Government of **Western Australia**
Department of **Health**
Institute for Health Leadership

2016 Medical Service Improvement Program

Service Improvement Project Summaries

29 November 2016

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2016 Medical Service Improvement Program

The Medical Service Improvement Program, now in its fifth year, continues to engage enthusiastic, motivated junior doctors in service improvement across WA Health.

A total of 107 Resident Medical Officers and Registrars have now participated in the program since its commencement in 2012. The reputation of the program continues to grow locally within the junior doctor cohort, as well as nationally and internationally.

The 2016 program involved 23 junior doctor participants across a total of 11 participating hospitals, as listed below:

- Armadale Health Service
- Fiona Stanley Hospital
- Fremantle Hospital and Health Service
- Joondalup Health Campus
- King Edward Memorial Hospital
- North Metropolitan Mental Health Service
- Princess Margaret Hospital
- Rockingham General Hospital
- Royal Perth Hospital
- Graylands Hospital
- Sir Charles Gairdner Hospital

A list of the 2016 participants is provided overleaf.

Service improvement projects

Each junior doctor participant in the Medical Service Improvement Program undertakes a service improvement project at their hospital site supported by an Executive Sponsor, Clinical Supervisor and Service Improvement Supervisor/s. The Institute for Health Leadership and Clinical Support Directorate provide additional project support and also assistance with data analysis as required.

This document provides one-page summaries for the 23 service improvement projects completed during 2016. Each project summary outlines the project rationale and aim statement, as well as improvements made and outcomes to date. Recommendations for implementation and/or next steps are also included in the summaries as appropriate.

Further information

Visit the Medical Service Improvement Program website: http://ww2.health.wa.gov.au/Articles/J_M/Medical-Service-Improvement-Program

Contact Esther Dawkins, Senior Project Officer, Institute for Health Leadership esther.dawkins@health.wa.gov.au; (08) 9222 6459

2016 Program Participants

Participant		Health Site	Hospital	Rotation No.	Service Improvement Project
Beacroft	Megge	**East Metropolitan Health Service**	Armadale Health Service	4	A+ Antenatal Project
de Jesus	Michelle		Armadale Health Service	2	**IDEAL** Weekend – Improving Discharge Efficiency and Length of Stay
De Soyza	Jehan		Royal Perth Hospital	4	**CAT-STREAM** – Streamlining Royal Perth Hospital Cataract Surgery Pathway
David	Kelly		Royal Perth Hospital	3	**Tic Toc** – Timely Inpatient Consultation and Take—Over of Care
Xu	Jema		Royal Perth Hospital	2	Ready Your Results - Timely Access to Results in Urology Outpatient Clinic
Teh	Yue-Wern	**North Metropolitan Health Service**	Graylands Hospital	2	**DOPE** – Documentation of Physical Examination
Davies	Charlotte		Joondalup Health Campus	4	Cutting Delays from ED to General Surgery
Thexton	Christopher		King Edward Memorial Hospital	4	**PERFECT** – Promoting Enhanced Recovery Following Elective Caesarean Theatre
Leathersich	Sebastian		King Edward Memorial Hospital	3	Gynaecology Recovery Plan
Priest	Rikki		King Edward Memorial Hospital	2	Up and Running! Equipping Resident Doctors at the start of Term
Corr	Louisa		Sir Charles Gairdner Hospital	4	**HICUPS** – Hospital Inpatient Consult Process Project
Greenaway	Matthew		Sir Charles Gairdner Hospital	3	**TALK –** Talking about Limitations of Kare
Shivananda	Arjun		Sir Charles Gairdner Hospital	2	**Minority Report** – Medical Incident Notification by Medical Staff
Joseph	Simon		Sir Charles Gairdner Hospital, Mental Health Unit	3	**PAPERRCLIP** – Providing Appropriately Prioritised Early Referral Responses (for) Consultation Liaison in Psychiatry
Bloecker	Claus	**South Metropolitan Health Service**	Fremantle Hospital and Health Service	3	**IMPACT** – Improving Pre-Admissions Clinic Timeliness
Bui	Justin		Fremantle Hospital and Health Service	2	**InDIGO** – Inpatient Diabetes & Glucose Optimisation Initiative
Goodgame	Yvette		Fremantle Hospital and Health Service	4	**IRONing** Out Deficiencies – Ensuring Appropriate Management of Preoperative Iron Deficiency
Ellis	Rowan		Fiona Stanley Hospital	3	**GEEEK** – Great Engagement for Effective Electronic Kommunication
Mackie	Justine		Fiona Stanley Hospital	4	**TREaD** – Time from Referral to Early Diagnosis for Head and Neck Cancer Patients
O'Donovan	Claire		Fiona Stanley Hospital	2	Improving the Walk through AMAC
Bhatt	Jubin		Rockingham General Hospital	4	Operation **GO** – Theatre Start Times
Maher	Kim		Rockingham General Hospital	2	**REAP** – Redesigning an efficient AORTIC Process
Stapleton	Ciara	**Child and Adolescent Health Service**	Princess Margaret Hospital	2	Armed against influenza – Improving influenza immunisation rates amongst high risk children attending outpatient appointments at Princess Margaret Hospital

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A+ Antenatal Project

Dr Megge Beacroft, Armadale Health Service

Project Aim: To improve efficiencies in the Armadale Health Service Antenatal Clinic in order to provide high quality, evidence based antenatal care.

Rationale: Armadale Health Service remains committed to the provision of the highest quality antenatal and maternity services. In order to continue to provide women with the highest quality of antenatal care, and the taxpayer with an economically accountable health service, this MSI project provided the opportunity to analyse the antenatal clinics and identify areas for improvement in AHS antenatal services.

Improvement team members

Supervisors:
Dr S Benson
Robyn Rigby
Dr S Malla Bhat

Supporters:
Armadale Health Service
Antenatal Clinic Staff

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The Improvement Process

Analysing and redesigning health service delivery is an essential part of ensuring all Western Australians have access to high quality health care services, well into the future. This project was undertaken in an outpatient setting in the Armadale Health Service (AHS) Antenatal Clinic, specifically as women are transitioned from the care of their GP, to the specialist antenatal services provided by AHS, through to the end of their first visit to the clinic.

Project Outcomes

- All new referrals over a 4 week period tracked through the clinic.
- 85% of referrals missing required clinical or contact information.
- Clinic staff spends a cumulative approximately 40 mins on chasing missing information and data entry duplication.
- The clinic aims to see women at 18 weeks gestation, but is currently averaging 24-25, in part due to referrals not being received until after 20 weeks on average.

Recommendations

- Improve communication between referring GPs, pregnant women and their families, and Armadale Health Service. This would include updating AHS website content to reflect the referral process and services offered by AHS and sending patients a welcome letter explaining the service.
- Provide education for local GPs regarding the Antenatal Clinic referral process including what patient information is required and why, and update the antenatal care referral form to represent this.
- Reduce paperwork duplication by having one medical record throughout the pregnancy.
- Adjust clinic appointment profile to allow clerks to fit more new patients through the clinic.

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IDEAL Weekend

Improving Discharge Efficiency and Length of Stay

Dr Michelle de Jesus, Armadale Health Service

Project Aim: To increase the number of patients discharged on weekends, reduce unnecessary length of stay and improve the patient discharge experience by streamlining the discharge process.

