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ORAL PRESENTATION

OP-01

Meningkatkan Peratus Penurunan HbA1c di Kalangan Pesakit Diabetes Mellitus yang Tidak Terkawal di Daerah Pendang

Category of study: District Specific Approach

Jamilah A[1], Tan XN[1], Tan SH[1], Nur Iryani G[1], Ruzita S[1], Kartiniwati A[1], Rashidan CR[1], Nor Zalee S[1], Norhisham Izani AA[1], Munizam AM[2], Norizan A[2].
[1]*Pejabat Kesihatan Daerah Pendang, Kedah*
[2]*Jabatan Kesihatan Negeri, Kedah.*

PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Pada tahun 2017, 82% daripada 4727 pesakit diabetes di daerah Pendang mempunyai paras HbA1c tidak terkawal (>6.5%). Hal ini meningkatkan risiko pelbagai komplikasi vaskular. Kajian ini bertujuan untuk meningkatkan peratus penurunan paras HbA1c pesakit diabetes tidak terkawal di daerah Pendang.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Indikator yang digunakan untuk mengukur masalah ini ialah peratus pesakit diabetes tidak terkawal yang mempunyai penurunan paras HbA1c (≥0.1%) selepas enam bulan rawatan dimulakan. Standard yang ditetapkan ialah 80%.

PROSES PENGUMPULAN MAKLUMAT:

Kajian hirisan lintang pra intervensi dijalankan pada Jun-Disember 2017. Kad pesakit diabetes (n=96) diaudit untuk menilai paras penurunan HbA1c, penolakan insulin, pematuhan pesakit kepada ubatan dan pematuhan pegawai perubatan kepada *Clinical Practice Guideline (CPG)*. Borang soal selidik digunakan untuk menilai pengetahuan, sikap dan amalan pesakit (n=96) serta anggota kesihatan (n=15) terhadap kawalan penyakit diabetes.

ANALISIS DAN INTERPRETASI:

Kajian pra intervensi menunjukkan hanya 32.3% pesakit mengalami penurunan HbA1c (≥0.1%); 75% mempunyai amalan yang tidak baik seperti merokok, 86.8% amalan pemakanan tidak baik, 91.7% tidak bersenam, 52% mengamalkan rawatan alternatif, 95% tidak mematuhi rawatan ubatan dan 17.7% menolak rawatan insulin. 96% pegawai perubatan memberi *rawatan* insulin kepada pesakit yang mempunyai paras HbA1c ≥10% mengikut *CPG* dan 72.5% pegawai perubatan mematuhi *CPG* (rawatan farmakologi).

STRATEGI PENAMBAHBAIKAN:

Klinik Diabetes Bersepadu (DOSC) yang menyediakan perkhidmatan pelbagai disiplin melibatkan *diabetes educator*, jurupulih anggota, jurupulih carakerja, pegawai farmasi dan pegawai perubatan/pakar perubatan keluarga, secara intensif, sistematik dan komprehensif pada sesi yang sama telah diwujudkan.

KESAN PENAMBAHBAIKAN:

Pesakit yang mengalami penurunan HbA1c meningkat dari 32.3% kepada 61% (Kitaran-1, Julai-Disember 2018, *Achievable Benefits Not Achieved* (*ABNA*) 19%) dan kepada 75.8% (Kitaran-2, Januari-April 2019, *ABNA*=4.2%). Amalan pemakanan yang tidak baik menurun kepada 21.3%, pesakit tidak bersenam menurun kepada 10%, pengamalan rawatan alternatif berkurang kepada 28%. Peratus pesakit yang menolak rawatan insulin menurun kepada 10%. Kepatuhan pesakit kepada rawatan meningkat dari 5% kepada 80%. Kepatuhan pegawai perubatan kepada *CPG* meningkat kepada 100%.

LANGKAH SETERUSNYA:

Konsep DOSC perlu dikembangkan untuk meningkatkan kualiti penjagaan dan kawalan diabetes.

OP-02

Increasing Complete Fluoride Varnish Application in *Generasiku Harapanku* Programme at Klinik Pergigian Tengkera

Category of study: District Specific Approach

Nurazreen AR[1], Aishah Badihah A[2], Nur Syareena T[3], Siti Amira A D[3], Muhamad Atiff MN[4], Nurul Azah A[2].
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[2] *Klinik Pergigian Ayer Keroh, Melaka*
[3] *Klinik Pergigian Ayer Molek, Melaka*
[4] *Klinik Pergigian Peringgit, Melaka*

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Complete fluoride varnish application is crucial in preventing caries formation among toddlers and increase caries free prevalence. However, there was low number of toddlers with complete fluoride varnish application in *Generasiku Harapanku (GKHK)* programme for Klinik Pergigian (KP) Tengkera.

KEY MEASURES FOR IMPROVEMENT:
This study aimed to increase percentage of toddlers with complete fluoride varnish application in *GKHK* programme to the district standard of at least 60%. A toddler considered to have a complete fluoride varnish application if four applications were reached in three to six-monthly intervals.

PROCESS OF GATHERING INFORMATION:
The percentage of toddlers with complete fluoride varnish application were identified from monthly data collection form (BKPNM/GKHK/03) in January 2018. Questionnaire and interview were done to identify contributing factors. Implementation of remedial measures was carried out from March until September 2018. Post-remedial evaluation was conducted from October to November 2018.

ANALYSIS AND INTERPRETATION:
The percentage was only 4% in January 2018 with Achievable Benefit Not Achieved (ABNA) was 56%. The identified contributing factors included lack of dedicated operators, poor follow-up system, poor programme promotion and lack of parents or guardian's cooperation.

STRATEGIES FOR CHANGE:
Remedial measures have been implemented including establishment of *GKHK* dedicated squad, home visit, incorporation of specific slot for GKHK programme in daily schedule of dental clinic and use of Whatsapp Bluestack application.

EFFECT OF CHANGE:
Percentage of complete fluoride varnish application increased from 4% to 17% in January to June 2018, and increased to 26.3% in December 2018 which suggested sustainability of remedial measures. ABNA reduced from 56% to 33%. All contributing factors improved; percentage of toddlers screening in *GKHK* increased from 75% to 91.7%, 100% attendance for second fluoride varnish application after 6 months, and full utilisation of WhatsApp Bluestack and Database DB18.

THE NEXT STEP:
All strategies will be continued to further increase complete fluoride varnish application up to 60% by 2020 according to the District's Oral Health Plan of Action.

OP-03

Mengurangkan Jumlah Transkrip Diploma Program Basic yang Tidak Dituntut oleh Bekas Graduan di ILKKM Kuching, Sarawak

Category of study: Hospital Specific Approach

Maxsion Batut, Didi SL, Lewis Sian, Makie Thung
Institut Latihan Kementerian Kesihatan Malaysia Kuchimg, Sarawak

PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Pengurusan proses pengendalian permohonan dan penyerahan transkrip akademik adalah satu perkara yang penting. Kepincangan proses penyerahan transkrip kepada graduan akan mengakibatkan kejadian *academic transcript backlog* berlaku. Penelitian rekod transkrip akademik sepanjang tempoh 2011 hingga 2016 mendapati sebanyak 46.56% (1185 transkrip) daripada 2545 keseluruhan transkrip dengan nilai purata tahunan sebanyak 7.76% (198 transkrip) adalah tidak dituntut.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Berdasarkan rekod graduan yang telah menuntut transkrip sepanjang tempoh tersebut, projek ini menetapkan standard sekurang-kurangnya 71% transkrip diserahkan dalam tempoh 3 bulan selepas pelatih menamatkan latihan.

PROSES PENGUMPULAN MAKLUMAT:

Soal selidik menggunakan *closed ended questionnaire*, yang telah divalidasi ke atas tiga kelompok subjek iaitu bekas pelatih, pelatih semasa dan pegawai yang secara langsung mengurus transkrip akademik melalui kaedah *purposive sampling* bagi mengenalpasti punca masalah disamping mendapatkan maklumbalas berkenaan dengan tempoh tuntutan serta kaedah serahan transkrip kepada graduan.

ANALISIS DAN INTERPRETASI:

Analisis menunjukkan 35.67% (117 responden) bersetuju sikap graduan tidak mengambil serius tentang kepentingan transkrip akademik dan 31.1% (102 responden) menyatakan kesukaran membuat proses tuntutan adalah menjadi punca utama. Dari segi kaedah serahan responden cenderung memilih serahan secara Pos Berdaftar dengan dapatan sebanyak 45.78% (158 responden) manakala bagi tempoh serahan pula 82.3% (283 responden) memilih tempoh 9-12 minggu selepas tamat latihan adalah bersesuaian.

STRATEGI PENAMBAHBAIKAN:

Menyediakan *Standard Operating Procedure (SOP)*, senarai semak taklimat kepada pelatih, penetapan indikator dan sasaran yang perlu dicapai serta menubuhkan unit khas dibawah Unit Hal Ehwal Pelatih.

KESAN PENAMBAHBAIKAN:

Sebanyak 357 transkrip akademik (30.13%) daripada jumlah keseluruhan 1185 transkrip yang tidak dituntut dapat diserahkan kepada graduan sepanjang tempoh 3 bulan *pilot study* dijalankan, peningkatan ketara berlaku bagi tahun 2014 daripada 28.91% kepada 60.67% melalui langkah penambahbaikan dilakukan.

LANGKAH SETERUSNYA:

Perlaksanaan berterusan untuk mengenalpasti impak keseluruhan diperlukan bagi memastikan pengurusan transkrip akademik lebih mampan agar ianya sentiasa mempunyai nilai *sustainability* dengan menetapkan sasaran *Academic Transcript Clearance* sebagai *Key Performance Indicator(KPI)* Bahagian Hal Ehwal Pelatih serta kriteria dalam penilaian *System of Star Rating* bagi Institusi Latihan Kementerian Kesihatan Malaysia.

OP-04

Improving Percentage of Patients Receiving Enteral Nutrition Product within 24 Hours of Dietitian Prescription in Selected Wards of Hospital Serdang

Category of study: Hospital Specific Approach

Irne J[1], Siah PJ[1], Siti Zafirah MR[1], Nurliyana N[2], Halimatun Saadiah S[1], Roslinda MS[1], Normawati AW[1], Fatimah S[1]
[1] *Hospital Serdang, Selangor*
[2] *Universiti Putra Malaysia, Selangor*

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Dietitians prescribe Enteral Nutrition Product (ENP) to ensure critically ill patients receive sufficient nutrient intake and reduce disease complications, mortality and length of hospital stay. Verification study showed only 59.3% of patients received ENP within 24 hours of dietitian prescriptions. Delay in initiating ENP will lead to poor nutritional status and worsening clinical outcome.

KEY MEASURES FOR IMPROVEMENT:
The key indicator for improvement was measured using the percentage of patients receiving ENP within 24 hours of dietitian's prescription. The standard is 90% based on consensus in Dietetic Clinical Meeting.

PROCESS OF GATHERING INFORMATION:
A cross-sectional study was conducted using universal sampling in three selected wards with 140 subjects in two consecutive phases. Data to identify contributing factors was collected by using an audit form of patients who meet the inclusion criteria.

ANALYSIS AND INTERPRETATION:
Pre-remedial study showed 40.7% patients did not receive ENP within 24 hours of dietitian prescription. The causes included the product not being served to patients (27.3%), ENP not indented (9.3%), product not collected from dietetic department (2.1%), indent not being processed (1.4%) and wrongly indented by staff (0.7%).

STRATEGIES FOR CHANGE:
The strategies were establishment of dietetic chart, provision of formatted dietetic board, updating standard of work procedure and conducting continuous nursing education. More strategies were updating formatted nursing report, encouraging hospital attendant to prepare the ENP, conducting bedside teaching for nurses and providing bedside tagging.

EFFECT OF CHANGE:
The percentage was increased from 40.7% to 85.4% in cycle 1, then improved to 95.0% in cycle 2. Achievable benefit not achieved was improved from 30.7% to 4.6% and finally -5%. We successfully reduced the mean duration from 34 hours to 20 hours and maintain low percentage of complication rate and mortality among patients.

THE NEXT STEP:
This study was expanded to all wards in the hospital and has been replicated in Selangor government hospitals. We plan to expand the study to national level.

OP-05

Improving Performance of Emergency Department Non-Critical Zone

Category of study: Hospital Specific Approach

Yamuna S, Chandra Kumari KSP, Hasrina H
University Malaya Medical Centre, W.P. Kuala Lumpur

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Approximately 65% of patients to Emergency Department of University Malaya Medical Centre were triaged to Green Zone or Non-Critical Zone (NCZ) from September 2016 to July 2017. This disparity may result in an increase waiting time and treatment delay. This project was initiated to improve the overall performance in NCZ.

KEY MEASURES FOR IMPROVEMENT:

The KPI for NCZ is ≥70% of patients should be seen by a doctor within 90 minutes. For further improvement, a Patient Satisfaction Survey was conducted based on available facilities, environment, services, attitude of personnel and treatment provided at NCZ.

PROCESS OF GATHERING INFORMATION:

Regular KPI reviews were done to monitor compliance of Medical Officers. Data on patient upgrades to Red and Yellow zones were analysed for misappropriate triage. The results of Patient Satisfaction Survey were analysed.

ANALYSIS AND INTERPRETATION:

Pre-remedial (2016), only 59% of patients were seen by a doctor within 90 minutes. Amongst factors identified upon analysis were lack of awareness amongst Medical Officers, inadequate coping methods in sudden surge of patient numbers and absence of an alert system to highlight increasing waiting time. The patient satisfaction survey recorded an overall 99% satisfaction rate.

STRATEGIES FOR CHANGE:

Optimisation of existing human resources, appointment of shift leaders to alert during patient surge and addition of an alert feature on the Electronic Medical Record system were keys to change.

EFFECT OF CHANGE:

The percentage increased from 59% in 2016 to 91% in 2017 and 93% in 2018. The achievement remained above 70% since the implementation of improvement measures in December 2016.

THE NEXT STEP:

Regular reviews of KPI are needed to ensure optimum performance. Planned measures to enhance public education and awareness via posters, videos and forums are underway.

OP-06

Increasing Productivity for Admission Registration Process

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Lead time created dissatisfied customer. In 2017, 85 patients commented the delayed registration process. No Time To Waste (NTTW) was implemented to standardise registration process and to observe Non Value Added Activities (NVA). The made hypothesis was more patient could be served with lesser NVA. With the new service and clinical speciality in 2018, the productivity need to be increased to meet the expected demand to register more patient.

KEY MEASURES FOR IMPROVEMENT:

Specification limit of 20 minutes ±5 minutes was set as the benchmark for the NTTW project. Productivity level was targeted to be at least 10% increase compared to the last year.

PROCESS OF GATHERING INFORMATION:

Customer feedback was analysed. On site process observation done. NVA identification was made by interview and observation. Observed processes were map with tracked data and NVAs were labelled as Kaizen opportunity.

ANALYSIS AND INTERPRETATION:

Eight steps were observed to complete patient registration process. Identified NVA includes the five-metre distance to travel from registration counter to bed board, redundant steps to photocopy the Term and Condition (T&C) form, unsorted patient folder arrangement, desegregation of patient payment type and activities for queue number and of misfiling for the shared photocopier. In 2017, 98.63% (n=12421) admission ticket served less than 20 minutes.

STRATEGIES FOR CHANGE:

Current business process reengineered to shorten traveling time and distance. T&C form invented into the three tiers carbon copy set. Queue system added with service type. Daily 15-minute Kaizen meeting was implemented. Patient folder was sorted in alphabetical order.

EFFECT OF CHANGE:

Registration steps were reduced to 7 steps. Distance to travel shorten to four metres. 97.15% (n=65163) waited less than 20 minutes.78% (n=66) of customer complaint reduced. NTTW project increased the number of patient to be served in 20 minutes by 416% (n=51055). Productivity target met.

THE NEXT STEP:

Implement the second phase of NTTW to improve boarding time after admission registration.

OP-07

Flare-up in Root Canal Treatment: The Way to Improve

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

The monthly census showed that flare-up in Root Canal Treatment (RCT) at Klinik Pergigian Kangar is as high as 70%. Appropriate preventive measure should be taken as flare-up following RCT may cause patient to experience severe pain or swelling, leading to impromptu clinic visit in distress. The aim of the study is to reduce incidence of flare-up during RCT.

KEY MEASURES FOR IMPROVEMENT:

The indicator that was used to measure the problems was the percentage of post-RCT patients who experienced inter-appointment flare-up until RCT treatment was completed. The standard was ≤ 10%.

PROCESS OF GATHERING INFORMATION:

A retrospective study was done from January to June 2016 to assess incidence and contributing factors of flare-up. The data were collected from patients' card, RCT checklist and appointment book. Four-month remedial measures were implemented in 2016 and re-evaluation was done in 2017 and 2018.

ANALYSIS AND INTERPRETATION:

The January-June 2016 result showed that, 70% of patients experienced flare-up between appointments. Identified contributing factors included use of improper irrigation solution concentration (96%), inter-appointment duration of more than a month (89%), improper technique (82%), non-calibrated operator in Restorative Dentistry Index Treatment Need (RDITN) (71%), patients unmotivated towards treatment (64%), and conventional use of intracanal medicament (43%)

STRATEGIES FOR CHANGE:

Remedial measures included ensuring accurate concentration of irrigation solution, practice of aseptic procedure using rubber dam, implementation of endodontic checklist form, inter-change of medicament use, RDITN calibration and short course to dental staff as exposure to latest RCT technique.

EFFECT OF CHANGE:

Flare-up incidence rate has been reduced to 6% (June 2017) and further dropped to 5% (December 2018), suggesting sustainability of remedial measures. All contributing factors had improved and standard of model of good care had been met.

THE NEXT STEP:

The use of RCT checklist form as reference as well as introducing RCT guideline in primary setting to ensure every RCT procedure will be carried out to meet the gold standard of care.

OP-08

Improving the Efficiency of the Psychological Intervention for Anxiety Disorder Patients in Psychiatry Clinic Kuala Lumpur Hospital

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
A combination of medication and Cognitive-Behavioural Therapy (CBT) is the gold standard treatment for Anxiety Disorder (AD). However, in Hospital Kuala Lumpur, there was a significant delay in providing CBT. In 2016, the mean CBT appointment duration was 105.2 days.

KEY MEASURES FOR IMPROVEMENT:
The efficiency of the CBT was measured by the reduction in the CBT appointment duration. The indicator used was the percentage of AD patients received CBT within 60 days. The standard was set at 80%.

PROCESS OF GATHERING INFORMATION:
A retrospective pre-intervention data on the CBT appointment duration from May-July 2016 was collected. Post-intervention data were collected from May-October 2017 (Phase I) and May-October 2018 (Phase II). All patients aged 18-70 years old with AD referred for CBT during the data collection period were included. Those with comorbid psychiatry disorders were excluded.

ANALYSIS AND INTERPRETATION:
Pre-intervention data showed only 3.4% of patients had CBT appointment duration within 60 days. The delay in providing CBT was due to the low number of clinical psychologists as the therapist and the high number of referral. In 2017 and 2018, there were only three to four clinical psychologists available and there was twice increment in the number of referral for CBT from 125 to 256.

STRATEGIES FOR CHANGE:
A group CBT was introduced to replace individual CBT. This strategy can cater for the high number of referrals and the low number of therapists. Sixteen existing staff from the department were recruited and trained to do the intervention. Six patients were allocated to each group.

EFFECT OF CHANGE:
Post-intervention data showed remarkable improvement where the CBT appointment duration within 60 days increased from 3.4% to 63.2%. The patient's outcome was also improved where 60.5% had Beck Anxiety Inventory score of ≤16 and 60% had revisit intervals of ≥12 weeks.

THE NEXT STEP:
Regular training is necessary to maintain the sustainability of the programme and to promote knowledge sharing with other hospitals.

OP-09

Increasing the Percentage of Asthma Patients Receiving Appropriate Management in Health Clinics in Kemaman

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Percentage of asthma patients who received appropriate management in District Health Office (PKD) Kemaman was low (3.3% from 90 patient audited) in 2017. Inappropriate management of asthma may lead to undertreated patient, increasing attack frequency, respiratory failure, and increasing rate of hospital admission. This study aim to increase the percentage of asthma patient receiving appropriate management in health clinics in Kemaman.

KEY MEASURES FOR IMPROVEMENT:

The key indicator that was used in this study was percentage of asthma patients who received appropriate management in health clinics in Kemaman. The standard was set at 80%.

PROCESS OF GATHERING INFORMATION:

This study was conducted in two phases: pre-remedial phase (November-December 2017) and post remedial phase (January-May 2018). 90 asthma cards were audited based on Model of Good Care to identify the percentage of appropriately managed patients. 96 staffs and 90 patients were given questionnaires to assess knowledge, attitude and practice (KAP) towards asthma and its management. Appointment books were audited to assess defaulter tracing and appointment system. Training records of staff for asthma management was also audited.

ANALYSIS AND INTERPRETATION:

Only 3.3% of asthma patients received appropriate management. The three main contributing factors identified were low defaulter tracing, low peak flow meter measurement and inadequate evaluation of asthma control. KAP study among staff and patients showed average score in knowledge and attitude but poor in practice. Percentage of staff who had attended asthma training was also low.

STRATEGIES FOR CHANGE:

Remedial actions implemented were innovation of Asthma Kit, a more systematic appointment system, improvements on training for providers, reinforcement of clinical audits, and emphasis on partnership between patients and providers in asthma management.

EFFECT OF CHANGE:

Percentage of asthma patients who received appropriate management in PKD Kemaman had increased from 3.3% to 48.8% (May 2018). There was reduction of 45.5% in ABNA.

THE NEXT STEP:

Further study on association between appropriate asthma management and asthma control level will be carried out later.

OP-10

Reducing the Failure Rate of Ocular Prosthesis at Hospital Sultanah Aminah, Johor Bahru

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

The Department of Oral & Maxillofacial Surgery (OMFS) at Hospital Sultanah Aminah, Johor Bahru (HSAJB) started managing patients who lost their eyeballs with ocular prosthesis in 2013. Unfortunately, there was an increasing trend of failed ocular prosthesis from 2013-2015. The failure rate was 28.6% in 2013 which increased to 40% in 2014 and 44.4% in 2015. Failed ocular prosthesis not only led to dissatisfied patients but also an increase in cost due to redoing of prosthesis.

KEY MEASURES FOR IMPROVEMENT:

The objective of this project was to reduce the incidence rate of failed ocular prosthesis. A case was considered failed when the prosthesis does not pass the issue stage and had to be redone from beginning. The standard failure rate is 0% as the average number of cases per year was about 10 cases which was a small amount.

PROCESS OF GATHERING INFORMATION:

We determined the contributing factors by analysing retrospective data from patients dental and lab records followed by a cross-sectional study using self-administered questionnaire enquiring on reasons for failed cases which was distributed among the doctors and lab technicians in the OMFS Department.

ANALYSIS AND INTERPRETATION:

The contributing factors that were identified included insufficient knowledge or skill of doctors and lab technicians in the construction of the ocular prosthesis as well as improper referral of new cases which was shown to be the main factor involved with all the failed cases.

STRATEGIES FOR CHANGE:

The strategies for change included improvement in the process of care by creating a checklist for proper screening of new patients, mentoring of new staff, continuous training on construction of ocular prosthesis and early referral for insertion of eye conformer.

EFFECT OF CHANGE:

The interventions that were implemented reduced the failure rate to 20% in 2016, 0% in 2017 and 0% again in 2018.

THE NEXT STEP:

Ongoing efforts are being done to replicate the project to other OMFS departments in Johor State.

OP-11

Reducing the Percentage of Patients Who Do Not Understand Medication Labels in Farmasi Klinik Pakar, Hospital Batu Gajah

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Correct understanding of medication labels is essential in patient compliance and correct medication administration. However, results from the pre-remedial study found 43% of patients did not understand their medication labels. This study aimed to reduce the percentage of patients who do not understand their medication labels.

KEY MEASURES FOR IMPROVEMENT:
The indicator was defined as the percentage of patients who do not understand their medication labels and the standard set was 20%.

PROCESS OF GATHERING INFORMATION:
A cross sectional study was conducted from April to May 2017. 322 patients aged 18 to 84 years were asked regarding dose, frequency, indication and pre/post prandial consumption on two labels. Reasons for inability to understand were asked if at least an incorrect answer was given. A data collection form was used to collect the data. Remedial measures were implemented from June to August 2017 and understanding was reassessed from September to October 2017.

ANALYSIS AND INTERPRETATION:
Age, race and poor education level were found to be significant influencing factors ($p<0.05$). The ABNA was 23.0%. Reasons causing poor understanding included unclear label instructions (32.0%), language barriers (30.0%), label nature (30.0%) and others such as illiteracy and distractions (8.0%).

STRATEGIES FOR CHANGE:
Labels with time-specific instructions, Mandarin, Tamil and pictorial labels were formulated. Pertinent instructions were also highlighted during dispensing process.

EFFECT OF CHANGE:
Following the remedial actions, percentage of patients who do not understand their medication labels reduced from 43% to 9.7%. Patients who did not understand the labels due to unclear label instructions reduced from 13.7% to 1.9%, language barrier from 13.0% to 2.8%, label nature from 13.0% to 4.0% and others from 3.7% to 0.9%.

THE NEXT STEP:
Changes in the medication label have shown to improve understanding and will be implemented for all patients. However, additional efforts are also needed to further improve and sustain patients' understanding.

OP-12

Reducing Percentage of Errors on Inotropes Usage in Medical Wards Hospital Tuanku Ja'afar Seremban

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Inotropes are considered as High Alert Medications due to their harmful effect if wrongly used. Based on a verification study, percentage of errors (dose, prescribing, preparation and labelling) on inotropes usage in medical wards Hospital Tuanku Ja'afar Seremban (HTJS) was 73%.

KEY MEASURES FOR IMPROVEMENT:

The standard of 0% for indicator percentage of errors on inotropes usage in medical wards HTJS was set according to Malaysian Patient Safety Goals.

PROCESS OF GATHERING INFORMATION:

A cross sectional study was conducted to determine the percentage of errors using data collection form by observational technique. All patients who received inotrope from selected medical wards during office hours were included. Verification study was carried out in April 2016. Cycle 1 to Cycle 4 studies were done from November 2016 to March 2019. Questionnaires adapted from Cairo University were given to ward doctors and nurses to identify the contributing factors.

ANALYSIS AND INTERPRETATION:

Verification study showed that the Achievable Benefit Not Achieved (ABNA) was 73%. The percentage of dose, prescribing, preparation and labelling error was 96%, 89%, 43% and 65% respectively. The causes include lack of awareness and knowledge on proper prescribing, preparation and labelling of inotropes among doctors and nurses and no standardised protocol. Moreover, inotropes were not properly charted and labelled.

STRATEGIES FOR CHANGE:

A standard protocol, infusion chart and labelling sticker for inotropes were developed. Ward pharmacists and new staffs were informed regarding inotrope protocol. Serial CME on the protocol and inotrope road show were organised. Furthermore, the protocol was published in the pharmacy bulletin. Android application of inotrope protocol was developed and circulated to all healthcare facilities in Negeri Sembilan.

EFFECT OF CHANGE:

The ABNA was narrowed down from 73% to 35% (2016), 20% (2017), 10% (2018) and 2% (2019). The percentage of dose, prescribing, preparation and labelling errors reduced to 0%, 3%, 0% and 5% respectively.

THE NEXT STEP:

Inotrope protocol will be distributed to all healthcare facilities in Malaysia.

