



مستشفى الملك فيصل التخصصي ومركز الأبحاث  
King Faisal Specialist Hospital & Research Centre

# Quality and Safety Report



**Second Quarter 2023**



## King Faisal Specialist Hospital and Research Centre

### Quality and Safety Report Second Quarter 2023

Table of Contents		Page
<b>Executive Summary</b>	<b>Corporate</b>	<b>3</b>
<b>Sentinel Events and Root Cause Analysis</b>	<b>Riyadh</b>	<b>5</b>
<b>Sentinel Events and Root Cause Analysis</b>	<b>Jeddah</b>	<b>8</b>
<b>Mortality and Morbidity</b>	<b>Riyadh</b>	<b>10</b>
<b>Mortality and Morbidity</b>	<b>Jeddah</b>	<b>13</b>
<b>Medicolegal</b>	<b>Jeddah</b>	<b>14</b>
<b>Accreditation / Certifications</b>	<b>Corporate</b>	<b>15</b>
<b>Clinical Risk Management</b>	<b>Corporate</b>	<b>16</b>
<b>Key Performance Indicators</b>	<b>Riyadh</b>	<b>17</b>
<b>Key Performance Indicators</b>	<b>Jeddah</b>	<b>28</b>
<b>Key Performance Indicators</b>	<b>Madinah</b>	<b>37</b>

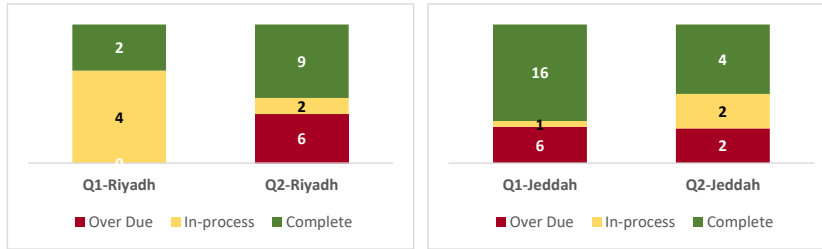
Appendices	
<i>Appendix A</i>	<i>KPIs Definitions</i>
<i>Appendix B</i>	<i>Mortality &amp; Morbidity Categories</i>

# EXECUTIVE SUMMARY

SENTINEL EVENTS		
RIYADH	JEDDAH	MADINAH
2	1	0

CORRECTIVE ACTIONS (EFFECTIVENESS/STATUS)
Riyadh: 35% of the actions are strong.
Jeddah: 50% of the actions are strong.

## Sentinel Events Corrective Actions Backlog



MEDICOLEGAL		
RIYADH	JEDDAH	MADINAH
On hold	1	0

MORTALITY			
CATEGORY	RIYADH	JEDDAH	MADINAH
Category (4)*	0	0	0
Category (2)**	2	1	0

\* Category (4) (Unexpected preventable death).  
 \*\* Category (2) (Expected death, with omission or commission).

MORBIDITY			
CATEGORY	RIYADH	JEDDAH	MADINAH
Major	2	3	0
Serious	0	0	0

ACCREDITATION		
RIYADH	JEDDAH	MADINAH
1	0	0

## KPIs Areas of Strength & Areas for Improvement

RIYADH	Areas of Strength	Areas for Improvement
<b>Safety</b>	SSER, Falls with injury rate, CLABSI, SSI, CAUTI, % Admission & Discharge Medication Reconciliation, & Medication Errors Reaching the patient	Pressure Injury Rate, MDRO, # of safety reports, # HA-VTE Preventable Events & ADC
<b>Access</b>	Outside Referral to Decision Waiting Time & Radiology Waiting time	ER Boarding Time, ER left without seen All radiology waiting time Priority day
<b>Efficiency</b>	Average length of Stay	
<b>Effectiveness</b>	% Door to Balloon ≤ 90 Min, & 100-day mortality rate for allogeneic & autologous stem cell adult patients	100-day mortality rate for allogeneic stem cell transplants
<b>Appropriateness</b>	# Active Clinical Pathways, & Cross Matched/Blood Transfused Ratio	
<b>Patient Experience</b>		Outpatients Experience, ER Experience, Ambulatory Care Experience, Oncology Outpatient Experience, Dental Services Experience, & Patient Complaints
JEDDAH	Areas of Strength	Areas for Improvement
<b>Safety</b>	Reported Pressure Injury Rates, Falls with Injury Rate, CLABSI, CAUTI, SSI, MDRO, % Near Miss Events, VTE, ADC, & % Admission Medication Reconciliation	# of Safety reports, Reported Medication Errors per 1000 adjusted patient days. % Discharge Medication Reconciliation & % Medication Errors Reaching the Patient
<b>Access</b>	Outside Referral to Decision Waiting Time, ER Waiting & Boarding time "min", New Patient first encounter <2 weeks, ER Left without seen, Radiology Average Waiting time	
<b>Efficiency</b>	Bed Occupancy Rate & OR Cancellation	
<b>Effectiveness</b>	100-day mortality rate for allogeneic pediatrics & autologous stem cell transplants for pediatrics & adult	100-day mortality rate for allogeneic adult
<b>Appropriateness</b>	# Active Clinical Pathways& Cross Matched/Blood Transfused Ratio	
<b>Patient Experience</b>	Overall Hospital Rating	Inpatient Paediatrics Experience, Outpatients Experience, ER Experience, & Ambulatory Care Experience
MADINAH	Areas of Strength	Areas for Improvement
<b>Safety</b>	SSER, Falls with Injury, CAUTI, SSI, MDRO, Hand Hygiene, % Near Miss Events, & VTE	Pressure Injury
<b>Access</b>	Outside Referral to decision waiting time, ER Waiting & Boarding time, & ER left without seen	New Patient 1st encounter <2 weeks
<b>Efficiency</b>		Average Length of Stay
<b>Effectiveness</b>		Readmission Rate <7 days
<b>Appropriateness</b>	# Active Clinical Pathways, & Cross Matched/Blood Transfused Ratio	
<b>Patient Experience</b>	Overall Hospital Rating, Inpatient Pediatrics Experience, Dental Services Experience & Emergency Room Experience	Outpatient Experience

# EXECUTIVE SUMMARY

## *Issues and Activities to Highlight*

### **1) Internal Events and Activities**

- Just Culture Implementation: Riyadh-275; Jeddah-268; Madinah-222
- Clinical Risk Management FMEA: Riyadh-1; Jeddah-3; Madinah-3
- Great Catch recognized employees: Riyadh-70; Jeddah-15; Madinah-36
- Corporate Robust Performance Improvement Program 2023: Window #2 has been launched successfully:
  - Riyadh: 121 projects; Jeddah: 115 projects; Madinah: 39 projects
- Coffee Hour with Patient Safety: Riyadh-10 sessions

### **2) External Collaborations and Events**

- Joint Commission Survey visit was conducted at Riyadh site and was successfully accredited until May 2026.
- Preparing for Quality, Leadership, and the Pursuit of Zero Harm Conference planned on November 2023 in collaboration with Joint Commission International.



**Hisham Alomran, MD, MPH, MBA, CPHQ, FACEP**  
Chief Quality Officer  
Quality Management Group

**Date:** 1-Aug-23

# RIYADH SENTINEL EVENTS EXECUTIVE SUMMARY

## The number of Sentinel Events:

Two (2) Sentinel Event (SE) were reported in KFSH&RC-Riyadh.

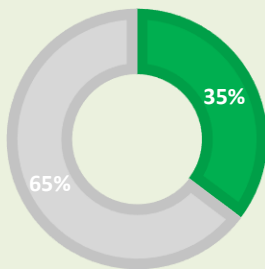


2

## Corrective Actions

A total of **17** Corrective Actions were established. The Actions are classified using the Classifications of VA – NPS Hierarchy of actions as below.

## Action status:



■ Complete 35%
 ■ InProcess 65%
 ■ Overdue 0%

Standardization  
 ICIS Enhancement  
 Forcing Function  
 New Device  
 Automated Technology  
 Architectural changes  
 Simplify Process

Staffing  
 Redundancy  
 Check List  
 Standardized  
 Communication  
 Simulation

Training  
 Warning  
 Policy  
 New Procedure



■ Strong
 ■ Intermediate
 ■ Weak

# Patient Management



4/26/2023

## Inadequate Assessment Of A Patient Through Post Discharge Virtual Clinic

A 7-year-old boy with Synovial Sarcoma was discharged after chemotherapy treatment. Six days later, he developed fever and congested throat. The mother contacted the Customer Relation Management team as instructed upon discharge and received a call back by EMS adult physician through the Virtual Post Discharge Clinic. The patient was prescribed antibiotics and Ibrufen and the mother was directed to collect medication and watch for worsening symptoms. No assessment of the patient's last admission was done. Two days later, patient arrived with symptoms of septic shock and pneumonia. He was resuscitated with fluid, inotropic support, antibiotics and was moved to CPICU. His condition worsened hemodynamically and subsequently passed away.