Rationale: Reduced funding to WA hospitals in line with significant national budget cuts this year is driving the need to find areas to improve efficiency within the hospital system. Improving efficiency is also vital to providing health care under the financial constraints of activity based funding to Armadale Health Service (AHS). AHS Hospital data over 2015 show that weekend discharge rates significantly decline up to 75% compared to weekdays, with up to 4 times less numbers of patients being discharged from medical wards on Saturdays and Sundays. This is likely causing unnecessary increases in length of stay, contributing to poor patient flow and reduced capacity to meet NEAT targets. In addition, qualitative data from a recent Press Ganey survey in 2015 of patient satisfaction at AHS shows there is an opportunity to improve on delays and inefficiencies in this process.

Improvement team members

Supervisors:

Clinical supervisor
Service improvement supervisor

Supporters:

List any additional team members, project champions etc. that have supported you

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The Improvement Process

A process mapping session was conducted with participants from across the multidisciplinary team, mapping the discharge process for patients for weekend discharge; from the decision to discharge to the patient leaving the hospital. Multiple issues were raised during this session. Approximately 50% relating to inconsistent flow of information across the multidisciplinary team and 20% associated with delays relating to medication and scripts. Root cause analysis showed there were multiple factors contributing to the reduced number of patients discharged on weekends. Of significant impact to staff was the lack of early identification of patients planned for weekend discharge and inconsistent flow of communication to all members of the MDT of patients marked for weekend discharge.

Project Outcomes

- Use of an EDD system to identify patients for weekend discharge was implemented by the medical teams. The percentage of patients with an EDD recorded on the electronic patient journey board increased from approximately 50% up to 97%.
- Successful implementation of the electronic Patient Journey Board to visually highlight patients for weekend discharge on Friday was implemented by nursing staff to provide a quick visual reminder to ensure all discharge requirements are attended to prior to the weekend.
- Improved flow of communication between multidisciplinary team members of patients for weekend discharge.
- Increased average number of patients discharged on the weekend, up to 250% increase compared to 2015 average
- Streamlined process of script flow.

Recommendations

- Script flow process to be implemented 7 days per week to streamline service across the week.
- 7 day discharge planning culture to be fostered.
- Review into the continuity of JMO rostering.
- Review into improving JMO handover for weekend discharge.

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CAT-STREAM – Streamlining Royal Perth Hospital Cataract Surgery Pathway

Dr Jehan De Soyza, Royal Perth Hospital

Project Aims

- Optimisation of Patient Care in the Cataract Pathway
- To significantly improve the level of appropriate selection of Cataract patients for theatre at RPH and Bentley Campuses
- Improve utilisation of pre-operative clinic appointments
- Align RPH's Clinical Cataract Pathway care with leading ophthalmology cataract surgery providers

Rationale:

Royal Perth Hospital Outpatient Clinic is the principal location for referral, diagnosis and preparation for ophthalmic surgery patients. The service has undergone significant change including 45% of all cataract surgery now completed at Bentley Health Campus (BHS).

Improvement team members

Supervisors:

Dr Jean-Louis De Sousa
Ms Katherine Birkett

Supporters:

Professor Grant Waterer
Ms Esther Dawkins
Dr Anita Kothapalli

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The Improvement Process

The CAT-STREAM project utilised LEAN-Six Sigma Methodology engaging staff at all levels of the Cataract Surgery pathway; in a series of process oriented meetings and work sessions aimed at improving overall efficiency and service delivery from the time of decision to operate through to day of surgery.

Issues were identified and validated using available data as well as purpose directed audits. This led to an objective understanding of the significant issues affecting service process and delivery. 50% of the issues identified pertained to *Pre-Operative Patient Preparation* and 28% related to *Booking Processes* with 11% relating to the *Decision to Operate*. A root cause analysis session formed the basis for the development of solutions which are being carried forward by a Working Committee comprised of representatives from Medical, Allied Health, Clerical and Service Improvement personnel with the support of the Head of Department.

A number of changes and service improvement oriented initiatives are presently being implemented and will be evaluated in time. These continue to be driven forward by the CAT-STREAM Working Committee.

Project Outcomes

SYSTEMS DEVELOPMENT

- A new *Check List* employed in Pre-operative Clinic to ensure key information such as Lens, Weight, Height, Past Medical History are obtained in a timely manner and recorded appropriately.
- Development of an automatic request system to obtain medical history from referrers on receipt of incomplete referral.

NEW PROCEDURES

- Weight and height of pre-surgical patients now measured at initial appointment, at time of Intraocular lens measurement facilitating better screening of patients for appropriate health campus.
- "Patient Health Assessment" form delivered at early stage of presentation to Clinic.

EDUCATION

- Patients now informed at initial surgical consultation about booking and surgical process.
- *Decision Assist Protocol* - Developed with Anaesthetic team to assist in decision for patients appropriate for surgery at BHS.

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Tic Toc – Timely Inpatient Consultation and Take-over Of Care

Dr David Kelly, Royal Perth Hospital

Project Aim:
To improve flow of inpatients that requires an extended inpatient stay, from the acute medical unit to subspecialty care.

Rationale:
With increasing bed pressure, patient flow is imperative for the smooth running of Royal Perth Hospital. Flow through Acute Medical Unit requires prompt discharge and/or transfer of patients to long stay units.

Currently the greatest numbers of patient transfers occur outside business hours. These transfers occur when the senior specialist medical and nursing staff has left the hospital.

The trend of transfers also peaks two hours after the demand for beds develops through ED admissions.

Improvement team members

Supervisors:

Clinical supervisor:
Dr Atul Sinha
Service improvement supervisor: Katherine Birkett

Executive Sponsor:
Dr Lesley Bennett

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The Improvement Process

The project ran over 11 weeks from June to August 2016. It was structured around the DMAIC (Define, Measure, Analyse, Improve and Control) Framework and ran sequentially through each stage.

Our key findings

1. It takes on average 6.6 hours from the time of referral to listing a patient for transfer off the ward.
2. It takes on average 1.8 hours for a patient to physically leave the Acute Medical Unit after their bed is ready on the specialty ward.

Root Cause analysis

ONE: Problems were identified in the referral process; there were patient factors along with the structure of specialty teams consult service and the relationship with the AMU.
TWO: Issues with the use of Enterprise Bed Management (EBM), Handover policy, Communication both within Acute Medicine ward and with specialty wards along with a lack of prior planning for the patient transfer.

Project Outcomes

We were able to identify quick wins and implement these during the project. These included recommission of pagers and development of policy on their use to address communication issues. Change in: (a) Patient Care Assistant rostering to better serve the demand in the early afternoon for patient transfers. (b) Clarification of policy on EBM and e-Referral use. (c) Development of the policy of early referrals from the night admitting registrar. (d) Adherence on the Agreed Admissions policy of medical patients presenting to the Emergency Department.
On a larger scale, the multi-disciplinary team is also working to develop a future state map for the process of referring a patient to a medical specialty unit to ensure efficient and consistent processes. Beyond the Acute Medical Unit, discussions are also being held between Executive, Acute Medicine and various specialties on how to overcome delays in the acceptance of patients for transfer from the Acute Medical Unit.

Recommendations

1. Extract the same data set for the period of 01/10/2016 to 31/10/2016 to examine for improvement in the flow of patients from the Acute Medical Unit.
2. Report these findings to all key stakeholders in the Service Improvement Program.