OP-13

Improving Successful Rate of Mother Friendly Care Services in Hospital Pulau Pinang

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Mother Friendly Care (MFC) services were carried out starting from Patient Admission Centre until patient were admitted to MFC Labour Suite. From July till December 2016, only two (3.8%) out of 53 mothers recruited, had successfully undergone Mother Friendly Care (MFC) in Hospital Pulau Pinang.

KEY MEASURES FOR IMPROVEMENT:

We obtained the percentage of successful MFC by dividing the numbers of successful mothers for MFC over number of mothers recruited for MFC. We aimed to increase this percentage to 50% in 2019.

PROCESS OF GATHERING INFORMATION:

This was a descriptive cross sectional study. Data was collected from antenatal books, questionnaires and checklist criteria from July 2017 till June 2019. Our sample included all admitted patients that were recruited for MFC. Self-administered questionnaires were distributed to staffs and MFC mothers. Data using checklist was collected via observation and review of antenatal book records were conducted by medical officers.

ANALYSIS AND INTERPRETATION:

Pre-remedial, only 13 (1.5%) out of 973 mothers were recruited for MFC. Out of 13 MFC mothers, only three (23%) had successfully undergone MFC. Only 40% of staffs and 30% of mothers had knowledge on MFC and only 30% of staffs were able to counsel mother effectively on MFC. Non-availability of companion during labour, failure of ambulation, usage of pharmacological pain relief as well as low number of recruitment for MFC were identified factors contributing to low percentage of successful MFC.

STRATEGIES FOR CHANGE:

Guidelines and holistic approaches for MFC was created. Education and training using interactive sessions which included role-play among staffs including medical officers were given to staffs on a routine basis.

EFFECT OF CHANGE:

The rate of successful MFC mothers had increased to 37.6% in 2019 without any adverse outcomes to both mothers and newborn.

THE NEXT STEP:

The implementation of mother friendly care are possible in all MOH hospitals nationwide with adequate training to staffs involved in accordance with strict adherence to appropriate guidance and guidelines.

OP-14

Improving Patient Adherence to Home Programme among Stroke Patients in Occupational Therapy Unit

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Home Programme (HP) is a program for stroke patients which encourage continuation of functional activities in home environment. We had high rate of re-admission with recurrent problems due to non-adherence to the HP. Non-adherence to HP contribute to complications, deconditioning, re-admission, increase in hospital cost, delayed recovery process, and decrease the patient's quality of life. The project aimed to improve stroke patient adherence to HP.

KEY MEASURES FOR IMPROVEMENT:

Indicator used was the percentage of patients that adhere to HP (measured during outpatient follow-up) out of total stroke patients discharged from ward. The standard was set at 80%.

PROCESS OF GATHERING INFORMATION:

A prospective study was conducted from October 2017. Data was collected during outpatient follow up by therapist who interviewed patients with history of admission to determine adherence rate and factors contributing to low adherence. HP Checklist and QA Questionnaire were used during the interview.

ANALYSIS AND INTERPRETATION:

The result showed that only 35% of discharged stroke patient adhered to the HP. The most important contributing factor identified was unavailability of written guideline on HP during inpatient consultation where 87.5% of patients did not receive written instruction for HP.

STRATEGIES FOR CHANGE:

We created a standardised HP Booklet that is related to stroke's functional activities. Stroke patients who were admitted received the HP Booklet complete with training by the therapist. Patients are allowed to bring their booklet home as a guideline to continue therapy session at home.

EFFECT OF CHANGE:

The rate of patient adherence to HP increased from 35% to 60%. The Achievable Benefit Not Achieved (ABNA) had been reduced from 45% to 20% following the remedial action.

THE NEXT STEP:

With the implementation of proper remedial action, we managed to bring up the rate of patient adherence to the HP. There is a need for continuous monitoring of adherence rate to sustain the improvement.

OP-15

Reducing Waiting Time to See Doctor at Outpatient Department, Klinik Kesihatan Sarikei

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Long waiting time to see doctor adversely affects patient's satisfaction and willingness to return to clinic, leading to late or no treatment and increase disease related complications. Waiting time to see doctor at Klinik Kesihatan Sarikei was unsatisfactory for many years with 29% of patients waited for more than 90 minutes to see a doctor.

KEY MEASURES FOR IMPROVEMENT:
The target was to reduce the percentage of patients who waited for more than 90 minutes to see doctor to less than 17%, a standard set by the state in 2017.

PROCESS OF GATHERING INFORMATION:
A cross sectional study was performed from April - September 2017 to collect data on appointment system, workload for doctors, number of doctors, and waiting time to see doctor. A time motion study was conducted to collect data on the waiting time by recording time taken for patient arrival process and different work process.

ANALYSIS AND INTERPRETATION:
The result showed that 29% of patients waited for more than 90 minutes to see doctor. Majority of patients did not follow appointment and arrived too early in the morning. The time for registration and triage accounted for the largest portion of waiting time with mean of 48 minutes and maximum of 103 minutes.

STRATEGIES FOR CHANGE:
Revised appointment system was introduced. Early morning appointment slot was left empty to accommodate for walk in cases. Allocation of empty slot was based on study findings where more empty slots reserved before and after public holiday. Priority services were given to patients who adhere to follow up appointment.

EFFECT OF CHANGE:
The percentage of patients who waited longer than 90 minutes to see doctor reduced from 29% to 11.3% after 18 months with mean waiting time reduced by over 30 minutes. Similar changes were observed when similar strategies were carried out in another clinic.

THE NEXT STEP:
Next, the new appointment system will be integrated into the Teleprimary Care Clinic computer system.

OP-16

Increasing Percentage of Inspected Unlicensed Permanent Premises in Labuan

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Unlicensed premises are premises selling medicines/cosmetics which are licensed by local authority but not licensed by Pharmacy Enforcement Branch. Permanent premises are premises physically fixed at the location. There was high percentage of unlicensed permanent premises not inspected and unnecessary re-inspection of the same premises from year 2016 until June 2018. Increasing percentage of inspection will increase awareness and reduce non-compliance of premises.

KEY MEASURES FOR IMPROVEMENT:

The aim of this project was to increase the percentage of inspected unlicensed permanent premises to more than 60% by December 2018 and 100% by 2020.

PROCESS OF GATHERING INFORMATION:

A pre and post interventional study was conducted from May until December 2018. Inspection reports and registry from January 2016 until June 2018 were analysed to assess types of unlicensed premises inspected. A self-administered questionnaire based on the criteria in Inspection Guideline (IG) was developed and distributed to officers to verify the compliance and identify contributing factors. Data was analysed using Microsoft Excel. Implementation of remedial action was carried out from July – December 2018.

ANALYSIS AND INTERPRETATION:

Pre-remedial percentage of inspection was 40%. Contributing factors identified included lack of update and distribution of list of uninspected premises, priority was not given to uninspected premises, lack of record on non-operational premises and no briefing of IG to officers. The Achievable Benefit Not Achieved (ABNA) was 20%.

STRATEGIES FOR CHANGE:

Guideline briefing was conducted by the Section Head to all officers. Updated list on inspected premises was made available to all officers. Priority was also given to uninspected premises. The performance was monitored by the Section Head using a Microsoft Excel.

EFFECT OF CHANGE:

The percentage of inspected unlicensed permanent premises increased from 40% to 70% (June 2019). Repeated inspection of the same premises was also reduced from 22 to 6 premises.

THE NEXT STEP:

The strategies will be continued and monitored consistently to ensure 20% annual increment in order to achieve 100% of inspection by 2020.

OP-17

Central Venous Line Kit

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Central Venous Line (CVL) insertion procedure is an intervention where a catheter is inserted through the neck vein. This procedure is required for drug infusion, fluid resuscitation or emergency venous access and nurses are involved in preparing the items. A problem identified related to CVL insertion procedure was difficulty in nurses preparing items for CVL insertion procedure which can cause high number of procedural mistake and complaint especially among novices.

KEY MEASURES FOR IMPROVEMENT:
Standard key measures of hospital are get zero complaint or incident during CVL insertion procedure and 90% of staff gain high confidence in preparing for CVL insertion.

PROCESS OF GATHERING INFORMATION:
This is an observational study conducted at ICU in Ampang Puteri Specialist Hospital. Purposive sampling method was used to select the samples. Data was collected and analysed using SPSS Version 19.0.

ANALYSIS AND INTERPRETATION:
Pre-implementation, only 63% of participants were satisfied with their own performance in preparing items for the procedure and only 53% were highly confident in preparing for the procedure.

STRATEGIES FOR CHANGE:
A CVL Kit was developed where all items required were placed in the kit accordingly. CVL kit was made as a standardised Standard Operating Procedure in ICU across the hospital, upgrade nursing care for patients and improving service delivery to clients. Monthly training and continuous medical education was also conducted.

EFFECT OF CHANGE:
The result showed that post implementation of CVL kit, there is no recorded incident or complaint about incomplete or problems occurred during preparation of the procedure. Post-implementation data also showed 91% of participants were satisfied with their own performance and 80% of participants had high confidence in preparing items for the procedure.

THE NEXT STEP:
The CVL kits will be suggested to other KPJ hospitals.

OP-18

Meningkatkan Pencapaian Sasaran *International Normalized Ratio* Pesakit di *Medication Therapy Adherence Clinic* Warfarin Hospital Jerantut

Category of study: Hospital Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Kajian prapenambahbaikan menunjukkan peratus pencapaian sasaran *International Normalized Ratio* (INR) pesakit di *Medication Therapy Adherence Clinic* (MTAC) Warfarin Hospital Jerantut hanyalah 51.5% (n=61). Peratusan pencapaian yang rendah ini meningkatkan risiko pesakit terhadap pembekuan darah dan juga kesan advers lain. Objektif projek ini adalah untuk meningkatkan peratus pencapaian sasaran INR pesakit di MTAC Warfarin Hospital Jerantut.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Indikator adalah peratus pencapaian sasaran INR, yang diukur dengan bacaan *Time in Therapeutic Range* (TTR). Kumpulan kami menyasarkan pencapaian sasaran INR adalah lebih daripada 65%.

PROSES PENGUMPULAN MAKLUMAT:

Kajian prapenambahbaikan dijalankan terhadap semua pesakit yang mengikuti MTAC Warfarin di Hospital Jerantut. TTR setiap pesakit dikira melalui audit laporan (INR *flow sheet*) pesakit. Soal selidik tahap pengetahuan pesakit, pegawai farmasi dan pegawai perubatan dijalankan. Kesalahan pengubatan melibatkan warfarin dan rujukan pesakit ke unit kecemasan atau wad dikaji.

ANALISIS DAN INTERPRETASI:

Kajian prapenambahbaikan menunjukkan *Achievable Benefit Not Achieved* (ABNA) adalah 13.5%. Faktor penyumbang termasuklah interaksi warfarin dengan makanan (n= 40, 30.8%), tertinggal dos (n= 29, 23.2%), interaksi warfarin dengan ubatan / supplemen (n= 17, 12.8%) dan faktor-faktor lain (n= 42, 33.2%).

STRATEGI PENAMBAHBAIKAN:

Strategi penambahbaikan kitaran 1 termasuklah menyediakan bahan bantu kaunseling warfarin, mengadakan sesi pembelajaran berterusan berkaitan rawatan warfarin kepada Pegawai Perubatan dan Pegawai Farmasi dan membantu pengambilan ubat di rumah menggunakan Rekod Pengambilan Warfarin Pesakit. Strategi penambaikan kitaran 2 adalah pelaksanaan *island dispensing*, pegawai farmasi menulis preskripsi warfarin dan menambahbaik penulisan preskripsi.

KESAN PENAMBAHBAIKAN:

Pencapaian sasaran INR ditingkatkan kepada 60.5% setelah kitaran 1 dan 67.8% setelah kitaran 2. ABNA dikurangkan daripada 13.5% kepada 4.5% dan seterusnya -2.8%. Purata peratus pengetahuan pesakit meningkat daripada 56.0% kepada 71.7%. Purata peratus pengetahuan Pegawai Perubatan dan Pegawai Farmasi juga meningkat daripada 47.7% kepada 75.6%. Tiada kesalahan pengubatan melibatkan warfarin berlaku dan rujukan pesakit ke unit kecemasan atau wad dikurangkan daripada 7 kepada dua kes.

LANGKAH SETERUSNYA:

Langkah seterusnya adalah meningkatkan sasaran pencapaian INR kepada 75% serta memperkembangkan hasil penambahbaikan kepada fasiliti lain.

POSTER PRESENTATION

PP-01

Improving Transferring of Critically Ill Patients in Hospital Yan

Category of study: Hospital Specific Approach

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Hospital Yan, Kedah

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Critically ill patients are at increased risk of morbidity and mortality. Delay in transfer of these patients from secondary to tertiary care may cause further deterioration. There were two delays in transferring of critically ill patient (2016) from Hospital Yan (HY) to tertiary centre which resulted in mortality.

KEY MEASURES FOR IMPROVEMENT:

The aim of this study was to prevent delay in transfer of critically ill patients. All critically ill patients should be transferred within one hour of case acceptance by the tertiary centres' specialist.

PROCESS OF GATHERING INFORMATION:

The study was conducted from January 2017- December 2018. The time for each step was recorded in a checklist by the ward staff once referral was accepted by the tertiary centre. Reason for delays were identified if patient was transferred after one hour. 45 critically ill patients was assessed based on the Modified Early Warning Score.

ANALYSIS AND INTERPRETATION:

The result showed only 29% (January-February 2017) patients were transferred within one hour. Reasons for delays include pending investigation (20%), poor documentation (20%), shift changes (20%), lack of staff (10%), blood product availability (10%), multiple referral (10%) and pending tertiary centre logistic decision (10%).

STRATEGY FOR CHANGE:

Several strategies were introduced in first cycle including flexible shift system; effective staff deployment; use of standardised scoring system to prioritise patients for transfer; and establishing an alert system for imaging and laboratory services. Functional equipment and ambulance was improved in the second cycle.

EFFECT OF CHANGE:

There was marked improvement in the percentage of critically ill patients transferred within one hour from 29% to 87% (June – August 2017). However, the performance was reduced to 47% six months later and increased to 64% after second cycle of remedial measures implemented.

THE NEXT STEP:

Multidisciplinary approach improved the transfer time of critically ill patients but new contributing factor were recognised in second cycle which required new interventions. Regular audit must be scheduled to detect new contributing factors.

PP-02

Improving History Taking in Asthma Clerking among Paediatric Patients in Hospital Port Dickson

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Adequate history taking contributes to about 70% of information needed for diagnosis of asthma. History taking which relied mainly on medical officers' memory and knowledge leads to poor identification of symptoms and classification causing under treatment. This can result in recurrent admission and severe exacerbation of asthma. A verification study in paediatric ward Hospital Port Dickson (HPD) was done whereby an audit on completeness of history taking using generic clerking sheet showed only 46.4% of the history was complete.

KEY MEASURES FOR IMPROVEMENT:

Ideally history taking to diagnose asthma should be 100% complete based on the Clinical Practice Guideline (CPG) of childhood asthma. This study aimed to obtain at least 98% of complete history taking during clerking.

PROCESS OF GATHERING INFORMATION:

A retrospective audit with 545 patients was done from June 2017 till March 2018. A data collection tool was created by listing down the history that should be asked. Each case was audited to determine completeness of history by calculating percentage of mentioned criteria divided by total criteria.

ANALYSIS AND INTERPRETATION:

Significant variance was noted among doctors' practice where 53.5% of cases was inadequately clerked. On average, only 13 out of 28 criteria was mentioned in each history taking.

STRATEGIES FOR CHANGE:

An Asthma Clerking Sheet (ACS) was created to improve history taking in asthma clerking in ward. The history-taking checklist was created based on CPG of childhood asthma.

EFFECT OF CHANGE:

After ACS was implemented, there was significant improvement in the completeness of history taking. Out of 181 cases audited from October till December 2017, 90.6% cases had complete clerking and 95.8% from 168 cases from January till March 2018 had complete history taken during clerking.

THE NEXT STEP:

ACS have been incorporated into Paediatric Clerking Sheet and implementation in the primary care setting has been introduced.

PP-03

Minimising Severe Hypothermia and Mother-Baby Separation Time after Cesarean Section in KPJ Puteri Specialist Hospital

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Neonates who was born via Lower Segment Caesarean Section (LSCS) whom required to be transferred from Operating Theatre (OT) to Special Care Nursery (SCN) were at higher risk of neonatal hypothermia. This study aimed to identify the best practice to control and maintain newborn body temperature post LSCS in KPJ Puteri Specialist Hospital (KPJ PSH) hence reducing risk of developing Transient Tachypnea in Newborn (TTNB) and reduce hospitalisation for newborn due to hypothermia.

KEY MEASURES FOR IMPROVEMENT:

The key indicator used was percentage of LSCS neonate who experience moderate hypothermia (32.0°C to 35.9°C) upon arrival at SCN from the OT.

PROCESS OF GATHERING INFORMATION:

Data was collected from 72 babies born via LSCS between 1st October 2018 and 31 March 2019. Body temperature upon arrival at SCN were obtained for all LSCS babies. Briefing were given to nursing staff on implementation of polythene bags and caps for premature and low birth weight infant.

ANALYSIS AND INTERPRETATION:

Average of 14.7% of LSCS newborn was noted to be having moderate hypothermia, within 32.0°C to 35.9°C (optimal temperature 36.5°C to 37.2°C) upon arrival at SCN. It requires more than one hour to restore body temperature up to normal range before sending to mother for breastfeeding.

STRATEGIES FOR CHANGE:

Polythene bag and cap were used during transfer of all LSCS term newborn from OT to SCN. Before implementation, a briefing for using polythene bag and cap was given to Staff Certificate Midwife (SCM) whom attended the baby in OT and SCN nurse who monitor baby's temperature once arrived at SCN.

EFFECT OF CHANGE:

Post implementation, the percentage of neonatal hypothermia was reduced to 9.3%. It shows reduction average of 5.4% of newborn having moderate hypothermia. Separation time for mother and baby also reduced when baby was placed under radiant warmer for less than one hour.

THE NEXT STEP:

This method will be extended to the newborn from the labour room.

PP-04

Universal Neonatal Hearing Screening in Hospital Tuanku Ampuan Najihah: Improving Coverage Rate of Babies Screened Within 1 Month of Age

Category of study: Hospital Specific Approach

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Hospital Tuanku Ampuan Najihah, Negeri Selangor

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Hearing loss is one of the most common major abnormalities present at birth and may impair speech, language and cognitive development. Universal Neonatal Hearing Screening (UNHS) was introduced in Hospital Tuanku Ampuan Najihah (HTAN) since April 2016 to increase detection and minimising hearing loss adverse effects. This study aimed to improve the percentage of coverage rate (CR) of this programme.

KEY MEASURES FOR IMPROVEMENT:

The percentage of newborn infants who complete screening by one month of age (corrected age) should be more than 95% as recommended by Joint Committee on Infant Hearing (JCIH)

PROCESS OF GATHERING INFORMATION:

Data required for all babies whose undergo for hearing screening were date of birth, date of screening, identity card number, full name and results. All data was collected from referral letter and recorded in Microsoft Office Excel and analysed monthly.

ANALYSIS AND INTERPRETATION:

The monthly CR for January until March 2018 was very low (2-3%) due to few factors which are long appointment waiting list, lack of awareness among staff involved and limited manpower to do hearing screening. Average babies' age at screening was 6 months.

STRATEGIES FOR CHANGE:

All newborns was screened as outpatient and walk-in setting from 8am to 4.30pm every working day from Monday to Friday. Screening was done simultaneously by newly appointed trained staff nurse and an audiologist using two instruments. Besides, awareness had been emphasised among all staffs involved especially in SCN, Paediatric and ORL clinic to give appointment within two weeks.

EFFECT OF CHANGE:

After few strategies were implemented the coverage rate for April until June increased tremendously (69.2%). CR for April was (58%), May (78.4%) and June (71.1%) showed large increment compared to January (2.1%), February (2%) and March (3%).

THE NEXT STEP:

We would like to extend the scope of the study by reducing second screening defaulter rate among those who failed the first screening.

PP-05

Increasing the Growth Rate of *Mycobacterium Tuberculosis* Culture and Sensitivity for Acid Fast Bacilli Smear Positive Cases in Kota Bharu Public Health Laboratory

Category of study: District Specific Approach

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Makmal Kesihatan Awam Kota Bharu, Kelantan

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Makmal Kesihatan Awam Kota Bharu (MKAKB) receives samples from 69 clinics and hospitals in Kelantan. Monthly census showed growth rate for Acid Fast Bacilli (AFB) positive smear cases was unacceptably lower than International Union Against Tuberculosis and Lung Disease (WHO/IUATLD) standard. This may affect treatment effectiveness which could lead to disease spread, morbidity and mortality.

KEY MEASURES FOR IMPROVEMENT:

This study aimed to increase the growth rate of *Mycobacterium Tuberculosis* (MTB) culture and sensitivity for AFB smear positive cases to >90% achieving the WHO/IUATLD standard.

PROCESS OF GATHERING INFORMATION:

From March to April 2018, pre-remedial data was collected from TBIS102B line listing by assessing media contamination rate. A checklist was created to monitor specimen transportation according to the standard triple layer packaging. Staff's skill was evaluated through rechecking by second person for all sample smear reading. All samples with smear positive was included in this study.

ANALYSIS AND INTERPRETATION:

Pre-remedial growth rate was only 70.8%. 53% of sample received was not satisfactory and only 40% of samples followed minimum volume required. False reading in smear AFB was 20.8%. Only 10% of samples received in MKAKB complied to triple layer packaging.

STRATEGIES FOR CHANGE:

Remedial measures were implemented from April to June 2018. Sample Management Course was conducted in April 2018 for all Kelantan health clinics and hospital emphasising on compliance to specimen transportation requirement. Internal Blinded Rechecking EQA (iBREQA) was developed and piloted in July and August 2018. Staff continuous improvement courses were also conducted. All media in April to June 2018 was fully prepared by using *Rak Sendeng*.

EFFECT OF CHANGE:

The growth rate has increased from 70.8% to 89.4%. 70% of samples received in MKAKB complied with standard triple layer packaging. False reading in smear AFB was reduced to 5%. Contamination rate decreased to 0.9% as good quality media was used.

THE NEXT STEP:

The identified strategies will be shared with all MTB culture centres in Malaysia.

PP-06

Mengurangkan Kadar *Unidentified Result* yang Tinggi oleh Sistem Identifikasi Mikroorganisma Automatik

Category of study: Hospital Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:
Pada tahun 2017, Kadar *Unidentified Result* (UR) oleh Sistem Identifkasi Mikroorganisma Automatik (SIMA) adalah tinggi iaitu 18.6%. Keadaan ini menyebabkan pengulangan ujian, peningkatan beban kerja dan kos reagen, disamping melewatkan keputusan ujian serta mengganggu proses rawatan.

PENGUKURAN UTAMA PENAMBAHBAIKAN:
Berdasarkan bahan rujukan, standard kadar *UR* untuk SIMA ialah antara 5.5% hingga 9.4% berdasarkan jenis kad identifikasi yang digunakan. Sehubungan itu, purata pencapaian 7.5% telah ditetapkan sebagai standard pencapaian kajian ini.

PROSES PENGUMPULAN MAKLUMAT:
Data-data berkenaan *UR* ini diperolehi daripada rekod keputusan ujian SIMA yang dijalankan setiap bulan. Punca masalah dikenalpasti melalui sistem audit, soalselidik dan pemerhatian ke atas semua anggota yang mengendalikan analisis.

ANALISIS DAN INTERPRETASI:
Dari kajian yang dijalankan didapati faktor kadar *UR* yang tinggi adalah disebabkan oleh keadaan organisma yang tidak optimum, kontaminasi pada peralatan, penyelenggaraan mesin yang tidak konsisten dan kesalahan pemilihan kad semasa menjalankan ujian.

STRATEGI PENAMBAHBAIKAN:
Penambahbaikkan dibuat dengan mewujudkan satu *Standard Operation Procedure* (SOP) dan tatacara pengendalian yang komprehensif serta penjagaan mesin yang jelas. Latihan berkaitan SOP baru telah diberikan kepada semua kakitangan Seorang pegawai telah dilantik untuk memastikan penyelenggaraan dan kawalan kualiti mesin dijalankan mengikut jadual yang ditetapkan.

KESAN PENAMBAHBAIKAN:
Penambahbaikan ini menyebabkan kadar *UR* menurun daripada 18.6% (81 keping kad) kepada 7.12%. (37 keping kad). Impak positif ini dapat mengurangkan kos pembaziran kad serta mengurangkan beban kerja makmal. Selain itu, identifikasi organisma optima dapat memastikan keputusan yang tepat dan cepat bagi membantu di dalam perawatan pesakit.

LANGKAH SETERUSNYA:
Pemantauan kadar *UR* oleh SIMA akan diteruskan bagi memastikan ia sentiasa pada kadar yang rendah. Selain itu, projek ini boleh diaplikasikan oleh makmal yang menggunakan mesin identifikasi mikroorganisma yang sama.

PP-07

Reducing Percentage of Stress in Parents of Children with Autism Spectrum Disorder in Hospital Jitra

Category of study: Hospital Specific Approach

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Hospital Jitra, Kedah

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Autism Spectrum Disorder (ASD) is considered to be the most stressful disorders for parents. The Parenting Stress Index (PSI-SF) is a self-report screening tool that helps providers and families to identify sources and types of stress that come with parenting. This study aimed to reduce stress among parents of children with ASD in Hospital Jitra (HJ).

KEY MEASURES FOR IMPROVEMENT:

The indicator used was the percentage of stress among parents of ASD children and standard was set at 55% based on Schieve et al. (2007).

PROCESS OF GATHERING INFORMATION:

A pre-test-post-test single group design was used. 50 children diagnosed with ASD of age group 3 to 12 years along with their parents who attained Occupational Therapy Service in HJ Kedah over a period of 12 months (July 2017 - June 2018) were included. All parents were interviewed and their stress level was measured using PSI- SF.

ANALYSIS AND INTERPRETATION:

Pre-remedial, the percentage of stress among parents of ASD children was 100% and contributing factors included parental distress, parent-child dysfunctional interaction and difficult child. ASD has been associated with higher parenting stress level than any other developmental disorder and were significantly more stress compared to parents with other disability.

STRATEGIES FOR CHANGE:

Education on proper management for ASD children at home, family support group, enhance intensive sensory integration therapy and early intervention programme for the children were conducted.

EFFECT OF CHANGE:

The percentage of stress in parents of children with ASD in HJ reduced from 100% (n=50) (Pre-study) to 62% (Post-study cycle 1) to 56% (Post-study cycle 2). However, there is limitation in achieving the standard mainly due to non-compliance of parents with intensive therapy and sensory based intervention at home.

THE NEXT STEP:

Develop a pocket guide for parents in handling ASD children (PoGASD) in HJ and to implement in other health facilities in Kedah and nationwide. Make a WhatsApp group and organising annual Autism Day on 2nd April every year.

PP-08

Mengoptimakan Proses Pembekalan Ubat Mengikut Tarikh Temujanji di Klinik Pakar

Category of study: Hospital Specific Approach

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Hospital Besut, Terengganu

PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:
Pemberian ubat yang tidak optima menyebabkan berlaku lebihan dan kekurangan bekalan ubat di kalangan pesakit. Kami mendapati sejumlah 25 orang pesakit telah datang ke kaunter farmasi dengan aduan bahawa ubat diberi tidak mencukupi sehingga tarikh temu janji pesakit. Kami turut mendapati bahawa faktor utama pemulangan ubat ke kaunter farmasi adalah disebabkan oleh lebihan bekalan ubat.

