHWAY FOR A PUBLIC HOSPITAL TO REDUCE COMPLICATIONS

**Name of EQuIP Member Organisation**

ROYAL BRISBANE AND WOMENS HOSPITAL, QLD

**Department, Unit, Service or Group submitting the project**

THORACIC MEDICINE

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**Aim**

To improve hospital practices of pleural fluid aspiration and intercostal catheter insertion, thereby reducing complications from these procedures, and streamlining to reduce unnecessary procedures.

**Abstract**

**Background**

Complications from pleural procedures (pleural fluid aspiration and chest tube insertion) are an ongoing concern in hospitals around the world. These include pneumothorax and bleeding from puncture of intercostal arteries.

**Methods**

A two pronged multidisciplinary approach was undertaken in a large tertiary public hospital. First an evidence based consensus guideline on an approach to pleural effusions was made between departments of General Medicine, Thoracic Medicine, Thoracic Surgery, Radiology, and Emergency Medicine. A key part of this approach was ensuing pleural ultrasound was done before all procedures, adequate supervision was available for junior doctors was available, and that a logical approach to reduce the total number of procedures was taken. Secondly a structured hands on training program was devised to teach Internal Medicine registrars chest tube procedures, which was followed up with a detailed tick box examination by observing each registrar perform the procedures on mannequins. A 12 month retrospective audit was compared to the 12 months prospective evaluation of pleural procedures in the hospital after introduction of the pathway.

**Results**

A total of 83 procedures were done in the 12 months before the pathway and a total of 81 procedures after introduction.

Use of ultrasound: Pre to post pathway the use of ultrasound overall improved from 74% to 98%. This included ultrasound immediately prior to the procedure in 27% versus 91%, p<0.001. Pneumothorax and major complications occurred in 9 and 8 patients before the pathway but since the pathway from a prospective audit there have been no incidences of either of these complications. Major complications pre the pathway introduction included 1 ICC placed in the lung, 1 in the chest wall, 1 major pleural bleed (resulting in the death of the patient), and 5 chest tubes which did not drain anything.

**Registrar teaching**

To date 18 Medical Registrars have undergone a 90 minute hands on training session and had a formal assessment on insertion skills on a mannequin by 2 Thoracic Physicians and or Thoracic Surgeon. Results (mean, SD) on the detailed tick box assessment form were Blunt dissection Chest tube 72% ± 7, and Seldinger(Guide wire) chest tube 70% ± 7.
Conclusions
We have seen definite improvements in benchmarks of quality of pleural procedure performance since the introduction of the pleural procedures pathway and teaching structure.

Application of EQuIP Principles
Consumer / Patient Focus
From the patient perspective reduced complications from any diagnostic procedure is paramount. Also, having fewer procedures and the best procedure is outlined in the pathway. We are ridding the hospital of the practice of repeated fruitless aspirates and repeated chest tube insertions without any clear goal.

Recent Australian and International guidelines stipulate the ongoing complications of pleural aspiration (pleural fluid needle sampling, or “pleural tap”) and intercostal catheter insertion (“chest tubes”). These include moderate complications such as pneumothorax and major such as bleeding or penetration of viscera. A raft of practice improvements have been recommended. We sought to put these recommendations into a “Pleural management pathway” which was both a teaching tool and a management tool. The safety recommendations were in built into the pathway, and included always seeking supervision, performing all procedures with pleural ultrasound guidance (to ensure the correct position of entry), procedures to be done in daylight hours, correct pre-procedure checks and results interpretation. The pathway also explained an overall approach to the diagnosis and management of pleural effusions so that the overall number of investigations and taps could be limited. The goal of that was to ensure the most definitive procedure (either VATS or Thoracoscopy) was done in a timely fashion. This pathway went “live” on the hospital intranet in September 2011 and was presented at Medical Grand Rounds. Medical Registrars were also made aware of it repeatedly at Registrar meetings.

Effective Leadership
We presented the program at Grand Rounds. We discussed with all stakeholders including General Medicine, Thoracic Surgery, Medical Oncology, Radiology, and Emergency Medicine. We provided the leadership to bring the needs of these departments (all of whom have input in the management of pleural effusions) together.

Continuous Improvement
Ongoing teaching of pleural procedures dovetails with the guidelines in the Pleural Management Pathway. We continue to prospectively monitor outcomes as per the audit presented in the abstract.

Evidence of Outcomes
We have already seen improvements in the following key indicators
- Pre procedure pleural ultrasound overall now done in 98% of procedures
- Pleural ultrasound at the site where tap will occur has increased from 27% to 91%, a key recommendation of many authors in the promotion of safety of pleural procedures
- Reduction in pneumothorax rate, presently at nil

Striving for Best Practice
To facilitate procedures done with ultrasound guidance the Thoracic Medicine team have all undergone pleural ultrasound training and purchased a state of the art portable ultrasound unit (thanks to Private Practice Trust Fund) to facilitate the smooth performance of procedures in our unit. We also have expertise in Medical Thoracoscopy which provides a simple way of getting the most information at the “end point” of the pleural pathway- something which other teams can access readily rather than doing multiple pleural procedures.

From the patient perspective reduced complications from any diagnostic procedure is paramount. Also, having fewer procedures and the best procedure is outlined in the pathway. We are ridding the hospital of the practice of repeated fruitless aspirates and repeated chest tube insertions without any clear goal.
Innovation in Practice and Process
Our approach is innovative and such a pathway has not been implemented elsewhere. It is evidence based and uses broad expert opinion as it arises from recommendations of the BTS and the TSANZ.

Applicability to Other Settings
It could be applied in any public hospital to reduce pleural procedure complications.
Project Title
AIN ROUNCING IN DEM

Name of EQuIP Member Organisation (in Caps)
ROYAL BRISBANE AND WOMEN’S HOSPITAL, QLD

Department, Unit, Service or Group submitting the project
DEPARTMENT OF EMERGENCY MEDICINE NURSING STAFF

Author/s                                Position Title
Sally Jones                               Acting Assistant Nursing Director DEM

Aim
To evolve the AIN role in DEM from stock management into undertaking rounding in DEM, including patient care within the scope of practice of an unlicensed care worker.

Abstract
At a meeting held 18 months ago with the AIN group in DEM, the idea was floated about enhancing the existing role of the AIN in DEM which only included restocking,

- to include simple patient care (within the scope of practice of an AIN) to assist patients to access toilets, and have assistance in the shower enabling Critical Care qualified nursing staff to continue to provide advanced clinical care for other patients;
- to include rounding to ensure all patients in Acute were given an opportunity to go to the toilet, and have something to eat or drink if clinically appropriate (determined by the RN)
- The AINs agreed to undertake their Certificate III Health Care Assistant course through TAFE college, supported by tutorials held with the A/AND and CNCs in order to prepare for the change in role

After negotiation with Hospital in the Nursing Home service, a Scholarship was developed to support AINs in DEM to undertake training to assist in the care for all patients but more specifically the long stay older patients of DEM. The first recipient of the Scholarship was awarded in July 2011.

Application of EQuIP Principles
Consumer / Patient Focus
The implementation of the National Emergency Access Target nationally focuses on ensuring patients have timely access to care. Despite this goal, patients can spend longer than desired in the Emergency Department without easy access to food and drinks, or without assistance to the toilet, mobilising or help in the shower. The introduction of AIN rounding in DEM seeks to address these gaps in service delivery to improve the patient experience in DEM. Previously, access to food and a drink were often cited in complaints.

Effective Leadership
The introduction of AIN role changes into the Department of Emergency Medicine was undertaken as part of preparation for the Transforming the Emergency Care Experience campaign which commenced in DEM by the Nursing Leadership Team in April 2012.

Two AINS have successfully completed their Cert III, and the third is half way through the course. A group of enthusiastic Clinical and Registered nurses was compiled through an EOI to all staff, who provide support with tutorials and bedside teaching (within the scope of practice) for the AIN team.

Under their supervision, the AINS have learned to shower, bed sponge, provide elimination support and feed patients, as well as undertake ‘specialling’ of confused patients.
The AINs have also been encouraged to become more active innovative members of the nursing team, taking on the responsibility to develop and implement a process for managing DEM patient lost property.

The AINs continue to undertake restocking activities to ensure that clinical consumables are available to the clinical staff at all times.

**Continuous Improvement**

Development of the AIN role has improved staff and patient satisfaction by attending to a gap in service provision in DEM.

In alignment with the DEM portfolios, AIN role development is assisting to achieve:

**Strategic Planning**

- Fulfilling the *Transforming the Emergency Care Experience* campaign

**Quality and Performance**

- Reduction in patient complaints relating to lack of food and drink provided whilst in DEM
- Improved quality of care

**Workforce Development and OH&S**

- All AINs in DEM with Cert III Health Care Assistant qualifications
- Enhanced workforce with increased knowledge, skills and abilities in current AINs in DEM

**Education / Contemporary Nursing Practice**

- Development (underway) of DEM AIN Transition package

**Service Improvement**

- Establishment of new work role for AINs

**Evidence of Outcomes**

Outcome of AIN rounding has been measured by a staff satisfaction survey, and an ad-hoc patient survey

**Striving for Best Practice**

National Emergency Access Target aims to reduce the ED patient length of stay to four hours or less. As the RBWH works to achieve this target, it is common for patients to spend longer than four hours in DEM, and competing priorities of other patient’s needs can mean that waiting patients are less likely to receive food or a drink or assistance with toileting or hygiene cares. Whilst rounding by health care assistants is not a new concept, it is a change to the delivery of service in the Emergency environment. This evidenced based change demonstrates commitment from DEM to achieve a measured and continually evaluated quality initiative providing patient care that is safe and consumer focused.

**Innovation in Practice and Process**

The AIN role in DEM was transformed from stock management into a new role which included the delivery of a new service. The AINs now provide direct patient cares within their scope of practice, such as showering patients, bed sponging patients, providing elimination support and feeding patients, as well as undertaking ‘specialling’ of confused patients. In order to support the evolvement of the role, a training package was developed for the current and future AINs to support and educate them in the new role. AINs now support the RN in DEM to provide holistic care to DEM patients, where previously in peak times with high volumes of patients and Emergency Department overcrowding, these tasks would have been difficult to achieve by the RN alone.

**Applicability to Other Settings**

This body of work is applicable to other settings.
**Project Title**
READY SET GO – MEETING NEAT

**Name of EQuIP Member Organisation**
ROYAL BRISBANE AND WOMEN’S HOSPITAL, QLD

**Department, Unit, Service or Group submitting the project**
DEPARTMENT OF EMERGENCY MEDICINE AND PATIENT FLOW UNIT

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**Aim**
To implement a ‘Just In Time’ (Lean Concept) Bed Request ordering process for admitted inpatients from the Department of Emergency Medicine to Wards.