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Ready Your Results

Timely Access to Results in Urology Outpatient Clinic

Dr Jema Xu, Royal Perth Hospital

Project Aim: To reduce delays in Urology Outpatient Clinic by improving access to investigation results.

Rationale: Hospital outpatient clinics notoriously run overtime - with an average clinic wait time of 81 minutes to see a clinician. The cause of these delays are likely multifactorial, but one likely cause is a lack of investigations results ready at review.

This results in clinicians chasing up results in clinic or re-booking a patient to return once a required investigation is performed.

Improvement team members

Supervisors:
Dr. Tanya Ha
Katherine Birkett

Supporters:
Lesley Bennett
Roslyn Jones
Helen Langdon
Helen Parry

The Improvement Process

During project initiation, the mapping session demonstrated two pathways for patients attending clinic – new patients and follow up patients. Both cohorts were noted to have incidences of presenting without investigation results available.

It was identified that ~3.7 patients per clinic were presenting without results available, with each investigation taking ~22 minutes to upload. This leads to an average of 81 minutes wasted each clinic, and with 4-5 clinics being held each week, this ultimately leads to over 5 hours of wasted in-clinic time.

Root cause analysis revealed there were three main factors contributing to this problem: 1. Images were not being uploaded prior to clinic as there was no one held responsible; 2. Patients were unaware that investigations were required prior to clinic and 3. Clinics were booking follow up appointments prior to Royal Perth Hospital radiology appointments.

Project Outcomes

- Adopted a streamline approach to uploading images prior to review of new patients.
- Roles and responsibility clearly assigned to healthcare staff (doctors, clerks, radiology, nurses) at each stage of process.
- Patient autonomy encouraged - new forms introduced reminding patients of result required and to attend after.
- Communication between Radiology and Clinic strengthened to ensure appointments are not booked in the wrong order.

Recommendations

- To consider expanding these solutions into other outpatient clinics to aid in efficiency.
- To use the DMAIC methodology to examine other factors causing clinic delays.

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DOPE Project
Documentation of Physical Examination

Dr Yue-Wern Teh, Graylands Hospital

Project Aim: To improve the process of physical assessment and documentation for psychiatry patients state-wide with the overall aim of physical health.

Rationale: Patients with mental health problems are up to twice as likely to develop physical health issues. However, an audit in 2015 of current inpatients at Graylands Hospital (GH) showed that 15% did not have any documented physical examination and that of those completed, only 50% of the sections were completed. This can be taken as an indirect marker of the limited physical screen and care that mental health patients receive.

Improvement team members

Supervisors:
Dr Viki Pascu
Noel Lockyer-Stevens

Supporters:
Patrick Marwick

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The Improvement Process

A process mapping session with doctors and nurses revealed significant variation in the physical assessment and documentation of mental health patients. Multiple issues were identified in what was thought to be a simple and straight forward process.

An audit on the completion rate of the state-wide physical assessment form for all acute admissions at GH during March 2016 was conducted to determine the size of the problem. The majority of files contained the state-wide form (95% of 57 files); however a third was incomplete, with no physical assessment documented on the form.

A root cause analysis session exposed a few major issues that were later addressed in a solution forming session:

- Content and layout of the form.
- Limited understanding and standardisation of completing the form.
- Limited communication when forms were not completed.
- Inappropriate or non-functioning equipment.

Project Outcomes

- Utilisation of the journey board to indicate incomplete physical assessment documentation, with the default as incomplete and the doctor's responsibility to change it.
- Daily stand-up handover meetings in the morning to handover any issues overnight including when physical assessments were not able to be performed.
- A clear example of a fully completed form.
- Regular review of equipment used in physical assessments.

Recommendations

- A review of the state-wide physical assessment form was recommended given unclear content and layout. We recommend this occurs prior to use on PSOLIS.
- A review of NMHS Mental Health guidelines to align with state wide policy.
- Development of state-wide policy to standardise completion of form.
- Development of standardised documentation when forms are unable to be completed due to patient factors.

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Cutting Delays from ED to General Surgery

Dr Charlotte Davies, Joondalup Health Campus

Project Aim: Deliver a safe, efficient, patient-focused model for the transfer of General Surgical patients from the Emergency Department (ED) to the ward.

Rationale: Joondalup Health Campus has one of the busiest EDs in the country and General Surgery is one of the busiest departments. In August 2016, the average WEAT for General Surgery was 17% and the time taken from when an ED doctor first reviews a patient to when they leave the department is 5.5 hours.

The rationale for this project was to improve the efficiency of the process for admitting General Surgical patients, thereby reducing the ED length of stay and improving patient satisfaction and outcome as well as improving patient flow through the department.

Improvement team members

Supervisors:
Kellie Steer
Yuresh Naidoo

Supporters:
Geoff Weir
Katharine I'Anson
Jo-Ann McIntyre
Melanie Gates

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The Improvement Process

A process mapping session was held to map out the journey of a General Surgical patient from when they are first seen in ED to when they are transferred to the ward. This was well attended by nursing, medical, clerical and support staff who identified multiple issues and delays in the process. Data analysis highlighted that the longest delays were from when the bed is requested to when the ward is ready (192 minutes), when a surgical consult is requested to when they are reviewed (111 minutes) and from when the ward is declared ready to when the patient leaves the department (78 minutes). A root cause analysis session revealed many causes for these delays; which included awaiting investigations, awaiting a surgical review as the Registrar is in theatre, lack of available nurse escorts and reduced bed availability. Further sessions were held to develop solutions that addressed this root cause.

Project Outcomes

- Increased staff awareness of existing admission policies through education of registrars for Gynae, General Surgery, MAU and ED.
- Improve accessibility of current guidelines and delete outdated policies.
- Abdominal Pain Pathway to promote the early request of simple investigations.

Recommendations

- Investigate further the need for a Surgical Assessment Unit at Joondalup Health Campus.
- Review the current General Surgical Roster to review how to improve after hours cover.
- Consider expanding the role of the nurse in triage to perform investigations on patients of other specialties.

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PERFECT: Promoting Enhanced Recovery Following Elective Caesarean Theatre

Dr Christopher Thexton, King Edward Memorial Hospital

Project Aim: A review of the current patient journey for women selected for elective lower uterine segment caesarean section to outline where delays in recovery exist.

Rationale: Review of our post-operative period suggests improvement could be made by enabling women to focus on aspects of their recovery that promote restoration of normal activity and minimise risk of complication. The project sought to identify where delays exist and improve performance. A baseline audit of recovery activity in women post ELUSCS demonstrated delay in mobilisation and discharge planning. In particular, our women are not mobilising early and discharge planning needs to begin earlier.

Improvement team members

Supervisors:
Dr Mathias Epee-Bekima
Brodene Straw

Supporters:
Tracy Robertson
Caroline Coulson-Bonner

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The Improvement Process

Using length of stay as a target indicator for efficient goal directed care, we sought to measure delays in recovery by assigning recovery milestones identified as obligatory before a woman could be considered fit for discharge. Utilising enhanced recovery themes widely adopted in general surgical practice since the early 2000s, we performed a retrospective chart review of 30 cases to determine baseline average performance for time to mobilisation, removal of urinary and epidural catheters. Staff interactions were also reviewed including aspects of discharge planning and documentation. The current Elective Caesarean Care Pathway was also reviewed with respect to its purpose as a tool which may assist care providers in delivering the highest standards of care to women using the service.