Root Causes	Corrective Action	Effectiveness Measurement	Status
<b>Insufficient family education (Accessibility to patient guidance, availability of Arabic instructions, raising awareness, and ensuring compliance) by the primary service before patient discharge.</b>	<b>Automated Technology:</b> Utilize the command center dashboard to receive automated alerts about missing discharge instructions and to ensure compliance.  <b>Responsibility:</b> Patient Health Education	Auditing	In-Progress
	<b>Double Check:</b> Monitor compliance with discharge instructions orders, and follow up on any missing discharge instructions orders, until the implementation of the command center dashboard.  <b>Responsibility:</b> Patient Health Education	Auditing	In-Progress
	<b>Policy:</b> Reinforce the hospital policy regarding Patient Discharge Planning  <b>Responsibility:</b> Medical Affairs	Auditing	In-Progress
<b>Inadequate family and patient support and access such as availability of a hot line and virtual pediatric physician consultation.</b>	<b>Training:</b> Promote patient's awareness of the urgent care clinic availability.  <b>Responsibility:</b> Pediatric Hematology & Oncology (PHO)	Auditing	In-Progress
	<b>New Procedure:</b> Set up a virtual urgent care clinic for the department of Pediatric Hematology & Oncology.  <b>Responsibility:</b> Pediatric Hematology & Oncology (PHO)	Auditing	In-Progress
	<b>Staffing:</b> Provide a 24/7 clinic coordinator to answer questions and serve as a resource for patients.  <b>Responsibility:</b> Pediatric Hematology & Oncology (PHO)	Evidence	In-Progress
	<b>Simplify Process:</b> Support emergency room department with ease of referral to urgent PHO virtual clinic.  <b>Responsibility:</b> Pediatric Hematology & Oncology (PHO)	Evidence	In-Progress
<b>Incomplete assessment by the emergency physician in the virtual clinic (Lack of a dedicated physician, and clinic scope, sufficient appointment duration, potential distractions, subspecialty assistance, defined expectations, and appropriate staffing).</b>	<b>Standardization:</b> To confirm that all patients using the DEM post-discharge virtual clinic service are assessed by a privileged physician  <b>Responsibility:</b> Department of Emergency Medicine	Auditing	In-Progress
	<b>New Procedure:</b> Create and distribute a comprehensive manual for the DEM post-discharge virtual clinic care to enhance patient experience  <b>Responsibility:</b> Department of Emergency Medicine	Copy of Guideline	In-Progress
	<b>Simplify Process:</b> Raise patient awareness about virtual clinic services and how to access them.  <b>Responsibility:</b> Pediatric Hematology & Oncology (PHO)	Auditing	In-Progress

# Patient Management



5/26/2023

## Delayed Dispensing Enoxaparin for Patient Post Cardiac Surgery

An 8-month old baby boy with complex heart disease and multiple cardiac surgeries the last being in April. He was discharged on Enoxaparin for 2 months. One month supply was dispensed from pharmacy, due to medication short stability with refill instruction prior to the end of the month's supply. The father requested Enoxaparin refill before the end of supply through the CRM, which was sent to pharmacy for dispensing. However, the dispensing was delayed, which resulted in 4 days gap in administering the Enoxaparin. The patient presented to the clinic and ECHO showed a completely clotted Glenn circulation which required placement on ECMO and after which the patient passed away.



Root Causes	Corrective Action	Effectiveness Measurement	Status
<p><b>The auto refill process was deactivated by pharmacy department during COVID-19, which resulted in delay in the medication refill.</b></p>	<p>● <b>Simplify process:</b> Review the medication refill process and explore the possibility of auto refill certain type of medications (short stability medications).</p> <p><b>Responsibility:</b> Pharmaceutical Care Division</p>	Auditing	In-Progress
	<p>● <b>Simulation:</b> Conduct Risk Assessment after establishing the auto refill for Enoxaparin.</p> <p><b>Responsibility:</b> Patient Health Education</p>	Auditing	In-Progress
	<p>● <b>Simplify Process:</b> Review and modify the CRM system to make it clear and understandable to the users, and to conduct a risk assessment for the CRM system after applying all the required changes</p> <p><b>Responsibility:</b> CRM</p>	Auditing	In-Progress
<p><b>Improper configuration in the CRM system to follow-up patient requests with the concerned departments.</b></p>	<p>● <b>Training:</b> Provide the appropriate education and training to the end users about the CRM system after completing the enhancement.</p> <p><b>Responsibility:</b> CRM</p>	Attendance sheet of training	In-Progress
	<p>● <b>Policy:</b> Support emergency room department with ease of referral to urgent PHO virtual clinic.</p> <p><b>Responsibility:</b> CRM</p>	Copy of Guidelines	In-Progress
	<p>● <b>New Procedure:</b> Formulate a proper process for escalating CRM tickets that are not resolved within certain timeframe despite the patient/family calls and ensure the following: 1) CRM to set trigger and the frequency of the calls before escalating the tickets. 2) Ensure the no resolution requests are communicated back to the requester with clear process and timeline.</p> <p><b>Responsibility:</b> Department of Emergency Medicine</p>	Evidence	In-Progress
<p><b>The CRM system is not designed to escalate the pending and unresolved CRM tasks to the higher level of management at a departmental level to resolve the ticket in timely manner.</b></p>	<p>● <b>New Procedure:</b> Ensure the patients and their families have direct access to the health care provider after discharge and ensure the discharge instructions include clear list that the patients and their families might need in case of medical emergencies or any inquiry.</p> <p><b>Responsibility:</b> Heart Center</p>	Audit	
<p><b>Lack of direct access to the health care provider after discharging the patient.</b></p>			



# JEDDAH SENTINEL EVENTS EXECUTIVE SUMMARY

## The number of Sentinel Events:

One (1) Sentinel Event (SE) was reported in KFSH&RC-Jeddah.

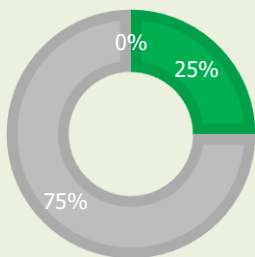


1

## Corrective Actions

A total of **8** Corrective Actions were established. The Actions are classified using the Classifications of VA – NPS Hierarchy of Actions as below.

## Action status:



■ Complete 25% ■ InProcess 75% ■ Overdue 0%

Standardization  
Automation  
New Devices  
Technology  
Simplify Process

Check List  
Documentation  
Standardized  
Communication  
Redundancy

Warning  
Policy  
New  
Procedure

50%

25%

25%

■ Strong ■ Intermediate ■ Weak



# Medication

4/11/2023

## Medication Error Leading to Temporary Harm

A 51-years old patient underwent a Thyroidectomy. After a successful operation, the Patient was transferred to the Surgical ICU and started receiving Levothyroxine, Thyroid level was high which, was overlooked. As a result, the patient developed severe agitation and complicated extubation. The patient was then treated appropriately.



Root Causes/Contributing Factors	Corrective Action	Effectiveness Measurement	Status
<p><b>Critical Thinking: Tunnel Vision</b> The attending team did not check the Thyroid level before administering Levothyroxine. Moreover, the agitation was presumed to be due to alcohol withdrawal symptoms.</p>	<p>● <b>Standardize on equipment or process</b> Redesign the Thyroidectomy / Neck Dissection Clinical Pathway standardizing the process of immediately requesting an Endocrine consultation and repeating the necessary laboratory tests postoperatively for total bilateral thyroidectomy patients.</p> <p><b>Responsibility:</b> Medical and Clinical Affairs</p>	Implementation	In Process
<p><b>Inadequate Checks:</b> The Resident ordered Medication for Hypothyroidism while the Patient had Hyperthyroidism during the pre-surgery clinic visit.</p>	<p>● <b>Training</b> Reinforce the Consultant and Assistant Consultant to evaluate all medications ordered by the residents/trainees</p> <p><b>Responsibility:</b> Medical and Clinical Affairs</p>	Implementation	Completed
<p><b>Omitted Action:</b> Lack of a reviewing process to link the ordered medication for Hyperthyroidism to the thyroid hormone results.</p>	<p>● <b>Training</b> Reinforce the assessment of laboratory results through the preview window during the medication ordering process.</p> <p><b>Responsibility:</b> Medical and Clinical Affairs</p>	Implementation	Completed
<p><b>Structure Model:</b> Ineffective structure of the Surgical ICU as the Anesthesia team monitors patients from all surgical specialties.</p>	<p>● <b>Architectural/physical plant changes</b> Create a Critical Care Medicine Department to oversee all Intensive Care Unit patients, including all post-operative patients, for all services.</p> <p><b>Responsibility:</b> Medical and Clinical Affairs</p>	Implementation	In Process
<p><b>Lack of Policy:</b> No process to track the patient's external or non-formulary medication history.</p>	<p>● <b>Standardize on equipment or process</b> Implement medication reconciliation to obtain a complete medication history for outpatients.</p> <p><b>Responsibility:</b> Medical and Clinical Affairs</p>	Implementation	In Process
<p><b>Input / Output (Technology):</b> Inadequate escalation of the wrong/unverified medication orders during the pharmacy verification to the ordering physician (resident), with no handover provided. In addition, unavailability of Laboratory results views in the pharmacy system to correlate with medication orders.</p>	<p>● <b>Software enhancements, modifications:</b></p> <ul style="list-style-type: none"> <li>- Increase Compliance with the escalation process for wrong/unverified orders in the ambulatory pharmacy.</li> <li>- Improve the handover process in the pharmacy.</li> <li>- System enhancement for pharmaceutical Care Services to integrate laboratory results while verifying medication orders.</li> </ul> <p><b>Responsibility:</b> Pharmaceutical Care Services</p>	Implementation	In Process
<p><b>Input / Output (Technology):</b> Lack of an "indication" field in the inpatient medication orders process.</p>	<p>● <b>Software enhancements, modifications:</b> Add an "indication" field for all medication orders in collaboration with HITA.</p> <p><b>Responsibility:</b> Medical Quality Management Committee</p>	Implementation	In Process
<p><b>Inadequate checks</b> Ineffective communication from the pharmacy regarding the availability of an alternative for the Patient's non-formulary medication, assuming the Patient would bring it from home.</p>	<p>● <b>Standardize on equipment or process</b> Refine the non-formulary and Patient's external medication ordering and verification process.</p> <p><b>Responsibility:</b> Pharmaceutical Care Services, Medical and Clinical Affairs</p>	Auditing	In Process