Using Lean review of Muda (waste) methodology, a review of existing processes was undertaken of Bed Request procedure to:

1. Identify and minimise defects (missing or incorrect information) in Bed Request form
2. Booking of beds too early leading to delays in allocation or patients being discharged from DEM without needed booked bed
3. Batching of Bed Request forms in DEM and in Pt Flow Unit awaiting further processing leading to delays in allocation of beds
4. Unnecessary over-processing (lodging and re-lodging of forms with more detailed information each time)
5. Unnecessary motion of employees
6. Unnecessary transport and handling of goods (multiple handling of Bed request forms and phone calls to and from DEM to Wards)
7. Waiting for an upstream process to complete (waiting for patient discharge, bed cleaning, notification of bed ready status)
8. Confusion - missing or misinformation.

Lean Just-in-time ordering process was implemented called Ready Set Go which:

- Reduced phone calls to and from DEM to Wards (and wasted time)
- reduce duplication
- reduce confusion
- right information, in the right place at the right time
- addressed the key performance indicators for DEM and the organisation,
- create more robust framework that aligns with ACHS
- Improve patient safety and outcomes

**Application of EQuIP Principles**

**Consumer / Patient Focus**
The implementation of the National Emergency Access Target nationally focuses on ensuring patients have timely access to care. Improvements in the communication and processes surrounding the patient admitted to the hospital after their Emergency Department presentation endeavours to ensure the patient receives the right care, in the right place and the right time, improving their satisfaction with their care experience, meeting their expectations, and ensuring safe outcomes.

**Effective Leadership**
The initiation of Ready Set Go was a collaborative work between DEM and the Patient Flow Unit to address joint concerns about the delays in transferring patients from DEM to wards. The process review highlighted many causes for delays which have been problem solved with the input of both teams.
As Patient Flow Unit educated and supported ward staff in the new processes, DEM staff learned about Lean principles, simplifying and standardising the bed request process. DEM conducted tours of the department to give the Ward staff an opportunity to see in person where Access Blocked inpatients were ‘held’ in DEM and to understand the feeling of the overcrowded environment in DEM when there are inpatients, walk-in patients and ambulances ramped. The purpose of the tours was to encourage a link between DEM and Wards to facilitate a Lean ‘pull’ culture from the ward staff. The Clinical Nurse team in DEM began to learn the Flow Coordination role with the introduction of Ready Set Go, as the process was less convoluted and becoming more standardised. This enabled the Clinical Nurse Consultant team to maintain the overall surveillance of the quality of care being delivered in DEM.

Continuous Improvement
A single email address was established to enable any staff to submit their queries, complaints or suggestions to improve the process. It is reviewed by both DEM and Patient Flow Unit. In alignment with the DEM portfolios, Ready Set Go is assisting to achieve many Nursing leadership goals such as a National benchmarks set for NEAT.

Evidence of Outcomes
Outcome of Ready Set Go development can be measured by reviewing
- Patient Flow dashboard data in SPC charts that demonstrates improvement in meeting key performance indicators (DEM Workup time, Bed Allocation time, number of inpatients in DEM)
- Clinical Incidents through PRIME relating to Inpatients delay to ward transfer decreased
- Improvement in communication and collaboration with Patient Flow Unit and Ward staff

Striving for Best Practice
National Emergency Access Target has been proven to reduce patient mortality in EDs (Geelhoed and de Klerk, 2012). Ready Set Go is an initiative designed to improve the transfer of inpatient from ED to the ward in a timely manner.

Innovation in Practice and Process
Lean process improvement isn't a new concept, but it is relatively new to health care. There are many skeptics who believe Lean is a manufacturing strategy and is not suited for medical care. Like the manufacturing industry, hospitals are in fact, extraordinarily complex organisations, with multiple interacting processes. Many of the principles of the Toyota Production System and other lean tools can and do apply to medical care delivery processes. The use of Lean Just in Time ordering (Bed request) in DEM has improved the patient journey by reducing waste (time and resources) in the flow process.

Applicability to Other Settings
Yes this model can be replicated in any setting.
Project Title
NO PAIN IS A GAIN–TIME TO ANALGESIA IMPROVEMENT IN DEM

Name of EQuIP Member Organisation
ROYAL BRISBANE AND WOMEN’S HOSPITAL, QLD

Department, Unit, Service or Group submitting the project
DEPARTMENT OF EMERGENCY MEDICINE NURSING STAFF

Author/s Position Title
Sally Jones Acting Assistant Nursing Director DEM

Aim
To meet a time to analgesia target set by the Centre for Healthcare Improvement (CHI) and ACHS Clinical Indicators for Emergency Departments where 80% of patients presenting to DEM with abdominal or limb pain received analgesia within 30 minutes of arrival.

Abstract

Methodology
- As per the CHI and ACHS instructions, 50 medical records of patients who presented to ED with the required complaints was randomly selected and audited for documented evidence of the administration of analgesia.
  - This time was measured against the Triage time (time of arrival).
  - Patients who had received pre-hospital analgesia (in ambulance en route) were excluded
- After the first audit, education was provided by way of in-service and clinical coaching (bedside teaching by champions) to staff on accurately documenting the assessment and administration of analgesia, and the importance of timeliness of administration.

Two subsequent audits showed that the 80% target was met

Application of EQuIP Principles

Consumer / Patient Focus
The implementation of the National Emergency Access Target nationally focuses on ensuring patients have timely access to care. Literature supports that timely analgesia can improve the quality of a patient’s experience in a health care setting and that a patient’s perception of pain, particularly in ED, can dramatically affect their view of the experience, and their compliance with discharge post-care instructions (LaVonne, Downey and Zun, 2010). Improving the assessment and delivery of analgesia to patients presenting to the ED with pain enhances the overall patient experience.

Effective Leadership
DEM Nursing Leadership’s commitment to delivering on Transforming the Emergency Care Experience campaign includes Time to Analgesia and documentation of pre-and post analgesia pain scores in the top 6 nursing priorities. Given that the 80% of the 50 charts audited met the target, it is important to continually monitor this KPI and report performance back to the staff to ensure the high standard continues to be met. The Time to Analgesia target compliance will be displayed in Quality Street (a staff access corridor displaying a variety of DEM KPIs).

Continuous Improvement
In alignment with the DEM portfolios, focusing on Time to Analgesia as a KPI is assisting to achieve:
### Strategic Planning
- Fulfilling the *Transforming the Emergency Care Experience* campaign

### Quality and Performance
- Reduction in patient complaints relating to poorly managed pain whilst in DEM
- Improved quality of care
- Maintenance of the Time to Analgesia KPI

### Education / Contemporary Nursing Practice
- Consider implementation of Nurse Initiated Analgesia as is implemented in other Emergency Departments in Australia

### Service Improvement
- Improvement in Controlled Drug audit results

### Evidence of Outcomes
The outcome of the education intervention and clinical champions was that the CHI and ACHS target was met – that 80% of 50 randomly selected medical records of patients presenting to ED with abdominal or limb pain received analgesia within 30 minutes of arrival.

### Striving for Best Practice
National Emergency Access Target aims to reduce the ED patient length of stay to four hours or less. A reduction in perceived pain levels does directly relate to several indicators of customer service. Patients who experienced pain relief during their stay in the ED had significant increases in distress relief, rapport with their doctor, and intent to comply with given instructions.


### Innovation in Practice and Process
Timeliness of the administration of analgesia in DEM has not previously been audited. The introduction of the initial audit has highlighted the opportunity to improve. Therefore, education was provided by way of in service and clinical coaching (bedside teaching by champions) to staff on accurately documenting the assessment and administration of analgesia, and the importance of timeliness of administration. Improving the assessment and delivery of analgesia to patients presenting to the ED with pain enhances the overall patient experience. DEM has planned to continue with the audit on a monthly basis in order to ensure the maintenance of the Time to Analgesia target and the delivery of quality patient care.

### Applicability to Other Settings
Yes this model can be replicated in any setting.
Project Title

OPTOMETRY – OPHTHALMOLOGY WORKFORCE COLLABORATION

Name of EQuIP Member Organisation

THE ROYAL VICTORIAN EYE AND EAR HOSPITAL, VIC

Department, Unit, Service or Group submitting the project

OPHTHALMOLOGY SERVICES

Author/s Position Title

Stephanie Tsonis Senior Orthoptist (Project Manager)

Aim

To utilise existing skilled workforces in the community to identify patients who require tertiary ophthalmological care versus inappropriate referrals that could be more appropriately managed in the community.

Abstract

The Royal Victorian Eye and Ear Hospital (RVEEH) receives around 10,000 new referrals for ophthalmological services per year, almost half of which are from general practice. An audit identified over a third of referrals (approximately 1,500 new hospital visits per year) could potentially be treated in the community. The Optometry-Ophtalmology Workforce Collaboration (OOWC) project, a collaboration with the Australian College of Optometry (ACO) and the RVEEH, aimed to identify patients who could be more appropriately managed in the community so that patients requiring tertiary ophthalmological care were able to have greater access to specialised care.

The project tested a model of eye health provision for integrated care between ophthalmology and optometry. A pilot clinic was implemented to assess up to 800 new General Practitioner (GP) referred patients with no clear need for specialised RVEEH medical or surgical intervention, for example general eye checks or diabetic eye screenings. These unclear referrals were seen in the first instance by the ACO under the supervision of an RVEEH Ophthalmologist. The role of the pilot clinic was to identify patients who require tertiary ophthalmological care versus referrals that could be more appropriately managed in the community. Inappropriate referrals were more appropriately reviewed at the ACO or diverted to other providers, and complex patients were referred directly into sub-specialty clinics without the need for general eye clinic attendance reducing the number of appointments for patients.

Results demonstrated only 28% of patients who attended the pilot clinic required further RVEEH follow up and intervention. More than half of patients (55%) remained at the ACO for ongoing care and the remainder where discharged.

This project demonstrated a model of care that can successfully meet the needs of patients and address the current and future growing demand on referrals. By creating opportunities to expand community relationships with existing skilled workforces the availability of Ophthalmologists can be better utilised to create a new and sustainable mechanism for improved eye health delivery in Australia.

The project was funded by the Department of Health Workforce Grant Program 2010-2011.

Application of EQuIP Principles

Consumer / Patient Focus

- The Patients Experience Survey (PES) was developed by the Centre for Eye Research (CERA) to fully understand the patient experience. A representative sample of 78 (11%) of the 686 patients who attended the pilot clinic completed the survey.

Feedback received by patients who attended the clinic was overall positive and affirmative of the model of care. The survey identified:

- 97% rated the quality of care as excellent or very good
- 94% were satisfied with the outcome of their appointment
- 97% were happy with the time spent with the Optometrist to discuss eye problems
One patient summed it up as “I was impressed as I have had a lot to do with the public system and this was the best public experience I have had to date”.

- The steering committee of the project also included a representative from the RVVEEH Community Advisory Committee to ensure a consumer perspective was always considered in all decisions made.