PENGUKURAN UTAMA PENAMBAHBAIKAN:
Kami mensasarkan bilangan preskripsi klinik pakar yang diberi bekalan ubat yang mencukupi dan tidak berlebihan pada standard 80%.

PROSES PENGUMPULAN MAKLUMAT:
Sepanjang September – Disember 2016, 100 rekod pesakit dianalisa dengan membandingkan tarikh sebenar temu janji pesakit berbanding tempoh preskripsi dan menganalisa kekurangan atau lebihan bekalan ubat. Kajian punca masalah dijalankan dengan memantau maklumat temujanji pesakit di farmasi, soal selidik kepada pesakit dan pemerhatian kepada kesilapan semasa proses pengisian ubat.

ANALISIS DAN INTERPRETASI:
Daripada 100 rekod pesakit, 38 pesakit tidak menerima bekalan yang cukup manakala 62 pesakit menerima lebihan bekalan ubat. Antara faktor yang dikenalpasti menjadi penyebab kepada masalah ini adalah farmasi tiada maklumat temujanji pesakit (tidak direkodkan di preskripsi), kesilapan staf farmasi dalam pengisian ubat (65 preskripsi diisi berlebihan dan 28 preskripsi diisi kurang), dan kurang kesedaran pesakit tentang pembaziran ubat (hanya 29% mempunyai kesedaran yang baik).

STRATEGI PENAMBAHBAIKAN:
Antara langkah penambahbaikan yang telah dijalankan adalah mewujudkan cop temujanji pesakit untuk preskripsi yang dikeluarkan dari klinik pakar, kempen kesedaran penjimatan ubat kepada pesakit dan penjaga, dan mengadakan taklimat kepada staf farmasi dalam mengurangkan kesilapan semasa pengisian ubat.

KESAN PENAMBAHBAIKAN:
Pada Februari 2017, 98% daripada jumlah pesakit menerima bekalan cukup sehingga tarikh temujanji. Kami juga merekodkan penjimatan sebanyak RM3,041.70 bagi bulan tersebut apabila ubat dibekalkan tidak melebihi durasi yang sepatutnya.

LANGKAH SETERUSNYA:
Kerjasama antara semua pihak termasuk pesakit, kakitangan farmasi dan hospital adalah amat penting dalam memastikan proses pembekalan ubat terus dijalankan secara optima kepada pesakit. Kami berharap untuk mengimplementasi sistem yang sama bagi pesakit discaj wad pada masa hadapan.

PP-09

Towards Reducing Antimicrobial Injection Preparation Errors in a Paediatric Ward, Hospital Pulau Pinang

Category of study: Hospital Specific Approach

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Hospital Pulau Pinang, Pulau Pinang

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Errors occurred during preparation of antimicrobial injections include reconstitution, labelling and storage errors. Preparation errors might produce unstable medications, causing reduced potency, increased risk of resistance and increased harm for patients. The study aim is to improve treatment safety and efficacy by reducing antimicrobial injection preparation errors.

KEY MEASURES FOR IMPROVEMENT:

The indicator used was percentage of vial with preparation errors over total vials observed. The standard is 0% preparation errors.

PROCESS OF GATHERING INFORMATION:

A cross-sectional study was carried out from September 2017 until June 2019 in a paediatric ward. Two different data collection forms were used, one in pharmacy to observe medication supply to ward, and another in ward to observe antimicrobial preparation processes. Questionnaires were distributed to nurses and pharmacy staff to assess knowledge on product stability.

ANALYSIS AND INTERPRETATION:

The result showed that, 86.3% of all antimicrobial injection preparations in the ward contained at least one error, including labelling errors (76.1%), storage errors (19.7%) and reconstitution errors (6.9%). The contributing factors identified were incomplete labelling (76.1% labels incomplete) and poor knowledge about antimicrobial injection stability among nurses (39.5%) and pharmacy staff (43.5%). The Achievable Benefit Not Achieved (ABNA) was 86.3%.

STRATEGIES FOR CHANGE:

Nurses and pharmacy staff were educated via presentation. Pocket guidelines were distributed as a reference on antimicrobial stability. Flash-cards to guide reconstitution process were placed on medication preparation trolley and reminder list on storage conditions was pasted on refrigerator in ward. Mnemonic method and Antimicrobial Dilution Protocol (Paediatrics) were developed with stability data provided by drug companies during second cycle.

EFFECT OF CHANGE:

After remedial measures implementation, ABNA was successfully reduced from 86.3% to 31.4% (first cycle) and to 16.4% (second cycle). Incomplete labelling of vials was reduced to 16.4%. Knowledge among nurses and pharmacy staffs improved to 90.9% and 89.3% respectively.

THE NEXT STEP:

Reference materials on stability will be updated periodically based on latest product leaflets and distributed to other paediatric wards.

PP-10

Improving Competency Level of Registered Nurses on Care of Ill Patients in Kapit Hospital

Category of study: Hospital Specific Approach

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[3] *Hospital Umum Sarawak, Sarawak*

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

A compulsory nursing mentorship programme was introduced in all public hospitals since 2006. Retrospective analysis of data from 2013 until 2015 data on nurses' competency report specific to care of ill patients post mentorship programme revealed that only 19% of mentees were competent upon completion of the programme. This study aimed to improve the competency level among registered nurses on care of ill patients in Kapit Hospital.

KEY MEASURES FOR IMPROVEMENT:

The target of more than 85% of registered nurses who enrolled into the programme obtaining a score of 65% and above in the competency assessment was set.

PROCESS OF GATHERING INFORMATION:

A prospective study was carried out from September 2016 to July 2017. A total of 61 nurses were recruited into this programme. The nurses were assessed on their knowledge and competency at regular intervals throughout the period of this study. Self-administered questionnaires were administered to the nurses to determine their confidence level before and after the implementation of remedial measures.

ANALYSIS AND INTERPRETATION:

Only 8% of nurses were able to obtain score of 65% and more in the competency and knowledge assessment during the pre-remedial stage. Weak mentoring programme was among the major contributing factors identified.

STRATEGIES FOR CHANGE:

A four-day structured training programme was developed to improve the knowledge and competency level of nurses. Theoretical and practical assessments were done at pre-determined intervals of programme.

EFFECT OF CHANGE:

The percentage of nurses who obtained at least score of 65% and more has increased from 8% in the pre-remedial stage to 96.7% in the post-remedial stage. The confidence level of nurses in caring for acutely ill patients improved from 24.4% to 59.6%.

THE NEXT STEP:

This training programme was adopted as part of the compulsory internal training programme for the hospital. All new registered nurses who reported for duty will have to undergo this training programme within 6 months of their new job placement.

PP-11

Improving Oral Hygiene of Repeated Patients Who Came for Pre-Orthodontic Assessment Visits in Putrajaya

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Pre-orthodontic assessment was a pre-requisite prior to orthodontic referral. From January until April 2017, 75.5% of patient attended more than two visits for pre-orthodontic causing delayed orthodontic referral.

KEY MEASURES FOR IMPROVEMENT:

This study aims to reduce repeated pre-orthodontic assessment visit to 35%. The indicator that was used to measure this problem was percentage of repeated patients.

PROCESS OF GATHERING INFORMATION:

A cross-sectional and prospective study was conducted from January to June 2018. A data collection form was used to collect number of patient's visits and checklist was distributed to dental assistant to assess dental officers carrying out dental hygiene education (DHE) according to the contents. A questionnaire was given to assess patients' knowledge on oral hygiene (OH) practice. Patients' brushing technique was assessed via direct observation. 40 patients were recruited via universal sampling in the pre-remedial phase and 61 patients in the post-remedial phase. The interventions were reassessed from February to July 2019.

ANALYSIS AND INTERPRETATION:

Pre-remedial data showed that 75.5% of patients attended more than two pre-orthodontic assessment visits. Reasons for high percentage included not use plaque disclosing gel to check the presence of plaques, improper OH kits/tools, inefficient brushing technique and lack of patients' knowledge. The Achievable Benefit Not Achieved (ABNA) was 40.5%.

STRATEGIES FOR CHANGE:

Continuous dental educations and a checklist for DHE were introduced. DHE kit and flipchart were used and the content was made available online. Effectiveness of tooth brushing technique was evaluated with disclosing gel and plaque charting sheet. Correct brushing technique was demonstrated.

EFFECT OF CHANGE:

Percentage of repeated patients has improved from 75.5% to 19% following remedial actions (August 2018 to January 2019).

THE NEXT STEP:

The percentage of repeated patients has further improved to 12.7% (July 2019). The developed procedural of this guideline may be adopted in other dental clinics in Kuala Lumpur and Putrajaya.

PP-12

Reducing Incidence of Neonatal Brachial Plexus Injury Following Shoulder Dystocia in Hospital Sungai Buloh

Category of study: Hospital Specific Approach

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Hospital Sungai Buloh, Selangor

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Neonatal brachial plexus injury (BPI) is the most feared complication following shoulder dystocia (SD). 5-8% of BPI leads to permanent disability resulting in birth-related litigations. The incidence of BPI complicated by SD in Hospital Sungai Buloh (HSgB) was 22.8 % in 2016 which is higher than other public hospitals in Klang Valley and international UK standard of 16%.

KEY MEASURES FOR IMPROVEMENT:

The incidence of BPI was obtained by calculating the percentage of BPI over SD cases. The standard set was 16%.

PROCESS OF GATHERING INFORMATION:

A retrospective cohort study involving term vaginal births complicated by SD in HSgB was conducted from July 2016 to June 2017. Data were collected from the birth registry and patients' medical records; including demographics and risk factors such as maternal body mass index, diabetic status, and others.

ANALYSIS AND INTERPRETATION:

The pre-intervention incidence for SD and BPI were 1.6% and 22.8% respectively. Factors contributing were poor assessment such as unable to identify risk factors, no proper ultrasound performed and failure in handling SD.

STRATEGIES FOR CHANGE:

The antenatal and intrapartum assessment was improved by implementing a new clerking sheet with highlighted antenatal risk factors; scheduled three-monthly drills, CME and ultrasound courses to improve competency of medical personnel. Emphasising on adherence to SOP and implementing simplified proforma was also done to improve documentation that help reducing medico-legal litigation.

EFFECT OF CHANGE:

A significant reduction in SD and BPI incidence from 1.6% to 0.7% and 22.8% to 9.7% respectively were observed with implementation of remedial measures. Hence a reduction in the ABNA from 6.8 to -6.3.

THE NEXT STEP:

We aim to target the primary health care for early detection and referral of patients with risk of shoulder dystocia by introducing a "Shoulder Dystocia Risk Factor Checklist". Besides that, by replicating the changes to other hospitals it may reduce the burden caused by obstetric related litigation.

PP-13

Reducing Delayed Medication Serving in Ward

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Delays in medication administration have been identified as one of patient safety issues. Between September 2006 and June 2009, the National Patient Safety agency NPSA received 27 deaths, 68 severe harms and 21,383 other incidents reports related to omitted or delayed medicines. This was also a problem in our hospital and we aimed to reduce delayed inpatient medication serving in a ward in our hospital by identifying and overcoming the factors causing the delays.

KEY MEASURES FOR IMPROVEMENT:

The indicator was the percentage of delayed medication served in ward and standard was set as 0%.

PROCESS OF GATHERING INFORMATION:

A cross-sectional study was conducted in General Medical Ward 1 from September - October 2018. Two sets of standardised data collection forms were used and questionnaire for nurses and pharmacy staffs were distributed. Interview sessions were also conducted with the doctors.

ANALYSIS AND INTERPRETATION:

Pre-intervention, 10.12% medication experienced delay in serving. The major contributing factors identified were late commencement and completion of doctors' ward rounds, problem with the computerised system in pharmacy, and poor knowledge and attitude among nurses and pharmacy staffs on the importance of serving medication within designated administration time.

STRATEGIES FOR CHANGE:

The strategies include discussion with doctors to commence ward rounds early on non-clinic days. Additional staffs in pharmacy were allocated to key in the prescriptions into the computer. Continuing medical education on medication administration was also conducted to increase knowledge of nurses and pharmacy staffs and improve the attitude on medication administration.

EFFECT OF CHANGE:

Post- intervention, delayed medication serving was reduced to zero. Efficient medication chart handling was also seen in ward and pharmacy which helped in eliminating the problem.

THE NEXT STEP:

These strategies will be continued to ensure the sustainability of improvement that was achieved through this project. We are also taking gradual steps to implement the strategies to all the wards in our hospital.

PP-14

Meningkatkan Peratus Lawatan Postnatal di Daerah Asajaya

Category of study: District Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Berdasarkan analisa pada tahun 2015, dapat ditunjukkan bahawa hanya 58% ibu postnatal dilawati di rumah mengikut jadual yang ditetapkan. Ini menyebabkan lewat pengesanan masalah kesihatan di kalangan bayi dan ibu yang menyumbang kepada risiko berlaku kejadian *severe jaundice*, peratus *exclusive breastfeeding* rendah dan kematian ibu atau bayi.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Tujuan kajian adalah untuk meningkatkan peratus lawatan rumah ibu postnatal kepada standard lebih 80 %.

PROSES PENGUMPULAN MAKLUMAT:

Kajian telah dijalankan di lima buah klinik mulai September 2015. Terdapat enam pembolehubah yang dikaji menggunakan borang soal selidik dan audit, iaitu bilangan lawatan postnatal, kepatuhan *Model of Good Care* (MOGC) lawatan postnatal, notifikasi kelahiran, tahap pengetahuan, sikap, dan amalan (KAP) di kalangan anggota kesihatan dan ibu postnatal, dan bilangan lesen memandu dan kenderaan anggota kejururawatan.

ANALISIS DAN INTERPRETASI:

Data menunjukkan hanya 58% lawatan rumah ibu postnatal dijalankan oleh anggota kesihatan. Faktor utama yang dikesan ialah lewat notifikasi kelahiran dan tahap KAP rendah di kalangan ibu postnatal. Hanya 63% notifikasi kelahiran dilakukan dalam masa 24 jam dan purata markah KAP ibu postnatal adalah 38% berdasarkan borang soal-selidik yang diberikan.

STRATEGI PENAMBAHBAIKAN:

Notifikasi kelahiran ditingkatkan dengan mewujudkan papan *Estimated Date of Delivery (EDD)* di setiap klinik, notis peringatan kelahiran awal oleh ibu, dan mewujudkan buku rekod dan jadual pantauan Informatik Kelahiran Sarawak.

KESAN PENAMBAHBAIKAN:

Selepas langkah penambahbaikan dilaksanakan, lawatan ibu postnatal meningkat daripada 58% kepada 81%. Peratus notifikasi awal kelahiran masih di sekitar 60%. Peratus *client tracing* melalui telefon meningkat daripada 53% kepada 66.7%. Ini disebabkan anggota lebih peka dengan kelahiran klien melalui pantauan board EDD dan kesedaran klien memberitahu kelahiran awal kepada anggota. Kajian KAP ibu menunjukkan peningkatan daripada 38% kepada 64.8%.

LANGKAH SETERUSNYA:

Kami komited untuk terus meningkatkan peratus lawatan ibu postnatal walaupun telah melebihi standard yang ditetapkan iaitu melebihi 80% dan berharap projek ini diperluaskan ke klinik-klinik dalam Bahagian Samarahan.

PP-15

Meningkatkan Peratus Kes Siasatan Iklan di Bawah Kesalahan Akta Ubat (Iklan dan Penjualan) 1956 yang Selesai Dalam Tempoh 4 Bulan

Category of study: District Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Siasatan iklan yang melanggar Akta Ubat (Iklan & Penjualan) 1956 (AU 1956) merupakan salah satu aktiviti yang dijalankan oleh Cawangan Penguatkuasa Farmasi Negeri Johor (CPFJ). Sepanjang tempoh 2006-2014 sebanyak 96 kertas siasatan iklan ubat (IP) dari pelbagai media telah dibuka namun tiada yang dapat diselesaikan dalam tempoh yang ditetapkan. Kelewatan penyiasatan IP boleh menyebabkan kegagalan pendakwaan ke atas kes-kes tersebut sekaligus mengakibatkan penyiaran iklan yang melanggar AU 1956 berleluasa dan boleh mempengaruhi pengguna.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Standard Optimum bagi peratus kes siasatan iklan di bawah kesalahan AU 1956 yang selesai dalam tempoh empat bulan ialah sebanyak 85% berdasarkan sasaran yang ditetapkan oleh Bahagian Perkhidmatan Farmasi, Kementerian Kesihatan Malaysia.

PROSES PENGUMPULAN MAKLUMAT:

Kajian hirisan lintang ke atas data IP (2006-2014) untuk verifikasi (n=96), dan dua kitaran penambahbaikan (1 April 2016 - 30 September 2017) dianalisa menggunakan borang pengumpulan data. Kesemua IP (n=109) yang dibuka dilibatkan dalam kajian. Borang kaji selidik faktor penyumbang diedarkan kepada pegawai penyiasat (n=65).

ANALISIS DAN INTERPRETASI:

Peratus kes siasatan iklan di bawah kesalahan AU 1956 yang selesai dalam tempoh empat bulan ialah 0% (n=96, ABNA= 85%) dalam kajian verifikasi. Faktor-faktor penyumbang ialah struktur siasatan IP yang tidak teratur (48%), tiada mekanisme pemantauan spesifik dari pegawai atasan (28%), pegawai penyiasat kurang kompeten (12%), kurang bahan rujukan (8%) dan proses kerja agensi luar yang tidak dapat dikawal (4%).

STRATEGI PENAMBAHBAIKAN:

Pemerkasaan prosedur siasatan IP dan pewujudan senarai semak dilaksanakan. Penubuhan *group Whatsapp*, Mesyuarat Perkembangan IP, transformasi digital Daftar Siasatan, dan lantikan pegawai penyiasat elit memantapkan pemantauan Ketua Seksyen turut dilaksanakan. Latihan diberikan kepada Pegawai Penyiasat. Kolaborasi siasatan dengan agensi berkaitan diperkukuhkan.

KESAN PENAMBAHBAIKAN:

Peratus kes siasatan iklan di bawah kesalahan AU 1956 yang selesai dalam tempoh empat bulan meningkat sebanyak 82%, pada Kitaran 1, sebanyak 100% dalam Kitaran 2.

LANGKAH SETERUSNYA:

Mekanisme ini berpotensi diperluaskan ke semua CPF negeri. Pindaan pada AU 1956 dan tempoh *stopclock* bagi kes rampasan digital dicadangkan.

PP-16

Menangani Masalah Kehadiran Bendasing di Dalam Makanan yang Disediakan untuk Pesakit di Hospital Pakar KPJ Selangor

Category of study: Hospital Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Kehadiran bendasing seperti paku, skru, lipas, ulat, rambut di dalam makanan pesakit tidak sepatutnya berlaku serta mampu memberi ancaman fizikal terhadap makanan. Terdapat empat insiden (2015) dan enam insiden (2016) yang melibatkan bendasing dalam makanan di Hospital Pakar KPJ Selangor. Ia menjejaskan imej hospital terutamanya Jabatan Perkhidmatan Makanan (JPM). Oleh itu projek kami telah mencipta alat untuk mengatasi masalah ini.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Indikator utama ialah peratusan insiden bendasing dalam makanan pesakit, Pematuhan yang ditetapkan oleh *Malaysian Society for Quality in Health* (MSQH) ialah <1%. Pematuhan yang ditetapkan oleh *Hazard Analysis Critical Control Point* (HACCP) ialah <0.5%.

PROSES PENGUMPULAN DATA:

Borang kaji selidik diedarkan kepada 41 orang pekerja JPM untuk mengenalpasti punca masalah. Pemerhatian yang terperinci melalui kaedah "Gemba Walk" bagi setiap punca masalah turut diadakan. Punca-punca tersebut dipetakan menggunakan Ishikawa Diagram.

ANALISIS DAN INTERPRETASI:

Punca-punca yang dikenalpasti ialah tiada pengagihan tugas yang spesifik ketika proses *plating* (100%), sayur berongga yang banyak (95%), penglihatan manusia yang terhad untuk menemui bendasing tersorok dalam makanan (90%), tiada penyusunan berstruktur bagi pencucian kain pengelap (85%), penyusunan barang yang tidak efisien di dalam stor (82%), kehadiran kotak di stor yang mengundang lipas (73%) dan peralatan yang tidak diselenggara dengan baik (73%).

STRATEGI PENAMBAHBAIKAN:

Penambahbaikan yang dijalankan termasuklah mengubah formasi yang spesifik ketika proses *plating*, penyusunan barang-barang mengikut Prinsip 5S, kod warna harian untuk kain pengelap dan mereka mesin yang boleh mengesan bendasing di dalam makanan. Kotak turut dihapuskan dari stor kering dan stesen khas disediakan untuk meletakkan peralatan untuk diperiksa. Sayur berongga juga digantikan dengan sayur lain.

KESAN PENAMBAHBAIKAN:

Tiada insiden bendasing dalam makanan berlaku selepas projek dilaksanakan. Kualiti perkhidmatan JPM juga meningkat dari 75% ke 90.5%. Tiada lagi kos diskaun dan juga kos saman yang perlu dikeluarkan akibat insiden bendasing dalam makanan pesakit. Mutu dan moral pekerja JPM juga meningkat.

LANGKAH SETERUSNYA:

Segala cadangan penyelesaian akan dimasukkan di dalam Polisi dan Prosedur hospital. Latihan berterusan seperti HACCP akan diadakan dari semasa ke semasa.

PP-17

Penggunaan Multimedia untuk Meningkatkan Pencapaian Akademik bagi Pelatih Diploma Kesihatan Persekitaran Tahun 1 Semester 1 di ILKKM Kuching (Kesihatan Awam)

Category of study: National Indicator Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Laporan QAP akademik ILKKM Kuching (KA) bagi setiap peperiksaan akhir semester dari 2016 – 2018 menunjukkan ketidakcapaian 95% kelulusan pelatih (kecuali ambilan Januari 2017, 96.08%). Kajian ini dijalankan untuk meningkatkan pencapaian akademik bagi pelatih Diploma Kesihatan Persekitaran (DKP) Tahun 1 Semester 1 (T1S1) di ILKKM Kuching.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Indikator utama ialah kelulusan keseluruhan pelatih DKP T1S1 di ILKKM Kuching (KA) pada peperiksaan akhir semester. Kebolehpakaian dan kebolehterimaan penggunaan aplikasi multimedia dalam kalangan pelatih dan pengajar turut diukur.

PROSES PENGUMPULAN MAKLUMAT:

Statistik pencapaian akademik pelatih DKP T1S1 dari 2016 hingga 2018 dianalisa untuk menunjukkan trend peratusan kelulusan. Data kebolehpakaian dan kebolehterimaan intervensi penggunaan multimedia dalam pengajaran dan pembelajaran dicerap menggunakan borang soal selidik yang diadaptasi dari Hong et al (2018). Borang soal selidik telah diuji dengan nilai Cronbach alpha= 0.87 dan 0.77.

ANALISIS DAN INTERPRETASI:

Sebelum intervensi, peratus kelulusan pelatih hanyalah 79.25%. Analisa data borang soal selidik mendapati masalah utama ialah kaedah pengajaran dan pembelajaran (P&P) yang digunakan.

STRATEGI PENAMBAHBAIKAN:

Terdapat tiga fasa penggunaan multimedia dalam pengajaran dan pembelajaran di ILKKM Kuching (KA), iaitu Fasa 1: tidak menggunakan (sebelum 2017), Fasa 2: penggunaan separa (2017-2018) dan Fasa 3: penggunaan penuh kepada semua pengajar DKP sesi pembelajaran Januari/Jun 2019. Platform media online yang digunakan ialah Edmodo.

KESAN PENAMBAHBAIKAN:

Pencapaian kelulusan pelatih meningkat dari 79.25% (Fasa 1 - ambilan Julai 2016) ke 96.08% (Fasa 2 - ambilan Januari 2017), 82.61% (ambilan Julai 2017) dan 88.46% (ambilan Julai 2018). Fasa 3 tidak mencapai sasaran 95% dengan hanya 79.31% kadar kelulusan, tetapi jumlah pelatih yang sedikit (29 orang sahaja) dan jumlah pelatih yang diberhentikan dari program adalah seramai tiga orang, dan perkara ini tidak berlaku dalam ambilan-ambilan sebelumnya. Peratus kebolehpakaian dan kebolehterimaan aplikasi Edmodo adalah tinggi iaitu 88% dan 94.6% bagi pelatih, manakala untuk pengajar pula ialah 87.5% dan 89.8%.

LANGKAH SETERUSNYA:

Penggunaan kaedah ini akan dicadangkan kepada semua ILKKM atau institut pengajian yang berkenaan.

PP-18

Improving Thyroid Fine Needle Aspiration Adequacy: Multi Departmental Collaboration

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Low thyroid Fine Needle Aspiration (FNA) adequacy rate is associated with repeated or "never-ending" FNA, false negative result and unnecessary surgical intervention. Proper selection of thyroid nodule can increase thyroid FNA adequacy rate. However, various practices and preferences among departments are the major obstacle.

KEY MEASURES FOR IMPROVEMENT:
We measured thyroid FNA adequacy rate by calculating the percentage of adequate thyroid smear over total number of thyroid FNA. Adequate thyroid smears were determined using Bethesda System for Reporting Thyroid Cytopathology (BSRTC). Standard used was more than 80%.

PROCESS OF GATHERING INFORMATION:
All thyroid FNA smears were reviewed and assessed for adequacy by pathologists in accordance to BSRTC. The data were gathered from SMR, Ultrasound (U/S) Report and FNA Worksheets. The performance of each aspirators (individual adequacy rate) and Rapid On-site Evaluation (ROSE) efficacy were calculated.

ANALYSIS AND INTERPRETATION:
Phase I, total of 188 patients were recruited. Thyroid FNA adequacy rate was 59.6%. Among the "Palpation Group" (PG), up to 66.3% had U/S performed prior to FNA procedure as compared to "U/S guided Group" (UGG) in which all had ultrasound performed beforehand. U/S guided FNA was underutilised (11.2%). Only 22.22% of aspirators were privileged with average performance rate of 56.5%. The false positive rate for ROSE was 18.6% with eight false positive.

STRATEGIES FOR CHANGE:
Local criterion on selection of thyroid nodule for U/S Guided FNA was developed. Other remedial measures introduced were introduction of local procedural guideline, standardisation of thyroid U/S reporting, structured training and monitoring programme.

EFFECT OF CHANGE:
Phase II, total of 50 patients were recruited. Majority of thyroid FNA were performed under U/S guided (82.0%). All aspirators were privileged with average performance rate of 88.9%. The false positive rate for ROSE was 6% with 3 false positive. Thyroid FNA adequacy rate has improved to 92.68%.

THE NEXT STEP:
The developed procedural guideline, training policy and monitoring programme may be adopted by other hospitals to increase thyroid FNA adequacy rate.

PP-19

Improving Correct Sampling in Therapeutic Drug Monitoring Services in Hospital Kuala Lumpur

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Sampling errors comprise of incomplete form, incorrect time and tubing which can result in suboptimal interpretation. In 2016, every form received by the Therapeutic Drug Monitoring (TDM) Unit, Hospital Kuala Lumpur (HKL) will have at least one sampling error.

KEY MEASURES FOR IMPROVEMENT:
TDM Pharmacy Department in Kuala Lumpur Hospital set a standard of 100% correct sampling time, correct tubing and complete form for all TDM samples

PROCESS OF GATHERING INFORMATION:
Pre-remedial study started from September till December 2017. Implementation of Phase 1 remedial measures was done from January till June 2018 and the outcome was assessed from June to September 2018. It was followed by Phase 2 remedial measures from April to July 2019 with post analysis of phase 2 from July to September 2019. Four medical, one surgical and one orthopedic wards were involved. All TDM form received were analysed except Paracetamol and Salicylate toxicity cases during office hour only.