# MORTALITY AND MORBIDITY REVIEWS

Riyadh

Mortality Cases	Recommendations
<p><b>1) Cat 2 MRN 5443105</b>            2-month-old baby boy, born at an outside hospital with complex congenital heart disease. At 16 days old, he was admitted and the consensus among the cardiac MDT was to proceed with Norwood procedure. Due to unavailability of P-CSICU bed the surgery was cancelled which led to a delay in surgery. Unfortunately, he later deteriorated with sepsis and liver dysfunction, rendering him unfit for surgery, and he was made DNAR, and died.</p> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>The procedure was scheduled for the following day, but unfortunately due to unavailability of beds, the surgery was cancelled.</li> </ul>	<ul style="list-style-type: none"> <li>The issue of bed capacity is beyond the capability of health care providers and the scope of the committee, however is a risk for clinical care.</li> </ul>
<p><b>2) Cat 2 MRN 5151191</b>            A 44-year-old male with no past medical or surgical history was referred as a case of Malignant neoplasm of the caecum for further investigation and management. He presented to the DEM complaining of severe abdominal pain with vomiting and constipation. A CT abdomen pelvis with contrast revealed high-grade small bowel partial obstruction, secondary to neoplastic process/adenocarcinoma and was admitted under Colorectal Surgery service care. IVF was given along with antibiotics, and labs showed high lactate and other inflammatory markers. So, the decision was made to take the patient to OR for exploration. It was found intraoperatively that the patient had a large perforated cecal mass with extraluminal extension and perforation, mainly on the anterior side of the cecum. The right hemicolectomy and end ileostomy was performed. Code green was activated. At 0403, death was announced.</p> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>As per the colorectal surgery feedback, the consultant on-call intended to take the patient to the surgery as soon as the patient was resuscitated, but this was not clearly documented in the patient's electronic chart. The members felt that an undocumented plan for the patient led to misleading the medical team.</li> <li>The patient was not started on inappropriate antibiotics for suspected perforation prior to the surgery and the patient was inadequately resuscitated.</li> <li>Based on the clinical signs and presentation of the patient, the members agreed that the patient should have undergone surgery earlier as definitive management.</li> <li>The colorectal surgery team failed to recognize that the patient was actively in shock and failed to involve the critical care service in the patient management.</li> <li>Postoperatively, the patient had ST-segment-elevation myocardial infarction that was likely due to the underlying sepsis.</li> <li>It was also likely that the patient had toxic megacolon from Clostridioides difficile, which led to the patient's deterioration rapidly postoperative.</li> <li>The critical care team ordered the CT scan, but it was not performed due to the patient's condition at that time.</li> </ul> <p>This case demonstrated that the documentation in the PowerChart was suboptimal, and the communication between clinicians was poor.</p>	<ul style="list-style-type: none"> <li>Medical Affairs has to reemphasize adherence to the existing policy of Assessment/Reassessment of Patients &amp; Documentation Standards for Physicians. Particularly,               <ul style="list-style-type: none"> <li>Point 1.1.4.15, "Plan of Care shall be included in the Admission Note."</li> <li>Point 1.1.5, "The Admission Note shall be reviewed and signed by the attending consultant within 72 hours of completion."</li> </ul> </li> <li>Medical Affairs has to stress the importance of documentation in the patient records as it reflects the care provided to the patient during the hospital stay.</li> <li>The Surgery Department Chairman has to counsel the involved colorectal surgeon and just culture policy should be applied. Evidence of such counseling needs to be provided to Medical Affairs</li> <li>The committee members recommended that the patient who undergoes emergency surgery has to be reviewed during the round by the consultant, and the communication between services has to be between consultants.</li> <li>Patients who undergo emergency surgery with active medical comorbidities admitted to the critical care unit should have a formal multidisciplinary discussion with involved subspecialties; the agreed management plan needs to be documented in the patient's file.</li> </ul>

Morbidity Cases	Recommendations
<p><b>1) Major MRN 5013598</b>  A 39-year-old female patient, not known to have any medical illness, had a cesarean section delivery. Six weeks later, the patient had a blocked left breast and was hot to touch, with no discharge. The plan was to apply a warm compress and an oral antibiotic. US Breast showed multiple dilated ducts with internal echogenicity. BI-RADS category 3, which is probably benign. The patient had persistent breast engorgement/ pain, and could not pump any milk, she came as her pain seems to be persistent and not getting any better, despite using analgesics on a daily basis. A repeat US showed an infiltrative left breast mass occupying the entire breast associated with multiple clearly metastatic left axillary lymph nodes. The BI-RADS assessment was category 5, which is highly suggestive of malignancy. The contrast-enhanced mammogram showed a locally advanced left breast highly suspicious mass with associated multiple partially visualized enlarged left axillary lymph nodes.</p> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>• There was no clear plan documented in the patient's electronic chart despite the frequent visits to the FMD.</li> <li>• In view of frequent visits to the FMD clinic due to the same symptoms, the FMD physician failed to perform a further workup, to consider and rule out the differential diagnosis, which most likely contributed delay in diagnosis and management.</li> <li>• It also appears that there was a lack of supervision of the trainees in the FMD.</li> <li>• Consultation with the breast and endocrine surgery service was verbal with the junior resident, and no official consultation to follow up on the patient was conducted.</li> <li>• The FMD consultant failed to follow the policy of Obtaining and Documenting Outpatient Medical Consultation Services.</li> <li>• In the initial ultrasound, there was an area that looked very dark, very low hypochoic, and a little bit regular, which was misinterpreted as inflammation hypervascularity.</li> <li>• The members agreed that this misinterpretation was most likely due to relying the women's imaging radiologist on the clinical history rather than ultrasound findings.</li> <li>• This misinterpretation led to a delay in the diagnosis and management.</li> <li>• Based on the first ultrasound images, the experts recommended that the BI-RADS category or 4 should be assigned to the case rather than BI-RADS category 3.</li> </ul>	<ul style="list-style-type: none"> <li>• Medical Affairs shall formulate a task force to review the cases that were performed by the involved women's imaging radiologist to evaluate his performance.</li> <li>• The Family Medicine &amp; Polyclinics Department Director has to reemphasize strict adherence to the existing policy of Obtaining and Documenting Outpatient Medical Consultation Services.</li> <li>• The Family Medicine &amp; Polyclinics Department has to have a robust system for close follow-up for patients who had frequent visits due to unresolved symptoms.</li> <li>• The Family Medicine &amp; Polyclinics Department Chairman has to counsel the involved FMD physician based on the just culture approach. Evidence of such counseling needs to be provided to Medical Affairs.</li> <li>• The Radiology Department Chairman has to counsel the involved women's imaging radiologist based on the just culture approach. Evidence of such counseling needs to be provided to Medical Affairs.</li> </ul>
<p><b>2) Minor MRN 5292868</b>  A 51-year-old female with a history of Left breast cancer who was diagnosed in 2019, Underwent Left Skin Sparing Mastectomy with Sentinel lymph node biopsy.  September 2022, the right breast and axilla ultrasound was performed, which showed that the size, outlines, and appearance of the complicated cyst in the right breast 1 o'clock position had not changed significantly. On March 2023, the patient was seen in the breast oncology clinic. It was noted that the patient had palpable tiny axillary left lymph adenopathy. The left axilla ultrasound was performed. It showed a suspicious enlarging left axillary lymph node. a US-guided core needle biopsy of the left axillary lymph node was performed on the same day. The left axillary lymph node biopsy histopathology was reported as positive for carcinoma with abundant extracellular mucin.</p> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>• There was a new lymph node that looked very aggressive and very suspicious near the lymph node that was biopsied in 2021.</li> <li>• The new lymph node was missed by the women's imaging radiologist.</li> </ul> <p>During the discussion, the committee members expressed their concerns regarding the clear misinterpretation of the ultrasound findings in both cases by the same women's imaging radiologist, and they felt that this misinterpretation might have occurred in other unreported cases.</p>	