**Effective Leadership**

- Instigated by the Executive of Ophthalmology Services who led the Hospital Improvement Program with an aim to improve outpatient services and timely access.
- The commitment demonstrated by the clinical champion’s readiness and willingness for change ensured open communication and ongoing progress and played a key role in the success of the project.
- Establishment of a joint steering committee to ensure ongoing monitoring and concise decision making. Membership consisted of RVVEEH and ACO executive, clinical champions, RVVEEH GP Liaison Officer, a community representative and representatives from professional bodies such as the Royal Australian and New Zealand College of Ophthalmologists (RANZCO) and the Optometry Association Australia (OAA).

**Continuous Improvement**

- A database was developed to store all clinical outcomes for easy access and retrieval of data and ongoing monitoring. Clinical outcomes were reviewed weekly and the results were reported for discussion at the joint Steering Committee meetings on a monthly basis.
- Lessons learnt from the early stages of monitoring were reviewed by the steering committee and improvements were made to ensure positive lessons were taken up. An example of this was the high did not attend rate (15%) and the positive impact after the introduction of a mobile phone SMS patient appointment reminder system reduced it to 11%.

**Evidence of Outcomes**

- With effective use of standardised clinical guidelines and referral pathways, only 28% of patients required further tertiary ophthalmological care and attendance at the RVVEEH.
- Of the patients who required RVVEEH review the initial ACO diagnosis was confirmed at the RVVEEH review appointment in 90% of cases.
- 69% of patients received treatment or consent for surgery at their first RVVEEH appointment.
- 55% of patients were discharged to the ACO for ongoing care until tertiary care was required and the remainder were discharged to GP or no further follow up was required.

**Striving for Best Practice**

- All the participating Optometrists obtained RVVEEH honorary appointments to ensure standardised patient care and adherence to RVVEEH policy and procedures. This was attained via an orientation day at the hospital and clinical attendance with the supervising Ophthalmologist on the General Eye Clinics.
- Safe clinical practice and quality of care was supported through the use of evidence based clinical management and referral pathways. These guidelines were developed in collaboration with clinical champions, including two consultant principal optometrists from the UK who lead service redesign at the Royal Victoria Hospital Belfast and the Manchester Royal Eye Hospital.
- Ongoing education was a component of the project with tutorial sessions held at the end of each clinical day.
- The project was independently evaluated by the Centre of Eye Research (CERA) to ensure neutral analysis of clinical outcomes.

**Innovation in Practice and Process**

- Optometrists and Ophthalmologists have traditionally not worked collaboratively in a clinical setting and almost all of Optometrists are primarily employed independently in the
community setting. This project demonstrated the benefits of collaboration and integration.

- This project was an opportunity to take the first steps in bridging the gap between these two professions and lay the foundation for future work.

Applicability to Other Settings

- The clinical guidelines and referral pathways developed potentially could be used as a platform to develop a similar model in other settings.
- It is critical the two organisations have a mutual understanding and a robust relationship.
Project Title
FALLS PREVENTION INNOVATIONS WITH MUSIC AND DANCE

Name of EQuIP Member Organisation
MORUYA HOSPITAL
SOUTHERN NSW LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
PHYSIOTHERAPY DEPARTMENT
EUROBADALLA COMMUNITY HEALTH

Rachel O'Loughlin Physiotherapist

Aim
To devise a program using music and dance to improve mobility and reduce rates of hospital admissions in the elderly population, including those with dementia and in residential care.

Abstract
A research project conducted by a regionally based physiotherapist was designed to improve and maintain the mobility status of residents of aged care facilities. The project also represented a concrete expression of the idea that dance and music can benefit the health of people beyond perceived age limitations. One local facility enjoyed the benefits which integrated approaches of arts (dance and music) with exercises for strength and mobility. A grant from HETI as part of the Rural Research Capacity Building program enabled implementation and evaluation of such a program. (RRCBP, 2007) Although completed in 2010, the interest and dissemination of the idea has continued, with presentations and workshops to numerous conferences both statewide and nationally.

Application of EQuIP Principles
Consumer / Patient Focus
This program was inspired by the desire to reduce the number of hospitalisations for people from aged care facilities, who were returning to an acute care hospital on a regular basis due to issues of deteriorating mobility or from injuries related to falls. The highest level evidence (Gillespie, et al., 2009) supports effectiveness of group exercise programs in reducing falls. Empowering patients is also a part of this project as literature suggests that music has unique potential to reach people who have conditions such as dementia (Sacks, 2007).

Effective Leadership
Frequent and recurring admissions of elderly people with poor mobility and in the absence of other medical problems to an acute care hospital seemed to make up the bulk of a therapists' caseload. Many were from residential facilities and this observation was the catalyst for this clinician to try to figure out a better solution. When there is some degree of dementia, being admitted into hospital is disorienting and not the ideal setting for improvement. Falls in the elderly population is well recognized as a preventable problem which can lead to lengthy hospitalizations.

Continuous Improvement
Despite completion of this particular program, invitations to speak locally and statewide are ongoing. A workshop delivered at the 5th Rural Allied Health Conference (NSW RAHC, 2011), saw over a hundred allied health professionals participating while being provided with tools and examples on how to translate their existing skills into a dance and movement program using music.

Evidence of Outcomes
Mobility tests performed included a Timed Up and Go test and the Tinetti balance scale. Both gave falls risk categories which aligned with each other. Each participant also completed the geriatric depression scale, which gave an indication of mood, revealing levels of depression. Results after participation in the 14 week program showed movements away from the high risk category for falls and also away from the severely depressed category. While the results were not statistically significant, all participants with intact memories stated that they would like to continue (14/17) and one
of the three who could not remember doing the classes stated that she would probably like to do that sort of thing. There were very positive comments from other staff and the director of the aged care facility, including observations that there were more smiles on faces.

**Striving for Best Practice**

The Eurobodalla region of NSW boasts 24% of its population over the age of 65 compared with 12% across the rest of the state and country. (Eurobodalla, 2009) Improving the management of the elderly population is in urgent need for innovative solutions and change, as the local statistics will become more prevalent Australia wide. The issues which plague the elderly include dementia and chronic diseases such as diabetes, chronic lung conditions and osteoarthritis. Neurological problems are prevalent, and these may be stable (after recovering from a stroke) or progressive (such as Parkinson’s disease.) All of these conditions contribute to decreased mobility and have been major causes for hospital admissions requiring physiotherapy assessment and treatment. Existing programs in the community aimed at maintaining mobility available for the elderly are typically for those who can access transport and exclude those with limited mobility, dementia and progressive neurological problems.

**Innovation in Practice and Process**

As this clinician was a dancer as well as a physiotherapist, the idea of using dance and music to help maintain health was self-evident. Historically, however, the fields of arts and of health were quite separate. In 2007 a stream acknowledging benefits of arts in health was showcased in the 9th National Rural Health conference in Albury and further development of this theme was one of the priority recommendations to emerge. (Rural Health Alliance, 2007). A grant from the then Institute of Rural Clinical Services and Teaching (now) HETI, in 2007 enabled the project to be undertaken as a controlled, quantitative study. Literature reviews were undertaken to determine the feasibility of such a program and to review recommendations. Numerous research studies supported the idea that group exercise with the inclusion of music and dance in these populations can very beneficial in residential aged care facilities. (Raglio, et.al, 2006; Sung et.al; 2006; Van de Winckel et al, 2004; and Hackney, et al 2007) The clinician used her dance teaching methodology combined with skills and knowledge as a physiotherapist to devise exercises designed to improve balance while at the same time allowing creative expression through movement with the motivating atmosphere of music. Safety and consent concerns were addressed with the approval of the ethics committee. Medical release forms were used, and consent was obtained from all participants and also from family members if dementia was present. All participation was voluntary. Objective tests were used to measure mobility and mood. One facility was chosen on the basis of an enthusiastic response to a letter of invitation which had been sent to all local facilities. The implementation of the program required staffing support from Rural HETI and the aged care facility as well as the local Community Health managers.

**Applicability to Other Settings**

In the course of the study it became evident that the facilitator of such a program requires clinical judgment (such as those possessed by Allied Health practitioners) to enable adjustments of the program to suit the abilities of the participants. Once a program is established, the ongoing running could be taken up by experienced therapy assistants. Locally, skills learned by the facilitator have also been useful in conducting other group falls prevention programs such as Stepping On, which is ongoing and in collaboration with the Occupational Therapy department. There is not a “one size fits all” package to be delivered, however with some planning and development, there is much potential for further implementation of a much wider scale.
Project Title
RENEW – IMPROVING THE HEALTH CARE EXPERIENCE FOR RENAL PATIENTS PLANNING FOR DIALYSIS

Name of EQuIP Member Organisation
LIVERPOOL HOSPITAL
SOUTH WESTERN SYDNEY LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
RENAL SERVICES

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<td>Business Support Officer, South Western Sydney Local Health District</td>
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<tr>
<td>Ms. Margaret Chapman</td>
<td>Redesign Co-ordinator, Redesign &amp; Innovation Unit, South Western Sydney Local Health District</td>
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<tr>
<td>Professor Michael Suranyi</td>
<td>Director, Renal Services, South Western Sydney Local Health District</td>
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Aim
To improve the journey of patients with Chronic Kidney Disease from the point of referral to the Renal Team. Increasing coordination and collaboration between the multidisciplinary arms of the health care team.

Abstract
In March 2011 a Renal Redesign Project (RENEW) was undertaken to assess the pre-dialysis phase of a patient’s journey in the South Western Sydney Local Health District Renal Service. The project was conducted within the Redesign methodology, involving clear project phases, end dates and deliverables. In October 2011 Implementation Phase of the project commenced with majority of Stage 1 solutions being completed within the specified timeframe and with early indication of positive outcomes. The initial 6 months of implementation has resulted in increasing the coordination of patient care and the uptake of patients on home therapies, reduce occupancy in the acute dialysis unit, prevented avoidable admissions and increased support to patients at home. It also resulted in avoidable expenditure of over $280,500 in 6 months.

Application of EQuIP Principles
Consumer / Patient Focus
End Stage Renal Failure (ESRF) has been highlighted as an increasing public health problem in Australia with renal replacement therapy being one of two treatment options (the other being renal transplantation). There are a number of treatment modalities available for renal replacement therapy. Incentre Haemodialysis, Satellite Haemodialysis, Home Haemodialysis and Peritoneal Dialysis (both at home and in a nursing home based environment). Home dialysis modalities are under represented in the South Western Sydney Local Health District with less than 43% of patients utilising this service. This form of therapy has proven lifestyle and survival outcome advantages for patients, however the reasons behind why this modality is under represented is complex and results in many patients who are able to self manage their treatment, dialysing in hospital based treatment facilities which have reduced survival rates, and less autonomy for the patient to manage their own health care.

Effective Leadership
RENEW continues to maintain a strong Governance Structure with the Implementation Committee Meetings chaired by the Operational Sponsor and committed leadership within the Project Team. Change champion’s consisting of medical, nursing, allied health and administrative staff has ensured
commitment and leadership to the change direct from the renal service. A strong patient/consumer focus through interviews and surveys has provided insight into the renal health care service delivery.