Project Outcomes

- Characterisation of actual recovery timeframes at our institution.
- Demonstrable delay noted in certain recovery milestones.
- Identified lack of recovery mindset post-operatively.
- Identified that current Elective Caesarean Pathway does not promote nor support criteria led discharge.
- Proposal to produce a De Novo Recovery Checklist for select women undergoing ELUSCS.

Recommendations

- Review of the current pathway to include goal directed progress through recovery steps to enable criteria led discharge.
- A pathway closely aligned with enhanced recovery principles to facilitate mutual decision making, multi-disciplinary input and sequencing of activities throughout the woman's recovery.
- Promote a recovery mindset when consenting for ELUSCS alongside the development and implementation of a revised Elective Caesarean Pathway.
- Introduce and develop an enhanced recovery programme in Obstetrics for select patients at our Centre.

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Gynaecology Recovery Plan (GRP)

Dr Sebastian Leathersich, King Edward Memorial Hospital

Project Aim: To reduce length of stay (LOS) for gynaecology procedures in line with national benchmarks.

Rationale: Analysis undertaken as part of the WNHS Safe, Smart, Sustainable Program ("Triple S") found average LOS for laparotomy was 4.1 days; above the national benchmark of 3.3 days. Extended hospital admissions carry risks of adverse events and poorer patient outcomes, as well as impacting the fiscal performance of the Health Service. Therefore, there is an opportunity to reduce average LOS through improved patient care, which will lead to increased efficiency.

Improvement team members

Supervisors:
Dr Elizabeth Gannon
Ms Brodene Straw

Supporters:
Caroline Coulson-Bonner
Tracy Robertson

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The Improvement Process

Process mapping was undertaken with stakeholders to evaluate the existing situation and the factors contributing to prolonged LOS for our patients. The four key issues identified were: (1) patient expectations are not well managed; (2) pre-operative patient optimisation is suboptimal; (3) there is considerable variation in post-operative care; and (4) discharge planning and communication is inadequate. These were confirmed through data analysis. Root cause analysis revealed a number of underlying causes for these issues; most of which were related to a lack of standardised processes and barriers to clear communication. Solution generation with key stakeholders generated a variety of potential solutions, which have been combined to create the Project Outcomes below.

Project Outcomes

- Formation of a multidisciplinary Working Group to develop an agreed care pathway for gynaecology patients undergoing laparotomy, laparoscopic or vaginal surgery within 6 months, which will form the basis for:
  - Formalisation of care pathway into MR form
  - Development of updated patient information
  - Pre-filled post-operative medication chart

Recommendations

- Once implemented, it is recommended that there be a process of ongoing improvement of the GRP following a process of standardisation, trial of alterations and improvement of care.
- It is recommended that the GRP be formally reviewed on an annual basis to ensure that it reflects contemporary best practice and is responsive to organisational needs and patient and staff experiences.
- It is recommended that the process of clinical standardisation be considered in Gynaecology and other procedural specialties across WA Health.

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Up and Running! Equipping Resident Doctors at the Start of Term.

Dr Rikki Priest, King Edward Memorial Hospital

Project Aim: To streamline and improve how RMOs are equipped to perform in their roles from the start of term.

Rationale:
Data collected from staff surveys and observed patient waiting times demonstrated that handover and orientation processes for junior doctors were not optimal. 47% of RMOs did not receive a handover and 71% did not have an orientation for their most recent team term. 80% of RMOs disagreed that information required to complete routine tasks was easily accessible. Addressing these issues will ensure that RMOs hit the ground running at the start of term. This will also result in safe, effective handover thus improving patient care.

Improvement team members

Supervisors:

Dr Liz Gannon
Tracy Robertson
Brodene Straw
Esther Dawkins

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The Improvement Process

Three key areas for improvement were identified through mapping the current process for how RMOs find the 'how to' information required to complete daily tasks. Data was collected to further define the problems involved with orientation, term handover and accessibility of orientation information through staff surveys (n=86), patient waiting times for medical discharge (n=22) and analysis of written orientation materials. Root cause analysis revealed that the lack of standardised handover and orientation processes, lack of clearly defined roles, assumptions of pre-existing knowledge, scattered orientation information, variation from other hospitals, and information overload with a lack of targeted, relevant information were the contributing root causes. Solutions were workshopped with staff and implemented in Term 4, 2016.

Project Outcomes

- RMO to RMO Handover

Solutions: Standardised handover checklist and handover whiteboard in the Doctors Common Room which identifies that current team RMOs are responsible for handover and is updated with the names and contact numbers for current and new team RMOs 2 weeks before the start of term to facilitate communication

Outcomes: Handover rate has increased from 47% (Term 3, 2016) to 100% (Terms 4 and 5, 2016)

- Orientation

Solutions: Orientation checklist supported by junior registrar, business case development for gamification app and standardisation of orientation across all team jobs. Orientation information to be centralised to one electronic platform (preferably HealthPoint).

Outcomes: Staff reported that RMOs are better equipped at the start of term and medical discharges were completed earlier (36 vs 48 minutes) in Term 5 compared to Term 3, respectively.

Recommendations

1) Standardisation of orientation processes across WA health sites.
2) Implementation of a standardised RMO to RMO handover board.
3) Progression of centralisation of information on HealthPoint.

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HICUPS: Hospital Inpatient ConsUlt ProcesS Project

Dr Louisa Corr, Sir Charles Gairdner Hospital

Project Aim: To reduce time between initiation and completion of inpatient referrals across all medical specialties within Sir Charles Gairdner Hospital (SCGH).

Rationale: Appropriate inpatient referrals can add value to a patient admission, improving the patient experience, the timing of clinical decision making and ultimately enhance patient care and safety.
Anecdotal evidence at SCGH suggested that discharge may be deferred and length of stay prolonged due to delays in timing of inpatient referrals. Improving timeliness of inpatient referrals and reducing length of stay to mitigate the risk of adverse events may be associated with significant cost savings.

Improvement team members
Supervisors:
Clinical supervisors: Dr Chris Kosky and Arindam Chakravorty
Service improvement supervisor: Jennifer Francis
Supporters:
Executive sponsor: Dr Meredith Arcus
Program coordinator: Esther Dawkins
Medical leadership advisor: Dr Anita Kothapalli

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The Improvement Process

A process mapping session was conducted with medical staff, mapping the journey from an inpatient referral being requested to the completion of the referral. A number of issues were raised during this session including the non-standard approach to referrals, ability to contact the correct person, workplace culture and consultant availability.

Data was gathered from the electronic 'eReferral' system and also a manual data collection using an audit tool. Root cause analysis revealed there were a number of factors contributing, including lack of awareness regarding appropriate referral processes, inadequate clinical leadership, poor clinician engagement and inappropriate or low quality referrals.

A solutions session produced a number of ideas which were subsequently assessed for feasibility, ease of implementation and sustainability. The project products focused on clinician education and training, updating hospital policy and improving referral quality.

Project Outcomes

- Updated hospital policy for inpatient referrals devised and completed.
- Updated and improved specialty specific hints for inpatient referrals on the eReferral system.
- Educational materials produced for publication on hospital intranet website.
- Raised awareness and understanding of appropriate inpatient referral processes within hospital.