Morbidity Cases	Recommendations
<p><b>3) Major MRN 897732</b></p> <p>A patient with a history of Factor XIII deficiency, congenital hydrocephalus, status post intracranial hemorrhage V-P Shunt placement and spontaneous intracranial hemorrhage presented to the hospital 3 times between with symptoms of headache and vomiting, the patient was treated as acute sinusitis. Later, the patient presented to EMS with headache associated with visual changes in the form of decrease vision over the last few weeks. Patient was found with high ICP and subsequently developed complete loss of vision.</p> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>• The patient was managed as a case of sinusitis based on the CT brain results which was done to rule out intracranial event.</li> <li>• In the second Emergency visit and Hematology clinic visit, the patient had additional complaint of bilateral ear pain which was not considered as indicating increased ICP.</li> <li>• There was no documentation from the first two Emergency visits and the Hematology clinic visit for any complaint of visual symptoms.</li> <li>• It is not clear or documented, before the third DEM visit, when the patient started complaining of decreased vision.</li> <li>• There was no consultation to the Neurology service for a high risk patient presenting for two repetitive visits to the DEM with unresolved headache.</li> <li>• A fundoscopic exam in the first two Emergency visits could have help in identifying papilledema if high ICP was detected.</li> <li>• The patient was found to have increased ICP due to the malfunctioning VP shunt.</li> <li>• The patient already developed papilledoma, optic nerve atrophy, and senso-retinal vein occlusion when examined by the Ophthalmology team.</li> <li>• Delay in recognition of the high ICP due to diagnosis bias of sinusitis. The managing team was misled by the alternative diagnosis of sinusitis.</li> <li>• There is no neuro-ophthalmologist in KFSH for better evaluation of similar type of cases.</li> </ul>	<ul style="list-style-type: none"> <li>• DEM to involve the appropriate specialties for patients presenting with specific pathologies for formulating the accurate diagnosis and for proper management.</li> <li>• Emergency medical staff to consider the red flags and widening the differential diagnosis for patients with specific high risk factor returning to the Emergency room for the same complaint with additional signs and symptoms.</li> <li>• Emergency medical staff to perform a fundoscopic exam or involve the Ophthalmology service to do it for high risk patients returning to the Emergency room with unresolved headache.</li> <li>• Neuroscience center in collaboration with the Emergency and Medicine departments to develop a pathway for headache management. This will help to identify patients with high risk and assist in the appropriate and timely management. The Medical Affairs to recruit a Neuro-Ophthalmologist for appropriate management and follow up for similar type of patients.</li> <li>• Neuroscience center in collaboration with the Emergency and Medicine departments to develop a pathway for headache management. This will help to identify patients with high risk and assist in the appropriate and timely management.</li> </ul> <p>The Medical Affairs to recruit a Neuro-Ophthalmologist for appropriate management and follow up for similar type of patients.</p>

# MORTALITY AND MORBIDITY REVIEWS

Jeddah

Morbidity Cases	Recommendations
<p><b>1) Cat 2 MRN 5437971</b>            A 9-year-old female patient who had Left side radial ray bone anomaly with thumb aplasia. She had pollicization procedure (converting a digit into a position of a thumb), hours later she had cyanosis of the operated digit. The patient developed an ablation of the necrotic digit.            Hematological investigation results finding confirmed, the patient does have von Willebrand disease entity.</p> <p><b>Issues:</b>            Von Willebrand disease was discovered incidentally, there was no way it had been detected since the preoperative blood tests were normal, and since the patient had previous surgery with no problems.</p> <ul style="list-style-type: none"> <li>• Major Morbidity with NO omission and /or commission identified.</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage a multidisciplinary meeting for high risk cases as per surgeon.</li> <li>• A hematology nurse assessment clinic to be started for high risk cases as per surgeon.</li> </ul>
<p><b>2) Major MRN 607981</b>            A 16-year-old male patient, had living-related donor renal transplant. Post-OP kidney Doppler US showed generalized decreased perfusion with absent diastolic flow. Next day, a nuclear medicine renal scan showed no definite perfusion. The patient was returned to the operating room, the allograft was found pale and bruised. The kidney was explanted, flushed with perfusion fluid and of heparin, a renal artery thrombus was noted and removed , the parenchyma color didn't returned to normal. The surgeons agreed that the kidney was unlikely to be viable and proceeded to allograft nephrectomy.</p> <p><b>Issues:</b>            Renal artery thrombosis post renal transplant, ended with allograft nephrectomy.</p> <ul style="list-style-type: none"> <li>• Major Morbidity with NO omission and /or commission identified.</li> </ul>	<ul style="list-style-type: none"> <li>• The use of intraoperative ultrasound to check graft patency, especially in high-risk cases.</li> <li>• The early use of nuclear medicine in cases of suspected ischemia, especially in high-risk cases or multi-vessel re-implantation.</li> </ul>
<p><b>3) Major MRN 5040427</b>            11-year-old male patient admitted to PICU as a case aspiration pneumonia, he has spastic cerebral palsy, bedridden, and severe osteopenia. During routine care, the bedside nurse noted a swelling in the right thigh. X-ray showed a complete fracture with impaction involving the distal femoral diaphysis.</p> <p><b>Issues:</b>            The patient developed a fracture during admission.</p> <ul style="list-style-type: none"> <li>• Major Morbidity with NO omission and /or commission identified.</li> </ul>	<ul style="list-style-type: none"> <li>• Physicians should identify patients who are at risk for fracture and enter a communication order to the nursing team to place a "high risk for fracture" sign at the patient's bedside.</li> <li>• Review the inclusion criteria for "high risk for fracture patients" and include cerebral palsy with severe contractures as a high risk for fracture diagnosis.</li> </ul>
<p><b>4) Major MRN: 5412489</b>            44 years old male patient known to have urethral stricture was taken to the OR. Upon routine insertion of Foley's catheter, and inflation of the balloon, dark blood came out. Urology was consulted, and attempted catheters with different sizes but weren't successful. So they decided on a suprapubic catheter.</p> <p><b>Issues:</b>            Urethral injury during Foley catheter insertion.</p> <ul style="list-style-type: none"> <li>• Major Morbidity with NO omission and /or commission identified.</li> </ul>	<ul style="list-style-type: none"> <li>• Urology should be consulted for patients with history of urethral stricture, urethral surgery, and prostate surgery for Foley catheter insertion.</li> </ul>

# MEDICOLEGAL REPORT

Jeddah Medicolegal

For the sake of this report in efforts to make it standardized and not to miss cases, we will be reporting cases with the following criteria:

1. Cases that were referred to an external legal authority during the quarter.
2. Cases that were closed/settled by the external legal authority during the quarter.

Case Description	Corrective Actions
<p><b>Complaint Date: 03/08/2022</b> <b>MRN: 991493</b></p> <p><b>Complaint Description (M&amp;M)</b> A 54-year old female patient with locally recurrent breast cancer, status post-surgery followed by adjuvant chemotherapy and radiation therapy. She received multiple lines of endocrine therapy, and she is currently on Letrozole and CDK4/6 inhibitor. She has chronic Hepatitis C virus, Osteoporosis, hypothyroidism, gastroesophageal reflux disease, depression, and anxiety.</p>	<ul style="list-style-type: none"><li>• The committee did not find clear evidence for deviation from the standard of care.</li></ul>

# ACCREDITATION/CERTIFICATION REPORT

## RIYADH

Second Quarter 2023			
Accreditation/Certification Name	Visit Date	Report Received	Remarks (Score, if any)
Re-accreditation of KFSH&RC-Riyadh as Academic Medical Center by Joint Commission International (JCI) based on 7 <sup>th</sup> edition standards.	25 May-1 June 2023	Yes	KFSH&RC-Riyadh accredited for three (3) years until May 2026.

## JEDDAH

Second Quarter 2023			
Accreditation/Certification Name	Visit Date	Report Received	Remarks (Score, if any)
Magnet re-accreditation site visit	Mar-23	Yes	Designation earned in May 2023 valid up to May 2026.
ISO 14001 and 45001 Certification (New Accreditation)	Jan-23	Yes	Certification received in Jun 2023 to be the first tertiary healthcare organization certified.