Continuous Improvement
The project has improved co-ordination and collaboration between the multidisciplinary arms of the health care team, developing new or enhancing existing key performance indicators and accountabilities enabling formal and informal in house evaluation to continually improve service performance and processes. Follow up patient satisfaction surveys have also been implemented to provide feedback to improve service delivery and future service directions. The results of the project have the potential to create greater opportunities for enhanced patient care, modality planning, and empowering patients towards self-management of their health care.

Evidence of Outcomes
(1) Revised case management model resulting in:
- Increased the rate of pre dialysis patients planned for home therapy from 19% to 26% in 6 months.
- Patients educated earlier which allowed for better self-management and empowerment.
- Case Manager Surveillance managed two patients on community dialysis who would otherwise have suffered acute deterioration, and identified. Five patients to commence on Home Therapy directly by negotiating a revised dialysis plan.
- Reduction in number of pre dialysis patient waiting education from 49% to 38%.

(2) Renal eMR developed and piloted in December 2011.
- 4 weeks after ‘go live’ staff described the eMR as ‘easy to use’, ‘all the information is right there’ and ‘doctors have access to full, current dialysis information when they are reviewing the patient’.
- Resulted in an immediate positive impact on communication and patient safety.

(3) Home Therapies solutions have seen:
- Previous decline in Home Peritoneal Dialysis numbers arrested and reversed, with a 13% (21 patient) increase since July 2011 (Graph 1), saving of $262,500 in 6 months for the health system.
- Increase home visiting by experienced nurses, saved patients out of pocket expenses and travel time associated to clinics attendance in the hospital.
- Ten visits to haemodialysis patients at home troubleshooting issues - prevented hospitalisation and/or clinic admission, saving of $18,000 in 6 months.

Striving for Best Practice
The implementation of the RENEW redesign process has:
- Optimised management of pre-dialysis patients as patients are managed by an individualised care plan/dialysis initiation pathway.
- Reversed the trend of decrease in peritoneal dialysis and increased the uptake of both home therapies in the dialysis population of the South Western Sydney Local Health District.
- Reduced the number of preventable admissions due to the home visit and troubleshooting nurse service.
- Improved pre-dialysis patient education providing appropriate education in all modalities resulting in greater patient autonomy and empowerment in the management of their health care.

Innovation in Practice and Process
The RENEW project is unique and original with no other project of its kind being undertaken within Australia. This project contributes to International studies developing new insights into the influence integrated care pathways have on modality planning and the empowering of patients towards self-management of their chronic kidney disease. Early outcome data have demonstrated how redesigning existing resources and processes improve quality and efficiency whilst challenging and breaking down traditional perceptions of facility based dialysis treatment versus home dialysis treatments.
Applicability to Other Settings
While hospitals face challenges of increased demand, the model developed and implemented by Renal Service provides direction to meet these challenges and provide a real life impact on patients and capacity of the health system. Our model and the resources developed by our project can easily be adopted by other renal service providers. The success of this programme is attributable to the dedicated clinical and governing leadership and the provision of realistic clinical support via redesign of current service. The continuance of the Renal Case Manager and Trouble Shooting Nurse reflects their sustained commitment to maintenance of change. It has been demonstrated that this model of care, can, by bridging the knowledge/practice gap, be replicated to produce sustainable improved clinical and financial outcomes, improving quality of care, patient safety and efficiency.
**Project Title**

**EFFECTIVENESS OF A HOME-BASED PULMONARY REHABILITATION PROGRAM (PRP) IN PATIENTS WITH COPD WHO ARE UNABLE TO ATTEND A HOSPITAL-BASED PULMONARY REHABILITATION PROGRAM: A RETROSPECTIVE REVIEW**

**Name of EQuIP Member Organisation**

LIVERPOOL HOSPITAL

SYDNEY SOUTH WEST LOCAL HEALTH DISTRICT, NSW

**Department, Unit, Service or Group submitting the project**

PHYSIOTHERAPY DEPARTMENT, LIVERPOOL HOSPITAL

**Author/s**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position Title</th>
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<td>Senior Physiotherapist in Pulmonary Rehabilitation, Liverpool Hospital</td>
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<td>Matthew Jennings</td>
<td>Acting Physiotherapy Manager, Liverpool Hospital</td>
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**Aim**

To assess the effectiveness of a semi-supervised Home-Based PRP in improving exercise capacity and quality of life in patients with COPD who are unable to attend hospital-based programs.

**Abstract**

**Background:** Pulmonary Rehabilitation Program (PRP) has been shown to be one of the most effective interventions for Chronic Obstructive Pulmonary Disease (COPD). However, there are several barriers including access, illness severity and lack of perceived need, which has limited participation. To overcome some of these barriers, a Home-Based PRP was offered to patients who were unable to attend the Hospital-Based PRP from January 2009.

**Aim:** To assess the effectiveness of a semi-supervised Home-Based PRP in improving exercise capacity and quality of life in patients with COPD who are unable to attend the Hospital-Based PRP.

**Methods:** A retrospective review of the patients recruited to the Home-Based PRP at Liverpool Hospital between January 2009 and November 2010. The 6-Minute Walk Test (6MWT) and St George Respiratory Questionnaire (SGRQ) were used as outcome measures and data analysed using the Paired T-Test to assess the within subject difference.

**Results:** 87 patients were enrolled into the Home-Based PRP, 67 of who met the inclusion criteria. At post-program review 6MWT improved by 37.6m P<0.001 (53% meeting the 6MWT Key Performance Indicator) and SGRQ improved by 10.5% P=0.003. At 12-months post-program the effects of 6MWT and SGRQ was less than baseline though not in the Minimal Important Difference (MID) range.

**Conclusions:** A Home-Based PRP can be a suitable alternative for patients who are unable to attend a Hospital-Based PRP.

**APPLICATION OF EQUIP PRINCIPLES**

**Consumer / Patient Focus**

This project aims to improve access and provide an effective Home-Based PRP to patients with COPD who are unable to attend the Hospital-Based PRP.

Pulmonary rehabilitation is one of the most effective interventions for COPD (ATS, 1999). However, only approximately one percent of people with COPD receive pulmonary rehabilitation services in Australia.
A previous audit of the Hospital-Based PRP showed that following completion of PRP, the annual rate of hospital encounters significantly reduced by 62% (P<0.01) and the annual number of bed-days significantly reduced by 66% (P<0.01).

This audit also showed that over 40% of all patients referred to the PRP are either too unwell or unable to get to the PRP due to parking or transport issues.

A Home-Based PRP, designed to operate within existing resources to ensure sustainability, commenced in January 2009 to overcome these barriers.

Patient feedback to date has been very positive.

**Effective Leadership**
A Home-Based PRP was commenced following a literature review and consultations were conducted between the physiotherapy and respiratory department to review possible solutions to overcome barriers.

Multi-disciplinary team Home-Based PRP was utilised when needs arose (i.e. smoking cessation, coping issues, energy conservations, safe swallowing issues, etc.)

**Continuous Improvement**

**Identifying the problem**
It is well documented in various literature that less than one percent of all patients with COPD receive Pulmonary Rehabilitation services in Australia.

**Extent of the problem**
A previous audit between 2007 and 2008 showed that 36% of patients refused to enroll into the Hospital-Based PRP; and only 36% continued on to complete the Hospital-Based PRP.

The top 3 reasons for non-attendance and completions being: patients not interested, transport or parking issues, and or patients are too unwell.

**Possible Solutions**
Possible solutions to overcome these barriers discussed includes: Subsidised parking; Taxi vouchers; Hospital transport; and Home-Based Pulmonary Rehabilitation Program. Problems with the first 3 possible solutions include: No budget or funding are available to provide taxi vouchers and subsidised parking; Portable oxygen are not subsidised for patients requiring oxygen 24hrs/day and those who can afford portable oxygen are not permitted; Oxygen cylinders not permitted on public transport; For those who can access transport to the gym, are required to walk more than 200m to get to the gym.

Home-Based PRP was the most viable option as it could be implemented utilising existing resources.

**Implementation**
An outline of the Home-Based PRP was written in consultation between the physiotherapy and respiratory department. The program would consist of a number of meeting points: Initial assessment; mid program review at 1 month; post program review at 2 months; and then a 3, 6, and 12 months post program follow-up. Patient evaluation surveys were given to all patients at the post program follow-up. Feedback was taken on board for continuous improvement.

**Preparation for Implementation**
The Home-Based PRP is based on Hospital-Based PRP.
No additional resources were required to implement
- Education booklet and exercise program were amended to ensure both the Hospital and Home Based Pulmonary Rehabilitation Program are similar
- Assessment points are offered either in the hospital or at the patient’s home
- Car already available for booking through general services
- Assessment tools required (spirometer, pulse-oximeter, tape measure, stop watch) already available with the Hospital-Based PRP
No additional staffing required to ensure sustainability of the program should we achieve positive outcome.

Evidence of Outcomes
87 patients were enrolled in the Home-Based PRP. 67 patients met the inclusion criteria. At post-program, 6MWT improved 36.7m (Minimal Important Difference (MID) =35m) and SGRQ improved 9.5% (MID=4%).

At 12-months results were less than baseline although not within the MID. KPI comparison between Home and Hospital PRP demonstrated comparable outcome: 53% and 48% respectively met the KPI.

Home-Based PRP can improve exercise capacity and quality of life therefore helps overcome barriers such as parking, transport, and severity of disease.

Striving for Best Practice
Ongoing evaluations are made through outcomes (6MWT and SGRQ) and patient evaluation surveys. Results of evaluations and patient feedback provided information to drive change and quality of care, delivered in collaboration with the team, outcome and patient feedback. Referral and uptakes consistently increased over the last 4-5 years.

The project outcomes support the target of NSW plan 2021 relating to keeping people healthy and out of hospital by improving the way certain conditions are managed in a community setting. Since the commencement of the Home-Based PRP, we have been able to more than double the monthly average number of clients.

Innovation In Practice And Process
Liverpool Hospital is the only hospital in the Sydney South West Local Health District to offer this Home-Based PRP. This program is unique as it combines the essential components of our Hospital-Based PRP with the functionality of being able to conduct this in the home setting. Patients are provided education and health coaching with a focus on self management. Home-Based PRP have equipped patients with knowledge and confidence to do more exercise therefore improving their health and fitness, slowing progression of their disease and preventing avoidable admissions through earlier detection of exacerbations.

Applicability To Other Settings
This model of basic education on self management and gentle exercise could easily be adopted by other chronic diseases programmes (such as cardiac failure and diabetes) and especially in the rural setting to make a real life impact in patient confidence, maintaining function and independence, and ability to detect and treat exacerbations earlier thus preventing avoidable admissions and therefore health care costs.