ANALYSIS AND INTERPRETATION:
Pre-remedial data showed that only 3% of TDM sample was correctly sampled. In a survey conducted amongst doctors, majority found that the sampling guide and TDM form were not user friendly.

STRATEGIES FOR CHANGE:
In Phase 1, a TDM corner was allocated in each ward which consisted of a sampling guide and the new TDM form. Continuous education towards doctors on correct sampling time was also conducted. For Phase 2, TDM appointment-based systems was introduced to incorporate pharmacist in the process of care.

EFFECT OF CHANGE:
Post-remedial Phase 2 showed an overall increment in the correct sampling from 3% to 62.5%. We also managed to reduce the ABNA from 97% to 37.5%.

THE NEXT STEP:
With promising results during the Phase 1 & 2, we planned to continue the remedial measures in the respective department for continuous improvement and to expand it to all wards in HKL.

PP-20

Developing Action Plan to Reduce Medication Error

Category of study: Hospital Specific Approach

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KPJ Rawang Specialist Hospital, Selangor

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

This study aimed to reduce medication error in KPJ Rawang Specialist Hospital by using quality tools to identify the source of error. The review was conducted by the Root Cause Analysis (RCA) Review Committee consist of management representative, individuals' closely involved in the process and multidisciplinary expert panel.

KEY MEASURES FOR IMPROVEMENT:

The main indicator used was the percentage of medication with medication error.

PROCESS OF GATHERING INFORMATION:

Data collected from July 2017- December 2018 on medication error reported from pharmacy and nursing. Once collected further analysis was performed using three quality tools (Free Three Analysis (FTA), Failure Mode Effect Analysis (FMEA) and RCA) The tools were used to identify the cause, define the top level fault, identify the cause of the top level cause, identify next level event and identify the root causes. Pre implementation period was from July 2017-March 2018 and post implementation was April – December 2018.

ANALYSIS AND INTERPRETATION:

Eight cases of medication error were reported from July 2017 until March 2018. In this analysis, it showed that 44 % of the medication errors were related to administration, 37% involved preparation and 19 % related to prescription errors. Hence, medication errors identified, and cause analysis performed, leading to multiple factors that contributed to error occurrence. The main cause that contributed to error occurrence was lack of knowledge and compliance to Medication Safety Guidelines.

STRATEGIES FOR CHANGE:

Few strategies were implemented including enhancement of digital recording, barcode use during drug administration, review of appropriateness for medication, bedside dispensing and Safety Medication Training to increase knowledge and compliance to the guideline.

EFFECT OF CHANGE:

After strategies were implemented, medication error decreased from eight cases (July 2017- March 2018) to two cases (April - December 2018).

THE NEXT STEP:

We will continuously monitor and analyse the medication error reported post implementation of strategies for change.

PP-21

Ke Arah Sifar (0) Pencemaran Mikroorganisma ke Atas Sayur Berdaun yang Siap Dimasak di Jabatan Dietetik dan Sajian, HTAA Kuantan

Category of study: Hospital Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Sejak tahun 2015 (satu kes), 2016 (satu kes) dan 2017 (dua kes) sayur berdaun yang siap dimasak dicemari bakteria *Bacillus Cereus* yang boleh menyebabkan keracunan makanan kepada 1000 pesakit. Projek ini bertujuan untuk memastikan sayur berdaun yang siap dimasak bebas dari pencemaran mikroorganisma.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Indikator ialah peratus pencemaran mikroorganisma ke atas sayur berdaun yang siap dimasak. Standard yang ditetapkan adalah *sentinel event* atau sifar (0) pencemaran.

PROSES PENGUMPULAN MAKLUMAT:

Kajian Hirisan Lintang dijalankan dari Disember 2017 sehingga Februari 2018. Audit Secara Sembunyi dijalankan untuk mengenalpasti perlaksanaan Prosedur Operasi Standard (POS) Pra-Penyediaan Sayur Berdaun. Ujian Pre Test pula telah dijalankan bagi menilai tahap pengetahuan anggota berkaitan POS. Satu Kaji Selidik juga telah dilaksanakan di kalangan anggota bagi mengetahui punca-punca ketidakpatuhan terhadap proses kerja pra-penyediaan sayur sedia ada. Kajian *Time & Motion Study* pula dijalankan untuk mengkaji tempoh masa yang diambil bagi keseluruhan proses kerja penyediaan sayur.

ANALISIS DAN INTERPRETASI:

Hasil kajian mendapati tatacara rendaman sayur dengan air bergaram tidak sempurna menyebabkan sayur masih berpasir dan bertanah. Proses kerja pra-penyediaan sayur juga mengambil tempoh masa yang panjang iaitu maksima 292.5 minit berbanding dengan tempoh masa yang diperuntukkan 210 minit.

STRATEGI PENAMBAHBAIKAN:

Proses kerja pra-penyediaan sayur ditambah baik terutama pada langkah pemotongan akar dan rendaman sayur dengan air garam yang dikenalpasti sebagai titik kawalan kritikal. Sinki sedia ada juga telah ditukar kepada 3-*bowl sink* dan ukuran yang lebih besar bagi mengurangkan tempoh masa proses kerja.

KESAN PENAMBAHBAIKAN:

Hasil penambahbaikan sebanyak 87.04% anggota berpuas hati dengan proses kerja baru. Audit secara sembunyi mendapati 100% anggota mematuhi 9 langkah proses kerja pra-penyediaan sayur. Keputusan kajian pensampelan bagi keempat-empat pensampelan tahun 2018 menunjukkan sifar (0) pencemaran bermaksud tiada keracunan makanan

LANGKAH SETERUSNYA:

Antara usaha yang akan dijalankan selepas kajian ini ialah membuat inovasi seperti mencipta alat pencucian sayur secara automatik. Modul Pra-Penyediaan sayur akan dikongsi dan dijadikan sebagai POS kebangsaan atau *national blueprint*.

PP-22

Mc Bag: Ensuring Safe Transportation of Document, Medication & Specimen

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

In a health care settings proper handling of medical document, medication and specimen are critical as it involves patient safety, personal data act and confidentiality. The current practice of transporting these items from service to another service were unorganised due to absence of standard operating procedure. There were risk of losing item during transportation causing delay in delivering treatment, compromise of patient documentation safety and risk of infections to staff handling the items.

KEY MEASURES FOR IMPROVEMENT:

The aim of the study was to identify then improve the method of transporting document, medication and specimens by using pre and post question and answer to the end user (staff in the services) to identify the current problem and feedback of the implementation actions.

PROCESS OF GATHERING INFORMATION:

An action research was conducted involving four phases; 1) identify the current issue using survey/questionnaire. 2) plan and design transportation method in a close system - Mc Bag. 3) implementation of new initiative to medical and surgical ward 4) evaluate the effectiveness of the initiative by questionnaire.

ANALYSIS AND INTERPRETATION:

59% of respondents had experienced document or specimen loss and they agreed that the main cause for these incidents was due to no proper place or device to place document or specimen during patient transfer. This affect timelines in delivering quality services to the patient and patients' data privacy.

STRATEGIES FOR CHANGE:

A systematic system, called McBag was developed to assist in transporting document, medicine and specimen. The McBag's features included space saving, neat and proper placement for document, medication and specimen, fully covered, no item exposed, easy to clean, waterproof and flame retardant and anti-electrostatic. It also fulfils the infection control measure.

EFFECT OF CHANGE:

95% of respondents agree that use of McBag help to solve the above problem. This help staff to reduce time taken to complete their task hence increasing timeliness of care.

THE NEXT STEP:

The initiative will be expanded to all KPJ hospital

PP-23

Reducing Sharps Injury Incidence among Dental Staffs in Seberang Perai Tengah District

Category of study: National Indicator Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

High incidence of sharps injury might result in infected healthcare workers (HCW), which pose risk of transmission of blood-borne diseases to patients and other HCW. Sharps injury incidence rate in Seberang Perai Tengah (SPT) District was as high as 18.75 in 2017.

KEY MEASURES FOR IMPROVEMENT:

Our clinical indicator is incidence rate of sharps injury out of total number of clinical HCW. The standard is 0.

PROCESS OF GATHERING INFORMATION:

This was a cross-sectional study. Our study population were six employers and 132 dental clinical staffs who work in primary dental clinics in SPT District, from 1 Jun till 15 September 2018. Two sets of questionnaires were used to assess the knowledge and awareness level of employees and dental staffs respectively. Checklists were used to assess adherence to standard operating procedure, competency in identifying hazard and assessing risks, proper instrument reprocessing and sharps disposal.

ANALYSIS AND INTERPRETATION:

Only 50% of employers answered correctly on disease transmission following sharps injury. None of them answered correctly on post-exposure prophylaxis. Only half of dental staffs answered correctly on first aid method. Approximately 28% of staffs failed to disinfect the dental sharps in a safe way.

STRATEGIES FOR CHANGE:

Remedial measures implemented includes creation of Sharps Prevention Manual, Job Orientation Checklist, education posters with embedded QR code, seminars, Quick Reference Chart, standardised PowerPoint slides and educational video, which were shared in social media (clinic WhatsApp group and Facebook website).

EFFECT OF CHANGE:

The incidence rate has reduced from 7.6 to 0 for January-March 2019. The Achievable Benefit Not Achieved has been eliminated.

THE NEXT STEP:

A feedback mechanism would be established to obtain feedbacks from staffs to improve subsequent strategies. Expansion of this project to the future will allow assessment on its sustainability. The remedial measures could be replicated in other districts in Penang to prevent sharps injury.

PP-24

Increasing Percentage of Elderly Patients Taking Hypertension and Diabetes Mellitus Medications Correctly in Klinik Kesihatan Malim Nawar and Klinik Bergerak PKD Kampar

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Taking medications incorrectly may lead to an increase in health morbidity and mortality. From the pilot study conducted, only 58% of the elderly patients from KKMN and Klinik Bergerak took their Hypertension and Diabetes Mellitus (DM) medications in a correct manner.

KEY MEASURES FOR IMPROVEMENT:
The indicator of the study was defined as the percentage of elderly patients taking their hypertension and DM medications correctly. The standard was set as 80%, based on finding from literature.

PROCESS OF GATHERING INFORMATION:
A total of 65 patients were recruited for a four-phase cohort study. In January-April 2017, pre-intervention phase was carried out. Contributing factors were collected by interviewing study samples using a standardised questionnaire. Intervention phase was conducted from May-July 2017, where remedial measures were implemented. Post-intervention data was collected from August-November 2017 using the same questionnaire. In December-March 2018, second cycle study was conducted with improvised remedial measures.

ANALYSIS AND INTERPRETATION:
Pre-intervention, only 38% of the elderly patients took their medications correctly. Contributing factors included were language barrier (43%), difficulty in reading the labels on medicine envelope (28%), lack of counselling by the pharmacist (15%), patients shy to ask and myths held by the elderly patients (14%).

STRATEGIES FOR CHANGE:
A multilingual medicine labels were produced in three languages; Chinese, Tamil and Orang Asli. Training sessions were conducted to train assistant pharmacists performing basic counselling. A complete and clear labelling on the medicine envelope using permanent marker pen was made as a requirement. A walk-in counselling session was also arranged for the elderly patients.

EFFECT OF CHANGE:
The percentage of elderly patients taking their medications correctly increased to 65% from 38%. During the second phase of the study, the percentage was further increased to 91%, thus achieving the standard (80%).

THE NEXT STEP:
The remedial measures will be implemented to all KKMN and Klinik Bergerak patients.

PP-25

Meningkatkan Pemahaman Teknik Suntikan Insulin Pesakit Diabetes di Unit Farmasi Pesakit Luar Hospital Teluk Intan

Category of study: Hospital Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:
Teknik suntikan insulin penting untuk memastikan pesakit mendapat dos insulin yang betul. Kurang pemahaman teknik suntikan insulin menyebabkan paras gula tidak terkawal, komplikasi penyakit dan kemasukan wad. Pada 2016, 96% pesakit diabetes Hospital Teluk Intan (HTI) yang menggunakan insulin tidak faham akan teknik suntikan insulin yang betul.

PENGUKURAN UTAMA PENAMBAHBAIKAN:
Objektif kajian adalah untuk meningkatkan tahap kefahaman pesakit diabetes terhadap teknik suntikan insulin di Unit Farmasi Pesakit Luar HTI daripada 5.1% ke 80%. Indikator kajian ini ialah peratus bilangan pesakit yang mencapai skor pemahaman teknik suntikan insulin melebihi 80%.

PROSES PENGUMPULAN MAKLUMAT:
Kajian kami meliputi semua pengguna insulin di Farmasi Pesakit Luar Hospital Teluk Intan dari Mac hingga Jun 2017 dalam dua kitaran. Borang kaji selidik digunapakai dalam penilaian teknik suntikan insulin pesakit berdasarkan demonstrasi langsung oleh pesakit semasa temubual bersemuka.

ANALISIS DAN INTERPRETASI:
Sebanyak 142 pesakit direkrut. Sebanyak 94.9% (n=129) pesakit tidak mempunyai pemahaman teknik suntikan insulin yang betul. Ketidakfahaman adalah ketara di kalangan pesakit yang mempunyai kekangan bahasa (48%), tidak hadir ke sesi kaunseling (24%), hadir pada masa puncak (15%), menolak sesi kaunseling (8%), tiada pamflet (4%) dan tiada pamflet pelbagai bahasa (1%). *Achievable Benefit Not Achieved* (ABNA) ialah 74.9%.

STRATEGI PENAMBAHBAIKAN:
Penambahbaikan termasuk penambahbaikan proses kerja pemberian kaunseling, latihan kepada pegawai, sesi kaunseling empat bahasa ibunda utama dijadualkan dan kaunseling menyeluruh diberi dalam bentuk video dan demonstrasi langsung. Dalam fasa pemulihan kitaran kedua, pesakit diberi pamflet berbentuk gambarajah, carta pusingan tempat suntikan, bekas penyimpanan dan pelupusan jarum. Pesakit dinilai semula satu bulan selepas sesi kaunseling menyeluruh diberi. Pesakit yang masih lemah dikaunsel dan dinilai semula.

KESAN PENAMBAHBAIKAN:
Kesan perubahan selepas fasa pemulihan pertama menunjukkan peningkatan ke 72.2%. Kesan perubahan selepas fasa pemulihan kedua menunjukkan peningkatan pemahaman ke 88.6%. ABNA menurun daripada 74.9% kepada 7.8% dan seterusnya melebihi standard sebanyak 8.6%.

LANGKAH SETERUSNYA:
Penggunaan jadual berkala dan bahasa ibunda boleh diterapkan dalam proses kerja semua jenis kaunseling di Farmasi Pesakit Luar.

PP-27

Improving Patient Outcomes with Use of Clinical Pathway in ST Elevation Myocardial Infarction in National Heart Institute

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

This study aimed to improve outcomes of ST Elevation Myocardial Infarction (STEMI) patients who presented to National Heart Institute (IJN) with standardised care as outlined in the STEMI clinical pathway.

KEY MEASURES FOR IMPROVEMENT:

Outcome measures include mortality rate and length of stay (LOS) less than or equal to eight days. Process measures include Door to Balloon Time (D2BT) of less than 90 minutes, aspirin prescribed within 24 hours, echocardiogram during admission, medications (Aspirin, Angiotensin Converting Enzyme (ACE) Inhibitors or Angiotensin Receptor Blocker (ARB), Beta Blocker and Statin) prescribed at discharge, and smoking cessation counselling session during admission.

PROCESS OF GATHERING INFORMATION:

Data were collected from STEMI clinical pathway form and Patient Medical Records from 2015 to 2018. Inclusion criteria are STEMI patients who presented within 12 hours of chest pain or more than 12 hours of chest pain with persistent ischaemia or failed thrombolysis, or missed STEMI more than 12 hours of chest pain with no persistent ischaemia.

ANALYSIS AND INTERPRETATION:

In 2015, annual STEMI patient's mortality rate was 3% (n=6, N=183) and 87% had LOS less than or equal to eight days. D2BT <90 minutes was 92% and 100% of STEMI patients received Aspirin within 24 hours of admission and upon discharge. 97% of patients had ACE Inhibitors or ARB, 99% had Beta Blocker prescribed upon discharge and Echocardiogram during admission. Smoking cessation referral during admission was only 57%.

STRATEGIES FOR CHANGE:

STEMI Network was established with Hospital Kuala Lumpur with regular discussions for process improvements.

EFFECT OF CHANGE:

Post-remedial (2018), the annual mortality rate was 6.7% (n=15, N=223) and 90% stayed less than or equal to eight days. D2BT <90 minutes improved to 93%, and ACE inhibitors or ARB prescription upon discharged increased to 99%. 100% of patients had echocardiogram and Beta blocker prescribed upon discharge. Smoking cessation referral during admission was 85%.

THE NEXT STEP:

The STEMI pathway will be updated based on 2019 Malaysian Clinical Practice Guideline on STEMI management.

PP-28

Improving Patient's Journey at Emergency Department

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Globally patient waiting time at ED is a serious problem in the hospital setting which may reduce patient satisfaction and quality of service. In Pantai Hospital Ampang, 30% of patient presented in Emergency Department (ED) waited for more than four hours from registration time to discharge.

KEY MEASURES FOR IMPROVEMENT:

Our aim was to achieve 80% patient waiting time from registration to discharge within 100 minutes.

PROCESS OF GATHERING INFORMATION:

This project focus on all patients who came to ED from January – April 2019. Each Point of Engagement was tracked by EDWeb in the system (Traffic Light Concept) and areas which caused the delay in the journey was identified. Denominator was patient who had registered and seen by medical officer and numerator was patient waiting time from registration to discharge.

ANALYSIS AND INTERPRETATION:

From EDWeb, we found that 15% patient took 80 minutes to wait for blood investigation result, 11% patient took 120 minutes to wait for Guarantee Letter (GL) approval and 4% took 80 minutes to be seen by doctor. Root cause identified was inadequate staff which led to delayed and poor process in tracing blood result.

STRATEGIES FOR CHANGE:

A systematic approach through EDWeb Track using Traffic Light Concept was created to key in the patient details by computer. Monitoring and system alert in every point that exceeded 10 minutes will prompt the nurses to attend to the patient accordingly.

EFFECT OF CHANGE:

Average patient waiting time journey in ED dropped from 150 minute for January and February to 120 minutes for March and April 2019 which saved 30 minutes of the waiting time on average.

THE NEXT STEP:

There is a need for continuous monitoring, training and monthly analysis on the gap and delayed in each point notified by EDWeb Track for prompt rectifying.

PP-29

Improving Percentage of Discharged Patients Transfer to Discharge Lounge

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Bed emptying process can be hastened by transferring patients waiting for discharge to a discharge lounge. An internal audit showed Melaka General Hospital (MGH)'s discharge lounge had been under-utilised. This project aimed to improve the percentage of eligible patient transferred to discharge lounge in all MGH medical wards.

KEY MEASURES FOR IMPROVEMENT:

Our indicator was percentage of eligible patients transferred to discharge lounge upon discharge. The standard is set at 50% considering capacity of discharge lounge.

PROCESS OF GATHERING INFORMATION:

This six-month prospective study comprises of three phases; pre-remedial, implementation and post remedial phases. All discharges that fulfil discharge lounge transfer criteria were included. A data collection form was used to collect data on bed availability, admission and discharges. Qualitative data on reasons of not transferring eligible patients were also collected.

ANALYSIS AND INTERPRETATION:

At pre-remedial phase, only 14 (18.2%) out of 77 eligible patients were transferred to the facility. Contributing factors included patient's refusal for transfer and lack of staff to transfer patients. The average bed occupancy rate (BOR) during the pre-remedial study was 87.8 %.

STRATEGIES FOR CHANGE:

Continuous reminder was given to create awareness among our staffs on the discharge lounge availability. Instructions were given to all specialists to identify eligible patients and transfer of identified patients to the discharge lounge was advised to be performed immediately. Amendment was made on the ward orientation form to inform patients or relatives on possible discharge lounge transfer. Promotional posters were created and displayed at various strategic locations.

EFFECT OF CHANGE:

Post-remedial, the percentage of discharge lounge transfer had increased to 31.1 % and the average BOR was reduced to 80.8 %. The data also showed steady increase in average number of patients transferred to the discharge lounge per working day.

THE NEXT STEP:

More proactive measures can be implemented including forming a permanent discharge lounge transfer team and integrating discharge lounge transfer as a routine part of discharge process.

PP-30

Increasing Number of Teeth Treated with Root Canal Treatment among Patients in Klinik Pergigian Batu

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
There was decreasing pattern of Root Canal Treatment (RCT) as compared to teeth extractions cases in Klinik Pergigian Batu. Dental extractions can affect patients' quality of life and unnecessary spending for missing teeth replacement. The aim of the study was to increase root canal treatment among patients.

KEY MEASURES FOR IMPROVEMENT:
The indicator that was used in this study was the percentage of indicated teeth that undergone RCT. We decided for 90% standard based on literature.

PROCESS OF GATHERING INFORMATION:
Cross sectional study was conducted using questionnaire, patient checklist, and phone interview. Questionnaire was given to patients to assess knowledge and awareness on RCT. Questionnaire was given to dental officers to assess dental officers' exposure, skills and confidence in managing RCT cases.

ANALYSIS AND INTERPRETATION:
Only 36% (n=9) carious teeth that were indicated were treated using RCT. The main reason was patient refusal for RCT due to long waiting time; 80% patients who needed RCT waited for minimum of two months due to limited appointment slot. Only 42% patients have good knowledge on RCT, and 26% of them did not know the cost of RCT in government dental clinic.

STRATEGIES FOR CHANGE:
Appointment system was modified to allow more appointment slots and patients were instructed to arrive 15 minutes earlier to the appointment time. A flip chart with information on RCT was used to aid consultation.

EFFECT OF CHANGE:
Post-remedial, the percentage increased from 36% to 55% (n=30) in December 2018 to January 2019, significantly reducing the Achievable Benefit Not Achieved from 54% to 35%. Only 20% of patients waited for RCT for more than two months.

THE NEXT STEP:
Flip chart was upgraded into multi-language pamphlet and QR code form. A briefing on tooth restorability was given by restorative specialist to dental officers. Since the project was acknowledged by the District Dental Officer, we are expanding the initiative of flipchart usage to other clinics in Kepong District.

PP-31

Impact of Medical Emergency Team Code Help on Clinical Outcomes

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

A Medical Emergency Team (MET) is a team that respond to patients with early signs of deterioration, to prevent respiratory or cardiac arrest occurring. In hospital cardio-respiratory arrest mortality was 53.8% in 2014 and 60.2% in 2015. With the implementation of MET, we hope to overcome factors that contribute to patient's decline and identify correctable factors prior to the development of life-threatening situations.

KEY MEASURES FOR IMPROVEMENT:

This study aimed to improve patient's survival rate by reducing Code Blue activation and increasing MET activation.

PROCESS OF GATHERING INFORMATION:

Data were retrieved from the Code Blue / MET Code Help forms, Report card and debriefing / feedback. Morbidity and mortality audit by the Code Blue Committee done on a regular basis was accessed.

ANALYSIS AND INTERPRETATION:

A retrospective analysis showed a total of 84 MET and 427 Code Blue cases from 2014 till 2018. On average, Return of Spontaneous Circulation (ROSC) for code blue was increased to more than 70% in 2016 till 2018. Chances of high survival was based on early intervention by MET code help.

STRATEGIES FOR CHANGE:

We developed a tool for identifying outlying use of MET criteria. A new guideline for MET was developed and training was conducted. MET awareness were displayed in all areas. MET activation can be either by family or staff and occurred via single emergency telephone number, 111. Training and briefing to the staff for MET activation were implemented as part of a crisis management program.

EFFECT OF CHANGE:

Post-intervention, code blue cases show a declining trend. The average survival outcomes rate from codes increased to 46.6% (2014), 39.8% (2015), 86.9% (2016), 77.3% (2017) and 74.3% (2018). MET cases increased from 7 in 2016, 43 in 2017 and 34 in 2018.

THE NEXT STEP:

Further analyse on improvement of MET implementation will be conducted.

PP-32

Towards Improving Patient's Meals Ordering System in Hospital Tengku Ampuan Rahimah Klang

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

There was inaccurate and inconsistent diet order from ward to the Dietetic and Food Service using diet ordering form. The diet order from ward did not reflect the actual patients in the ward causing wastage of food. The objective of this project was to develop the best diet ordering system from ward to hospital kitchen hence reducing waste and operational budget spent on patient meals.

KEY MEASURES FOR IMPROVEMENT:

The indicator used was the percentage of diet ordered accurately according to number of patients in wards. We aim to achieve 85% diet order accuracy.

PROCESS OF GATHERING INFORMATION:

The project had been conducted for five months. During the first month, identification and comparison of diet ordered by ward was analysed. Diet Module in System was developed from second to fourth month. In the fifth month, Diet Module for diet order was started to be used.

ANALYSIS AND INTERPRETATION:

Data collected from 13 to 23 April 2016 showed only 66% from 11,463 diets was ordered accurately, where 3,897 diets were ordered excessively. The unnecessary cost was RM 27,201.06 (RM 6.98 per patient). Most wards ordered more than the actual number of patients due to assuming new case.

STRATEGIES FOR CHANGE:

Change of the diet ordering method from wards to Dietetic and Food Service Department was made. Hard copy method was changed to Diet Module in Bed-watcher system.

EFFECT OF CHANGE:

From 1st to 15th August 2016, the number of excessive diet order reduced to 921 orders and the accuracy level improved from 66% to 91%. Hence the accuracy of diet order increased and communication between Dietetic and Food Service staff in operation room and ward improved.

THE NEXT STEP:

The Diet Module in Bed-watcher system will be improved especially on diet summary and diet selection. This system had been included in the study at the ministry level for Zero Waste strategy and had been adopted by three other hospitals in Malaysia.

PP-33

Increasing Percentage of Pre-School Children Receiving Dental Treatment at Kindergartens in Machang District

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Pre-school children are one of major target groups of Oral Health Program, Ministry of Health Malaysia. However, percentage of pre-school children received dental treatment in Machang district showed decreasing trend from 2012 to 2014; 2012(18%), 2013(15%) and 2014(9.8%). It is imperative for pre-school children to receive dental treatment to restore function and improve quality of life.

KEY MEASURES FOR IMPROVEMENT:

The percentage of pre-school children who received dental treatment was very low (9.8%) based on data from annual dental team visit to kindergartens in Machang district compared to the district standard of 30%.

PROCESS OF GATHERING INFORMATION:

A cross-sectional study was conducted in May - August 2014 to identify factors contributing to the problem using a structured questionnaire. 10 kindergartens were randomly selected from 79 kindergartens. A total of 200 kindergarten students, 180 parents and 13 dental therapists in Machang district were recruited for this study via convenience sampling.

ANALYSIS AND INTERPRETATION:

There were various contributing factors identified including inappropriate visit schedule, lack of monitoring system, pre-school children refused dental treatment and lack of parent's oral health knowledge and awareness.

STRATEGIES FOR CHANGE:

Various strategies were implemented from September 2014 until 2018 including reviewing and improving the care process, formation of dedicated team for pre-school care and appropriate visits schedule. Seminars were conducted to give oral health education to parents. Supportive environment was promoted using colorful attire and cartoon accessories. An innovation called Benzo kids was developed to divert children's attention and reduce anxiety during treatment.