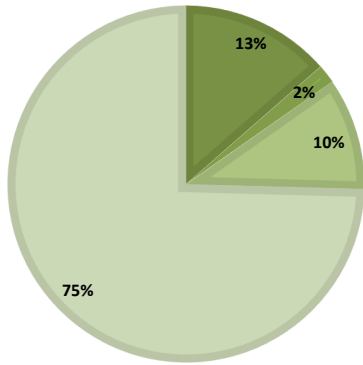
## MADINAH

Second Quarter 2023			
Accreditation/Certification Name	Visit Date	Report Received	Remarks (Score, if any)
The Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI)	Dec-23	Jan-23	Overall Score: 97.93



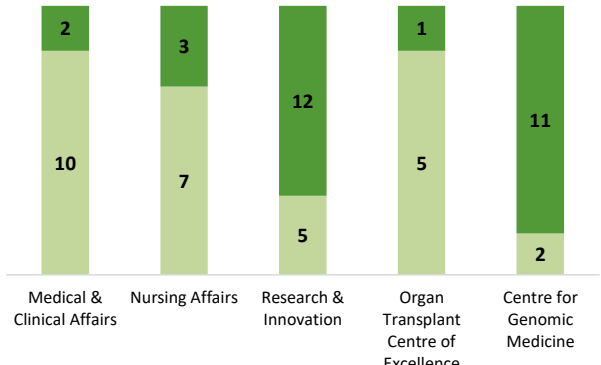
# CLINICAL RISK MANAGEMENT

## Riyadh



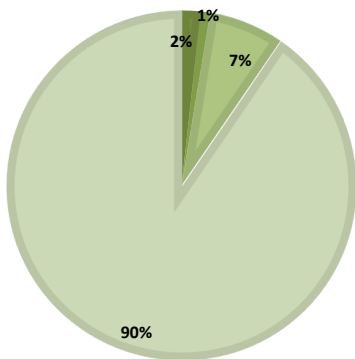
■ Strategic ■ Financial ■ Compliance ■ Operational

## Risk Rating



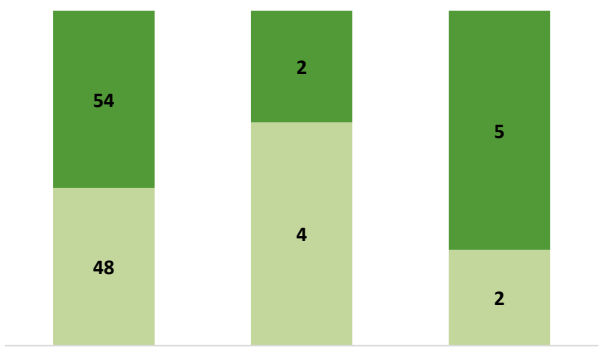
■ Active Management ■ Continuous Review

## Jeddah



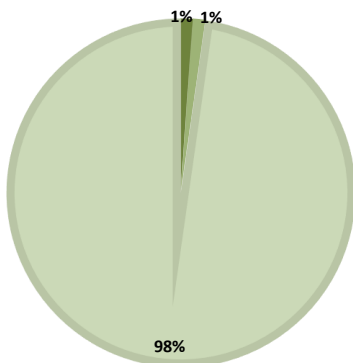
■ Strategic ■ Financial ■ Compliance ■ Operational

## Risk Rating



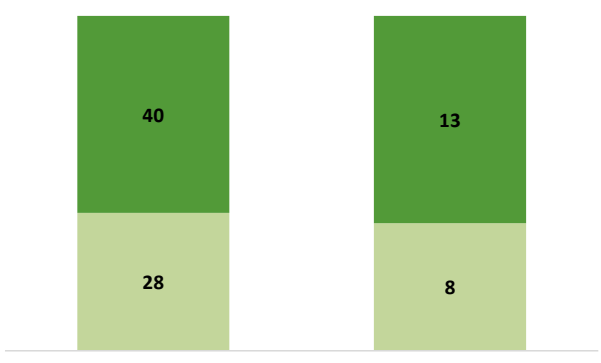
■ Active Management ■ Continuous Review

## Madinah



■ Strategic ■ Financial ■ Compliance ■ Operational

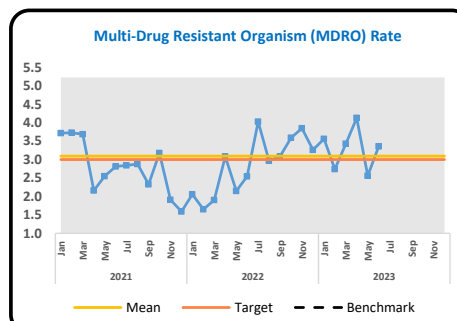
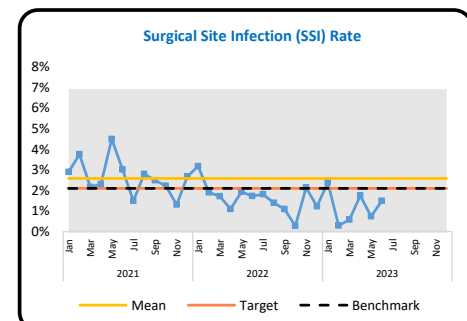
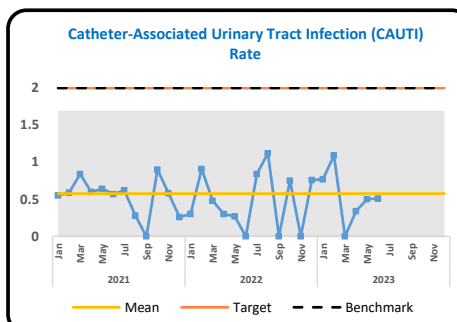
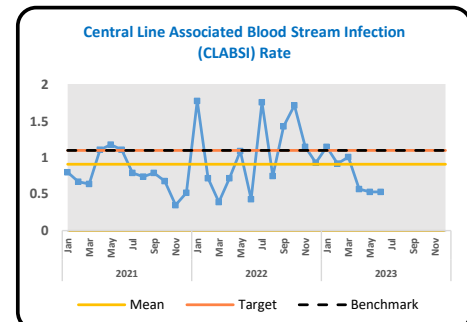
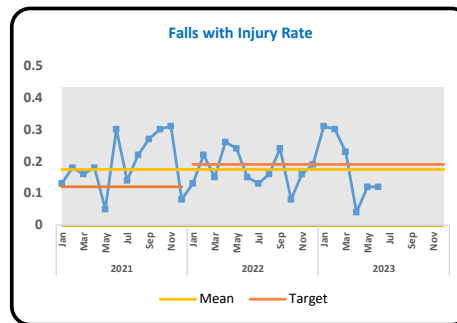
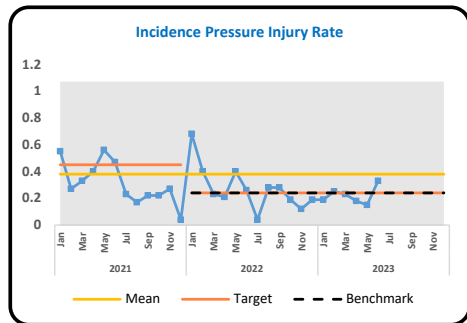
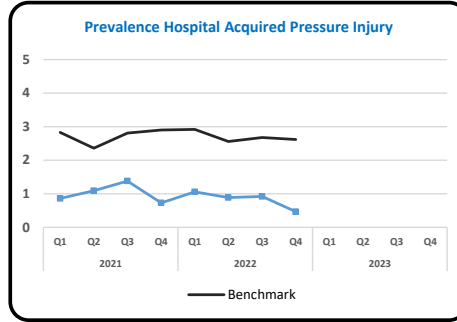
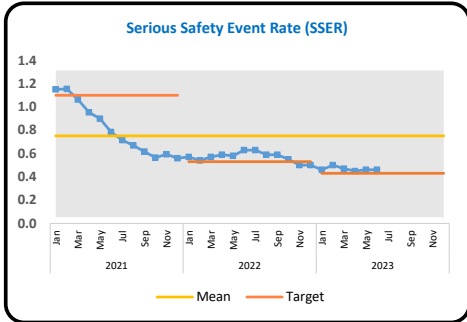
## Risk Rating



■ Active Management ■ Continuous Review

### Definitions:

- Active Management: Risks where current treatment options require active review and management.
- Continuous review: Control is adequate, continued monitoring of controls over time (e.g. at least quarterly) is required to confirm this.