The result of this project was presented at the 2011 Ingham Showcase and the SWSLHD Pulmonary Rehabilitation Network Group. This project has also been accepted for poster presentation at the European Respiratory Congress 2012 in Vienna September 2012. A discussion paper is being written up for publishing in a respiratory journal with a view to conducting a randomised control trial in the future. Feedback from the network group and from the discussion paper will be taken on board for consideration towards future trials and quality improvement.

References
Project Title
MENTAL HEALTH BETWEEN THE FLAGS DETECT WORKSHOPS

Name of EQuIP Member Organisation
KENMORE HOSPITAL
SOUTHERN NSW LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
GOULBUR MENTAL HEALTH INPATIENT SERVICES

Author/s                                Position Title
Denise Hogan                                Clinical Nurse Consultant

Aim
To ensure that 100% of staff comply with NSW Health Policy and Procedure: Recognition and Management of Patients Who Are Clinically Deteriorating Document Number PD2011_077

Abstract
It has been identified that Mental Health staff had little opportunity to attend and complete the NSW Between the Flags DETECT training sessions and comply with NSW policy and Procedure. Local mental health staff members were trained to deliver DETECT training sessions at a local level and therefore the service was not reliant on another service to train mental health staff members. It was also identified that the role plays in the generalist presentation were not relevant to mental health settings with mental health specific detect training this has been addressed to provide role plays relevant to mental health settings rectified. Since the development of mental health detect program we have been able to provide adequate training positions to cover training requirements

Application of EQuIP Principles
Consumer / Patient Focus
The DETECT education package is designed to equip staff with the skills and confidence to recognize and manage the deteriorating hospitalized patient. The aim of the DETECT program is to Detect Deterioration, Evaluate, Treatment, Escalation and Communication in Teams

Through the skills acquired at the DETECT Workshop staff have the skills and confidence to detect signs of deterioration and the ability to implement simple interventions to reverse deterioration and ensure timely intervention and escalation when indicated.

Effective Leadership
The DETECT education package was developed to enact the recommendation from the NSW Health Greater Metropolitan Clinical Taskforce Working Party(GMCT) whose focus was on the detection and management of the deteriorating patient. The Between the Flags project of the Clinical Excellence Commission followed on to implement the GMCT recommendations and was endorsed by Commissioner Garling in his inquiry into Acute Care Services in NSW Public Hospitals

Continuous Improvement
Very few members of staff had been able to attend the DETECT workshops and meet this mandatory requirement due lack of availability of places in training sessions. This resulted in Goulburn inpatient services not being able to meet the requirements under the Recognition and Management of Patients Who Are Clinically Deteriorating Document Number PD2011_077 and the NSW Government's Caring Together: The Health Action Plan for NSW. There had also been concerns raised by staff attending mainstream training that the scenarios were not site specific and therefore not helpful. It became evident that Mental Health services would need to develop and hold their own training sessions. Initial estimates were that approximately 60 Nursing staff still needed to complete the training sessions. In consultation with Clinical Nurse Education staff from Goulburn Base Hospital several staff members from mental health services were trained to deliver the program to local mental health staff. To date three training days have been held with approximately 20 staff member trained. Evaluations are positive in the content and presentation of the DETECT package.
Evidence of Outcomes
DETECT workshops have now been held in December 2011, March 2012 and May 2012 with 20 staff successfully completing the training program. Further sessions are planned for the remainder of 2012 with the expectation the all frontline clinical Mental Health staff will meet the mandatory training requirements as per Policy and Procedure PD 2011_077. The SNSW LHD Between Flags Swoop Audit conducted by Goulburn Base Hospital Gold Standard Trainers (November 2011 - February 2012) evidences the positive outcomes for consumers due to the increased training of staff. The results of the audit identified David Morgan Centre (the Psychogeriatric Unit of Goulburn Mental Health Inpatient Services) to have the highest percentage of ‘yellow’ breaches having a clinical review at 100%: whereas the average for the District was 44%.

Striving for Best Practice
The education package is aimed at ensuring staff members develop the skills and confidence to identify the deteriorating patient and appropriately manage the patient or ensure timely escalation when indicted. DETECT will provide a broad, straightforward approach to help clinicians care for the deteriorating patient.

Innovation in Practice and Process
It was identified that to ensure 100% compliance with NSW Health Policy & Procedure Mental Health Services would need to develop and deliver their own DETECT training package. The program was tailored to possible incidents that may occur in a Mental Health setting. The scenarios again were more specific to mental health settings and not acute inpatient settings.

Applicability to Other Settings
This training package could be used in other local health districts to train Mental Health staff to ensure compliance with Policy and Procedure. The package has been developed in such a way that other mental health services can utilise the package. Due to the input of gold trainers in DETECT the package meets the requirements of the training program with minimal additional cost to the service by utilising in-house trainers.
Project Title
THE IMPLEMENTATION OF THE CRITICAL EMERGENCY RESPONSE SYSTEM INTO QUEANBEYAN HOSPITAL

Name of EQuIP Member Organisation:
QUEANBEYAN HOSPITAL
SOUTHERN NSW LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
EMERGENCY DEPARTMENT

Author/s                                Position Title
Cathy Staples                                Nursing Unit Manager Emergency Department

Aim
The aims of the project were to reduce incidence of incorrectly identified rapid response calls by 60% within six months, and to significantly increase the number of staff trained in ALS and in CERS management.

Abstract
In order to have a hospital-wide approach to respond to medical emergencies we took a consultative approach to project design. Based on the quality cycle and under the direction of the NUM (ED) and the Director of Medical Services (ED) and with the support of the health service management, we held group meetings to collaboratively re-engineer the CERS response. From these group forums, it was noted that the inpatient staff required up-skilling in advanced life support; that protocols regarding the commencement of adjunct therapy (under the direction of the GP) needed to be developed and that equipment and trolleys needed to be standardised throughout the hospital. It was agreed that senior clinicians would act as role models and mentors in this process; and that an education program re the applied functions of the Standard Adult Observation Chart (SAGO) patient chart was required.

The implementation was overseen by the project two Clinical Nurse Educators making up a one full time equivalent position for a period of six months to review our responses, credential staff with their advanced life support, implement the agreed policy that incorporates the available staff and other resources and test our responses using mock scenarios.

A CERS bag was developed that contained resuscitation equipment for use where resuscitation trolleys are absent eg in areas of community health and in the car park. This bag is located in the emergency department to allow the team made up of a doctor and a senior registered nurse from the emergency department to take to these locations when required. Other members of the team consist of staff who were either caring for the patient or in the case where the CERS bag is required, selected staff from other areas of the hospital also respond.

The outcome of the project sees our facility with staff who have increase confidence in their role due to the massive injection of education with mock scenarios, the uniform resuscitation trolley throughout the facility and the development of the CERS bag for the isolated areas of the hospital. Ongoing education continues and timeframes are in place for new employees to be credentialled in advance life support and the local critical emergency response systems for our facility. Annual mandatory re-credentialing for advanced life support is now more achievable as assessors are now available in house. The daily checks of the resuscitation trolleys are audited on a monthly basis to ensure compliance checking of equipment. Clinical reviews are conducted on a monthly basis for any CERS calls.

The ultimate outcome, as the centre of all our interventions are to maximise our patient health outcomes, is that more appropriate CERS calls are now made and that our responses are now more coordinated and efficient.
Application of EQuip Principles
Consumer / Patient Focus
Having a coordinated response to any medical emergency within the organisation promotes best health outcomes for the patient. Prior to the project there was an average of 3 CERS responses per day, with very few requiring advanced interventions. In turn, this slowed up the processes in the ED. Relationships between the inpatient unit and the emergency department were strained due to a perceived ‘interruption’ to emergency department with ‘false alarms’.

This led to reduced patient care within the emergency department, delaying
- Assessment
- Investigations
- Treatment
- Discharge from emergency
- Admissions to the ward
And increasing patient dissatisfaction and staff frustration

The CERS team members were identified for their roles to ensure a coordinated response to medical emergencies in all areas of the facility. Having clear expectations of all staff who are skilled and knowledgeable in their role promotes confidence ensuring timely and appropriate interventions for patient care.

Effective Leadership
The backbone of any CERS response is to have an effective leader. All nursing and medical staff participating in the CERS team were assessed in advanced life support. Together with the wards person who assisted in cardiac compressions, positioning of the patient if required becoming a gopher is needs arise, and the ambulance officers, the coordinated response was assessed during mock impromptu scenarios. Debriefing and further fine-tuning occurred improving the effectiveness and efficiency of the response. The confidence of the team as the expectations of each other and themselves became very clear. The team leader’s role is crucial to ensure appropriate and timely interventions are implemented. Informal debriefing within the team may result in recommendations that will assist in further improvements for the CERS team.

Continuous Improvement
The CERS responses continue to be monitored. The Emergency Department have two Clinical Nurse Specialists whose focus is to continue with re-credentialing of staff for advanced life support, auditing compliance of checking the resuscitation equipment and conducting clinical reviews of all CERS responses. These processes ensure compliance with standards set and continuous improvement.

Evidence of Outcomes
The aim of this project was to reduce the CERS call-outs for patients not requiring emergency response. During the 4th week of the trial period, this had gone to 3 in the week, demonstrating a significant decrease in ‘false CERS’, and inferring an increase in inpatient staff’s confidence levels in managing deteriorating or unwell patients.

However, there were other measurable effects, including, for example,
- LOS in ED:
  - pre-project the length of stay in the ED department was 4.09 hours, and post-project is 3.05 hours. While this outcome is not singularly attributable to this project, it is still significant.
- Increased confidence of staff
  - Post-program evaluations indicted all nursing staff from inpatient units developed an increase in ability and confidence in managing unwell patients
- Education rooms in ED
  - We now have a dedicated education room in the ED department that allows medical and nursing staff to have regular formal and informal education
  - The equipment purchased under the project is consistently used by educators to teach and assess new staff to ensure skill continuity
- Increased staff satisfaction at work
  - There is a significant increase in staff satisfaction pre-and post-program as measured by staff feedback forms
- Increased team work
  - Anecdotally, there is a greater sense of team between and across the hospital.

**Percentage of staff assessed as competent in advanced life support and knowledge of the Critical Emergency Response System for the Queanbeyan Hospital as of 20 March 2012:**

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<thead>
<tr>
<th>Department</th>
<th>ALS</th>
<th>CERS</th>
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<tr>
<td>Emergency:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent RNs</td>
<td>81.25%</td>
<td>75%</td>
</tr>
<tr>
<td>Casual RNs</td>
<td>71%</td>
<td>71%</td>
</tr>
<tr>
<td>Agency</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>High Dependency Unit</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td>Operating Theatres</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Doctors</td>
<td>50%</td>
<td>42%</td>
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**Striving for Best Practice**
Up-skilling all registered nurses in advanced life support created a cohort of staff with skills to assess and implement appropriate responses to deteriorating patients, consequently refining the CERS response process by decreasing the need for staff from the Emergency Department to leave the unit to assist inpatient nurses, ensuring all departments remain staffed. The project’s objectives included streamlining CERS responses by improving coordination of individual patient’s needs and fast-tracking the diagnosis of seriously ill in-patients. The project also allows benchmarking of evidenced-based interventions in the future.