Recommendations

- Future IT solutions and improvements include: electronic patient medical record, updated paging system within hospital, task management system that could interface with eReferral system.
- Review of specialties using eReferral system for billing purposes.
- Increased usage of DECT phones by consults registrars.
- Ongoing review and maintenance of the eReferral system to ensure it is up-to-date and user friendly.
- Identification of particular departments to work closely with to improve processes regarding inpatient referrals.
- Application of process to review outpatient referrals.

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TALK:
Talking About Limitations of Kare

Dr Matthew Greenaway, Sir Charles Gairdner Hospital

Project Aim: Identify the most suitable moments for discussing Goals of Patient Care and develop strategies to assist the successful implementation of the End of Life Framework in particular the Goals of Patient Care form.

Rationale: Determining Goals of Care is fundamental to providing patient centred health care. An audit in 2015 identified that a significant proportion of Goals of Care discussions were occurring during Medical Emergency Team calls. Discussing and documenting Goals of Care early during a patient's admission will ensure that the medical treatment administered is both appropriate for the patient's medical condition and in line with their personal wishes.

Improvement team members

Supervisors:

Jennifer Francis
Dr Matthew Anstey
Dr Tim Patterson
Dr Meredith Arcus

Supporters:

Dr Anil Tandon (Palliative Care Consultant, SCGH)
Dr Sumit Sinha-Roy (Medical Registrar)
Esther Dawkins (IHL)

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The Improvement Process

This project was conducted as a hospital wide project with input from a number of staff across a range of departments. It was recorded that in 2015 only 8% of non-elective patient admissions had a documented Goals of Care plan. A root cause analysis session identified a range of barriers preventing Goals of Care discussions from occurring. These barriers can be broadly classified as patient and family factors, medical staff factors and organisational factors. From this a solution building session generated a number of targeted strategies that will facilitate Goals of Care discussions to occur between patients and all health professionals.

Project Outcomes

1. Educational Resources
    - Development of a self-guided education package – *Goals of Patient Care: A Clinicians Guide.*
    - Goals of Care summary for inclusion into departmental orientation guides.
    - Collaboration of Goals of Care educational resources within the SCGH intranet.
2. Patient Identification
    - SCGH registered as a user of the Supportive and Palliative Care Indicator Tool (SPICT) .
    - SPICT clinician education guide.
3. Patient awareness
    - "What Matters To You" – patient information brochure.
4. Communication of Goals of Care Plan
    - Inclusion of Goals of Care plan into the patient hospital discharge summary.
5. Audit
    - Establishment of a six monthly departmental audit, monitoring the number of Goals of Care plans documented.

Recommendations

It is the recommendation of this project that SCGH incorporates the new Goals of Patient Care form into hospital policy once published by the state working committee. This new Goals of Patient Care form provides a more detailed platform for documenting care limitation discussions and patient treatment preferences.

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Minority Report

Medical Incident Notification by Medical Staff

Dr Arjun Shivananda, Sir Charles Gairdner Hospital

Project Aim: To determine the level of awareness among doctors in regards to clinical incident reporting at Sir Charles Gairdner Hospital (SCGH) and to implement solutions to encourage incident reporting by doctors.

Rationale: Incident reporting is used to learn from harm events and near misses. CIMS data for 2015 showed that of all non-anonymous reports, only 2.1% were by doctors. Literature indicates that only a relatively small number of incidents that occur are actually reported and that doctors are the worst at reporting. Our audit revealed that less than 50% of doctors at SCGH were aware of what constitutes an incident and only 27% knew how to report an incident. Less than 7% of doctors had reported an incident. An opportunity exists to improve the level of awareness surrounding incident reporting and to increase reporting rates.

Improvement team members

Supervisors:

Jenny Francis
Dr Timothy Paterson
Dr Theresa Marshall

Supporters:

Safety and Quality SCGH
Medical Executives SCGH
Department of Health, WA

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The Improvement Process

92 doctors were surveyed to determine the level of awareness about Clinical Incident Management (CIM) amongst medical staff at SCGH. A focus group/root cause analysis session was then conducted with 20 participants to determine why less than 7% of doctors at SCGH had reported an incident on Datix CIMS. Five main root causes were identified including a lack of awareness on how to report, negative connotations associated with reporting, lack of awareness on responsibility, lack of knowledge on what to report and the lack of feedback once an incident had been reported. Once the root causes were identified, an idea generation session was held with our stakeholders in order to develop solutions based on impact and ease of implementation.

Project Outcomes

- Educational video created to highlight how incident reporting can improve systems and to tackle the negative connotations associated with incident reporting.
- Renamed Datix CIMS to Datix CIMS – clinical incident reporting in order to increase accessibility to the program.
- Pinned CIMS information on the ‘doctors den’ section of the SCGH intranet (Chips) in order to raise awareness on the responsibility around incident reporting.
- Clinical incident management hotline established to support doctors requiring assistance on what and how to report.
- Customised email notification established in order to improve feedback after notification and to increase transparency.

Recommendations

- Datix CIMS to be pinned to the taskbar of all computers.
- Integrate safety and quality education into PGME calendar.
- Develop and implement solutions on a wider scale.
- Regular review of reporting rates required to monitor change in behaviour.
- Review the policy on desktop background as it is potential space for increasing awareness on a range of issues.

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PAPERRCLIP Project: *Providing Appropriately Prioritised Early Referral Responses (for) Consultation Liaison in Psychiatry*

Dr Simon Joseph, Sir Charles Gairdner Hospital, Mental Health Unit

Project Aim:
To analyse the current processes of the Psychiatric Consultation Liaison (PCL) service at Sir Charles Gairdner Hospital (SCGH) and to propose refinements to improve efficiency, prioritisation and delegation of referral responses. Key performance indicators:

- Decreased volume of referrals made to PCL service
- More accurate record of work performed and service demands
- Standardised tool for prioritising, categorising and delegating individual referrals

Rationale:
The high volume of referrals being received by the PCL team at SCGH results in limited resources being stretched to accommodate increased demand. Current referrals are not refined due to an absence of standard procedures, guidelines and quality indicators, all of which are important for efficiency in PCL. As such, the present system of delivery is a model that is unsustainable in a healthcare environment pressed to accomplish more with less resources.
In the context of controlled resource availability, how can our PCL service adapt to deal with a continued increase in service demand?

The Improvement Process

Process mapping sessions took place with the project team. The process was defined as beginning with an independent referral being received by the PCL service and followed through to the time at which that patient was deemed not for further input. A retrospective measurement phase indicated a 25% increase in the volume of new referrals in the last 2 years. The PCL team now sees an average of 48 new referrals per month with 98% of these being reviewed within 24 hours and 39% of new referrals being reviewed by more than one team member. The results confirmed that despite increasing volume and limited resources, there is significant resource waste and an absence of appropriate delegation and prioritisation of referrals.
Root cause analysis sessions identified a lack of clearly defined service boundaries, no standardised prioritisation system, governance structures and models of care, software systems, and work duplication as contributing factors to service limitations.