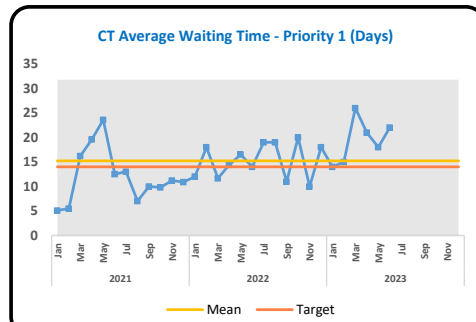
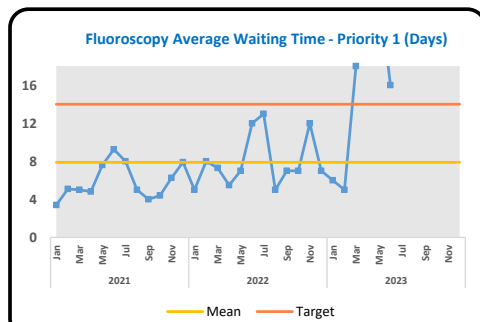
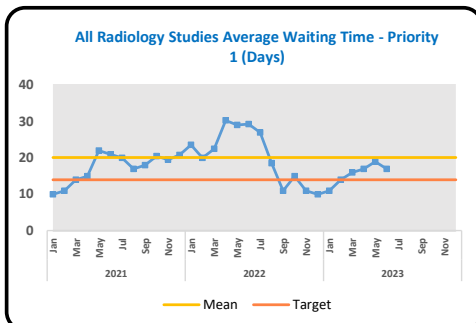
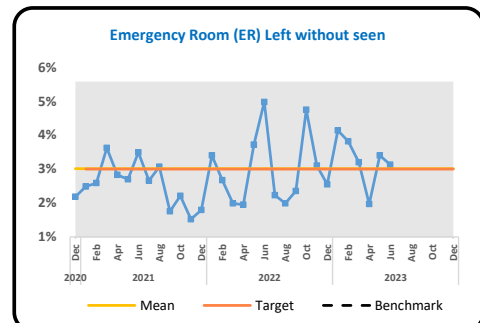
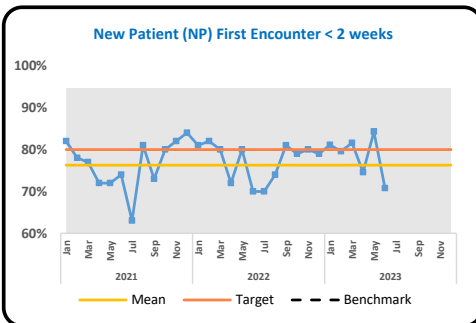
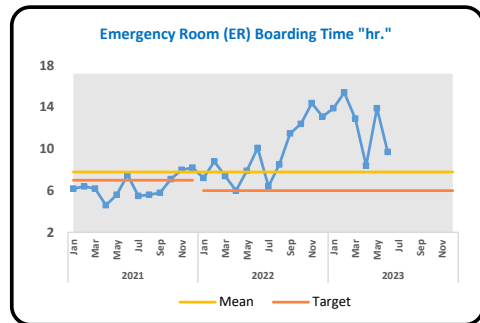
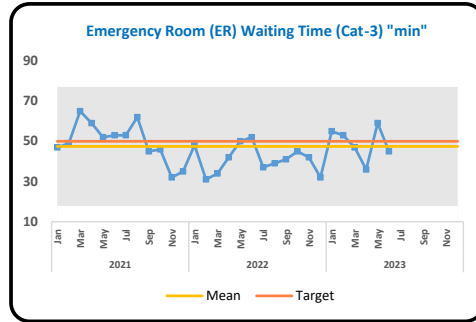
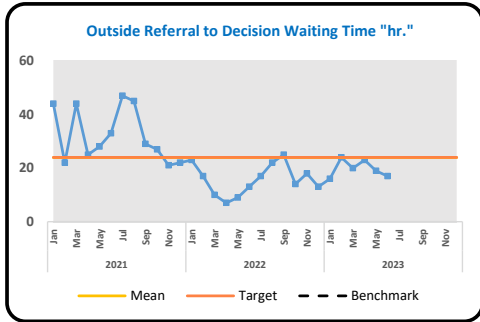






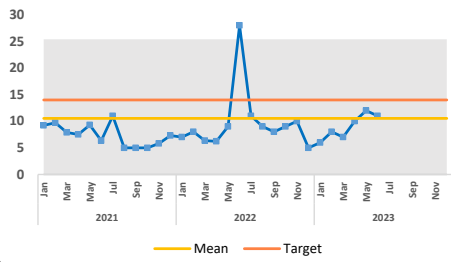


Access

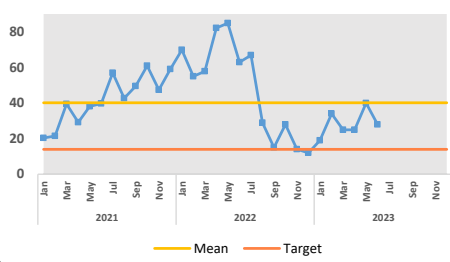




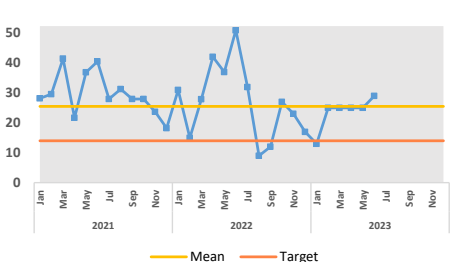
NM Average Waiting Time - Priority 1 (Days)



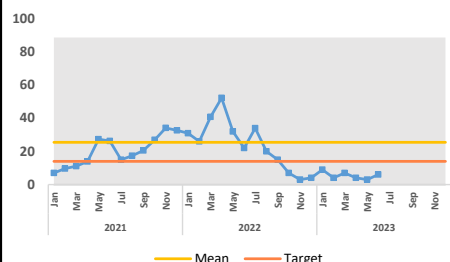
MRI Average Waiting Time - Priority 1 (Days)



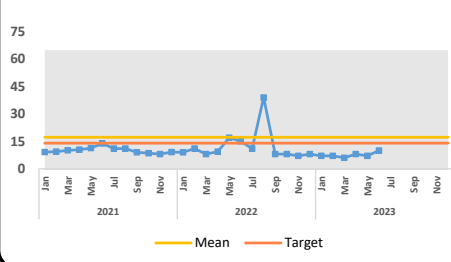
PET/CT Average Waiting Time - Priority 1 (Days)



US Average Waiting Time - Priority 1 (Days)

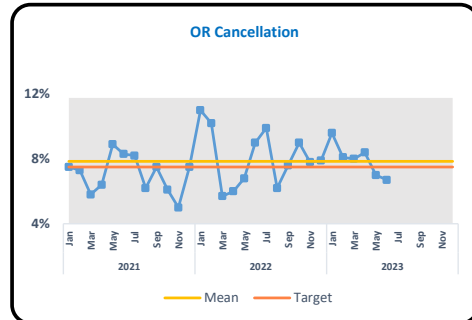
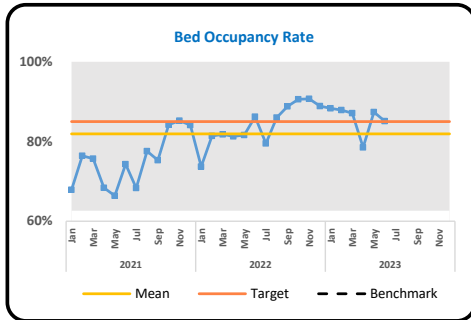
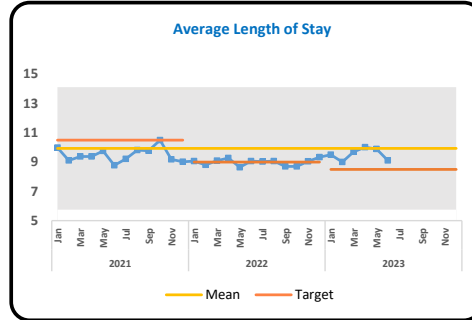
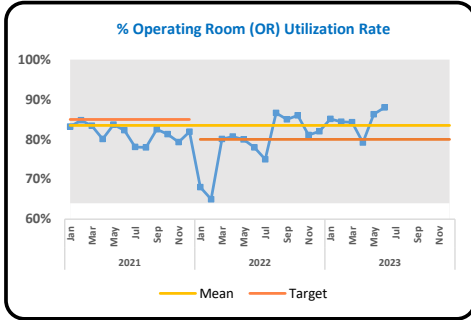


Mammography Average Waiting Time - Priority 1 (Days)