**Innovation in Practice And Process**
It identified very early in the project the need for a two tiered response for the rapid response calls (the RED ZONE in the colour coded observation chart). This tiered response was found to be more effective and appropriate for our facility. As not all patients who have vital signs that fall into the red zone of the colour coded observation chart required the emergency buzzer to be pressed. Therefore the two tiered responses consist of:

1. Those patients who were having a cardio-respiratory arrest or suffering from an immediate life threatening condition such as a postpartum haemorrhage, staff were required to press the emergency buzzer to activate the highest level of response.
2. Those patients whose vital signs fall into the RED ZONE in the colour-coded observation chart, an urgent medical review/CERS team review must be requested immediately, either by the nurse caring for the patient or the team leader/NUM. This is by phoning the Emergency Department triage nurse during business hours or the after-hours coordinator after hours.

**Applicability To Other Settings**
The Clinical Nurse Educators appointed for this project developed learning packages for all participants in the CERS procedure including the medical team and wards persons. These packages are relevant for any rural or remote health facility.

Appropriate and efficient Critical Emergency Responses Systems can be achieved once all the foundations are addressed. These being:

- The use of SAGO charts as part of our orientation programs for new staff.
- Credentialing of all medical and nursing staff in the CERS team in advanced life support as well as all nursing staff who work in critical care area.
- Ensuring equipment is available and easily accessible for the CERS team.
- Ensure once a CERS call is activated that enough staff are still available to care for the remaining patients.
- A list of the contents in the CERS bag is also available for other facilities to develop their own bag.

The process of checking the emergency trolleys using educational review has been embedded into each unit and data is collected re the checking and maintaining of this equipment. These changes have all helped to build a culture of confidence for both staff and patients.

From here:
A register of CERS is now kept in a folder in the trauma bay of the Emergency Department. This identifies the CERS event, the staff involved and the date for the clinical review. The clinical review will be undertaken by the CNSs together with those involved in the response.

- Advanced life support education days are planned for twice a year.
- Increase frequency of basic life support training.
- Ongoing monthly audits of emergency trolleys to ensure compliance will continue.
- Annual re-credentialing for advanced life support will also continue.

The project has a high level of transferability to other facilities. Education packages relating to CERS, together with the assessment tools written for medical, nursing and wards person, are relevant for any rural and remote health service.

References:

Health NSW Government (2012) Between the Flags – SAGO.

Project Title
RADIOGRAPHS AS DIAGNOSTIC TOOLS FOR QUEANBEYAN ORAL HEALTH SERVICES

Name of EQuiP Member Organisation
QUEANBEYAN HOSPITAL
SOUTHERN NSW LOCAL HEALTH DISTRICT, NSW

Department, Unit, Service or Group submitting the project
ORAL HEALTH SERVICES QUEANBEYAN

Author/s                                Position Title
Angela Masoe                        Oral Health Program Coordinator: Health Development

Aim
To reduce unnecessary exposure of children under 10 years of age to Panoramic Radiograph ionising radiation by 70% within six months.

Abstract
Diagnostic imaging is an essential element of dental practice. Patient safety and protection is paramount during clinical decision-making when requesting radiographs in the dental practice, especially for children. A significant increase of referrals for Panoramic Radiographs (PR) for children under 10 years of age was observed by Oral Health and Medical Imaging Services senior clinicians.

Using the Clinical Improvement Practice methodology a Quality Improvement project was developed and implemented adopting a whole team and inter-departmental approach to explore and address the concerns. After 6 months, 71.20% reduction of referrals for children under the age of 10 for PR was found. A slight increase in intra-oral radiographs activities was noted with significant improvement in clinical oral health record administration processes achieved post intervention.

Application of EQuiP Principles
Consumer / Patient Focus
Radiographs in dentistry are essential for accurate diagnosis; if information obtained from such investigations does not influence treatment decisions, provide new information to support patient management and outcomes, the timing and requirement for radiographs should be questioned.

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) including Paediatric Dentistry guideline principles for taking radiographs for children are to ensure patient safety, patient protection by minimizing exposure to ionizing radiation, at the same time provide appropriate care. Children’s body tissues are more sensitive during early childhood development, therefore precautions for their protection and safety from ionising radiation is paramount (ARPANSA, 2005).

Effective Leadership
A significant number of referrals from Queanbeyan Oral Health Services (OHS) to Medical Imaging Department (MID), Queanbeyan Health Service for children less than 10 years of age requesting Panoramic Radiographs (Orthopantogram-OPG) were observed by Senior Clinicians. Oral Health Senior management requested an investigation be undertaken of clinical processes for requesting Panoramic Radiographs.

Children’s body tissues are more sensitive during early childhood development, therefore precautions for their protection and safety from ionising radiation is paramount (ARPANSA, 2005).

Continuous Improvement
Two Quality Improvement (QI) sessions (one full day) were approved by Allied Health Manager. The Senior Radiographer undertook an audit of patients referred from OHS’s to MID. The results from MID were used to conduct an oral health record audit to establish rationale for PR request referral and whether findings were utilised to influence patient clinical care. Results validated concerns raised by Senior Dental Officer and Senior Radiographer.

Consultation occurred with Manager, OHS, Allied Health Manager, Senior Radiographer, Oral Health
Program Coordinator, Health Development (OHPCHD), and Clinical Director (CD) regarding opportunity to undertake the radiography project as QI project. Approval and support was obtained. Consultation with the Clinical Governance Unit, Southern, NSW occurred and support was obtained.

Whole team approach was adopted for the QI project for team communication and decision making processes. Radiography project was placed on team meeting agenda. A literature review of radiography guidelines for children was undertaken. The CPI methodology was used to provide structure and guidance. Adjustments to PR referral processes were planned, implemented, consensus reached with clinical staff members. Influencing factors identified using the CPI methodology included training/education, insufficient support after upgrade to Digital Imaging (DI), clinician decision-making approaches for radiographs as diagnostic tools, adherence to NSW Oral Health Record Policy, appropriate (DI) equipment and resources for operative procedures, clinical leadership and patient ‘coping’ issues to undertake intraoral radiograph procedures.

Tools for collecting and collating data were constructed. Oral health record was updated, presented to staff for comments prior to testing with appropriate timeframes. After testing, the oral health record was finalised with staff consensus and implemented.

Inter-clinic communication with Albury OHS’s provided the team with DI training and provision of a DI Paedo Sensor for three months trial. Audits were conducted to measure the effect of the QI project activities.

Evidence of Outcomes
An audit of OHS’s ‘OPG’ requests to Medical Imaging Department was undertaken; from these results a retrospective audit was conducted of oral health clinical records for patients who had ‘OPG’ radiographs taken in a 6 month period. The findings highlighted that the majority of records failed to provide adequate rationale for requesting OPG’s, further, 55% of OPG’s did not link findings of ‘OPG’ radiographs to patient treatment plan. Deficiencies were identified with the clinical oral health record document. Requests for radiographs and radiograph findings of patient clinical oral health status were mostly not recorded in the initial patient oral health assessment record. Clinicians were expected to include radiograph examinations, requests and findings documentation as standardised clinical practice. Education and training updates were required for radiography processes. Additionally mentoring and support was required after transition to Digital Imaging including the availability of appropriate resources for age specific use.

The post project audit found an overall reduction of 31.40% for PR requests. A reduction of 36.70% PR for 10 to 18 years of age and a decrease of 71.20% requests for PR for children under 10 years of age. Review and upgrade of clinical oral health record, including staff workshop activities, resulted in post audit findings of 95% commitment to NSW Oral Health Record policy. A concern raised by MID regarding clinicians not using radiographs as diagnostic tools, led to a further audit of Information System Oral Health item numbers for radiographs. The findings illustrated that despite reduction of referrals for PR there was a slight increase of intra-oral radiographs activities.

Striving for Best Practice
Inter-clinic communication led to Queanbeyan OHS receiving a Digital Imaging Sensor Size 0 for trial with children less than 10 years of age. Three clinicians trialled Sensor size 0 on 37 children successfully. Clinicians rationale for using Sensor 0 (i) only needed to radiograph one quadrant/one tooth and (ii) child managed smaller sensor for caries detection (iii) specific area for investigation e.g. deciduous anterior tooth investigation – trauma (iv) essential DI resource for children under 5. Terminology change from ‘OPG’ to Panoramic Radiograph was discussed and requires further review to bring about change in documentation.

Innovation in Practice and Process
Documentation of essential radiograph processes, Digital Imaging processes and activities have been accepted as standardised clinical practices. Clinical case study reviews using radiograph reports are to be part of staff clinical meeting agenda. Further support and monitoring of other key areas identified from this project will be carried forward as Continuing Professional Development activities (appropriate use of radiographs as diagnostic tools – by all staff). QI clinical concerns as agenda item for staff meetings, where relevant the CIP will be used to resolve issues.
Applicability to Other Settings

Project findings may be used to inform and improve radiograph knowledge and practice for other clinical staff in the LHD. Opportunities for the provision of training for other Senior Clinicians in CPI methodology to address other identified inconsistencies in clinical processes and practice need to be scoped. In sharing knowledge and practice, where approved Oral Health Program Coordinator as Quality Improvement facilitator for the ‘Radiography’ project may be available to assist other teams with Quality Improvement projects within LHD to maintain quality care delivery. Project request to be presented at NSW State Oral Health Executive Forum, project has merit for consideration to initiate discourse to inform radiograph health policy at state-level.
Project Title
HARNESSING QUALITY AND GOVERNANCE FRAMEWORKS FOR CLINICAL EXCELLENCE AND PATIENT SAFETY

Name of EQuIP Member Organisation
ST VINCENT’S PRIVATE HOSPITAL, NSW

Department, Unit, Service or Group submitting the project
NURSING

Author/s                    Position Title
Professor Kim Walker        Professor of Healthcare Improvement
Professor Jose Aguilera     Director of Nursing and Clinical Services

Aim
To demonstrate the effectiveness of combining the quality frameworks of ACHS accreditation and the Magnet Recognition Program with the governance framework of the balanced Scorecard to achieve clinical excellence and enhance patient safety.

Abstract
The hospital has long taken a strategic approach to improving effectiveness and efficiencies in clinical care and outcomes. Through collaborative planning and consultation the hospital has been able to secure a reputation of high levels of clinical excellence and patient safety. Since 1981 St Vincent’s Private Hospital (SVPH) has been accredited by the ACHS with consistently good results. In 2004, the Nursing Directorate introduced the Balanced Scorecard and Scoretrak so managers could link strategy with processes and outcomes and in 2007 received the Press Ganey Success story of the year for this initiative. Most recently, in 2011, the Hospital was awarded Magnet Recognition after a two year development period. Notably also, in 2011, the hospital received its best ever results from full ACHS accreditation including an OA for Magnet Recognition. We submit that by harnessing the effects of the Balanced Scorecard as a tool for executing strategy and the attainment of Magnet designation we have been able to achieve and sustain clinical excellence and high levels of patient safety as recognised by the ACHS.