EFFECT OF CHANGE

The percentage of pre-school children received dental treatment at kindergartens showed increasing trend from 9.8% (2014) to 19% (2016), 36% (2017) and 43% (2018). The impact of this study can be seen in the prevalence of dental caries per 100 primary one children in Machang district showed a decreasing trend from 80 (2013) to 67 (2018).

THE NEXT STEP

Continuous monitoring of remedial measures is necessary to ensure achievement of DSA standard.

PP-34

Timely Discharge within 2 Hours in General Paediatric Ward

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Delayed discharges in General Paediatric ward in Hospital Melaka is a serious problem as it causes backlog of admissions from Emergency Departments and Clinics, and transfer-in from Intensive Care Units. More than half of discharges take more than two hours which leads to patients' dissatisfaction, increase in cost, burden to manpower and compromise of patients' care.

KEY MEASURES FOR IMPROVEMENT:

Multiple international journals published that discharge process could be accomplished within two hours. In this study, we target to achieve 90% timely discharge within two hours in our ward.

PROCESS OF GATHERING INFORMATION:

A prospective cross-sectional study was conducted from 15th November 2018 to 31st January 2019. Data collection sheet was attached to bed head tickets (BHTs) to record the duration of discharges (time of discharges ordered until time the bed was vacant) and reason of discharges being delayed. Analysis was then carried out to identify the most common cause of delay discharges.

ANALYSIS AND INTERPRETATION:

In pre-remedial phase, only 48% of patients were discharged within two hours. The leading causes of it were due to family not ready for discharges (46%), delay in preparing memos and referral letters (27%) and others. Achievable Benefit Not Achieved (ABNA) was 42%.

STRATEGIES FOR CHANGE:

We have provided discharge transit area to hasten bed emptying (from 15th December 2019 onwards), and templates for referral letters (from 15th January 2019 onwards) as our remedial interventions.

EFFECT OF CHANGE:

Percentage of discharges within two hours increased from 48% to 68.8% followed by final achievement of 82.1%. The percentage of patient discharged within two hours increased significantly from 48% to 82.1%. Data in March 2019 showed promising result where 95% of discharges were done within two hours.

THE NEXT STEP:

We would continue to implement all the remedial measures and continuous education to staffs to ensure sustainability of 90% discharges accomplished within two hours.

PP-35

Improving Quit Smoking Rate in Klinik Kesihatan Kuang

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Quit Smoking Service had been introduced to government health clinics since 2013 as the prevalence of smokers is high and this service aimed to help smokers to quit smoking. However, Quit Smoking Rate (QSR) in Klinik Kesihatan Kuang (KKK) had been 0% for three consecutive years and this study aimed to overcome this problem.

KEY MEASURES FOR IMPROVEMENT:

The national standard of the percentage of clients who successfully quit smoking for at least 6 months duration was ≥20%.

PROCESS OF GATHERING INFORMATION:

A cross- sectional study on clients' cards was performed to assess the care plan delivered to clients. It also assessed whether assessment tools for quit smoking were available in KKK. A survey using self-administered questionnaires on health care providers' knowledge on quit smoking was conducted (n = 16).

ANALYSIS AND INTERPRETATION:

All clients received sub-optimal care for QSS. Incomplete assessments and absence of defaulter tracing were among the problems identified. Only two out of five assessment tools were available. The overall knowledge of health care providers was poor. 70% of doctors did not have good knowledge on quit smoking.

STRATEGIES FOR CHANGE:

A personalised care strategy had been introduced to QSS in KKK to improve quality of care. Clients received dedicated multidisciplinary team approach in QSS.

EFFECT OF CHANGE:

QSR was increased to 35.5% in year 2016. This was relatively very high as compared to other facilities that did not implement personalised care which had QSR between 4 – 5%. The quit smoking rate was sustainable throughout these few years in KKK which was between 40-50%.

THE NEXT STEP:

QSS in KKK had been continued to involve clients from private health facilities. The new strategy has been introduced to other clinics in district and state level. Implementation of focused and centralised QSS for example in Urban Transformation Centre and Wellness Hub in each district is highly recommended to provide more community-based approach in the near future.

PP-36

Exclusively Breastfeeding Mothers in Kangar District Clinics: A Shift in Approach

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

A review at 2017 showed that the prevalence of non-exclusive breastfeeding in the first six months of life in Perlis was very low at five Health Clinics (HC) in Perlis. The prevalence reported in this five HC was 60.2% which was low compared to Terengganu (78%) in the same year.

KEY MEASURES FOR IMPROVEMENT:

Our general objective was to increase the percentage of exclusively breastfeeding mothers at six months postpartum to more than 65.0%.

PROCESS OF GATHERING INFORMATION:

This was a prospective study which involved four components: (1) Audit of child's health book at six-month old about mother's breastfeeding practice, (2) a qualitative study by non-structured interview to mothers who were non-exclusive breastfeeding, (3) a cross sectional study regarding general knowledge on breastfeeding and Perceived Insufficient Milk (PIM) topic among postnatal mothers and (4) a quantitative study measuring knowledge of healthcare providers using questionnaire.

ANALYSIS AND INTERPRETATION:

Pre-remedial, percentage of exclusive breastfeeding were only 60.2%. The risk factors that were associated with higher non-exclusive breastfeeding, included PIM (85.4%), working mother (56.1%), and poor PIM knowledge of mother (72.3%) and health care providers (46.7%).

STRATEGIES FOR CHANGE:

PIM topic was added during antenatal and at postnatal class. Postnatal mothers were evaluated clinically on PIM factor using new postnatal breastfeeding checklist. A staff nurse at each clinic was appointed as lactation nurse to assist breastfeeding mother. The working mothers were given specific counselling using Working Mother Kit. The healthcare provider's knowledge on PIM was improved through continuing medical education.

EFFECT OF CHANGE:

The post exclusive breastfeeding rate has been increased to 68.3% and was higher than the 65.0% target. All standard set in the Model of Good Care (MOGC) were improved following implementation of remedial measures.

THE NEXT STEP:

Measures to enhance awareness on exclusive breastfeeding among employer of working mothers and caretakers will be formulated in order to maintain and further improve the standards that have been established and achieved.

PP-37

Improving Operating Room Utilisation with Modified Scheduling System

Category of study: Hospital Specific Approach

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Pantai Hospital Ipoh, Perak

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Modified Scheduling is a unique customised approach that allows Operating Room (OR) Coordinators to better manage resources by improving elements that cause poor turnover time. It is a crucial improvement project for Pantai Hospital Ipoh (PHI) due to increasing surgery load and acuity level which can also pose a challenge to facility in accommodating the volume.

KEY MEASURES FOR IMPROVEMENT:
The two key measures for improvement is measurement of the utilisation rate during i) normal hours and ii) oncall hours. We aimed for more than 80% average utilisation rate for normal working hours and decrease of more than 30% for average utilisation rate during oncall period.

PROCESS OF GATHERING INFORMATION:
Operating room clocks were synchronised on weekly basis. OR managers were in-charged of data collection and random samples were examined monthly by the Assistant Director of Nursing to verify data accuracy and validate monthly report. A standardised format of form was used for data compilation and Microsoft Excel was used for analysis. A detailed root cause analysis using fishbone technique was done with all stakeholders and communicated during department and OR committee meeting.

ANALYSIS AND INTERPRETATION:
Pre-remedial (January - November 2018), the average utilisation rate was 78.7% for normal working hours and 10.8% for oncall hours. The main contributing factors included delay start time, poor scheduling, malfunctioned equipment & instruments as well as delay in sterilisation process and staffing.

STRATEGIES FOR CHANGE:
Modified Scheduling System was introduced focusing on overcoming the identified contributing factors. It individually addressed the different elements causing delay hence reducing OR slot wastage.

EFFECT OF CHANGE:
Post remedial (November 2018 – June 2019), the average utilisation rate for elective cases (normal office hours) was 82.4%, an increase of 3.7%. The average utilisation rate for elective cases (on-call hours) was 6.6% which is a reduction of 39% compared to Jan to Oct 2018.

THE NEXT STEP:
Performance tracking and review will be done on weekly basis and reported on monthly basis.

PP-38

Effectiveness of Surgical Site Infection Prevention Bundle in Reducing the Incidence of Surgical Site Infection Post Mastectomy among Breast Cancer Patients in University Malaya Medical Centre

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Surgical site infections (SSIs) are one of the commonest healthcare associated infections, and even for mastectomies the incidence varies from 1-30%. This is significantly higher compared to the expected incidence of 2% for clean surgeries. This was also true in University Malaya Medical Centre (UMMC) where the SSI incidence was 32.4% in 2015 and 29.3% in 2016.

KEY MEASURES FOR IMPROVEMENT:

The aim is to reduce the incidence of SSIs among breast cancer patients undergoing mastectomy at UMMC by 50% with the implementation of the SSI prevention bundle.

PROCESS OF GATHERING INFORMATION:

The project was conducted from July 2017-June 2018 and it involved the implementation of the surgical site infection prevention bundle on all breast cancer patients undergoing mastectomy at UMMC. Retrospective analysis of SSI rates prior to the SSI prevention bundle implementation was done from July 2015-June 2016.

ANALYSIS AND INTERPRETATION:

SSI surveillance data from the infection control unit identified possible causes of SSIs and it included patient, healthcare staff & environmental factors. The analysis of the SSI rates in mastectomy patients pre-SSI prevention bundle implementation from July 2015-June 2016 was 23.1% (27/117 cases).

STRATEGIES FOR CHANGE:

The surgical site infection prevention bundle which was an adaptation from the Global Guidelines for the Prevention of Surgical Site Infection by WHO, consisting of preoperative, intraoperative & postoperative preventive measures was implemented. The quality implementation framework was used to implement the bundle.

EFFECT OF CHANGE:

There was a 65% reduction in the SSI rates post SSI prevention bundle implementation from 23.1% to 8.1% (p=0.001). Multivariate logistic regression analysis revealed that patients undergoing surgery without the bundle were 4.55 times more likely to develop SSI. (95% CI 1.47-14.04, p=0.008).

THE NEXT STEP:

To demonstrate cost savings with the SSI prevention bundle by performing a cost consequence analysis of SSI treatment.

PP-39

Diabetes 'Go SMART' Dungun

Category of study: District Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Data *'National Diabetic Registry'* (NDR) 2012-2014 mendapati Pesakit Diabetes Menggunakan Insulin (PDMI) di Dungun telah meningkat daripada 26% ke 32%, namun peratus pesakit dengan kawalan gula tidak terkawal (HbA1c>10%) masih tinggi, 30%-33%. Peratus komplikasi mikrovaskular juga tiada penurunan ketara, masih sekitar 6-8% (2012-2014). Kajian bertujuan meningkatkan keberkesanan rawatan PDMI dengan HbA1c>10% yang dinilai melalui penurunan HbA1c≥1% dalam tempoh enam bulan dan mengenal pasti punca rawatan kurang berkesan bagi PDMI dengan HbA1c>10%.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Indikator kajian adalah peratus PDMI dengan HbA1c>10% yang menunjukkan penurunan HbA1c≥1% dalam tempoh enam bulan rawatan. Standard ditetapkan ≥40%.

PROSES PENGUMPULAN MAKLUMAT:

Kajian verifikasi terhadap 143 kad pesakit dengan HbA1c>10% di Klinik Kesihatan AMBS dan Ketengah Jaya dijalankan pada September 2015. Kajian '*Knowledge, Atitude, Practice'* (KAP) kepada 30 anggota kesihatan dan 30 pesakit diabetes dijalankan pada November 2015. Audit bahan rujukan, proses kerja multidisiplin dan bahan kaunseling dijalankan sepanjang November 2015.

ANALISIS DAN INTERPRETASI:

99 (69.2%) daripada 143 pesakit dengan HbA1c>10% telah menggunakan insulin. 35.7% daripada PDMI menunjukkan penurunan HbA1c≥1% dalam tempoh enam bulan (2015). Pencapaian sederhana untuk KAP anggota kesihatan, kurang bahan rujukan dan tidak mesra perawat menyebabkan perawat kurang mahir terapi insulin. KAP pesakit yang lemah menyumbang kurang kepatuhan kepada rawatan. Tiada kerjasama multidisiplin dan kelemahan kaunseling menyebabkan pendidikan kesihatan tidak berkesan. Ketiadaan penyeliaan pengurusan rawatan menyumbang kurang keberkesanan rawatan.

STRATEGI PENAMBAHBAIKAN:

'SMART Pack' perawat yang mengandungi *'Easy Reference'* yang mesra perawat dan panduan asas pengurusan diabetes telah disediakan. *'SMART Goals'* pesakit dan perbincangan kumpulan antara pesakit dilaksanakan. Kaunseling bersama farmasi dan proses kerja multidisiplin sistematik turut diwujudkan. Seorang penyelia dilantik untuk menyelia kepatuhan proses kerja rawatan PDMI dengan HbA1c>10%.

KESAN PENAMBAHBAIKAN:

Peratus PDMI dengan HbA1c>10% yang menunjukkan penurunan HbA1c≥1% dalam tempoh enam bulan meningkat daripada 35.7% kepada 45% (2017). Tahap pengetahuan, sikap dan amalan anggota kesihatan dan pesakit juga meningkat melebihi standard yang ditetapkan.

LANGKAH SETERUSNYA:

Pelaksanaan kajian kadar komplikasi mikrovaskular (nefropati/retinopati) dan kajian kualiti hidup pesakit melalui rawatan diabetes yang berkesan.

PP-40

Effectiveness of Practices to Reduce Rejected Blood Sample

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Rejected blood sample due to haemolysis is one of the most challenging pre-analytic issues in clinical laboratory. This is secondary to incorrect technique of blood taking among nurses, which can delay diagnosis and treatment. This study aims to measure the effectiveness of teaching methods to reduce blood sample rejection sent to the clinical laboratory.

KEY MEASURES FOR IMPROVEMENT:

Reduction of rejected blood sample was calculated by dividing number of rejected blood sample (haemolysed, insufficient volume or clotted specimen) with total number of specimens sent to the laboratory.

PROCESS OF GATHERING INFORMATION:

Three wards with highest rate of rejected specimens (2017) were selected. Laboratory analysis of all specimens was automated with rejection results provided in the form of computerised reports. A total of 77 nurses participated in the study over four-month period. Response rate were 100%.

ANALYSIS AND INTERPRETATION:

Pre-intervention (Jan – Apr 2017), 43 out of 4203 (1.0%) blood sample was rejected due to hemolysis, clotted and insufficient sample sent to clinical laboratory. The main contributing factor was incorrect technique of blood taking among nurses.

STRATEGIES FOR CHANGE:

The three wards were stratified into three groups. The groups were assigned as video presentation (Group A), hands on training in laboratory supervised by phlebotomists (Group B) and both intervention (Group C). The fourth groups were control group (Group D) with no intervention.

EFFECT OF CHANGE:

The rejected specimens from the three groups decreased by 37%, that is, 27 cases (Jan - Apr 2018) compared from 43 (Jan - Apr 2017). Group D showed increase of five cases rejected specimens, 13 cases (Jan – Apr 2018) compared to 8 cases (Jan – Apr 2017). It was proven that both video presentation and hands-on training were effective in reducing the number of samples rejected.

THE NEXT STEP:

These measures will be continued to be implemented and continuous training will be provided on video presentation, hands-on and knowledge to increase level of confident in blood taking among nurses.

MARKET PLACE CATEGORY

MP-01

Reducing Percentage of Polypharmacy Error among Patients with Multiple Follow-Ups in Outpatient Pharmacy Department Hospital Banting

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Polypharmacy error (PE) leads to adverse drug reactions, hospitalisations and death. From a monthly census, 102 chronic patients visiting Outpatient Pharmacy Department (OPD) Hospital Banting (HB) had multiple prescriptions from multiple follow-ups (MFUs) and 38 had PE. There was admission recorded due to double dose of amlodipine received from different facilities.

KEY MEASURES FOR IMPROVEMENT:

The indicator is percentage of MFUs patients with PE in OPD HB. The standard was 15% based on Medication Safety Meeting.

PROCESS OF GATHERING INFORMATION:

A cross-sectional study using purposive sampling of OPD patients with MFUs was done. The contributing factors were identified using validated questionnaires to pharmacists, doctors and patients.

ANALYSIS AND INTERPRETATION:

43.2% of recruited patients (n=88) had PE. The main factors were inappropriate record of patients' medications (19%), poor doctors' knowledge (17%), confusion of medications from various facilities (15%), poor explanation from pharmacist on change of brand and strength of medications (12%) and ineffective counselling from pharmacist (12%).

STRATEGIES FOR CHANGE:

A pocket *Kad Farmasi* (KF) was introduced to ensure prescriptions were well-organised. Common polypharmacy list, change of medications brand catalogue, compilation of extended counselling checklist were also introduced. Educational video for patients, continuous pharmacy education and addition of MFUs stamp was introduced in Cycle 2.

EFFECT OF CHANGE:

PE was reduced to 29.5% (Cycle 1) and 19.3% (Cycle 2). Patients' awareness in bringing medication records increased from 25% to 53%. Pharmacists were more alert in screening prescriptions with MFUs (10.9% to 48%). KF's cost (45cents/card) outweighs medications wastage and multiple pharmacy cards (RM25, 988.20/year) cost. Doctors' and pharmacists' polypharmacy knowledge increased from 20% to 45.5% and 50% to 55% respectively. OPD counselling number increased by 180% and explanation regarding medication brands' changes increased (41.8% to 76%). Patients understanding increased from n=33 to n=42 scoring correct Dose, Frequency, Indication, Time.

THE NEXT STEP:

KF will be a compulsory card for chronic patients in HB and expanded to healthcare facilities in Kuala Langat.

MP-02

Reducing Food Wastage for Afternoon Tea Snacks among Therapeutic Diet Patients in Hospital Jempol

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Percentage of afternoon tea snacks finished by therapeutic diet patient at Hospital Jempol was the lowest, 50% compared to other meals. High levels of plate waste contribute to inadequate energy intake, malnutrition-related complications, and also financial costs. Estimated cost for foods wastage for afternoon tea was RM7500 per year.

KEY MEASURES FOR IMPROVEMENT:
To reduce food wastage for afternoon tea snacks among therapeutic diet patients in the ward (≤ 25%) and to increase intake (≥75%).

PROCESS OF GATHERING INFORMATION:
These 6 months cross-sectional study involved 378 therapeutic diet patients (diabetic and low salt) in medical and multidisciplinary wards Hospital Jempol who were conveniently sampled. Questionnaire on customer satisfaction was circulated to the patients.

ANALYSIS AND INTERPRETATION:
Mung bean porridge (10.8%), corn pudding (11.3%), wheat porridge (10.8%) and bread pudding (11.3%) showed the lowest acceptance. Taste (40.8%) and presentation of foods (34.6%) were the main contributing factors for unfinished snacks. The menu was modified to oat bun (13.1%), carrot doughnut (13.1%), curry puff potato bread (12.9%) and spinach muffin (12.2%). Modification of afternoon tea snacks reduced food wastage from 49.2% to 21.7% (reduced 27.5%).

STRATEGIES FOR CHANGE:
There are 8 cycle menus for afternoon tea comprises of different snacks. Snacks with the lowest percentage of acceptance was modified to be more attractive based on manual diet.

EFFECT OF CHANGE:
Increased snacks intake from 50.8% to 78.3% (target ≥75%). Patient satisfaction increased from (mean ± SD) 3.01 ± 0.59 to 3.40 ± 0.54. Modification of afternoon tea snacks increased snacks consumption, increase calorie intake and reduce cost wastage, RM4125 per year.

THE NEXT STEP:
The modified menu has been incorporated as the usual menu and the standard recipes were developed to be shared with other hospitals.

MP-03

Towards Minimising Incidence of Post-Operative Nausea and Vomiting after Spinal Anesthesia in Hospital Kemaman

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Post-Operative Nausea and Vomiting (PONV) is defined as nausea, retching and/or vomiting within 24-48 hours of surgery which occurs in up to 30% of the patients. It is a common problem encountered by patients following spinal anesthesia even with prophylaxis and treatment. Acupressure band was introduced as ~~a~~ low-cost prophylaxis of PONV and to be applied at P6 point before anesthesia. PONV may result in morbidity, delayed hospital discharge, unexpected hospital admission, and decreased patient satisfaction. The risk factors are divided into patient-related, anesthesia-related and surgery-related. Lack of pre-emptive prophylaxis could be the possible co-founding factor.

KEY MEASURES FOR IMPROVEMENT:

General Objective: To reduce the incidence of PONV after spinal anesthesia in Hospital Kemaman.
Specific Objectives:

1. To determine the incidence of PONV in spinal cases in Hospital Kemaman to prove the problem does exist.
2. To investigate the causes of the high incidence of PONV.
3. To identify and implement remediable measures.
4. To re-evaluate the effectiveness of the remediable measures.

PROCESS OF GATHERING INFORMATION:

Two sets of questionnaires were distributed to the patients in the operating theatre who received spinal anesthesia and for staff in the operation theatre during phase I, II and III.

ANALYSIS AND INTERPRETATION:

The incidence of PONV in Hospital Kemaman was 38% with the ABNA of 18%. Lack of prophylaxis was the main contributing factor.

STRATEGIES FOR CHANGE:

Remedial measures taken were the introduction of accupressure band, development of hospital protocol for PONV prophylaxis, emphasize on the usage of IV Dexamethasone as prophylaxis, distribution of pamphlet during the pre-operative assessment and department CME with all staff to improve knowledge.

EFFECT OF CHANGE:

Mark reduction in the incidence of PONV which was from 38% to 14.5%. Implementation of developed protocol worth RM 3,461.00 as compared to standard prophylaxis.

THE NEXT STEP:

To implement this approach in patients who undergo general anesthesia and to conduct comprehensive research to prove the efficacy and explore the other possible improvement of the modified measures.

MP-04

Increasing Percentage of Correct Intravenous Drug Administration in Medical Ward Hospital Kajang

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
In 2017, one case of intravenous drug administration error was reported in Hospital Kajang which cause very serious harm to the patient that required Intensive Care Unit (ICU) admission which leads to prolonged hospitalisation. This study aims to increase the correct percentage of IV administration in Medical Ward Hospital Kajang.

KEY MEASURES FOR IMPROVEMENT:
The indicator was the percentage of IV drug audited that was correctly administered in all medical ward in Hospital Kajang. The standard set was 100%.

PROCESS OF GATHERING INFORMATION:
An audit on IV drug administration was conducted in medical wards using structured observational audit form. A total of 65 trained staff nurses were interviewed on their knowledge and barriers to correctly administer IV drugs by using 10 -items content self-administered questionnaire.

ANALYSIS AND INTERPRETATION:
A total of 180 IV administrations were observed during the verification study. Only 53% of IV drugs were administered correctly. Meanwhile, for the incorrect IV administration, 92% was incompletely labelled, 74% was incorrectly prepared and 24% had an incorrect rate. The most common factors identified from Pareto analysis were the nurses used to follow the common practice, nurses unaware of the availability of IV drugs dilution protocol, incomplete labelling and no counterchecking during administration.

STRATEGIES FOR CHANGE:
We create a ‘MedFuse’, a summarised protocol adapted from *Jabatan Kesihatan Negeri Selangor* (JKNS) 2017 Dilution Protocol, which comes in a pocket-size. MedFuse which is attached with a keychain was distributed to all medical ward nurses for references. At the same time, we also distributed printed copy of JKNS 2017 Dilution Protocol as a comprehensive reference, created a new infusion label and modified medication chart. All the strategies were implemented together with awareness training activities.

EFFECT OF CHANGE:
Correct IV drugs administration improved from 53% to 91%.

THE NEXT STEP:
We will introduce a new pre-printed label and schedule audit on IV drug administration by Hospital Medication Safety Committee that will be carried out after the expansion of remedial measures to all wards in the hospital.

MP-05

E-Survey Form by Pantai Integrated Rehab

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Survey forms are conventionally used to obtain feedback from clients and can assist in driving quality improvement activity. Within Pantai Integrated Rehab (PIR) the paper feedback forms are currently stored in one location and are manually keyed into Microsoft Excel posing a risk of human error, along with time and resource wastage.

KEY MEASURES FOR IMPROVEMENT:
Reduce time keying in and analysing data by 50%, by April 2019.
Introduce across all PIR centres, by June 2019.

PROCESS OF GATHERING INFORMATION:
The comparison was made between the number of survey forms collected and analysis time using paper form, in January 2019, and e-form, in February 2019.

ANALYSIS AND INTERPRETATION:
In January, 24 paper survey forms were collected, with each form requiring 12 minutes on average, to complete the process of delivering and completing the form plus inputting the data. Compared with 80 electronic survey forms collected in February, taking 3 minutes to complete the form and no other additional time for transportation or keying in. There was also an environmental saving by not using paper.

STRATEGIES FOR CHANGE:
A standardised ECO-audit form was generated and links distributed to all centres. A video and electronic user manual were created with a WhatsApp troubleshooting group to provide feedback and assist in any matters arising.

EFFECT OF CHANGE:
Time-saving, increased number of forms collected and greater expression of opinions by clients.

THE NEXT STEP:
To review the compliance rate in Q3 and enhanced with technological advancement.

MP-06

Failure Modes and Effect Analysis on Myocardial Viability with Positron Emission Tomography-Computed Tomography in Imaging Centre, Institut Jantung Negara

Category of study: Hospital Specific Approach

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INTRODUCTION:
This study assesses the risks for patients undergoing Positron Emission Tomography-Computed Tomography (PET- CT) in assessing myocardial viability. We utilised Failure Modes and Effect Analysis (FMEA), a qualitative method that proactively identifies risks before they occur.

METHODOLOGY:
Detail process in PET-CT were identified. The potential failure modes, their causes and effects were identified. Each failure mode was scored between 1 to 10 for likelihood of occurrence, detection, and severity. A Risk Priority Number (RPN) is calculated based on the product of occurrence, severity and detection. Two with the highest score were chosen for process improvement: failure to identify claustrophobia/orthopnoea (RPN = 280) and wrong dose of insulin (RPN= 210). To reduce failure in identifying claustrophobia/orthopnoea, patients were screened. To prevent wrong dose of insulin, independent double checking, early screening for hypoglycaemia symptoms, procedure checklist were implemented. RPN was rescored after 3 months.

RESULT:
A total of 3 patients were included in 3 months. The likelihood of failure in identifying claustrophobia/orthopnoea was reduced from RPN 280 to 65 and wrong dose of insulin was reduced from RPN 210 to 105 respectively.

DISCUSSION:
Claustrophobia is a form of distress in patients undergoing imaging. This study demonstrates that screening for claustrophobia/orthopnoea using a pre-procedure checklist and education to patients can reduce the risk of failure to identify claustrophobia/orthopnoea. In cardiac viability PET-CT, oral glucose and intravenous insulin is utilized to improve radionuclide uptake in hibernating and normal myocardium. This study demonstrates early screening after insulin reduced the risk of wrong dose of insulin. The total number patients included were low because of new service.

CONCLUSION:
FMEA is an effective methodology in identifying potential for occurrences of high risk events. Risk Priority Number is rescored after every 3 months.

MP-07

Perspektif Baru ComBi (*Communication for Behavioural Impact*) untuk Mengurangkan Kepadatan Aedes di Lokaliti Kg Tanah Baru, Perlis

Category of study: District Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:
Kepadatan Aedes (AI) mempunyai hubungkait dengan transmisi denggi. Nilai AI yang tinggi menunjukkan risiko untuk berlaku transmisi denggi yang serius.

PENGUKURAN UTAMA PENAMBAHBAIKAN:
Pada tahun 2018, Kg. Tanah Baru merupakan lokaliti yang melaporkan wabak denggi dan kes sporadik yang berulang dengan bilangan kes tertinggi. Nilai AI yang direkodkan ialah 7.4%. Kajian ini bertujuan untuk mengurangkan kepadatan Aedes di Lokaliti Kg Tanah Baru kepada kurang daripada 1%.