Project Outcomes

- **Model of care:** A more appropriate pyramidal model of care in which referrals enter the system via the nurse practitioner at one point and are then appropriately escalated to psychology, medical and psychiatric specialists. This identifies unnecessary or weak referrals prior to review by consultants, avoiding a waste in specialist time (FTE)
- **Governance structure:** Combining adult PCL, older adult PCL and drug and alcohol (which are currently governed separately) into one PCL service. This would allow upskilling, better delegation and a one-point entry system for referrals all of which are beneficial for triaging purposes
- **Triage:** A standardised actuarial tool for prioritising and delegating new referrals will allow the service to limit the scope of service delivery and allocation of resources to patients that require it most
- **DECT phones:** Access to DECT phones would better suit the mobile and active nature of the PCL service as well as allow phone activity to be measured and audited. This avoids procedural time waste
- **Administration minutes:** Recording minutes electronically avoids transcription duplication which will save an estimated 260 hours of administrative work hours a year
- **e-Referrals:** A more structured and guided referral system for home teams will allow stronger referrals to be made. This prompts the inclusion of key information and allows prioritisation based on referral prior to review

Recommendations

Trial of the above suggestions will require a change in current practice culture. At present, the service lacks multi-level engagement and the current ingrained top-down methods of practice are often non-standardised and opaque. This creates a barrier to implementation of solutions and evolution of the service. A change in this culture is required prior to investigation of the above propositions.

Improvement team members

Supervisors:
Clinical supervisor:
Dr Mark McAndrew
Project supervisor:
Dr Philippa Martyr

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IMPACT!
Improving Pre-Admissions Clinic Timeliness

Dr Claus Bloecker, Fremantle Hospital

Project Aim: To improve the efficiency and timeliness of the pre-admissions clinic

Rationale:
With the change in focus from acute to elective patient services at Fremantle Hospital, the pre-admission clinic's (PAC) role is even more vital in ensuring that patients are adequately prepared for their procedure. Several issues were identified in the current clinic model that was causing inefficiencies and delays. These included long patient wait times (up to 5 hours), process duplications, variable daily walk-in patient load, with a range of 1-27 patients per day, and difficulty in timely access of surgical junior medical officers.

Improvement team members

Service Improvement Supervisors:
Emily Nolan & Kendra Beecroft
Clinical Supervisor:
Dr Leena Nagappan
Supporters:
Jaimy Wisse – Executive Sponsor
Dr Debra Coleman – Anaesthetics Head of Department at FHHS
Esther Dawkins - IHL
Fremantle Hospital Staff

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The Improvement Process

A process map of the patient's journey through PAC was conducted involving all key stakeholders, which identified 70 issues. Electronic data from webPAS and manual data gathered from spending two days in PAC, along with root cause analysis demonstrated that a large portion of the patient wait time and clinic inefficiency was due to complex joint replacement patients, patients waiting for surgical junior medical officers (JMOs) and the variability of the daily walk-in patient load. The key stakeholders, through multiple solution sessions then developed solutions that were implemented, with post implementation data confirming the success of those solutions.

Project Outcomes

- A reduction in the daily range of walk-in patients from 1-27 patients to 2-8 patients.
- A 20% reduction in the reappointments of walk-in patients from 50% down to 40%.
- No urgency category 3 walk-in patients to PAC unless a prisoner, patient with an interpreter, a country patient or a patient with a procedure date within 2 weeks.
- No more than 3 joint replacement patients per day in PAC
- A 1 hour reduction in the average total time spent in PAC for joint replacement patients.
- First afternoon patient PAC appointment moved forward by 30 minutes to ensure the afternoon anaesthetists always have a patient ready to be seen when they start.
- A comprehensive and easily accessible PAC orientation manual/guide for surgical JMOs to refer to.

Recommendations

- Change the orthopaedic JMO team structure to have two JMOs per team to allow JMOs to cover for each other when they are required to be in PAC.
- Consider implementation of a Yes/No SMS response system for PAC appointments to reduce the 12% DNA rate.

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InDiGO (Inpatient Diabetes & Glucose Optimisation) Initiative

Dr Justin Bui, Fremantle Hospital

Project Aim: Improve inpatient diabetes management in the inpatient setting through early identification and education.

Rationale: With over one-fifth of the inpatient population having a concurrent diagnosis of diabetes, management optimisation should be a priority. Early identification of patient diabetes status is an area requiring improvement. 64% of diabetes related referrals occur in the final third of the patient admission journey. Over 50% of junior doctors rated their confidence level as 3 out of 5 on being able to recognise high risk diabetes.

The Improvement Process

Using the DMAIC methodology, the InDiGO initiative sought to identify issues and make systematic changes in improving the management of inpatient diabetes. The issues raised during the process mapping phase were related to poor communication between teams, absence of an available escalation pathway and lack of awareness on the benefits of treating diabetes as a concurrent diagnosis. Root cause analysis revealed observational inattention, clinical inaction and the paucity of guidelines for identification of high-risk diabetes as the factors most contributing to the problem.

Project Outcomes

- Development of a referral guideline featuring seven patient categories of high-risk diabetes to aid early identification.
- Hospital and ward based education campaign focused on early identification and referral.
- Changes to the admission proforma to incorporate a diabetes specific section to prompt use of HbA1c, recording of admission BSL and reference to the InDiGO criteria.
- Improve junior doctor confidence on recognition of diabetes requiring endocrinology input.

Recommendations

- Recognise the importance of diabetes management as a concurrent diagnosis for inpatients.
- Early identification and prompt decision-making for patients with inadequate glycaemic control.
- Prioritise early referral for patients requiring complex diabetes treatment and ongoing follow up.

Improvement team members

Supervisors:

Dr Gerry Fegan
Jaimy Wisse

Supporters:

Dr Chris Wilson, Emily Nolan, Kendra Beecroft, Erin Furness, Brodene Straw, Michael Dufton, Dr Matt Sarvesvaran, Catherine Li, Endocrinology FSFHG

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IRONing out Deficiencies

Ensuring Appropriate Management of Preoperative Iron Deficiency

Dr Yvette Goodgame, Fremantle Hospital

Project Aim: To improve preoperative Patient Blood Management (PBM) in elective major joint replacement patients.

Rationale: Reconfiguration of Fremantle Hospital in February 2015 from a tertiary centre to a specialist secondary centre (following the opening of Fiona Stanley Hospital) meant the loss of the preadmission clinic (PAC) haematology nurse role. It is well documented that preoperative optimisation of PBM decreases risk of postoperative morbidity and mortality. Post reconfiguration audits showed only 3.4% of elective major joint replacement patients received appropriate PBM. The majority of patients within this group were well but had suboptimal iron stores and required nothing but Iron optimisation.

Improvement team members

Supervisors:
Dr Nathan Curr
Emily Nolan, Kendra Beecroft

Executive Sponsor:
Jaimy Wisse

Supporters:
Dr Debra Coleman
Esther Dawkins, Anita Kothapalli

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The Improvement Process

The existing process of preoperative PBM was reviewed using the DMAIC methodology. A process mapping session conducted with all stakeholders identified 39 issues, most of which focussed around three key issues:

1. Suboptimal communication of expectations with country patients and their GP
2. Unclear ownership/role allocation of the PBM process
3. Disorganized PAC junior medical officer (JMO) file containing numerous complicated flowcharts, unclear pathways and vague timeframes resulting in extensive workload with no clear guidance.

Root cause analysis of the above revealed that the fundamental factor contributing to these problems was lack of the implementation of a well-defined process post reconfiguration and loss of the haematology nurse role.