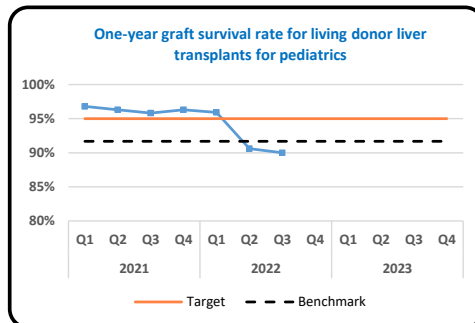
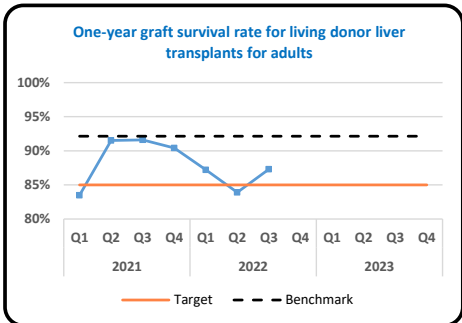
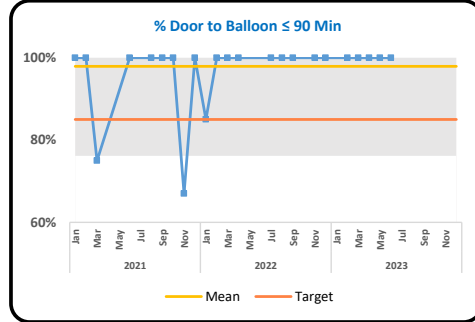
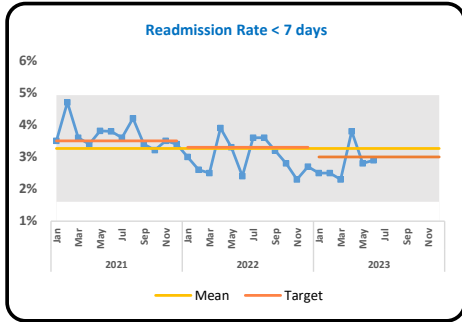
Efficiency





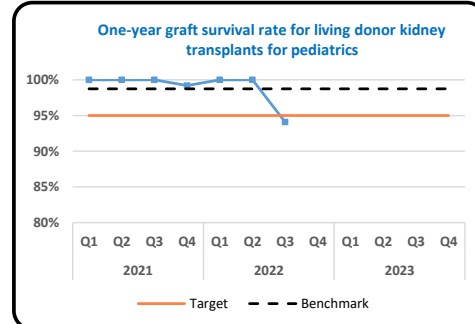
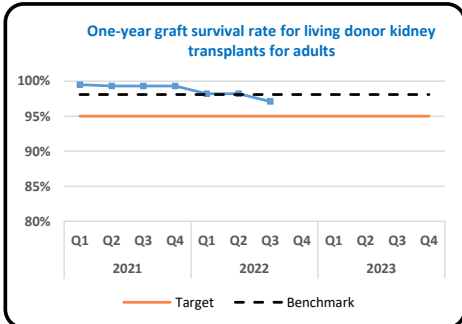


Effectiveness



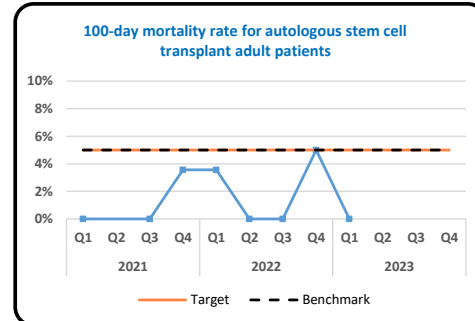
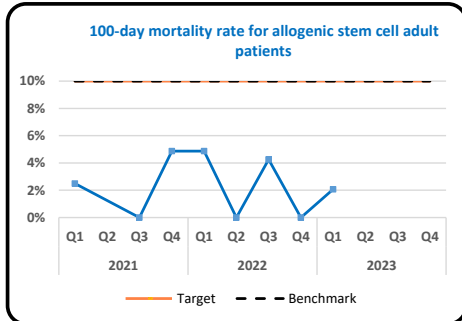
Waiting OTC feedback

Waiting OTC feedback



Waiting OTC feedback

Waiting OTC feedback

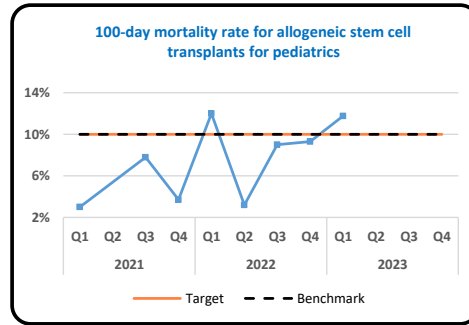
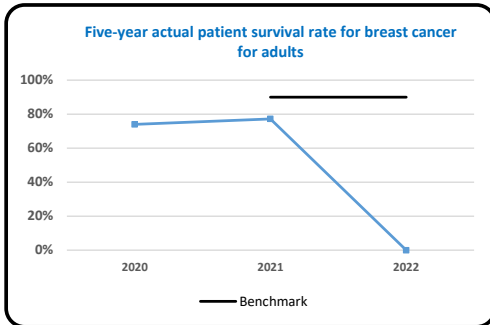
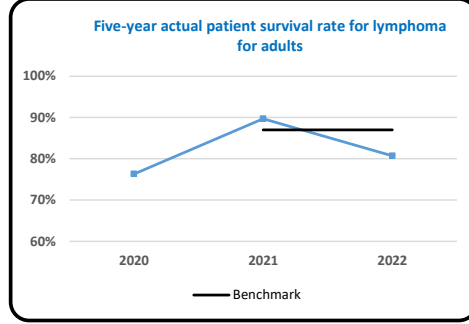
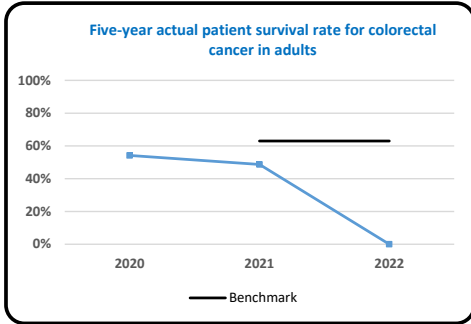


Waiting OTC feedback

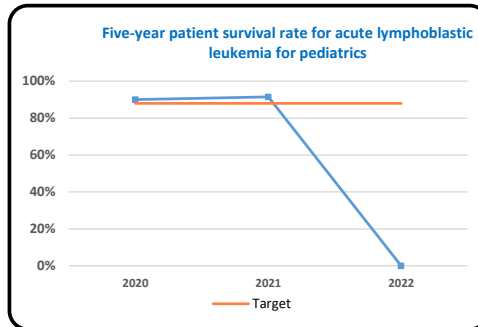
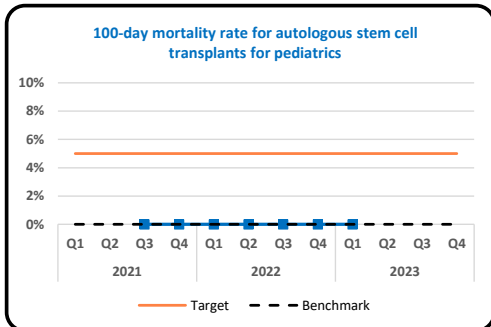
Waiting OTC feedback