PROSES PENGUMPULAN MAKLUMAT:
Kajian keratan rentas dijalankan bermula dari Januari hingga Mac 2019 untuk menilai Indeks Aedes dan mengenalpasti faktor penyumbang. Pengumpulan data menggunakan soalan kaji selidik meliputi bahagian pengetahuan, sikap dan amalan berkaitan pengurusan pembiakan Aedes. Perlaksanaan langkah penambahbaikan akan dijalankan mulai dari Jun 2019 hingga Ogos 2019. Indeks Aedes akan dinilai semula pada September 2019.

ANALISIS DAN INTERPRETASI:
Indeks Aedes sebelum langkah penambahbaikan ialah 15%. Faktor penyumbang yang dikenalpasti ialah tahap pengetahuan mengenai kelangsungan Aedes yang rendah, tiada amalan pengurusan sampah, sikap negatif komuniti untuk menjalankan penghapusan tempat pembiakan Aedes, tiada amalan penyelenggaraan tempat penyimpanan air, tiada amalan pemeriksaan kendiri dan tahap pengetahuan mengenai tempat pembiakan Aedes yang rendah. Nilai ABNA adalah 14%.

STRATEGI PENAMBAHBAIKAN:
Langkah pertama yang dirancang untuk penambahbaikan ialah meningkatkan amalan komuniti dengan melatih ketua komuniti mengikut bilangan rumah untuk memantau amalan. Seterusnya, mewujudkan garis panduan pemeriksaan Aedes untuk komuniti bagi amalan yang betul. Selain itu, membentuk sikap positif komuniti untuk menjalankan penghapusan tempat pembiakan Aedes dengan memberi pengiktirafan kepada penghuni rumah yang tiada pembiakan dan juga kepada ketua komuniti apabila 30% daripada jumlah rumah di bawah seliaan tiada pembiakan. Pengetahuan komuniti cuba ditingkatkan melalui aktiviti *Focal Group Discussion* sekurang-kurangnya sekali antara kakitangan dengan ketua komuniti.

KESAN PENAMBAHBAIKAN:
Tahap pengetahuan, sikap dan amalan komuniti dapat ditingkatkan untuk sentiasa menjaga persekitaran agar bebas Aedes sekaligus menurunkan Indeks Aedes ke paras <1%.

LANGKAH SETERUSNYA:
Penambahbaikan akan dikembangkan untuk 30% lokaliti ComBi (*Communication for Behavioural Impact*) dan lokaliti bermasalah denggi yang lain.

MP-08

Improving Waiting Time at the Outpatient Pharmacy in Hospital Segamat

Category of study: **Hospital Specific Approach**

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Our monthly data showed waiting time at the outpatient pharmacy was around 90% of the prescription dispensed within 30 minutes. Long waiting time can lead to failure to achieve the Key Performance Indicator (KPI) standard and patient dissatisfaction.

KEY MEASURES FOR IMPROVEMENT:

This study aimed to improve waiting time to the KPI standard of more than 95% of prescription dispensed within 30 minutes. Waiting time is defined as the time taken from upon receiving the prescription until the medicines are dispensed to the patient.

PROCESS OF GATHERING INFORMATION:

A cross-sectional study was conducted from April-May 2016 to identify the contributing factors that affect the long waiting time. A data collection form was used to record time upon receiving the prescription until the patient leaves the counter. Remedial actions were implemented from Jun-July 2016. Reevaluation of the problem was carried out from August-September 2016.

ANALYSIS AND INTERPRETATION:

Percentage of prescriptions dispensed within 30 minutes for pre remedial was 88.05% with ABNA 6.95%. Major contributing factors were identified include delay in labelling while transcribing into PHIS system (81.11%) and delay in dispensing (83.05%). The post remedial ABNA (ideal) was 4.44%.

STRATEGIES FOR CHANGE:

A rack with queue number partition was prepared for uncollected medicines and pre-packed value-added service (VAS) medications were tagged with serial number. A specific person was assigned to take charge of VAS registration and all the drive-through registration were registered at *Farmasi Pandu Lalu*. Patients with enquiries/long list medications were referred to pharmacist-in-charge of counselling to prevent slow down at the counter. Besides, the monthly schedule of staff deployment during peak hour was prepared. Moreover, one more PHIS computer was added for transcribing and labelling.

EFFECT OF CHANGE:

Percentage of the prescription dispensed within 30 minutes increased from 88.05% to 95.56%.

THE NEXT STEP:

There is a need for continuous monitoring of waiting time at outpatient pharmacy and to sustain the remedial measures.

MP-09

Improving Waiting Time for Magnetic Resonance Imaging on Appointment Day at Hospital Sultan Abdul Halim

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Waiting time refers to the time a patient waits before being seen by the medical staff. Long waiting time contributes to a range of public health issues such as rescheduling, interruption of work patterns and patient dissatisfaction.

KEY MEASURES FOR IMPROVEMENT:

In our setting, on appointment day patient had to wait for more than 3 hours before the MRI examination is being performed. Thus, a study was conducted to improve MRI waiting time for patient during appointment day.

PROCESS OF GATHERING INFORMATION:

This cross-sectional study was conducted from July to August 2017 to assess MRI waiting time. Questionnaire was distributed among staff and patient to identify factors affecting long waiting time. Data were collected from the Radiology Information System (RIS) and analysed using SPSS. Implementation of remedial measures was carried out from January to April 2018. Re-evaluation followed in March to April 2018.

ANALYSIS AND INTERPRETATION:

Result showed an improvement from 2.09 to 1.52 hours of average waiting time. Total number of patient who waited for more than 3 hours during appointment day was reduced from 26.5% to 20.7%. Factors contributing to the long waiting time were inability to follow appointment time, inadequate explanation from the staff regarding the examination, and patient compliance to the pre-procedure checklist.

STRATEGY FOR CHANGE:

Strict staggered hours appointment system was implemented. Cases on appointment day were streamlined by grouping them into simple and complex cases. MRI brochures were distributed to the patient to educate them regarding MRI procedure. The examination display board is made available to the patient on examination day.

EFFECTS OF CHANGE:

Total number of patients who wait for more than 3 hours was reduced to 20.7% with an average waiting time of about 1.36 hours following remedial measures. The ABNA was 10.7%.

THE NEXT STEP:

The average waiting time for MRI was reduced but there is still room for improvement in this study.

MP-10

Improving Percentage of Dental Case Completion among Antenatal Mothers in Jempol

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Antenatal mothers' primary dental health care begins from dental check-up to dental treatment completion. Upon successful completion, the dental caries rate will reduce and overall oral health status improves.

KEY MEASURES FOR IMPROVEMENT:

The percentage of antenatal mothers' case completion in Jempol from January to June 2017 was 38.%. This study aimed to achieve a higher case completion percentage to the District Specific Approach's standard of more than 55.0% in 2017 and 2018.

PROCESS OF GATHERING INFORMATION:

A cross-sectional study based on Health Information Management System data was conducted from January to June 2017 to assess the percentage of antenatal mothers' case completion. The intervention was carried out from July 2017 to December 2018 and the data were compared with the pre-intervention data.

ANALYSIS AND INTERPRETATION:

The pre-intervention case completion percentage was 38.66%. Significantly identified contributing risk factors include lack of oral healthcare awareness, dental treatment requiring X-ray or difficult teeth extraction, missed appointments, no follow-ups and lack of co-operation with medical officers. The ABNA was 16.34%.

STRATEGIES FOR CHANGE:

Antenatal follow-up table was given to each dental officer in Jempol to follow-up with the antenatal mothers' treatment plan progression. Antenatal mothers were reminded a day prior to their appointment date and were prioritised for multiple dental treatments in a single visit. A sticker was placed on their antenatal book upon case completion for doctors to identify and encourage incomplete dental treatments to completion.

EFFECT OF CHANGE:

Antenatal mothers' case completion has improved from 38.7% to 53.0% (2017) to 69.5% (2018) after intervention started.

THE NEXT STEP:

The sticker system will be implemented in other districts of Negeri Sembilan. New guideline for antenatal mothers' dental treatment plan formulation will be implemented for intervention in 2019 as the current 2004 guideline does not cover this section.

MP-11

Improving Percentage of Cerebral Palsy Patients Undergoing Hip Surveillance in Paediatric Rehab Clinic

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Hip displacement occurring in cerebral palsy (CP) patients are often missed and neglected from the necessary intervention. The percentage of CP undergoing hip surveillance in Paediatric Rehabilitation Clinic is low which is 21%. Hip surveillance is a screening method for early detection of hip subluxation and hip dislocation.

KEY MEASURES FOR IMPROVEMENT:

To increase the percentage of CP patients attending Paediatric Rehabilitation Clinic undergoing hip surveillance to 50%.

PROCESS OF GATHERING INFORMATION:

A 3-month retrospective study was done to verify the problem, followed by a 2-month pre-remedial study and a 3-month post-remedial study using patients' folders and formatted questionnaires. Data of x-ray interpretation and view quality, proper care plan, functional and clinical assessment were obtained through patient's folders while formatted questionnaires prepared are targeted to patients' parents regarding basic hip health understanding.

ANALYSIS AND INTERPRETATION:

Weaknesses found including low number of referrals from the Paediatric Neurology clinic, poor documentation, poor knowledge of doctors, poor radiological and clinical assessment, poor caregiver awareness and missing x-rays. Knowledge of rehab doctors is the most vital contributing factor showing as the highest factor improvement which is from 33% to 100%.

STRATEGIES FOR CHANGE:

Several strategies were implemented including forming a joint consensus with paediatric clinic so that all CP patients be referred to Paediatric Rehab clinic, adopting local recommendation and international established screening care plan, initiating new hip surveillance documentation form in our clinic, doing regular CME and hands-on teaching for rehab doctors, giving caregiver basic education regarding hip surveillance and initiating new x-ray filing system.

EFFECT OF CHANGE:

The incidence of hip surveillance improved from 29% to 83% which exceeded the target. All contributing factors show major improvement.

THE NEXT STEP:

We plan to expand the hip surveillance program in our visiting specialist clinics of periphery district hospitals, creating awareness among other doctors involved in the care of CP patients in order to initiate early hip surveillance. Furthermore, we are expecting to improve the outcome of hip surveillance program towards the health of our CP patients with collaboration with other centres initiating a proper national hip surveillance guideline.

MP-12

Ke Arah Pengurusan Penjagaan Luka yang Berkesan

Category of study: District Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Penjagaan luka merupakan perkhidmatan yang disediakan di Klinik Kesihatan Mengkibol untuk membantu proses penyembuhan luka. Walaubagaimanapun, perkhidmatan sebelum ini kurang efektif dan berkesan. Purata kehadiran pesakit ialah 30-40 orang sehari dan kadar penyembuhan luka mengambil masa lebih 5 bulan. Ini disebabkan anggota kesihatan kurang pengetahuan dan kemahiran tentang penjagaan luka moden. Kajian ini bertujuan untuk menurunkan kadar masa penyembuhan luka, mengurangkan kekerapan temujanji pesakit dan meningkatkan pengetahuan serta kemahiran anggota tentang penjagaan luka moden.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Indikator yang digunakan adalah mengurangkan jumlah temujanji pesakit, mempercepatkan masa penyembuhan luka dan meningkatkan pengetahuan anggota kesihatan.

PROSES PENGUMPULAN MAKLUMAT:

Audit dan penyeliaan penjagaan luka dimulakan pada Ogos 2016. Proses kerja penambahbaikan dijalankan bermula pada Oktober 2016 sehingga November 2017. Selepas proses penambahbaikan diimplementasikan, kajian pengetahuan anggota dijalankan dengan menggunakan borang soal selidik dan data mengenai keberkesanan dianalisa.

ANALISIS DAN INTERPRETASI:

Faktor yang menyumbang kepada penjagaan luka yang kurang berkesan ialah tiada proses kerja yang khusus, kekurangan pengetahuan dan kemahiran anggota kesihatan tentang penjagaan luka (60%) dan limitasi dari aspek infrastruktur, peralatan dan bahan penjagaan luka moden.

STRATEGI PENAMBAHBAIKAN:

Proses penambahbaikan dimulakan dengan penubuhan pasukan dan klinik penjagaan luka, memperkenalkan teknik penjagaan luka moden, mewujudkan proses kerja, carta alir, buku daftar, buku temujanji, borang penilaian luka, reten bulanan penjagaan luka dan audit serta menjalankan kursus penjagaan luka untuk anggota kesihatan.

KESAN PENAMBAHBAIKAN:

Purata kehadiran pesakit dapat diturunkan ke 25 orang sehari (71%) dan kadar proses penyembuhan luka dapat dipercepatkan ke 3 bulan (60%). Carta alir kerja, borang penilaian luka dan sistem temujanji pesakit yang telah dibangunkan telah membantu mempertingkatkan pengendalian penjagaan luka dengan lebih sistematik dan berkesan dan secara tidak langsung dapat mempercepatkan proses penyembuhan. Pengetahuan dan kemahiran anggota kesihatan meningkat dari 40% ke 70% selepas penambahbaikan dijalankan.

LANGKAH SETERUSNYA:

Perluasan inovasi perkhidmatan penjagaan luka moden telah dilaksanakan di semua klinik kesihatan di daerah Kluang, negeri Johor dan ianya digunapakai sebagai model di peringkat kementerian kesihatan.

MP-13
Dental Clinic Accreditation Programme

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INTRODUCTION:
The Dental Clinic Accreditation Standards were developed in collaboration between Ministry of Health (Oral Health Division), the Ministry of Defence (Dental Health Division) and professional organisations representing the dental profession from 2016 to 2017. The first dental clinic was surveyed in late 2018. The objective of the development of the standards is to ensure safe dental practice, patient safety and provision of high-quality services in dental clinics.

METHODOLOGY:
The Dental Clinic Standards contain eight (8) areas of concern which are Access to Care, Facilities and Equipment, Human Resource, Practice, Safety, Ethics, Clinical Governance and Quality Improvement Activities. Standards on Sedation in Dental Practice have also been included as addendum. Each of the standard contains mandatory items that need to be complied with. A dental clinic will be awarded A Four-Year Accreditation status if the dental clinic was found to be substantially comply with the MSQH Dental Clinic Standards over and above the compliance to all mandatory items. Secondly, a Dental Clinic that has achieved substantial compliance in all standards, but have not achieved compliance in all mandatory items or vice versa will be awarded Delayed Accreditation status.

RESULT:
Non-Accreditation is awarded to a Dental Clinic where mandatory items and a significant number of standards are not complied with. In year 2018, two private Dental Clinics had underwent the Dental Clinic Accreditation Survey. One was awarded Four Years Accreditation status and the other awarded a Delayed Accreditation status.

CONCLUSION:
The current MSQH Dental Clinic Accreditation Standards can be used to promote safer dental services nationally.

MP-14

Improving Delivery Time (Within 60 Minutes) for Perioperative Additional Packed Cells (Emergency Cross Match) of Cardiopulmonary Bypass Cases in Hospital Serdang

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Delayed transfusions associated with increased risk of morbidity and mortality and contributed by factors such as ordering related issues, ineffective communication, environmental related issues and no standardized workflow.

KEY MEASURES FOR IMPROVEMENT:
Six critical steps are identified, which are inform verbal ordering to cardiothoracic ICU (CICU), order for additional packed cells, send GXM sample and form to the blood bank, processing packed cell, collect the issued packed cell and send packed cell to requesting unit.

PROCESS OF GATHERING INFORMATION:
The study was done in 6-months time. Samples were taken from all additional request of perioperative packed cell (emergency crossmatch) in cases that underwent CPB. All cardiac and thoracic cases that underwent CPB and requires additional packed cell perioperatively were included. While requests for blood product and paediatric cases were excluded. Questionnaires and audit form were used to collect data.

ANALYSIS AND INTERPRETATION:
Total time taken in validation study was 79 minutes (standard is 60 minutes). The main contributing factors were ineffective communication, shortage of staff and order related issues.

STRATEGIES FOR CHANGE:
The ordering location was changed from CICU to the operation theatre. Monthly rosters of blood bank Medical Officer were provided. The "Red Tracker" on the manual ordering form and using sticker printer in OT were implemented. Standard Operating Procedure (SOP) was created and implemented in *Fail Meja*. CME for doctors and all the staff was carried out.

EFFECT OF CHANGE:
The total time taken for the additional packed cell requested perioperatively reduced to 60 minutes and achieved the standard.

THE NEXT STEP:
Using pneumatic tube to send sample and implement the SOP to the general anaesthesia's operation theatre.

MP-15

Development of MSQH Electronic Assessment Tool and Its Related Risk

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INTRODUCTION:

The MSQH Electronic Assessment Tool (My e-HAP) system was developed in house to facilitate the Hospital Accreditation Survey using the 5th Edition Hospital Accreditation Standards.

METHODOLOGY:

The study was conducted from April 2018 until April 2019 to identify risk factors associated with My e-HAP system. Feedback received from MSQH surveyors and hospital based quality coordinators were recorded by MSQH Information Technology personnel. Major risk factors were identified from the feedback and their prevalence recorded. Based on these prevalence, likelihood (qualitative judgement on how likely a risk factor could occur) was assigned by experts to each factor. Technical experts within MSQH were consulted to assess the impact (qualitative judgement on how serious the situation is if a risk factor occur) of each factor. Likelihood and Impact qualitative values assigned by experts were then converted into quantitative values as follows: Low = 1; Moderate = 2; High = 3. Risk scores were then calculated using the formula: Risk Score = Likelihood x Impact. The scores were translated back into qualitative risk value using ISQua risk matrix table.

RESULT:

A total of 54 reports were received from surveyors and hospital-based quality coordinators comprising 4 major risk factors: failure of IT system (n=25); human factor risk (n=18); design and implementation of My e-HAP (n=7); and risk of internal process (n=4).

CONCLUSION:

As conclusion, failure of IT system (server down, Internet inaccessibility) is the only critical risk factor in My e-HAP system and this risk gets immediate mitigation by MSQH IT for smooth running of the My e-HAP system.

MP-16

Enhancing Patient Safety Culture through Measurement, Engagement and Intervention: A Long-Term Quality Improvement and Research Project in KPJ Healthcare Hospitals

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INTRODUCTION:
We have planned and commenced a high impact low cost project to measure, diagnose, monitor and enhance patient safety culture (PSC) among our healthcare professionals (HCP) using the Safety Attitude Questionnaire (SAQ). We hypothesize that the mere implementation of this project and a derived PSC report card will stimulate PSC with or without intervention. The report card will be used as the instrument to communicate concepts of safety culture to frontline units. The project will be implemented over multiple Plan Do Study Act (PDSA) cycles.

METHODOLOGY:
The SAQ is used. It examines respondents' perceptions on six domains of safety culture, namely (a) teamwork climate (b) job satisfaction (c) perception of management (d) safety climate (e) working condition and (f) stress recognition. It is preferred over the AHRQ questionnaire (12 domains) as the fewer domains will facilitate understanding, reporting and 'buy-in' by all. The SAQ measures responses by using the 5-point Likert scale.

RESULT:
Focus groups: Original SAQ not well understood. Modified English and translated version better.
Survey responses: percentage of returns, 359 respondents and percentage of missing data per version (A=22%, B=12.5%, C = 20.7%)
Best version by Cronbach alpha and minimal missing data is modified English.
PSC scores: from the best questionnaire version: percentage with scores >= 4 (64.6%), mean (3.77)

DISCUSSION:
We conclude that the best version is the Modified English Version with least missing data and best Cronbach alpha. Confirmatory factor analysis will be performed to assess. This version of the questionnaire will be used in the next phases of our study.

CONCLUSION:
The initial results from this study shows the responses indicate good PSC perception and strength.

MP-17

Achievement of Accreditation Status of Stand-Alone Chronic Dialysis Treatment Centres in the MSQH Chronic Dialysis Treatment Accreditation Programme

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INTRODUCTION:
According to Private Healthcare Facilities and Services Act 1998, Regulations 2006, all stand-alone chronic dialysis treatment centres were required to be registered with the Ministry of Health. This initiated the development of standards for chronic dialysis treatment centres in 2012 where the first stand-alone dialysis centre was accredited in 2014. The objective of the study is to analyse the compliance to MSQH Chronic Dialysis Treatment Standards in Malaysian accredited stand-alone dialysis centres from year 2014 to April 2019.

METHODOLOGY:
A retrospective study was conducted on the performance of Chronic Dialysis Treatment Standards in Malaysian accredited stand-alone dialysis centres from year 2014 to April 2019 using the 1st and 2nd edition Chronic Dialysis Treatment Standards. A comparison of accreditation status awarded to stand-alone chronic dialysis treatment centres using the 1st and 2nd Edition Chronic Dialysis Treatment Standards was studied.

RESULT:
Out of 27 surveys, 23 surveys (85.2%) achieved 4 years accreditation, 4 surveys (14.8%) received delayed accreditation. A total of 11 surveys subscribed with the 1st Edition Chronic Dialysis Treatment Standards; 8 surveys (72.7%) achieved 4 years accreditation and 3 surveys (27.3%) received delayed accreditation. In the 2nd Edition, 15 surveys (93.8%) achieved a 4 years accreditation and only 1 survey (6.2%) received delayed accreditation.

DISCUSSION:
More than 85% of the dialysis centres that underwent the survey, achieved a 4 years accreditation status. The compliance of dialysis centres to the Chronic Dialysis Treatment standards also showed improvement between the 1st and 2nd Edition Chronic Dialysis Treatment Standards.

CONCLUSION:
This indicates increasing trends of stand-alone chronic dialysis treatment centres subscribing to the MSQH chronic dialysis treatment accreditation standards, thus improving the quality of care received by chronic dialysis patients.

MP-18

Increasing Percentage of End Stage Renal Failure Patients Who Achieve Normal Albumin Serum Level> 40g/L in Hemodialysis Unit Parit Buntar Hospital

Category of study: Hospital Specific Approach

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Hospital Parit Buntar, Perak

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Percentage of patients with End Stage Renal Failure (ESRF) who achieve normal serum albumin> 40g/L was low in HDU Hospital Parit Buntar (HPB).

KEY MEASURES FOR IMPROVEMENT:

More than 60% of dialysis patients receiving dialysis treatment at HPB were identified with serum Albumin less than 40 g/L and these did not reach the standard target set by the MOH Malaysia which is more than 75% based on Clinical Practice Guideline (CPG) Renal Replacement Therapy. Achieving optimum albumin level is important in preventing a medical problem like acute pulmonary oedema, generalised oedema and infection or admission for haemodialysis (HD) patients.

PROCESS OF GATHERING INFORMATION:

Cumulative data collection assessment of 34 HD patients from 2015 to 2016 was conducted. This cross-sectional retrospective study was conducted over 24 months, involving three phases: i) problem identification, ii) improvement and iii) analysis of the improvement effect.

ANALYSIS AND INTERPRETATION:

The cause-effect analysis showed that patient did not consume high protein diet continuously, lack of knowledge among staffs and patients, patient's language limitation, lack of counselling by HD and nutritionist staff and lack of regular monitoring due to limited knowledge were the main reasons.

STRATEGIES FOR CHANGE:

Education programme among staff on the importance of albumin level in regular HD patient, distribution of pamphlet in three main languages (Malay, Mandarin and Tamil), Nutrition Day Program Protein, regular nutritionist counselling, and specific monitoring in the HD Unit with Albumin Checklist in each BHT were implemented.

EFFECT OF CHANGE:

Results showed improvement with an increment of ESRD patients who achieved serum albumin > 40 g/L to 85.7% from the initial 60%. These results was sustained until 2018 with consistent interventions.

THE NEXT STEP:

Methods of improvement have to be continued and periodic monitoring should be done continuously to maintain the result.

MP-19

Measuring Patient Safety Culture in KPJ Johor Specialist Hospital

Category of study: Hospital Specific Approach

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INTRODUCTION:
Improving the culture of safety within healthcare is an essential component to improve overall health care quality.

METHODOLOGY:
To measure the patient safety culture, 12 subcultures of patient safety culture were identified: (a) Management support for patient safety, (b) Teamwork across units, (c) Handoff and transitions, (d) Teamwork with units, (e) Supervisor/manager expectations and actions promoting patient safety, (f) Organisation learning -continuous improvement, (g) Feedback and communication about error, (h) Communication openness, (i) Staffing, (j) Nonpunitive response to error, (k) Frequency of events reported, and (l) Overall perceptions of patient safety.

Online survey form was distributed via WhatsApp application to the staff to get their feedback.

RESULT:
Descriptive analysis of the patient safety culture survey showed that:

a) Management support for patient safety (62.9%)
b) Teamwork across units (54%)
c) Handoff and transitions (26.1%)
d) Teamwork with units (68.7%)
e) Supervisor/manager expectations and actions promoting patient safety (51.4%)
f) Organisation learning - continuous improvement (75.4%)
g) Feedback and communication about error (64.9%)
h) Communication openness (47.1%)
i) Staffing (21.2%)
j) No punitive response to error (15.5%)
k) Frequency of events reported (51.7%)
l) Overall perceptions of patient safety (48.5%)

DISCUSSION:
To mature as a high reliability organisation, such foundational work includes developing a leadership commitment to zero-harm goals, establishing a positive safety culture, and instituting a robust process will improvement patient safety culture. Yearly survey is to be conducted as to re-measure and to monitor the improvement and trend of patient safety culture amongst the KPJ Johor Specialist Hospital's staff.

MP-20

Comparison of Voting for Accreditation Status between MSQH Survey Team and MCHS Councillors in the MSQH Hospital Accreditation Program from 2013 to 2018

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INTRODUCTION:

The accreditation status of a healthcare facility undergoing MSQH Hospital Accreditation Program is decided through a two tier impartial voting system which is the peer review process based on the overall performance of the healthcare facility in reference to the qualitative assessment and the impact on patient and staff safety within the healthcare facility.

METHODOLOGY:

A panel of three Councillors from the Malaysian Council of Healthcare Standards (MCHS) then independently reviews the survey report without knowing the name of the facility. The aggregated score for the accreditation status by both the survey team and the MCHS council members is based on a scale of 1-30:- whereby Non Accreditation is within 0 to 9, One Year Accreditation is within 10-19 and Four Year Accreditation is within 20 to 30. The objective of this study is to analyse the variation of the voting score for accreditation status between the MSQH Survey Team and the MCHS Councillors.

RESULT:

There were 145 healthcare facilities surveyed from 2013 until 2018. The finding showed that 35.17% (51) of councillors' ratings agree with ratings suggested by the survey teams. About 30.34 % (44) of healthcare facilities where the councillors downgraded the survey team's voting by 1 point, 2 points (15.86%), 3 points (5.52%) and 4 points (3.45%). Only one (0.69%) healthcare facility was upgraded by 2 points by the councillors. None of the healthcare facilities were upgraded by 3 points and 4 points by the councillors. The percentage of variation between -1 point and 1 point are 74.48%.

CONCLUSION:

In conclusion, the two tier assessment (survey team and councillor) ensures the decision making process for conferment of the accreditation award is done in a fair and impartial manner. Further analysis will be applied to see whether this variation is statistically significant.