Project Outcomes

- Renamed outpatient clinic from “Iron transfusion” to “Iron infusion” to avoid confusion.
- Updated 3 pharmacy Specialised Drug Guidelines pertaining to iron infusions (Iron Sucrose, Iron Polymaltose and Ferric Carboxymaltose).
- Discovered outpatient iron infusion clinic activity was not consistently recorded which resulted in missed hospital funding opportunities. New clerking system introduced and missed funding reclaimed.
- Updated correspondence to country GPs and their patients, including: informative introduction letters, pre-printed PathWest form for improved electronic access to results, detailed checklists and links to further resources/education with clear guidelines of expectations of GP and patient.
- Review and redesign of PBM flowchart “Preoperative haemoglobin assessment and optimisation flowchart” and simplification of associated pathway and process for JMO organising an iron infusion.
- Redesigned “Iron Infusion Chart” to include preoperative Iron optimisation as an indication.
- All of the above were incorporated into the JMO orientation manual and are to be made available on the intranet with links to all related information sources.

Recommendations

- Generation of templates for letters to patient and GP for PAC patient that requires referral to gastroenterology or gynaecology as per flowchart.
- Obtain feedback from country GP surrounding satisfaction with new method of correspondence.
- All implemented solutions to be audited in December 2016.

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GEEEK: Great Engagement for Effective Electronic Kommunication

Dr Rowan Ellis, Fiona Stanley Hospital

Project Aim: To review the hospital's new electronic medical record and identify key areas for improvement.

Rationale: Fiona Stanley Hospital is the state's first electronic medical record project. Clinicians across the hospital have been feeding back their frustration with the transition to the new system. Significant improvements have been made to the hospital's IT in the 18 months since its opening in early 2015, making mid-late 2016 an ideal time to review the systems and make recommendations for future development.

The Improvement Process

This project followed the DMAIC methodology. The process of clinical documentation and communication from an acute patient's admission to discharge was mapped, with 157 issues identified. The majority of issues concerned the design and configuration of electronic systems. There was a cluster of issues around the Medical Admission eForm. Root cause analysis identified the key issues with this form's design, and informed a new design which leverages the capabilities of the electronic record.

Project Outcomes

- A new, significantly improved design for the Medical Admission eForm.
- Establishment of the FSH Clinical ICT Design and Innovation Group, with members including FSH JMOs, FSH Exec, HSS managers and Serco ICT specialists.
- 29 NaCS-specific issues have been taken to the user group and prioritised for further development.
- Specific recommendations for future health ICT projects.

Recommendations

Current systems:

- BOSSnet eForm design must be guided by usability principles to avoid making clinicians' work unnecessarily complex.
- NaCS should prioritise redesign of the medications management interface.
- FSH should provide formal support for engagement between end users and ICT project teams, and avoid reliance on volunteers.

In future projects, WA Health should:

- Recognise the need for usability.
- Adopt standards for on-screen display of health information.
- Engage users in the earliest stages of project design.
- Build workforce capacity to ensure a culture of user-centred design.
- Consider ease of access and analysis of electronic medical record data when making future purchasing decisions.

Improvement team members

Supervisors:
Dr Hannah Seymour
Erin Furness

Supporters:
FSH Clinicians
FSH Acute Medical Unit
HSS BOSSnet team
HSS NaCS team

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TREaD – Time from Referral to Early Diagnosis for Head and Neck Cancer Patients

Dr Justine Mackie, Fiona Stanley Hospital

Project Aim: Reduce delays for head and neck cancer patients in diagnostic work-up to maximise their survivability and minimise morbidity.

Rationale: Head and neck cancer is a fast-growing aggressive cancer. Survival and morbidity outcomes are directly affected by delays to treatment. There have been cases at FSH of head and neck cancer patients experiencing delays to treatment resulting in curative outcomes becoming palliative-only options. Furthermore, there are exponential increases in resources required to treat more advanced stage cancers and a perception amongst staff of resource waste due to process inefficiencies.

The Improvement Process

A process mapping session was conducted with over 40 participants, mapping the patient journey from the time of referral to discussion in the Multidisciplinary Team (MDT) meeting. The issue themes measured included lack of knowledge of referrals pathways, delays with getting clinic appointments, delays for patients receiving work up diagnosis and staging of their cancer and delays in being discussed in MDT. Root cause analysis revealed that the factors contributing to these delays included inefficiencies in the clinic diagnostic process and lack of coordination of care for head and neck cancer patients.

Project Outcomes

- Accurate measure of delays for head and neck cancer patients and the time points of those delays. This required manual data collection.
- Central MDT coordinator email.
- Improved knowledge of the referral pathway for patients with potential or confirmed head and neck cancer.
- Facilitated culture of improvement.
- Advocated for improved patient survival and morbidity outcomes, reduced resource waste and better use of staff time.

Recommendations

- Development of a ‘One-Stop’ Head and Neck Cancer Diagnostic Clinic to maximise efficiency in clinic resources and reduce delays to treatment for patients.
- Appointment of an FSH Surgical Head and Neck Cancer Nurse Coordinator to coordinate patient journey care.

Improvement team members

Supervisors:
Dr Richard Lewis
Dr Robert Wormald
Joanne Illich

Supporters:
Tim Leen and Dr Stephen Wright – Executive Sponsors

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‘Improving the Walk through AMAC’

Streamlining Referral to the Acute Medical Ambulatory Centre

Dr Claire O’ Donovan, Fiona Stanley Hospital

Project Aim: To streamline referral to the Acute Medical Ambulatory Centre (AMAC) at Fiona Stanley Hospital (FSH).

Rationale: The AMAC at FSH was established with the goals of facilitating early discharge and preventing avoidable medical admissions. It was identified that 12 months post introduction of this clinic, the service was operating at well under capacity. There were many inefficiencies, especially in relation to referral processes.

Of the 40 clinic slots available per week, an average of 18 was being utilised. This represented a significant missed opportunity to review patients and potentially prevent them from attending the Emergency Department, which is currently operating over capacity.

Improvement team members

Supervisors:
Steve Wright
Erin Furness

Executive Sponsor:
Simon Towler

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The Improvement Process

A process mapping session was held to map the process from the time the decision is made to refer to the AMAC and the patient’s journey through to discharge from the Centre. This revealed that issues centred on the referral process. The Centre had been using a paper based referral system which, during root cause analysis, was found to be a poorly designed referral form which lacked necessary information. Another element contributing to inefficiency was the lack of information provided to doctors at orientation.

Project Outcomes

- Redesign of the referral system. This has now transitioned to an electronic eReferral system.
- Creation of an ‘AMAC Quick Reference Guide’ for doctors which is available on the FSH intranet hub and included in orientation each term.
- An AMAC information flyer for GPs to be published to the FSH website.
- Production of an AMAC contact card to be given to patients on discharge if they have an AMAC follow up.
- Streamlining GP referrals to go through the FSH rapid referrals service.

Aside from the above changes, there were a number of quick wins which have improved the Centre’s overall efficiency, as well as increasing communication between AMAC staff and other departments.

Recommendations

- Consistent medical, nursing and clerical staff rostered to AMAC
- Using the ‘Clinical Letter’ eForm on Bossnet to document the patient visit.
- Liaison with ED to streamline suitable patients directly from triage to AMAC.
- Visiting GPs in the area to promote AMAC and trialing increased referrals from the community.