Application of EQuIP Principles
Consumer / Patient Focus
Both Magnet and ACHS EQuIP5 focus on the patient as the centre of care delivery. Over the last two years SVPH has invited consumers to participate on nursing Councils as well as initiatives to improve VTE prevention in acute care hospitalized patients. Planning for the redevelopment of SVPH has involved consumers and recently research projects exploring the concept of patient and family centred care and advance care planning at SVPH have drawn on patients and consumers experiences to inform our understandings.

Effective Leadership
At SVPH we have in the last two years developed and implemented a new governance model to better oversight the quality and safety of care. This model enables staff at all levels to have the opportunity to engage with not only the day-to-day operations but more importantly the strategic directions of the hospital and especially the nursing and clinical services directorate. Testimony of the effectiveness of our leadership model at SVPH is the attainment of our best ever ACHS accreditation results (5 OAs, 28 EA and 14 MAs).

Continuous Improvement
The Magnet Recognition Program®, Balanced Scorecard and ACHS EQuIP 5 are frameworks that demonstrate the hospital's ability to reflect on, plan, develop and implement new and more effective and efficient ways of providing high level, safe and evidence based care to its customers; this group comprises not just the patients but their families and carers as well as staff. Staff are continuously made aware of their key performance indicators/outcomes through the use of an innovative tool called
Scoretrak. This feedback sets the scene for continuous improvement at a unit, specialty and hospital level thus enhancing the ways staff are able to make quality and safety their business rather than simply management’s business.

**Evidence of Outcomes**
We are able to graphically demonstrate superior outcomes on a number of key performance indicators (patient and staff) and do so in the full report.

**Striving for Best Practice**
SVPH constantly demonstrates results above the benchmark for all ACHS indicators. As the 2011 ACHS report noted:

> St Vincent’s Private has a culture that assists the provision of excellent patient care. Overall there is very strong evidence that patient safety and clinical care is of a very high standard - in fact the survey team believes the hospital is one of the best in Australia. Patient assessment is excellent and continues to expand from purely pre-operative assessment to a more holistic focus on the patient's overall health status. Care planning and delivery is excellent. The hospital is commended for patient and carer information booklets which are extremely comprehensive.

**Innovation in Practice and Process**
Over the last two years, developing a process, putting in resources and deciding to pursue Magnet Recognition provides compelling evidence that SVPH is always seeking innovation in practice and process. Indeed the Magnet surveyors commented in their final report:

> ‘The structures and processes that are in place at SVPH to promote a culture of inquiry and the translation of new knowledge into nursing practice are noteworthy. In particular, the Nursing Research Institute, of which the Nursing Practice Development/Research Council [NPDRC] is a key component, is instrumental in the translation of new knowledge into practice at this organisation. The NPDRC generates innovation in nursing practice and aims to extend the boundaries of nursing practice, as well as act as a role model to others’

**Applicability to Other Settings**
Harnessing multiple frameworks for clinical excellence and patient safety provides clear outcomes of success in each of the above ACHS quality award categories. Other facilities have approached us for advice and information about how to go about planning and developing their own services in order to meet Magnet requirements. As well, we have been invited on numerous occasions to discuss the merits of the Balanced Scorecard approach as a way of more effectively executing strategy and published our work to develop and implement the framework in the Asia-Pacific Journal of Health Management in 2008.

While these frameworks require commitment, leadership and resources they are not beyond the scope of any health facility, and are especially relevant and appropriate to those that wish to continuously improve their performance measures in patient care excellence and quality and safety.
Project Title
IMPROVING PATIENT CARE THROUGH ENHANCING STAFF SKILLS AND COMPETENCIES – AN INTERDISCIPLINARY IN-SITU SIMULATION PROGRAM

Name of EQuIP Member Organisation
THE CHILDREN’S HOSPITAL AT WESTMEAD, NSW

Department, Unit, Service or Group submitting the project
THE DEPARTMENTS OF EMERGENCY MEDICINE AND OPERATING SUITE, THE CHILDREN’S HOSPITAL AT WESTMEAD

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Aim
To improve the care of children in the Emergency Department and Operating Suite, by enhancing the skills and competencies of staff through the introduction of an in-situ simulation program.

Abstract
In-situ simulation enables staff to learn new knowledge, clinical skills and the principles of teamwork, leadership and communication for specific clinical conditions, at a convenient time, in a convenient location and without any risk of harm to patients. In-situ simulation methodology has been used to improve the care delivered to our patients by selecting specific uncommon clinical conditions and pairing these with specific interdisciplinary learning objectives around key skills and competencies. Over the twelve months of implementing and evaluating the program 55 in-situ simulations have been delivered with 339 staff directly participating. During the scenarios we identified and mitigated against 151 incidents of suboptimal care. Immediately after the scenarios nurses have identified areas of new learning including new roles, new skills and new knowledge.

At three month follow up 10% responded that they had encountered the exact same scenario in the clinical setting in the intervening three months, 24% responded that they had been in critical clinical situations with patients where they were able to use the new knowledge or skills obtained from the scenario and 94% reported an increase in confidence in being able to manage a real clinical event similar to their scenario.

At 18 months 100% of respondents thought they had used new knowledge related to teamwork, communication and/or leadership in their clinical practice and 100% of respondents thought they had used new clinical knowledge and skills learnt in the simulations in their clinical practice. The program has now been adopted by other departments at The Children’s Hospital at Westmead and is easily transferable to other facilities.

Application of EQuIP Principles
Consumer / Patient Focus
We focused on staff as consumers, determining their needs from a professional development perspective and actively seeking their views both in the planning and evaluation phases. A key component of the program has been the interdisciplinary nature of the initiative – we treat patients together so we need staff to learn together.

Staff have become more aware of their own personal need to develop specific aspects of their role as well as the importance of a department that facilitates learning.

The in-situ program in the Emergency Department takes place in the resuscitation area and often parents of patients watch with interest. They are informed beforehand what is about to occur and
have given anecdotal feedback that they appreciate the time we take to train our staff and that this gives them as consumers more confidence in our ability to care for their children.

**Effective Leadership**
This successful project has shown that an effective in-situ program can be introduced relatively easily and so can be replicated in any other area within the hospital, thus leading by example.

The program has also improved the clinical leadership skills of staff. One of the key principles in crisis resource management in health is the establishment of a leadership role in a clinical ‘crisis’. The scenarios reinforce this and enable staff to enhance their clinical leadership skills as well as mentoring staff who are new to this role.

**Continuous Improvement**

*Identifying the problem:*
Critical paediatric conditions are relatively uncommon events, however, when they occur it is essential that all staff are able to respond appropriately with knowledge, clinical skills and effective teamwork. Because they are rare events traditional teaching methods with real patients do not happen often enough to adequately train staff.

In order for staff to respond effectively to an acute emergency, departmental systems must function efficiently. These systems are difficult to review other than when real patients journey through that system, which is a suboptimal methodology.

*Extent of the problem:*
Anecdotal reports from medical and nursing staff in the Emergency Department and Operating Suite suggested staff lacked confidence in paediatric emergencies and were unfamiliar with some clinical skills as well as some of the principles of teamwork, leadership and communication. This was reinforced at informal meetings with medical term supervisors and nursing educators. The problem was further amplified by junior medical staff changing roles every three months – resulting in loss of trained individuals.

*Planning and implementing solutions:*
An interdisciplinary working group was established in the Emergency Department and Operating Suite to examine the issues and develop and implement a solution. These teams included potential participants.

It was agreed that the development of an in situ interdisciplinary simulation program was the best solution as it makes training easily accessible for staff and cost neutral with staff attending for a short period of time within their department, while rostered on normal clinical shifts.

In the Emergency Department the team implemented a 10-12 week program to be run four times a year in conjunction with the term changeover of junior medical staff. The scenarios were standardised and encompassed uncommon life threatening conditions with specific medical and nursing learning objectives around key skills and competencies.

In the Operating Suite the team introduced three standardised scenarios on laryngospasm, malignant hyperthermia and cardiac arrest, with specific interdisciplinary objectives.

During training, incidents of suboptimal care were documented on a standardised proforma and system issues were also recorded in both departments. After the scenarios, trained senior staff debriefed participants to identify the knowledge deficit, clinical skill deficit, teamwork, communication and leadership factors that may have contributed to suboptimal care. Senior staff then delivered education to participants to prevent the same issues from recurring with real patients in the future.

**Evidence of Outcomes**
During the implementation and evaluation period January - December 2011, 35 in situ simulations occurred in the Emergency Department and 20 in the Operating Suite. 200 doctors and 181 nurses participated with 139 doctors and 53 nurses observing. Staff may have participated more than once. 151 incidents of suboptimal care were identified.
At three months post attendance of a scenario, nursing participants were asked to complete a written evaluation. The response rate was 65%.

- 10% responded that they had encountered the exact same scenario in the clinical setting in the intervening three months
- 24% responded that they had been in critical clinical situations with patients where they were able to use the new knowledge or skills obtained from the scenario
- 94% reported an increase in confidence in being able to manage a real clinical event similar to their scenario.

A survey of staff 18 months after the start of the program aimed to capture new learning from the in-situ simulation program that had benefited subsequent direct patient care.

- 100% of respondents thought they had used new knowledge related to teamwork, communication and/or leadership in their clinical practice
- 100% of respondents thought they had used new clinical knowledge and clinical skills learnt in the simulations in their clinical practice

Personal anecdotes from nursing and medical staff have shown that staff perceive the in-situ program to provide a direct benefit to patient care.

**Striving for Best Practice**
This project was developed in line with best practice adult education and simulation teaching principles. The program has led to the provision of best practice by clinical staff through the provision of new knowledge, clinical skills, leadership, teamwork and communication skills learnt in simulation that participants have gone on to apply to their ‘real’ clinical patients.

**Innovation in Practice and Process**
Traditional classroom teaching models allow didactic knowledge acquisition, but not the practise of clinical skills. The benefit of simulation training is that staff can practise the care of a specific clinical condition, at a convenient time and location with no risk of harm to ‘real’ patients.

Simulation Centres can be expensive to use and often need a time commitment for both participants and instructors to be away from their work environment.

Our in-situ program was developed within existing resources, was free to access, required no study leave or release from work and has the added benefit of identifying latent errors within the actual working environment.

In order to make the program cost effective we also sought alternative solutions to expensive high fidelity manikins to reproduce patient physiology. The use of software on a spare laptop and a cheap monitor made this a feasible alternative.