MP-21

Mengurangkan Kejadian *Oral Medication Error* di Kalangan Jururawat di Wad Perubatan Am Hospital Tawau

Category of study: Hospital Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Pemberian ubat yang selamat adalah salah satu komponen utama dalam keselamatan pesakit. Kejadian *oral medication error* boleh mengakibatkan morbiditi dan mortaliti kepada pesakit. Sebanyak sembilan insiden *medication error* dan dua daripadanya adalah *oral medication error* yang dilaporkan oleh Jabatan Farmasi Hospital Tawau pada tahun 2011. Kajian ini bertujuan untuk mengenalpasti faktor penyumbang kepada kejadian *oral medication error* di Wad Perubatan Am Hospital Tawau.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Objektif umum adalah untuk mengurangkan insiden *oral medication error* oleh jururawat. Standard yang ditetapkan adalah sifar insiden.

PROSES PENGUMPULAN MAKLUMAT:

Satu kajian keratan rentas telah dijalankan pada 2 hingga 14 Mac 2012. Seramai 43 orang jururawat yang bekerja di Wad Perubatan Am Hospital Tawau telah diberikan borang soal selidik berkaitan pengalaman, pengetahuan dan praktis. Sebanyak 226 pemerhatian sebelum dan 232 pemerhatian selepas penambahbaikan telah diambil menggunakan senarai semak mengikut prinsip *6 Rights* (6R) semasa pemberian ubat oral.

ANALISIS DAN INTERPRETASI:

Kesemua jururawat menyatakan terdapat gangguan semasa pemberian ubat oral dan tidak mempunyai pocketbook. 18 orang (41.9%) menjawab dengan salah berkenaan prinsip 6R, 12 orang (27.9%) jururawat tidak pernah menghadiri sebarang ceramah berkaitan ubatan, dan hanya 11 orang (25.6%) jururawat menjawab semua soalan dengan betul berkaitan singkatan dan simbol. Melalui pemerhatian menggunakan senarai semak pula, 4 orang tidak patuh pada right time dan 5 orang pula tidak patuh pada right documentation.

STRATEGI PENAMBAHBAIKAN:

Beberapa strategi penambahbaikan telah dilaksanakan iaitu: mengadakan sesi ceramah, pemberian *Pocket Book*, pemantauan berkala oleh Ketua Jururawat, *bedside teaching*, menggunakan *medication nurse vest* dan *alarm clock*.

KESAN PENAMBAHBAIKAN:

Selepas implementasi penambahbaikan dilakukan, *oral medication error* menurun daripada sembilan insiden kepada sifar insiden.

LANGKAH SETERUSNYA:

Aplikasikan strategi penambahbaikan ke wad lain dan dipraktikkan secara berterusan untuk mencapai standard iaitu sifar insiden.

MP-22

Increasing Percentage of Scheduled Follow-Up Counselling in *Farmasi Klinik Pakar*

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Lack of scheduled follow-up counselling may lead to medication non-adherence and therapeutic failure.

KEY MEASURES FOR IMPROVEMENT:
The objective is to increase scheduled follow-up counselling from 0% to 80%.

PROCESS OF GATHERING INFORMATION:
The pre-remedial phase was carried out from 1/7/017-31/7/2017, remedial phase 1/10/2017-28/2/2018 whereas post remedial study was 15/3/2018-15/4/2018 and 15/6/2018-15/7/2018. All patients who are newly on the device, non-compliance, poor understanding and poor technique were recruited through universal sampling.

ANALYSIS AND INTERPRETATION:
Only 7.4% of patients had scheduled follow-up counselling. The contributing factors were unable to determine patient's need for follow-up counselling (74.5%), unaware of procedures (15.4%), patient refused for counselling (1.6%) and fail to identify (1%). ABNA was 72.6%.

STRATEGIES FOR CHANGE:
New guidelines and SOP of follow-up counselling were created to guide on patient selection and scheduling a follow-up counselling. Patients will be counselled while waiting for their medications. This can reduces their refusal due to long waiting time. Counselling Appointment Tag (Kit CAT), reminder card and tagging in PhIS were developed to ease the identification process. A new checklist was designed to ensure all the procedures are completed.

EFFECT OF CHANGE:
Numbers of follow-up counselling increased to 66% and 74.4% in post-1 and post-2 cycles respectively. All contributing factors were reduced post interventions 1 and 2; unaware of procedure (4.3%, 9.8%), pharmacists unable to determine patients' need (12.8%, 8%), patients' refusal (0.9%, 0%), fail to identify prescription (8.1%, 3.6%), defaulter (from 7.2%, 3.6%) and patient did not come in person (from 0.9%, 0.4%). ABNA was reduced to 14% and 5.3%.

THE NEXT STEP:
We plan to carry out the study on therapeutic effectiveness and expand the practise to other facilities.

MP-23

Reducing Percentage of Post Lower Segment Caesarean Section Wound Breakdown in Department Obstetrics & Gynaecology Hospital Kuala Lipis

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Lower Segment Caesarean Section (LSCS) is common procedure in the practice of modern obstetrics. Surgical site infection is a known complication. A tremendously increment in the prevalence of LSCS wound breakdown had been observed in Obstetrics & Gynaecology (O&G) Department, Hospital Kuala Lipis since 2016: 1.8%, 2017: 4.2%, 2018: 8.4%. This study intended to verify the incidence rate of LSCS wound breakdown and to identify the factors that contribute to the LSCS wound breakdown.

KEY MEASURES FOR IMPROVEMENT:

We set a standard of LSCS wound breakdown at 1.9%

PROCESS OF GATHERING INFORMATION:

A universal sampling study was carried out from November 2017 to March 2018 on post LSCS patients in Hospital Kuala Lipis using a set of questionnaires. Implementation of remedial measures was conducted from April 2018 to August 2018 and data was collected. Data analysed using SPSS Version 21.0.

ANALYSIS AND INTERPRETATION:

A total of 20 patients with LSCS wound breakdown were seen among 253 post LSCS patients within the pre-remedial study period (November 2017 to March 2018), yielding an incidence rate of 7.9%. The following factors were found significant: lack of wound care knowledge among post LSCS patient, patients with co-morbidities, operations performed under emergency setting, inadequate exposure of surgeon in operational technique and the usage of unfractionated heparin post LSCS.

STRATEGIES FOR CHANGE:

Various amendments have been introduced which include providing wound care education by trained medical personal via information notes, LSCS training modules, empower on the correct procedure technique, maintenance of wound dressing over the incision for at least > 48 hours, and usage of low molecular weight heparin in high-risk patients.

EFFECT OF CHANGE:

The incidence of LSCS wound breakdown in O&G Department, Hospital Kuala Lipis had successfully reduced from 7.9% to 4.7% after implementation of the remedial measures.

THE NEXT STEP:

Continuous education and creating awareness on wound care should be emphasised among patient and health care providers.

MP-24

Reducing Percentage of Patient Fall in Medical Ward Hospital Taiping to Less Than 10% from Previous Year

Category of study: Hospital Specific Approach

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Nursing Unit, Hospital Taiping, Perak

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Incidence of patient fall may lead to increase the morbidity and mortality, increase health care cost, prolonged hospital stays and decreased quality of patient care. Data from the unit Quality in 2015 showed that 15 cases of patient fall in Medical Ward were reported compared to 8 cases in 2014.

KEY MEASURES FOR IMPROVEMENT:

Our study aims to reduce the percentage of patients fall in Medical ward Hospital Taiping to less than 10% from the previous year. The standard was set from Malaysian Patient Safety Goal (MPSG).

PROCESS OF GATHERING INFORMATION:

It was a cross-sectional study and conducted in three phases. In July 2016, pre-intervention phase was done to collect data. Intervention phase was conducted in July-August 2016, whereby remedial measures were implemented followed by data collection during the post-intervention phase in Oct-Dec 2016. 70 samples were taken from seven Medical wards. Data collection tools were The Patient Potential Fall Audit Checklist.

ANALYSIS AND INTERPRETATION:

Pre-remedial study showed that lack of observation among nurses at the ward, non-adherence to PPJ management, patient and facility factors were identified as contributing factors to this problem.

STRATEGIES FOR CHANGE:

Several remedial measures were implemented such as Patient Fall Prevention Protocol, CNE on fall prevention, bed site teaching, educate patient on fall prevention, provide call bell, ensure good lighting provide side railing in toilet and work request for bed site railing.

EFFECT OF CHANGE:

The incidence of patient fall in the medical unit was reduced to 10% from the previous year. We have managed to raise awareness among staff in reducing the incidence of patient fall in medical wards.

THE NEXT STEP:

The fall prevention strategies can be introduced to other department.

MP-25

Meningkatkan Peratusan Pengendalian Kes Asma Mengikut Pengurusan Asma Wajar di Klinik Kesihatan Bintulu

Category of study: District Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:
Pencapaian peratusan pengendalian kes asma mengikut pengurusan asma wajar adalah merupakan salah satu *Key Performance Indicator* (KPI) yang dipantau di peringkat kebangsaan untuk setiap klinik kesihatan yang mempunyai pegawai perubatan. Pencapaian pengurusan asma wajar di Klinik Kesihatan Bintulu adalah sebanyak 17.3% pada tahun 2016 dan pencapaian ini adalah di bawah piawaian nasional iaitu melebihi 90%.

PENGUKURAN UTAMA PENAMBAHBAIKAN:
Pengukuran utama adalah melibatkan peratusan kes asma yang mendapat markah penuh Asma Wajar 6/6 dari pesakit asma yang berdaftar di Klinik Kesihatan Bintulu.

PROSES PENGUMPULAN MAKLUMAT:
Projek ini dilaksanakan dari Oktober 2016 hingga April 2017. Kajian pra dan pasca intervensi melibatkan penilaian 178 sampel rekod pesakit dan agihan borang soalselidik di kalangan anggota kesihatan pelbagai kategori iaitu Pegawai Perubatan (22), Pegawai Farmasi (10) dan paramedik (18). Audit pengurusan pesakit asma mengikut *Model of Good Care* (MOGC) turut dijalankan. Manakala proses menilai pengetahuan pesakit berkaitan asma dilakukan dengan agihan borang soalselidik yang melibatkan 178 pesakit pre dan pascaintervensi.

ANALISIS DAN INTERPRETASI:
Hasil dari kajian pre-intervensi, didapati faktor utama yang menyumbang kepada peratus pencapaian pengurusan asma wajar adalah kurang pengetahuan dikalangan pesakit berkaitan penyakit asma, dokumentasi yang tidak lengkap dalam rekod pesakit asma, pengurusan asma yang dilakukan tidak mematuhi garispanduan *Global Initiative in Asthma* (GINA) dan MOGC.

STRATEGI PENAMBAHBAIKAN:
Intervensi dilaksanakan bermula dari Januari 2017 sehingga April 2017. Intervensi untuk pesakit adalah pemberian risalah, kaunseling individu dan pendidikan secara berkumpulan berkaitan kawalan penyakit asma. Latihan pengurusan kes dan dokumentasi untuk anggota kesihatan telah dijalankan. Inovasi telah dibuat dengan mewujudkan senarai semak rawatan susulan pesakit asma dan normogram untuk memudahkan penilaian dan rawatan oleh pegawai perubatan. Selain itu, menambahbaik sistem temujanji dan audit pengurusan kes secara berkala juga dilaksanakan.

KESAN PENAMBAHBAIKAN:
Kajian pasca intervensi menunjukkan peningkatan yang ketara dari segi penilaian kawalan asma dan pengurusan pesakit yang mematuhi garispanduan GINA. Jurang ABNA telah berjaya dikurangkan daripada 71.6% kepada 14.2% pada Kitaran Pertama (2017) dan telah mencapai standard kualiti melebihi 90% selepas Kitaran Kedua (2018).

LANGKAH SETERUSNYA:
Penyeragaman penggunaan senarai semak dan normogram digunapakai di semua klinik di Bahagian Bintulu. Audit klinikal secara berkala perlu dijalankan untuk pemantauan berterusan dan seterusnya sasaran piawaian nasional dapat dikekalkan.

MP-26

Mengurangkan Kes Kelewatan Pesakit Discaj dari Wad Pembedahan Perempuan

Category of study: Hospital Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Mengikut piagam pelanggan, masa pesakit didiscaj adalah dalam masa 2 jam selepas pemberitahuan oleh Pegawai Perubatan. Kajian ini bertujuan untuk mengenalpasti faktor yang menyumbang kepada kelewatan pesakit didiscaj melebihi dua jam di Wad Pembedahan Perempuan Hospital Tawau.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Indikator kajian adalah peratus pesakit discaj kurang dari dua jam mestilah melebihi dari 85%.

PROSES PENGUMPULAN MAKLUMAT:

Satu kajian dijalankan pada 1hb Jun 2010 hingga 10 Jun 2010 dengan subjek kajian seramai 109 pesakit. Maklumat diperoleh melalui borang kaji selidik yang dijawab oleh Jururawat Masyarakat (terlibat dalam pengendalian proses discaj).

ANALISIS DAN INTERPRETASI:

Peratus pesakit yang didiscaj dari Wad Pembedahan Perempuan dalam masa dua jam adalah 31.2%. Faktor penyumbang masalah ini adalah ringkasan discaj yang lambat disiapkan (76%), ubat yang lewat didispen (76%) dan ubat Kategori A yang lambat ditandatangani oleh Pakar (66%).

STRATEGI PENAMBAHBAIKAN:

Bagi mengatasi masalah ini, langkah penambahbaikan yang dicadangkan untuk dilaksanakan ialah mengubahsuai format ringkasan discaj, tandatangan Pakar bagi ubat Kategori A boleh diperolehi kemudian dan Pegawai Farmasi mesti mendahulukan kerja mendispen ubat pesakit yang discaj.

KESAN PENAMBAHBAIKAN:

Selepas implementasi penambahbaikan dilakukan, jumlah pesakit yang didiscaj dalam masa dua jam meningkatkan kepada 52%.

LANGKAH SETERUSNYA:

Dengan peningkatan yang diperolehi dari 31.2% kepada 52%, kami bercadang untuk mengaplikasikan langkah penambahbaikan dalam amalam kerja harian dan dilakukan secara berterusan di wad lain untuk meningkatkan kepuasan hati pelanggan dan mengurangkan aduan.

MP-27

Towards Achieving Optimal Management of Chronic Obstructive Pulmonary Disease Patients in Klinik Kesihatan Tanglin

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Based on Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2019 it has come to our attention that many aspects of the management and diagnosis of Chronic Obstructive Pulmonary Disease (COPD) had changed. Majority of referral cases to Klinik Kesihatan Tanglin are given Inhaled Corticosteroids. There is also polypharmacy of medication although it is unnecessary.

KEY MEASURES FOR IMPROVEMENT:

The indicators to be used are based on the diagnosis and management of COPD in accordance with GOLD 2019. Stage of the disease will be classified using CAT score and nMMRc Score and the use of spirometer to assist the accurate diagnosis will be assessed.

PROCESS OF GATHERING INFORMATION:

A study will be carried out from April 2019 to September 2019 for all patients with COPD in Klinik Kesihatan Tanglin. The data will be then tabulated in Microsoft Excel spreadsheet to be analysed.

ANALYSIS AND INTERPRETATION:

Data collection process still ongoing. Poor availability of spirometer is one of the possible factors.

STRATEGIES FOR CHANGE:

This study is still in progress. We hope to improve the understanding of the health care providers on CAT/nMMRc score sheets for every consultation and to get the spirometer functional and calibrated.

EFFECT OF CHANGE:

Once our study has been completed, we would like to assess the number of patients that benefited from the use of optimal management based on classification and management of the COPD as well as to reduce the unnecessary polypharmacy.

MP-28

Improving Compliance Rate towards Oral Nutritional Supplement Prescription among Patients in Female Orthopedic Ward

Category of study: Hospital Specific Approach

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[2]*Female Orthopedic Ward, Hospital Pulau Pinang, Pulau Pinang*

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Oral Nutritional Supplements (ONS) was prescribed to patients who have difficulty in getting sufficient food to meet the dietary needs from solid food. However, based on the verification study that was conducted from September to November 2017, the compliance rate to ONS prescription in female orthopaedic ward in Penang General Hospital was only 53%. Poor compliance with ONS will subsequently lead to malnutrition and ONS wastage.

KEY MEASURES FOR IMPROVEMENT:

Indicator of this study was the percentage of patients who complied with ONS prescription in the female orthopaedic ward. The standard was set at 100%.

PROCESS OF GATHERING INFORMATION:

This study was conducted using universal sampling technique in two phases: pre-remedial phase (December 2017 – February 2018) and post remedial phase (May - July 2018). Data collection form was used to collect data regarding availability of ONS for patients, whether the feeding regimen was being followed, preparation of ONS and patients' tolerance to ONS.

ANALYSIS AND INTERPRETATION:

Pre-remedial measures result (December 2017 to February 2018) showed that only 43% of the patients complied with the ONS prescription. The main factors identified were lack of assistance in preparing ONS, patients did not receive ONS, feeding regimen was not being followed and poor tolerance to ONS.

STRATEGIES FOR CHANGE:

Remedial measures that have been implemented were the introduction of ONS tagging system and the use of Ready-to-Drink (RTD) formulas to the patients who faced difficulty in preparing ONS.

EFFECT OF CHANGE:

Remedial measures taken were able to improve patients' compliance rate to ONS prescription from 43% to 82%. Achievable Benefit Not Achieved (ABNA) has reduced from 57% to 18%.

THE NEXT STEP:

The next step is to empower patients' awareness of the importance to follow the correct feeding regimen. Current remedial measures need to be strengthened.

MP-29

Compliance of Medical Clinics to MSQH Medical Clinic Accreditation Standards from 2011 to 2018

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INTRODUCTION:
The MSQH Medical Clinic Accreditation Programme serves to ensure safe medical practice, patient safety and quality services in medical clinics in Malaysia. This study attempts to analyse the level of compliance to MSQH Standards for Medical Clinics in accredited medical clinics in Malaysia and identify the areas for improvement and overcome the challenges on low participation in Medical Clinic Accreditation Programme among medical clinic practitioners. The objective of the study is to determine the level of compliance with Medical Clinic Standards in the Medical Clinic Accreditation Programme.

METHODOLOGY:
A total of 19 surveys were conducted during the period of study. A retrospective study was conducted on the level of performance of accredited clinics to the Medical Clinic Standards from year 2011 to 2018. There are six standards in the set of Medical Clinic; these are Access to Care, Practice, Human Resource, Safety, Ethical Practice and Quality Improvement Activities. Each of the standards has set criteria for compliance. The performance ratings for each criterion in the six (6) standards were derived from survey reports from year 2011 to 2018.

RESULT:
There are four compliance ratings namely Substantial Compliance (80% to 100% compliance), Partial Compliance (50% to 79% Compliance), Non-Compliance (below 49% compliance) and Not Applicable. The results on performance of the medical clinics in the first five (5) standards indicated that above 90% of the criteria in these standards achieved Substantial Compliance except for Quality Improvement Activities (89.1%). 100% of the criteria in the standard on Human Resource were complied with by all medical clinics surveyed, Access to Care (96.1%), Practice (94.5%), Safety (96.1%), Ethical Practice (93.9%).

DISCUSSION:
However, compliance in Quality Improvement Activities (89.1%) is slightly lower compared with other standards with 10.9% of Partial Compliance.

CONCLUSION:
It can be concluded that the accredited medical clinics had shown good compliance to the Medical Clinic Standards. However, there are some areas identified for further improvement particularly on Quality Improvement Activities, Practice and Ethical Practice. The accredited medical clinics are able to comply with most of the standards set. Hence, all medical clinics in Malaysia are encouraged to subscribe to the above standards to promote better gate-keeping in the primary healthcare system.

MP-30

Increasing Percentage of 12 Year-Old School Children with Gingivitis-Free Mouth at Sek. Keb. Pangkal Meleret in Machang District

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Gingivitis-Free Mouth (MBG) at Sek Keb Pangkal Meleret (SKPM) is low compared to other primary school based on the Health Management Information System (HMIS) data in 2014. It is also decreasing from 59% in 2014 to 49.9% in 2015. Aim of this project is to increase the percentage of 12 year-old school children with MBG at SKPM in Machang district from 49.9 % to 70 % within a year.

KEY MEASURES FOR IMPROVEMENT:
The percentage of 12 year-old school children with MBG with a standard of 70%.

PROCESS OF GATHERING INFORMATION:
A cross-sectional study was conducted from March 2016 until May 2017. Clinical examination to 68 students of 12 years-old children at SKPM done during annual dental school check-up to identify the student with MBG. All the students (n=68) and 47 parents were given the questionnaire to identify their knowledge, attitude and practice toward oral health care. Gingival Index Score (GIS) is used to recognize student's gingival health status.

ANALYSIS AND INTERPRETATION:
Poor oral hygiene due to lack of awareness, knowledge and attitude among students and parents are the major factors contributing to the low percentage of MBG at SKPM.

STRATEGIES FOR CHANGE:
A talk was given to students and parents, tooth brushing drill (LMG) was conducted by dental nurses to students and *Doktor Muda* was trained to do an oral check-up to standard 6 students.

EFFECT OF CHANGE:
There is an increase in knowledge, practice and attitudes based on the post questionnaire given. The percentage of students brushing their teeth twice daily had increased from 41% to 65%. Percentage of parent brings their children for dental check-up had increased from 30% to 44%. The percentage of the gingivitis-free mouth at SKPM showed an increasing trend from 49.9% (2015) to 58.7% (2018).

THE NEXT STEP:
Continuous monitoring of remedial action and planning another dental promotion program to ensure achievement of DSA standard.

MP-31

ECO (Energy-saving COst effectiveness) Audit by Pantai Integrated Rehabilitation

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

As part of Pantai Integrated Rehabilitation's (PIR) strive for quality and ensure legal requirements, all clinical staff participate in an open chart review, auditing 12 notes every quarter. This is completed using paper copies kept in the rehabilitation department, situated in a different block to the wards and manually keying in the data. This process has never been reviewed and appears to have significant wastage of clinicians' time and resources.

KEY MEASURES FOR IMPROVEMENT:

Reduce time spent by 50%, enhancing clinical time, by April 2019.
Introduce across all PIR centres, by June 2019.

PROCESS OF GATHERING INFORMATION:

A pilot study consisting of 16 therapists was performed in the rehabilitation department of Pantai Hospital Kuala Lumpur (PHKL) using process mapping and measuring time spent using paper copies compared with the electronic method, during February/March 2019.

ANALYSIS AND INTERPRETATION:

Therapists spent, on average, 13 minutes using hardcopy compared with 3 minutes for ECO-Audit. Therefore, based on 131 therapists across PIR, 341 hours were wasted each quarter. However, with the implementation of ECO-audit, the time reduces 77%, allowing an additional 262 clinical hours.

STRATEGIES FOR CHANGE:

A standardised ECO-audit form was generated and links distributed to all centres. A video and electronic user manual were created with a Whatsapp troubleshooting group to provide feedback and assist in any matters arising.

EFFECT OF CHANGE:

Process efficiency allowing greater clinical time.

THE NEXT STEP:

To integrate into PIR's policy.
To review compliance rate in Q3 and enhance with technological advancement.

MP-32

Medical Record Tracking System

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Frequent incidences where medical record files were misplaced and delay in retrieval of medical record files to clinics leading to long waiting time for outpatients.

KEY MEASURES FOR IMPROVEMENT:

To achieve at least 80% requests of medical folders are delivered within 15 minutes and 0% for delivery request more than 60 min.

PROCESS OF GATHERING INFORMATION:

A cross-sectional study was conducted from January 2019 – February 2019 to measure the requested medical folder time by Clinic Assistance and the acknowledgment time by medical record staff to acknowledge the notification and delivered the medical folder to clinics.

ANALYSIS AND INTERPRETATION:

Pre-remedial findings found that 2%-6% folder is not found as the folder has been transferred to the ward or rehab department without medical record staff acknowledgment and only 15% folder manage to be delivered to the clinic within 15 minutes due to lack of porter.

STRATEGIES FOR CHANGE:

Medical Record Tracking System was introduced from February to April 2019. Tracking system give notification when the medical record department received request from Clinic Assistance, and when medical record staff click the "acknowledge" button, the time to deliver the records are counted within 15 minutes until the medical records reach the clinic and the clinic assistants will click received upon request.

- Automation of medical record process flows using Fisicien system, from file request by clinic assistants in Medical Office Building (MOB) to file retrieval and transfer to clinics to return of files to Medical Record Department.
- Facilitate tracking of turnaround time at MOB and Medical Record Department for continual improvement.

EFFECT OF CHANGE:

After the implementation of Medical Record Tracking System, we achieved a 75% medical folder delivery within 15 minutes and 0% for a medical folder not transfer in one month and improving to the next month with 90% medical folder delivery within 15 minutes and 0 % for the medical folder which is not transferred.

THE NEXT STEP:

The medical folder delivery rate has improved from 15% to 90% within 15 minutes and 0% achieved for folder not transfer to clinic following Medical Record Tracking System implementation.

MP-33 (Oral)

Meningkatkan Peratus Kepatuhan Pesakit Antenatal Dalam Pengambilan Zat Besi di Klinik Kesihatan Daerah Kota Bharu

Category of study: District Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:

Peratus kejadian anemia dikalangan ibu hamil pada 36 minggu pada tahun 2017 di Klinik Kesihatan Daerah Kota Bharu (KKDKB) adalah sebanyak 5.7%. Kepatuhan pengambilan zat besi pesakit antenatal adalah rendah iaitu 34% dimana ketidakpatuhan menyebabkan anemia semasa mengandung serta komplikasi kepada janin dan ibu semasa kelahiran.

PENGUKURAN UTAMA PENAMBAHBAIKAN:

Indikator yang digunakan untuk mengukur masalah ialah peratus pesakit antenatal yang patuh kepada pengambilan zat besi. Kadar kepatuhan ditetapkan adalah 80%. Kajian melibatkan semua ibu mengandung tanpa mengambil kira umur kandungan.

PROSES PENGUMPULAN MAKLUMAT:

Kajian hirisan lintang dijalankan menggunakan borang soal selidik di tiga buah KKDKB bermula April 2018 bagi pra pemulihan dengan bilangan sampel 239 orang. Langkah-langkah pemulihan dijalankan sepanjang Mei hingga Disember 2018. Kitaran Pertama pasca pemulihan sepanjang Ogos 2018 dengan sampel 211 orang diikuti Kitaran Kedua sepanjang Januari 2019 dengan sampel 192 orang.

ANALISIS DAN INTERPRETASI:

Tahap kepatuhan adalah rendah dan faktor penyebab yang dikenalpasti ialah teknik penyampaian kaunseling kurang berkesan oleh pegawai farmasi (47%), sikap pesakit (37%), kesan sampingan zat besi (36%), pengetahuan pemakanan yang kurang (32%) dan kefahaman kepentingan zat besi yang rendah (31%).

STRATEGI PENAMBAHBAIKAN:

Ceramah, *All-In-1 Bookmark*, *Iron-ScanMe* dan Roda Poster diperkenalkan kepada pesakit bagi menangani faktor kesan sampingan, kefahaman dan pengetahuan yang rendah. Label carta harian untuk pesakit turut diperkenalkan. "*Pocket Reference*" dan "*Iron Counselling Checklist*" dibangunkan untuk membantu pegawai farmasi menyampaikan kaunseling yang berkesan. "*Hotline Mommy*", Infografik Mitos Vs Fakta dan Replika Ubat Zat Besi dipromosikan kepada staf dan pesakit.

KESAN PENAMBAHBAIKAN:

Peratus kepatuhan meningkat daripada 34% kepada 68% bagi kitaran pertama dan meningkat lagi kepada 71% pada kitaran kedua. Kesan peningkatan kepatuhan turut menyumbang kepada peningkatan bacaan Hb normal iaitu daripada 27% kepada 64%.