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Operation GO: Theatre Start Times

Dr Jubin Bhatt, Rockingham General Hospital

Project Aim: Identify and reduce delays impacting the commencement of the first case in the theatre admissions process of elective cases.

Rationale: Delays in theatre start times negatively impact patient experience, elective waitlists and organisational costs. Rockingham General Hospital data shows that elective on-time (0800hr) starts occurred only 13-17% of the time between April and July 2016. Data showed an average delay of 18 minutes per case which equates to an annual loss of 300hrs of operating time.

These delays impact the 1600 patients on the current waitlist and cost the organisation over $700 000 annually.

Improvement team members

Supervisors:
Dr Karthik Thanigaimani
Kerri-anne Martyn

Supporters:
Dr Andrew Thompson, Helen Bayliss, Patrick Ferguson, Sue Harris, Kathryn Grayson, Glynwynn Bugler

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The Improvement Process

To identify delays in the theatre admissions process of elective cases, a process mapping session with nursing staff, theatre staff, anaesthetists and surgeons was conducted to map out the patient journey from the time patients are called to confirm their surgery to the time they enter the operating room (‘wheels in’). Major issues identified included (1) patient preparation issues (2) consent delays (3) holding bay delays and (4) pre-operative meeting delays. Additional to electronic data, a manual audit of 31 patients was completed to measure the frequency of patient preparation issues and measure the delays in the process.

Root causes for patient preparation issues included poor communication with patients and poor choice of the first case of the day. The root cause for consent delays was the lack of medical staff to complete these consents. Root causes for holding bay delays included lack of holding bay staff and poor communication between admitting nursing staff and holding bay nursing staff. Root causes for the delay in the pre-operative meeting included lack of standardised start time, lack of awareness of the meeting and lack of awareness of who should attend and lead this meeting.

Project Outcomes

- Improved communication with patients by implementing a simple patient preparation checklist.
- Formulated ‘GOLD’ case guidelines to assist anaesthetists and surgeons to select an ideal first case of each theatre list.
- Implemented 0730hr RMO to complete consents on time.
- Increased awareness amongst theatre staff with regular educational sessions, posters and start time feedback.
- ‘GREEN’ card notification to indicate patient readiness for theatre.
- First patient on operating list bypasses holding bay and is moved into theatre thereby removing a delaying step in the process.
- Established guidelines for the pre-operative meeting, which outlined a standardised start time, the role of the meeting and salient attendees.

Recommendations

- Establishing a robust system of communication of the ‘GOLD’ case guidelines between surgeons, anaesthetists and waitlist staff.
- Establishing a formal 0730hr RMO orientation program.

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Redesigning an Efficient AORTIC Process (REAP)

Dr Kim Maher, Rockingham General Hospital

Project Aim:
This project aimed to find sustainable workflow efficiencies to enable completion of AORTIC data within 48 hours of patient admission to ICU.

Rationale:
AORTIC data is used to benchmark the safety and quality performance of Intensive Care Units and drive clinical improvement.

Historically there have been issues with the data collection process resulting in inefficient use of staff time and reduced data quality.
There is an opportunity to increase the quality of AORTIC data and reduce the burden on ICU staff by improving process efficiency, without additional financial costs.

Improvement team members

Supervisors:
Dr Ravikiran Sonawane
Maria Weston
Kerri-anne Martyn

Supporters:
Dr Geoffrey Williamson
Dr Prasad Bheemasenachar
Dr Kartik Atre

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The Improvement Process

This project was undertaken using DMAIC Clinical Service

Redesign methodology:
Define: A process mapping session and development of critical to quality requirements captured the AORTIC data collection process and identified a number of issues with the process.
Measure: A manual audit of Q1 2016 (Jan – March) AORTIC forms was under taken and a survey of ICU Registrars. This data demonstrated a low rate of timely AORTIC completion and the survey confirmed lack of consistency of Registrar orientation.
Analyse: An analyse session was conducted using the 'why/because' investigation technique. Six root causes were identified for solution generation.
Improve and Control: Project outcomes and recommendations below. Sustainability planning was implemented with a process of audit and reporting and a project champion to continue to drive recommendations.

Project Outcomes

- Development of an AORTIC reminder system.
- Unit feedback mechanism for ICU KPI and AORTIC performance.
- Review and redesign data collection form and data collection process.
- Preparation of AORTIC process for inclusion in existing unit clinical database development and improvement.
- Quick win converting existing paper based administration systems into the electronic patient log.

These measures have resulted in

- Improvement in the completion rate of AORTIC data.
- Decrease in the AORTIC related workload on PIMS staff.
- Increased consultant awareness of periods of increased workload and an improved support system.
- Empowerment of staff and to communicate issues in the ongoing data collection process and find solutions.

Recommendations

- Increased resources for the completion of the new ICU database.
- Review and update of medical staff orientation package.
- AORTIC/APD systems training for ICU Ward Clerks.
- Review of ICU staffing model.

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Armed Against Influenza

Improving influenza immunisation rates amongst high risk children attending outpatient appointments at Princess Margaret Hospital

Dr Ciara Stapleton, Princess Margaret Hospital for Children

Project Aim:
Increase rates of influenza immunisation amongst high-risk patients attending Princess Margaret Hospital Out-Patient clinics.

Rationale:
Seasonal influenza is the most frequent vaccine preventable disease occurring in Australia and it results in significant morbidity and mortality.

Influenza associated hospitalisation, severe disease, and death are more likely amongst young children and in those who have chronic health conditions.

A recent audit conducted at Princess Margaret Hospital demonstrated uptake of influenza immunisation by only 13% of high-risk patients (lung disease, heart disease, immunosuppression, neurological disorders, etc.).

Improvement team members

Supervisors:
Dr Chris Blyth
Karen Ziegelaar

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The Improvement Process

- Patient questionnaires and a process mapping session for staff helped *define* issues relating to the immunisation of children attending Outpatient clinics. The process mapping session identified several main issues with the promotion and uptake of immunisation including low staff awareness, poor campaign visibility and negative parent opinion. The impact of these issues was *measured* via patient surveys, staff survey and through online databases.
- Root causes that were identified included lack of consultation with Outpatient department staff regarding the delivery of the annual Influenza Immunisation campaign, low levels of knowledge amongst staff and poor visibility of the campaign throughout the hospital. It was also highlighted that the current process relies almost entirely on a "push" rather than "pull" process.
- Potential *solutions* included development of a prompt/ referral slip so that parents may initiate discussion regarding Influenza vaccine with the reviewing clinician, greater visibility of the Immunisation booth and campaign, greater executive endorsement for the program so that preparation and staff education can occur prior to the campaign each year and generation of a real time auditing system so that departments can be notified of acceptable or poor performance in this area.

Project Outcomes

- Greater visibility of the booth and Influenza Immunisation campaign.
- Weekly update delivered to hospital teams highlighting numbers of Influenza immunisations achieved that week for their high-risk patients.
- Education of nurses, junior doctors and senior clinicians regarding the role of Influenza vaccine and the uptake benefit of a specialist recommendation.

Recommendations

- Influenza vaccination rate in high-risk patients as a KPI for the PMH Safety and Quality Committee under NSQHS Standard 3.
- Translation of this project's findings to similar Outpatient services and adaptation to the Perth Children's Hospital.

This document can be made available in alternative formats on request for a person with a disability.