**Applicability to Other Settings**
This program is immediately transferrable to other clinical areas. Within our organisation the Paediatric Intensive Care Unit and Surgical / Trauma service is starting to run scenarios and the General Medical service is interested in starting. Similar programs could easily be transferred to other facilities. The medical and nursing team leaders are enthusiastic to help promote this modality on a wider scale.
Project Title
“I THOUGHT I WOULD DIE FROM IT”
PRESSURE ULCERS: THE IMPACT ON PATIENTS’ LIVES

Name of EQuIP Member Organisation:
WESTERN HEALTH, VIC

Department, Unit, Service or Group submitting the project:
NURSING EXECUTIVE

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Aim
To explore the impact of a digital story telling Digital Versatile Disk (DVD) and toolkit package on patient outcome in relation to clinical practice to prevent pressure injury.

Abstract
Western Health, a major Victorian health service with 5000 staff, achieved ‘overnight’ success in engaging most of its organisation in a united effort to prevent pressure injuries. This has been based around a moving 15 minute documentary DVD called ‘I thought I would die from it’, produced by Western Health, featuring interviews with two patients who developed severe ulcers. The patients, family and carers are also involved which provides an additional dimension. The stories of the impact on their lives are eloquently told and have reached out to a wide audience of staff on what is often an inaccessible topic.

The DVD is the centerpiece of the package to support broader training and Grand Round style presentations. The package includes promotional materials, images of staff implementing pressure injury prevention measures, evaluation forms and key message items such as badges and pens. The toolkit includes an open ended questionnaire pre / post educational sessions, with follow-up and reflection (staff perceptions of the DVD) at 3 and 12 months, using qualitative and quantitative data to measure impact.

A campaign was developed across the organisation ‘Preventing pressure ulcers is everybody’s business’ which has the DVD as its centerpiece. This is preceded by a Nurse Unit Manager presentation from a large acute Western Health ward which has tackled pressure injury prevention with considerable success.

The multimedia staging surrounding the sessions includes use of positive imagery and music to open and close the sessions amid an atmosphere of commitment to change in practice. In this submission the terms pressure ulcer and pressure injury are used interchangeably.

Application of EQuIP Principles
Consumer / Patient Focus
The DVD demonstrates the power of involving patients and carers in storytelling in a non-blaming way and the impact it has had across the organisation in relation to pressure injuries and raising multidisciplinary awareness of preventative strategies.

Effective Leadership
The concept for the patient DVD was driven in response to the increased incidence of grade 3 and 4 pressure injuries within the organisation. Public Affairs have been pivotal in supporting the organisations leadership required to engage the Western Health workforce.
Continuous Improvement
Comments from nursing staff at the Grand Rounds indicated that there was an opportunity in the Emergency Departments (ED’s) to raise awareness with the importance of earlier skin integrity assessment and pressure injury prevention. The Director of Nursing, Clinical Nurse Consultant, Quality Manager and the ED Nurse Unit Managers developed a plan with timeframes to ensure early identification of the at risk patient. Early outcomes have shown an increased reporting through Riskman of the presence of pressure injury on admission. Additional measures have also been taken as a direct result of the impact of the DVD, for example hospital patients discharged after acquiring severe pressure ulcers have an alert placed on their medical records and the patients will be issued with an “at risk” card identifying specific strategies required, when triaged in the Emergency Department.

Evidence of Outcomes
Preliminary indications following the initial Grand Rounds at Western Health revealed that up to 40% of staff changed their response post DVD, indicating it was a multidisciplinary responsibility to be assessing the patient’s skin integrity. A high proportion indicated they now saw an increased need for vigilance around skin assessment, focusing on bedside handover and increased sensitivity to patient’s reports of pain.

Prior to the showing of the DVD, qualitative data was collected via a short structured questionnaire, which was developed to explore levels of staff awareness of pressure injuries. After staff viewed the DVD, further qualitative data was collected using the same semi structured questionnaire. Two additional general open-ended questions asked staff what impact the DVD would have on their practice and how they felt after viewing the DVD.

All data has been analyzed to discover themes as described below.
- Pressure injuries are preventable
- The impact on patients and family – physical and emotional (this had the biggest response)
- How quickly pressure ulcers can develop – how long they take to heal.
- The importance of regular skin integrity checks
- Importance of listening to patient’s comments and complaints.

How will this affect your practice?
- More vigilant skin assessment (this had the biggest response)
- Greater focus on bedside handover (second most common theme)
- Increased awareness and emphasis on pressure area care
- More sensitive to patients’ complaints of pain

Striving for Best Practice
The DVD and toolkit is a creative educational tool that has been developed to facilitate practice based change by raising the awareness of all health professionals of the importance of pressure injury prevention

Innovation in Practice and Process
The DVD toolkit is an innovative approach whereby strategies have been implemented beyond the recommended policy. To date pressure injury prevention and treatment has focused on clinical interventions, education and assessment tools. A search of literature revealed no strategies which have explored the impact of digital story telling on nursing staff practice to the extent involved in the Western Health campaign.

Applicability to Other Settings
The final DVD and toolkit can be provided to any organisation upon request. A poster and oral presentation at Australasian Association for Quality in Health Care in Cairns on 4 September 2012

An oral presentation at the IR conference ‘Reducing Avoidable Pressure Injuries’ 20-21st September 2012 Melbourne focusing on the communication approach and engagement strategies used to address the issue.
**Project Title**
OPERATION COOPERATION – A SHARED CARE MODEL FOR PERIOPERATIVE ANTIICOAGULATION MANAGEMENT

**Name of EQuIP Member Organisation:**
WOLLONGONG HOSPITAL
ILLAWARRA SHOALHAVEN LOCAL HEALTH DISTRICT, NSW

**Department, Unit, Service or Group submitting the project:**
PRIMARY HEALTH NURSING (PHN) TEAM AND THE AMBULATORY CARE TEAM (TACT)

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**Aim**
The project aimed to increase access to TACT for people with ambulatory care sensitive conditions by reducing perioperative anticoagulation therapy management workload from 25% to 10% of total anticoagulation therapy pre and post operatively.

**Abstract**
Illawarra TACT workload with managing perioperative anticoagulation therapy contributed to hospital admission rates for Ambulatory Care Sensitive Conditions (ACSC) for ISLHD being well above the NSW State average. In an effort to relieve this, the post-operative management had previously been passed on to the Primary Health Nursing team, but it was discovered that there were many issues arising due to unclear processes and the PHNs limited clinical knowledge on anticoagulation therapy. The complex nature of perioperative anticoagulation management poses significant challenges. To address these issues, a shared care model with TACT and the Primary Health Nurses (PHNs) was developed and implemented in May 2011, where patients were reviewed by TACT and immediately passed on to the PHNs for their anticoagulation management.

The medical governance remained with the TACT medical officers for the duration of the treatment, so the high standard of care was maintained. Perioperative anticoagulation therapy management is now less than 5% of TACT’s total home/clinic visits allowing them to provide more services for ACSCs.

**Application of EQuIP Principles**

**Consumer / Patient Focus**
The TACT service was running at fully capacity, with a waiting list which resulted in admission to hospital, representations to Emergency Departments or delays to hospital discharge. The service was unable to provide care to all suitable people despite recognition that they could be better treated in a Hospital in the Home program. This program shifted a large component of TACT’s work to the PHN team, thereby creating service capacity.

The review of a number of reported incidents relating to the administration of anticoagulation medication in the community demonstrated that the recently instituted practice of TACT managing pre-operative anticoagulation change-over and then referring to PHNs after surgery was found to have many issues with continuity of care and PHN knowledge of anticoagulation therapy. It was recognised that the care we provided to our clients needed to improve.

**Effective Leadership**
The project demonstrated effective leadership through:
- Support of Executive management
- Participation of a broad range of staff from both services involved including service managers, nursing staff and medical staff
- Regular meeting of a working party
- Regular updates to all staff
- Frequent opportunity for comment on processes and documents developed for this model.

In this way, all staff were aware of why changes needed to occur and what the changes involved. They were all able to participate and contribute to the development of this successful model.

**Continuous Improvement**

The project commenced with collection of baseline data for the four month period prior to the commencement of the project, including TACT waiting list; inpatient bed days lost as a result of this; representations to the ED for ongoing treatment (as an alternative to admission); rate of hospital admissions for Ambulatory Care Sensitive Conditions (ACSC); percentage of TACT workload dedicated to perioperative anticoagulation management which is not as ACSC. Review of medication related incidents demonstrated a number of areas where potential errors would occur. This data confirmed an opportunity for improvement.

Planning and action occurred with frequent review of the processes developed, the documents developed and ongoing data collection and analysis which demonstrated significant improvements in access to TACT, and in practices.

**Evidence of Outcomes**

Evaluation of the project demonstrated a number of improvements:
- A decrease in TACT home visits/clinic appointments for anticoagulation management from 25% of total workload to less than 5%
- There has also been a downward trend in the TACT waiting list and number of bed days lost
- A decrease in the number of patients representing to ED for treatment for 49 in the period of January to April 2011, to 31 in January to April 2012
- There is an upward trend in the percentage of Ambulatory Care Sensitive Conditions managed outside Illawarra Hospitals (HITH) from 23% in January 2011 to 32% in April 2012
- A survey of TACT staff demonstrated that 81% of staff noted an improvement in documentation for this patient group, and 72% of staff felt there was an improvement in the processes and care delivery
- A survey of Primary Health Nurses demonstrated that 62% felt they had better access to client clinical information
- An unanticipated outcome of this project was a clarification of the interpreter booking process for TACT with the resultant improved use of interpreters.

**Striving for Best Practice**

This model developed in this project has been well documented with all documents available on the intranet and referenced in the PHN documentation package: procedure; care plan; pre and post operative handover forms between the services; perioperative letter for the client; information leaflet for client; fax template for cessation of therapy; fax template for interpreter service request.

Staff education has also altered as a result of this – commitment to annual education on anticoagulation therapy for PHN; TACT overview included in orientation program for medical staff; inclusion of this model in the PHN orientation package; regular case reviews done with NUMs and PHNs.

**Innovation in Practice and Process**

This model demonstrates innovation in the delivery of care to people requiring changes to their anticoagulation therapy in order to safely undergo surgery. It also demonstrates innovation in process with two handover tools that are used to communicate between the two services involved. The TACT medical staff providing governance for the care provided by PHNs is a significant advance. Further innovation is being now considered with the trial of using point-of-care INR testing to commence by September 2012. If successful, this would improve the efficiency of this care as results would be immediately available for treatment decisions, and workload would be reduced with the elimination of the need to access Pathology for results.
Applicability of Other Settings
The application of a shared care perioperative anticoagulation model could be transferable across other health settings that have similar patient flow problems or could benefit from enhanced medical governance for clients cared for by PHNs.

The shared care model and procedure that has been developed will now be adapted for the shared care management of a newly diagnosed CVA, TIA and DVT between TACT and the PHNs. The clinical handover tool has been adapted for use as a handover between the PHNs and other services, and will inform the development of admission and discharge letters from PHNs for the patient’s General Practitioner.