LANGKAH SETERUSNYA:

Aplikasi *e-Reminder* di KKDKB dan *Iron-ScanMe QR Code* akan diperkenalkan di Klinik Kesihatan Ibu dan Anak. Material inovasi ini akan turut diperkenalkan ke semua fasiliti di seluruh negeri.

MP-34

Impact of Work and Family Conflicts to Work Life Balance at KPJ Klang Specialist Hospital

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KPJ Klang Specialist Hospital, Selangor

INTRODUCTION:
In the advancement of the technology, the increasing demands and living costs urged individuals to work. Any conflicts whether from family or work can be affected to the individuals and their work life balance. The objective of this study focused on assessing the impacts of work and family conflict to work life balance among staffs and its relation with sociodemographic at KPJ Klang Specialist Hospital, Selangor.

METHODOLOGY:
The total of 200 participants was selected using Stratified Random Sampling method. The questionnaire comprised of two parts which are work-family conflict and family-work conflicts. Each of these parts has 5 Likert scales in which the high score indicated high level of conflicts.

RESULT:
Both work-family and family-work conflicts showed high mean which are 15.38 and 13.13 respectively. There was no significant association between work-family and family-work conflicts on years of service at KPJ Klang Specialist Hospital. However, there was a significant association between staffs' monthly salary with both work-family and family-work conflicts.

DISCUSSION:
Work-family conflict and family-work conflict negatively related to work life balance. It means that either work or family interfere with respondent's activity in life. There is relation between staffs' work life balance and monthly salary. There is no relation between work life balance and years of service. The main causes of work and family conflicts were inflexibility of work schedule and low salary. It is suggested that employers can improve work life balance by implementing flexible working time and considering the staffs' workloads with their salaries.

MP-35

Factors Influencing Patient Preference for a Private Hospital in Malaysia

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INTRODUCTION:
Infrastructure is the physical assets and machines of the Hospital. Amenities, is the environment of the Hospital which may affect the mood and emotion of the patient when they are in the Hospital. Service quality is covering the five elements of reliability, responsiveness, assurance, empathy and tangibles. The aim of this study is to understand the factors that influence patient preference to a Private Hospital in Malaysia. Three factors identified were namely; Infrastructure, Amenities and Service Quality. What we are trying to differentiate is the differences between technical service and functional quality, and to study these impact which influences patient preference to a Private Hospital. Technical quality refers to infrastructure and amenities. On the other hand, functional quality refers to service quality as it involves the human aspect of human touch.

METHODOLOGY:
Data collected was from a survey questionnaire distributed to a random population in Malaysia, using the Google Form.

RESULT:
A total of 137 respondents consisted of 59.1% female and 40.9% male. The data was analysed using SPSS.

DISCUSSION:
It was found that there is a significant relationship between infrastructure, amenities and service quality with patient preference for a Private Hospital with $p<0.05$.

CONCLUSION:
Interesting to note that in this research, it was found that infrastructure has strong correlations with patient preference for a Private Hospital as compared to the other two factors.

MP-36

Improving Patient's Understanding towards Medication in Health Clinics, Temerloh District

Category of study: District Specific Approach

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[5]*Klinik Kesihatan Bandar Mentakab, Pahang*

SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Knowledge score of MTAC Diabetes patients showed only 9.6% of them have medication knowledge score of 100%

KEY MEASURES FOR IMPROVEMENT:
The indicator is the percentage of the patient with knowledge score of 100%; the standard is set at 20%, as agreed by group members.

PROCESS OF GATHERING INFORMATION:
A study was done in January 2018 to determine the magnitude of patient's understanding of medications by using Medication Knowledge Assessment Questionnaire and Contributing Factors Poor Medication Knowledge Checklist. Remedial action (March to September 2018) and two re-evaluations of the effectiveness of measures taken were carried out on April and September 2018.

ANALYSIS AND INTERPRETATION:
Medication knowledge assessment shows that 88.7% of patients unable to name their medications, 33.9% unable to tell medication's indication, 23.6% do not know their dose, 22.0% do not know when to take medications and 10.9% store medications wrongly. The contributing factors lead to poor medication knowledge is due to poor attentiveness to label instructions, medication instructions confusion and poor medication counselling deliver by the pharmacist.

STRATEGIES FOR CHANGE:
A special label with specific indications assigned in different color (Blue-Hypertension, Green-Diabetes, Pink-Cholesterol and Yellow-Blood thinning agent) and graphic timing is prepared. Secondly, an information board with an update of medication brand changes is displayed to the public. Thirdly, a flip chart containing a list of medications is used to educate patients the importance of the generic name. Next, a translation table for different indications in Mandarin and Tamil and a counselling point's checklist is provided at the dispensing counter.

EFFECT OF CHANGE:
The percentage of patient with knowledge score of 100 is increased from 9.0% to 15.2% post cycle 1 and 18.9% post cycle 2 respectively; it is still lower than the standard of 20%. ABNA gap has been reduced by 9.9%.

THE NEXT STEP:
Study impact of this project through the relationship between patient's knowledge and medication compliance, clinical data as well as patient's satisfaction.

MP-38

Development of Anticipated Physiological Falls Prevention Ingenuities Bundles: A Preliminary Report

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Anticipated physiological patient fall is one of the classifications of falls which is on the rise despite all the fall preventive measures implemented. Many health institutions have developed fall initiatives for inpatient fall prevention. However, due to inadequacy of fall prevention measures and interventions taken could be one of the reasons of increase incidences of anticipated falls

KEY MEASURES FOR IMPROVEMENT:
The objective, of the study is to identify and develop new ingenuities bundles towards the prevention of Anticipated Physiological Fall.

PROCESS OF GATHERING INFORMATION:
A triangulation technique was used in the development of ingenuities bundles which consist of three main approaches such as Focus Group Discussion, Expert Interview and Document Analysis

ANALYSIS AND INTERPRETATION:
A computer assisted qualitative content analysis was done with the aid of Atlas ti. Software.

STRATEGIES FOR CHANGE:
A total of five ingenuities bundles were developed. The bundles include, reminder on two-hourly rounds, specific assessment during nursing rounds, consultant checklist, bed side rail modification and patient-family education

EFFECT OF CHANGE:
The developed bundles will be used on prevention of anticipated cases.

THE NEXT STEP:
Implementation of Developed Bundles.

MP-39

Reducing Percentage of Failure of Fissure Filled Teeth among Primary School Children in Perlis

Category of study: District Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
A baseline study conducted from June 2017 to January 2018 showed that 84.4% of fissure sealants were failed (partial and total loss of sealants). Dislodged fissure sealant will create an environment conducive to caries, later leads to episodes of oral discomfort and pain.

KEY MEASURES FOR IMPROVEMENT:
The objective of this study is to reduce the percentage of failure of fissure filled teeth 6 months post-application by dental nurses among primary school children in Perlis. A standard of 47% for the failure of fissure sealant was set.

PROCESS OF GATHERING INFORMATION:
A cross-sectional study was conducted from Jun 2017 to Feb 2019 that includes three phases; verification study, remedial measures implementation and re-evaluation post-intervention. The study population includes primary schoolchildren from districts of Kangar and Arau. Data were collected by clinical oral examination and patient card record.

ANALYSIS AND INTERPRETATION:
The use of hand-mixed Glass Ionomer-based sealant, absence of assistant, improper technique and lack of knowledge among operators were highlighted as contributing factors of failure of fissure sealant.

STRATEGIES FOR CHANGE:
Remedial measures include continuous dental education (CDE) and chair-side hands-on, a checklist for fissure sealant procedure, practice of 4-handed dentistry, and the use of capsulated Glass Ionomer sealant if Glass Ionomer-based (GI) sealant is preferred.

EFFECT OF CHANGE:
Following re-evaluation, the percentage of failure of fissure filled teeth has reduced from 84.4% to 43.1%, which reached the standard of below 47%.

THE NEXT STEP:
Use of checklist for fissure sealant and capsulated GI will continue. Further reevaluation will be carried out to prove the sustainability of implemented remedial measures.

MP-40

Improving Quality of Insulin Counselling at Out-Patient Pharmacy Dispensing Counter, Hospital Sultanah Bahiyah

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Poor knowledge and errors in self-administration of insulin are common in diabetic patients. Therefore, patients’ education is our main concerned to improve adherence and subsequently help to reduce insulin adverse effects and hospitalisation. Multiple factors contributed to the quality of insulin counselling process.

KEY MEASURES FOR IMPROVEMENT:
Our previous studies showed only 40% of the patients fully understand the counselling given. This study aimed at increasing the percentage of patients who understand counselling given on insulin to the consensus target of 80%.

PROCESS OF GATHERING INFORMATION:
A cross-sectional study was conducted in November 2017 to assess patients’ understanding of insulin counselling and to identify the contributing factors. Patients’ understanding was evaluated by using a validated self-structured questionnaire. Implementation of remedial measure was carried out from April to August 2018. Post remedial action was reassessed accordingly.

ANALYSIS AND INTERPRETATION:
Pre-remedial percentage of patients’ understanding was 40%. 50% of the patients get three or less questions wrongly answered. Ten patients get six or less questions answered correctly. The ABNA was 40%.

STRATEGIES FOR CHANGE:
Pamphlet on injection technique administration was developed and distributed to all patients. The validated self-structured questionnaire used to assess patients’ understanding, was then implemented as a counselling tool checklist during counselling session. Standard Operating Procedure was reviewed; new dispensing and counselling procedure were informed to staff to enhance the workflow.

EFFECT OF CHANGE:
Percentage of patients’ understanding towards insulin counselling was improved to 60%. The ABNA was reduced from 40% to 20% following remedial actions.

THE NEXT STEP:
There is a need for a long-term plan and continuous monitoring and re-educating the patients to increase the insulin understanding percentage, thus sustaining the remedial measures.

MP-42

Bedside Shift Report - Evidence Based Practice to Promote Person Centered Care at KPJ Ampang Puteri Specialist Hospital

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INTRODUCTION:
Bedside Shift Report (BSR) is a significant change from the current shift report practice in KPJ Ampang Puteri Specialist Hospital. It is being implemented to improve both patient safety and patient-nurse satisfaction. Earlier identification and correction of potential errors during BSR may have improved the quality of patient care. For current practice, BSR is placed in the patient's room and health progression of the patient will be filled up on a piece of paper. This practice will expose patients' privacy and will cause high probability for the report to be misplaced.

METHODOLOGY:
BSR board is placed inside of the room, up at patients' bed. The BSR board will always be updated during the BSR round during the change of nurses' shift. The survey study conducted at Maternity ward of KPJ Ampang Puteri Specialist Hospital. Convenient sampling method was used to select the sample. Data was collected and analysed by using SPSS version 19.0.

RESULT:
More than half of the respondents (60%) agreed and strongly agreed that changes in patient conditions could be identified through bedside shift report. They believed that aspects of BSR are beneficial in improving patient safety and majority of the respondents agreed that BSR board helps in the care of patients. They also supported that the use of BSR board can reduce use of papers.

DISCUSSION:
BSR was implemented as we meant to keep patient informed and realised of what they have gone through and what the next care plan is for them. The result showed that BSR improve patients' satisfaction. The communication between nurses and patients improved as patients knew what their treatment plan were during the hospitalization.

CONCLUSION:
Not only does BSR improve patient safety, but also able to improve patient satisfaction scores. Patients will be able to engage in their care process and progress during their stay.

MP-43

Reducing Percentage of Incomplete and Error in Filling Therapeutic Drug Monitoring Request Form at Hospital Jasin

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

For any request for Therapeutic Drug Monitoring (TDM) test, filling the form become the crucial part because the pathology and pharmacy unit need to gather complete information in the form. This information is important in the interpretation and recommendation of drug therapy. Besides, it is important to have the right information and data about the respective patient to avoid medication error.

KEY MEASURES FOR IMPROVEMENT:

Prescriber knowledge towards the required information in the form is the main aspect that to be improved. Besides, familiarity of the prescriber to fill in the form will be the other aspect to be improved.

PROCESS OF GATHERING INFORMATION:

Data was collected from previous TDM form and a simple questionnaire has been distributed to prescribers through WhatsApp.

ANALYSIS AND INTERPRETATION:

Feedback from the questionnaire will be analysed once ready. However, we found that from 161 TDM request forms, all forms were not completely filled especially Patient Profile and Blood Sampling Time section.

STRATEGIES FOR CHANGE:

We plan to deliver a talk and roadshow regarding TDM request form and data that important in the recommendation of drug therapy. This talk will be organised in the CME session. Besides, a simple quick guide pocket notes will be distributed to all prescribers, so they can refer to the card when they request for any TDM test.

EFFECT OF CHANGE:

With all strategies that we plan to implement, we expected enhancement of prescriber's awareness towards the importance of filling TDM form correctly. Furthermore, to reduce the number of repeating TDM test and blood taking due to error in filling TDM form and blood sampling time.

THE NEXT STEP:

To analyse data and review prescriber's feedback from the questionnaire that has been distributed. Based on the data, information on the TDM process that needs to focus will be included as a topic of CME session or in the pocket note.

MP-44

Objective Outcome Measurement Tool for Patients with Dysphagia in Pantai Integrated Rehab Services

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Outcome measurement tools in dysphagia are essential for speech and language therapists (SALTs) in ensuring systematic and more precise capture of targeted clinical presentations, tracking patients' performance and effectiveness of therapeutic intervention. It also serves as a quick communication tool regarding patients' swallowing presentations among different professionals. In the U.S., fewer than half of the health-care based SALTs (40.22%) include outcome measures in their documentation. Similarly, SALTs in PIRS are also using subjective measurements in determining patients' swallowing abilities, with no reference to any standardised objective outcome measures to document progress and treatment efficacy of patients. There will likely be a lack of consensus among SALTs regarding patients' swallowing abilities without using a standardised objective measurement tool.

KEY MEASURES FOR IMPROVEMENT:

i) To devise an objective outcome measurement tool for patients with dysphagia in PIRS setting.
ii) To investigate the psychometric properties (face validity and concurrent validity) of the newly devised outcome measurement tool

PROCESS OF GATHERING INFORMATION:

i) Review of current practice in PIRS: SALTs subjectively report patients' swallowing performance; lack of consensus on the measurement used. ii) Review of current available objective outcome measurement tools: (a) Functional Communication Measures (FCMs) (American Speech and Hearing Association) (ASHA) which applied a 7-point rating scale on patient's swallowing abilities within U.S. healthcare systems; however, this can only be accessed by ASHA-certified members in U.S. (b) Functional Oral Intake Scale (FOIS) which applied a 7-point rating scale on patient's oral intake; sensitive to changes in oral intake for stroke patients only.

ANALYSIS AND INTERPRETATION:

January to June 2019: 59 data (initial assessment & discharge). Scored based on the newly devised tool, DOE, and established tools, FCMs and FOIS. Investigate faces validity and concurrent validity.

STRATEGIES FOR CHANGE:

i) Face validity: 2 SALTs agreed that DOE is comprehensive and easy to administer.
ii) Concurrent validity: DOE shows significant, high correlation with FCMs and FOIS.

EFFECT OF CHANGE:

To have a localized tool for effective objective tool for patients with dysphagia.

THE NEXT STEP:

- To further evaluate the sensitivity of this outcome measure in a specific population (e.g. stroke, traumatic brain injury, neurodegenerative disease).
- To be implemented by other branches in PIRS (northern, southern and east Malaysia regions).
- To propose as one of the speech therapy performance indicators in PIRS.

MP-45

Compliance of Malaysian Stand-Alone Chronic Dialysis Treatment Centres on 2nd Edition MSQH Chronic Dialysis Treatment Standards

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INTRODUCTION:

MSQH has refined the 1st Edition MSQH Chronic Dialysis Treatment Standards to 2nd Edition Standards in 2017. From 2018 to April 2019, there were 15 stand-alone chronic dialysis treatment centres accredited by MSQH and awarded a Four-Year accreditation status. These cover 141 non-infectious dialysis chairs, 10 Hepatitis B and 17 Hepatitis C dialysis chairs. The objective of the study is to evaluate the compliance of stand-alone chronic dialysis treatment centres to the 2nd Edition MSQH Chronic Dialysis Treatment Standards.

METHODOLOGY:

A retrospective study was conducted. There are five topics in the Standards namely: Organisation and Management, Human Resource Development and Management, Policies and Procedures, Facilities & Equipment and Safety & Performance Improvement Activities. There are four compliance ratings; (i) 4 (80% to 100% compliance), (ii) 3 (60% to 79% Compliance), (iii) 2 (40% to 59% compliance), (iv) 1 (0% to 39%) and Not Applicable. The percentages of criteria that achieved ratings of 4 under the 5 topics and the total score for the standards were analysed.

RESULT:

The results showed that the 15 stand-alone chronic dialysis treatment centres achieved an average score of 93.5%. The total score achieved by the dialysis centres ranged from 88.3% to 97.7%. The findings on the performance of the 5 topics covered under the standards revealed that topic Policies and Procedures achieved better compliance (85.8%) compared with other topics Organisation and Management (70.5%) and Human Resource Development and Management (73.3%), Facilities and Equipment (66.7%) and Safety and Performance Improvement Activities (51.1%). Kruskal Wallis (non parametric) test was conducted at 10% confidence interval.

DISCUSSION:

Based on the test, there were significant difference of compliance among different topics with $p = 0.085$ ($p<0.10$).

CONCLUSION:

In conclusion, the 2nd Edition Standards are applicable and achievable by the stand-alone chronic dialysis treatment centres. From the study, the centres were able to achieve above 80% compliance with the standards. By ensuring that all stand-alone chronic dialysis treatment centres subscribe to the MSQH Chronic Dialysis Treatment Accreditation Programme, better quality of care with safer outcome for chronic dialysis patients can be achieved nationally.

MP-46

Improving Patient Experience in the Out Patient Department by Pantai Integrated Rehab

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:
Continuity of care will improve the patient's condition and patient quality of life. However, some patients are unable to attend physiotherapy sessions/slots on weekdays especially during their working time. Moreover, there are limited slots available on Saturday which is not enough to accommodate all the patients. This was leading to patient dropping out from Rehab. This project was initiated to improve the continuity of care by increasing the availability of slots.

KEY MEASURES FOR IMPROVEMENT:
To achieve 50% of patient attendance for outpatient clinic and improve 50% patient satisfaction on having an appointment on the extended slot.

PROCESS OF GATHERING INFORMATION:
The number of slots was booked from January to March 2019 and patient satisfaction survey was done for the extended hours. A total of 496 extra slots were created to accommodate the patients for outpatient treatment. A study was carried out to know how many slots were booked and its correlation patient's satisfaction was monitored.

ANALYSIS AND INTERPRETATION:
Out of 496 extra slots offered from January to March 2019, 320 slots were booked and 81% of the patient come according to the appointment. Patient attendance for extended achieved more than 50% and survey for patient satisfactory gain 90. 91% of the patients felt easier to book an appointment during extended hours. Overall, patients were satisfied with the extended hours and the majority of the patients who booked the slots came for the treatment session.

STRATEGIES FOR CHANGE:
Two physiotherapists were assigned to do the extended hours every week. The operation time is from 8 am to 6 pm on weekdays and 9 am to 5 pm on Saturday. Slots were increased from 240 to 272. A total of additional 32 slots available every week.

EFFECT OF CHANGE:
Better compliance to the treatment care plan and less dropout rate.

THE NEXT STEP:
Continuation of the extended hour and patient satisfaction survey will continue for six months.

MP-47

Advanced Appointment & Live Queuing System

Category of study: Hospital Specific Approach

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SELECTION OF OPPORTUNITIES FOR IMPROVEMENT:

Long waiting time at Outpatient Clinic (OC) is one of the common unresolved issues, in government, private hospitals or clinics which leads to patients complaints. Thus, this project aims to reduce the waiting time at OC and improve customer's satisfaction.

KEY MEASURES FOR IMPROVEMENT:

This project benchmark was set to reduce waiting time from 90 to 45 minutes based on Malaysian Family Physician Journal 2017.

PROCESS OF GATHERING INFORMATION:

Brainstorming, SMART Matrix Analysis, and Matrix Diagram were used to choose the project. 100 questionnaires have been distributed to respondents at 45 OC, KPJ Ipoh to determine their average waiting time for consultation. Questionnaires were then analysed using Ishikawa Diagram, Cause Verification Analysis, Pareto Diagram, and SWOT Analysis.

ANALYSIS AND INTERPRETATION:

There were 12 contributing factors identified and the major factor was many walk-in patients (55%). Our study showed walk-in patients will be attended in 35 to 90 minutes and 17.5 minutes for appointment-based patients.

STRATEGIES FOR CHANGE:

An "Advanced Appointment and Live Queuing System" was introduced to curb this problem. Its special features included doctor's roster, smart queue, messages and a reminder to patients, clinic receptionists and doctors. It allowed appointment synchronisation and accessible on multiple devices at the same time. Appointment booking was available 24/7 through website and self-check-in kiosk.

EFFECT OF CHANGE:

After implementation, the patient waiting time had reduced to an average of 37.5 minutes. Besides, the number of walk-in patients had reduced by 42% and patients' satisfaction level has increased by 56%. All 45 clinics at KPJ Ipoh saved a total of RM331, 980.75 per year on papers, appointment cards, and telephone bills**.** Total numbers of outpatients also increased by 5.7% compared to the year 2017.

THE NEXT STEP:

This project can be improvised and implemented into other services; Physiotherapy, Radiotherapy and Optometry Services for more effective patient management. It can also be the best advertisement platform to send relevant information to our customers such as hospital promotions and events.

MP-48

Meningkatkan Peratus Pesakit Bebas Dadah Rekreasi di Kalangan Pesakit Methadone Klinik Kesihatan Larkin

Category of study: District Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:
Klinik Methadone Klinik Kesihatan (KK) Larkin telah ditubuhkan pada 2007. Kajian verifikasi dijalankan kepada 63 pesakit mendapati 34.9% pesakit Methadone sahaja berjaya mencapai bebas dadah rekreasi (dadah psikoaktif yang digunakan untuk tujuan selain daripada perubatan yang boleh mendatangkan keseronokan dan ketagihan). Pesakit dikategorikan sebagai bebas dadah rekreasi sekiranya mencapai keputusan negatif dalam Ujian Urin Dadah. Pengambilan methadone bersama dadah berbahaya boleh meningkatkan risiko morbiditi dan mortaliti.

PENGUKURAN UTAMA PENAMBAHBAIKAN:
Indikator ialah peratus pesakit Methadone bebas dadah rekreasi. Agensi Anti Dadah Kebangsaan (AADK) telah berjaya mencapai 60% pengekalan pemulihan (bebas dadah rekreasi) bagi tahun 2016 berbanding sasaran pelan tindakan (40%). Standard optimum yang dipersetujui oleh kumpulan adalah 60%.

PROSES PENGUMPULAN MAKLUMAT:
Kajian verifikasi dijalankan pada Januari 2017. Fasa 1 (Februari–April 2017), Fasa 2 (April–Jun 2017) dan Fasa 3 (Jun-September 2017). Kajian diteruskan dengan Fasa Kelestarian (Disember 2017-Jun 2018) menggunakan kaedah temuramah, kajian keputusan urin dadah serta analisa kehadiran pesakit.

ANALISIS DAN INTERPRETASI:
Kajian verifikasi menunjukkan 34.9% pesakit berjaya mencapai bebas dadah rekreasi (*Achievable Benefit Not Achieve [ABNA]=25.1%).* Kajian mengenalpasti faktor penyumbang mencatatkan empat faktor utama iaitu anggota tidak mendapat latihan kaunseling secara formal (100%), kaunseling tidak berkesan (53%), pesakit tidak tahan keinginan (48%) dan pandangan serong masyarakat (45%).

STRATEGI PENAMBAHBAIKAN:
Kursus Pemantapan Intervensi Psikososial, pengadaptasian teknik kaunseling *FRAMES (Feedback, Responsibility, Advice, Menu of Options, Empathy, Self of efficacy),* penubuhan Kelab Metha, kaunseling berkumpulan secara berkala serta mengadakan sistem ganjaran menggunakan Kupon Dos Bawa Balik (DBB) dan Kupon Aktiviti dijalankan dalam Fasa 1. Penglibatan Interagensi (Fasa 2) serta penerapan unsur kerohanian dalam Fasa 3. Fasa Kelestarian memantapkan *defaulter tracing* dan penerapan kesedaran undang-undang.

KESAN PENAMBAHBAIKAN:
Peningkatan peratus pesakit Methadone bebas dadah rekreasi sebanyak 47.9% (Fasa 1), 49.2% (Fasa 2) seterusnya 61.3% (Fasa 3-ABNA dihapuskan). Dalam Fasa Kelestarian peratus kejayaan meningkat sebanyak 65.1% dan semua faktor menunjukkan penurunan kecuali dua faktor diluar kawalan iaitu pesakit mudah mendapat bekalan dadah (38%) dan pengaruh rakan (38%).

LANGKAH SETERUSNYA:
Modul pengurusan kerjaya serta penglibatan keluarga dalam modul kaunseling diperkenalkan.

MP-49

Meningkatkan Kadar Keputusan Pap Smear dengan *"Endocervical Cells Seen"* di KKIA Betong, Sarawak

Category of study: District Specific Approach

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PEMILIHAN PELUANG UNTUK PENAMBAHBAIKAN:
Eendocervical cells seen dalam ujian Pap Smear adalah penting untuk menentukan kualiti smear dan ia dipengaruhi oleh pelbagai faktor.

PENGUKURAN UTAMA PENAMBAHBAIKAN:
Berdasarkan reten PKW202A pindaan 2/2007, peratusan Pap Smear dengan *endocervical cells seen* di KKIA Betong adalah dibawah sasaran KKM. Projek ini bertujuan untuk meningkatkan peratusan *endocervical cells seen* melebihi 80%.

PROSES PENGUMPULAN MAKLUMAT:
Peratusan pencapaian Pap Smear dari 2015 sehingga Jun 2017 diambil daripada reten PKW202A pindaan 2/2007. Borang soal selidik saringan Pap Smear digunakan untuk menilai pengetahuan staf dalam prosedur Pap smear manakala senarai semak *Model of Good Care* (MOGC) digunakan untuk memantau teknik Pap Smear.

ANALISIS DAN INTERPRETASI:
Pencapaian untuk Januari-Jun 2017 adalah 59.4%. Faktor yang dikenalpasti adalah staf kurang pengetahuan, staf tidak mengamalkan teknik yang betul dan tempat penyimpanan sampel yang tidak sesuai. ABNA adalah 20.6%.

STRATEGI PENAMBAHBAIKAN:
Senarai semak tentang perkara yang perlu dilakukan/dielakkan sebelum prosedur disediakan dalam Bahasa Iban untuk pesakit. Pemantauan prosedur Pap Smear dilakukan untuk memastikan proses dibuat mengikut senarai semak yang telah disediakan. *Continuous Medical Education* (CME) dan praktikal tentang teknik pengambilan Pap Smear diberikan kepada staf dan inovasi model servik dibuat semasa sesi praktikal dan kaunseling kepada pesakit. Poster teknik pengambilan Pap Smear disediakan dan ditampalkan di setiap bilik pemeriksaan untuk rujukan. Penghantaran spesimen ke makmal Hospital Umum Kuching diselaraskan di peringkat bahagian.

KESAN PENAMBAHBAIKAN:
Peratusan *endocervical cells seen* meningkat dari 59.4% ke 78.6% selepas penambahbaikan.

LANGKAH SETERUSNYA:
Staf perlu mematuhi senarai semak prosedur Pap Smear. Pemantauan secara audit bulanan perlu dilakukan untuk meningkatkan kualiti sampel Pap Smear.

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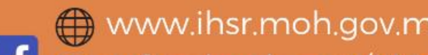
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