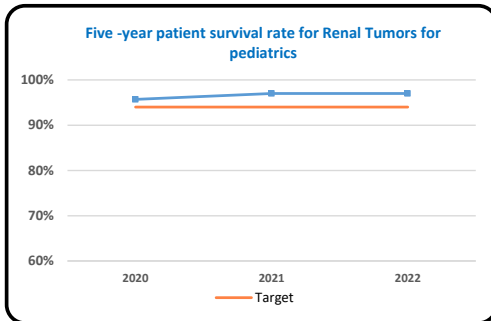
Effectiveness



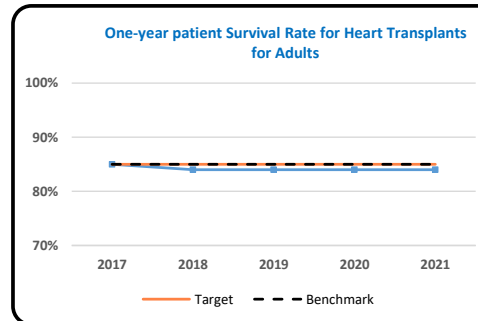
C



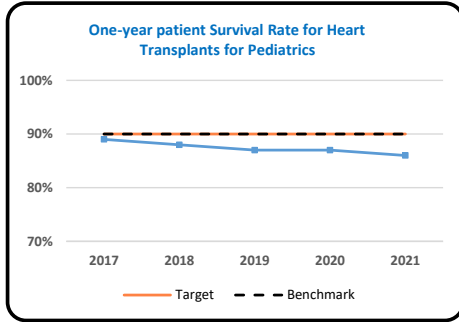
Waiting Oncology feedback



Waiting Oncology feedback

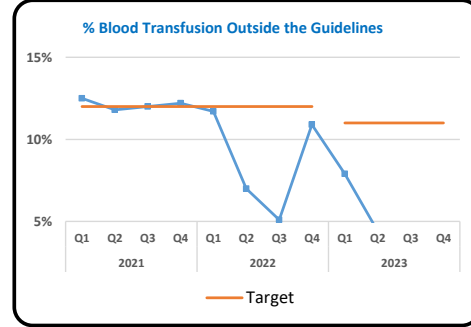
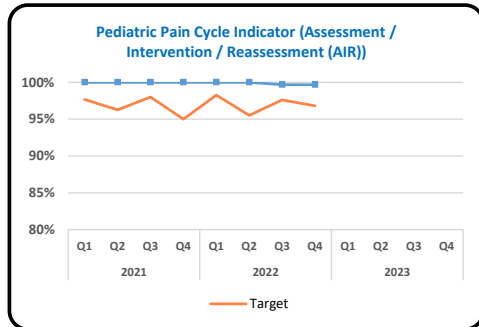
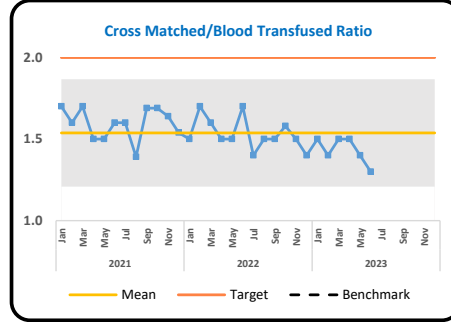
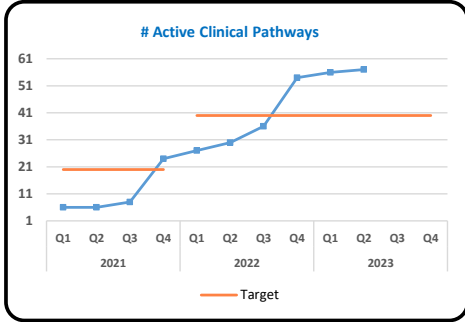


P.S. Cumulative data from 2005 till the mentioned years above.



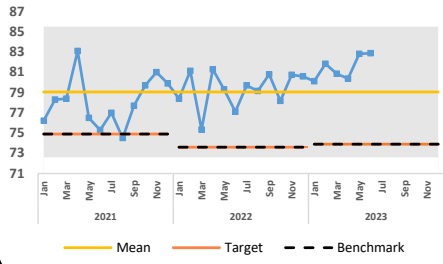
P.S. Cumulative data from 2005 till the mentioned years above.

Effectiveness

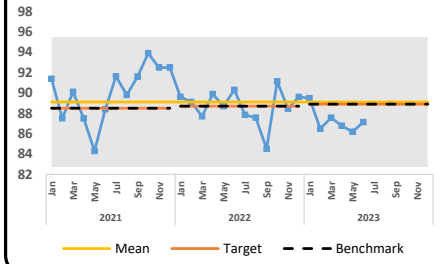




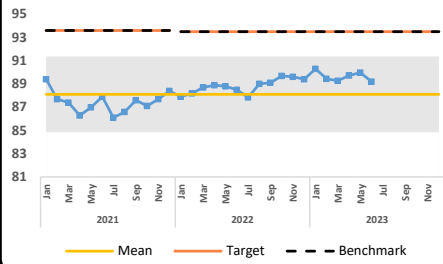
Overall Hospital Rating (Adult inpatients) (HCAHPS)



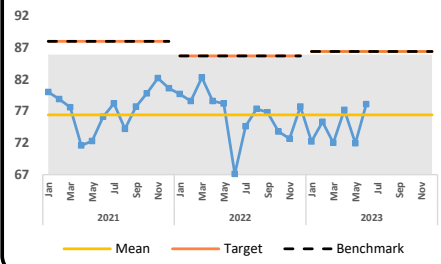
Inpatient Pediatrics Experience



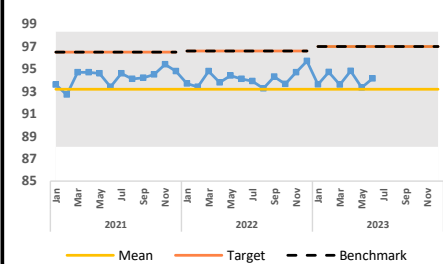
Outpatients Experience



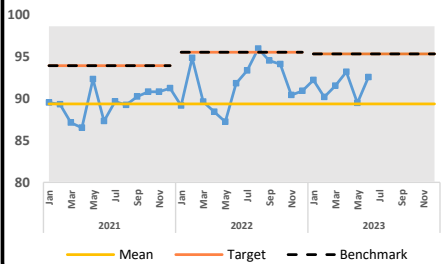
Emergency Room Experience



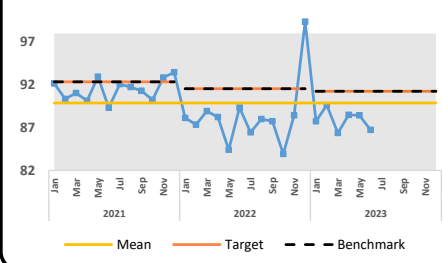
Ambulatory Care Experience



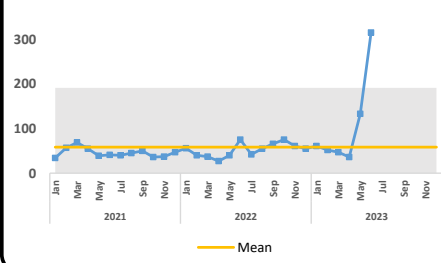
Oncology Outpatient Experience

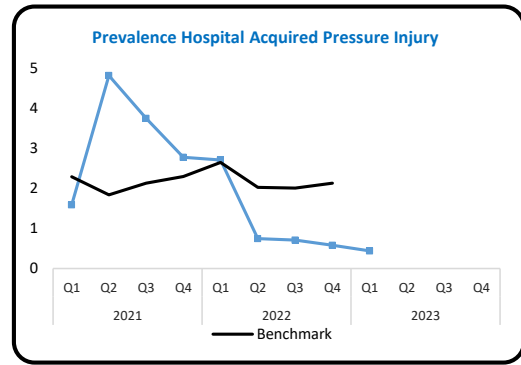
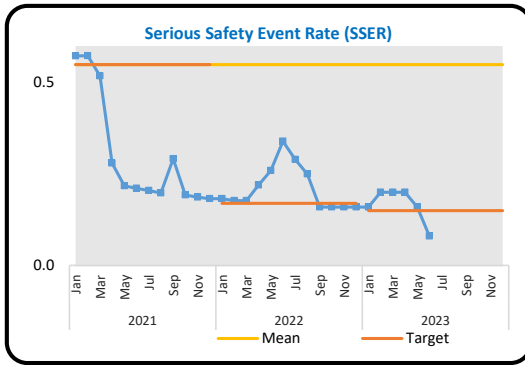


Dental Services Experience

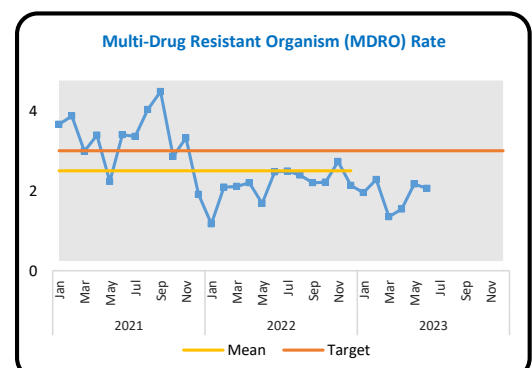
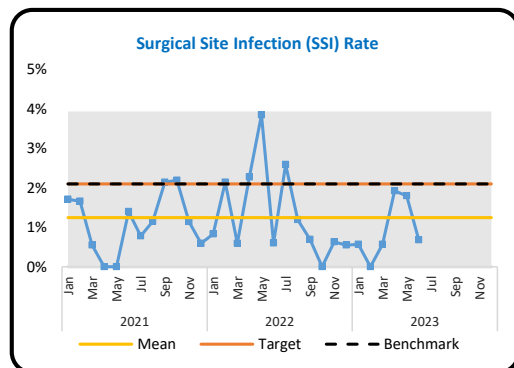
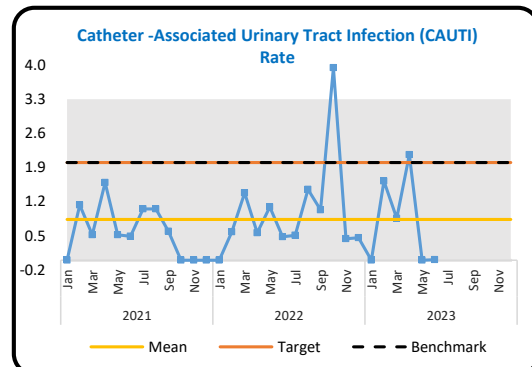
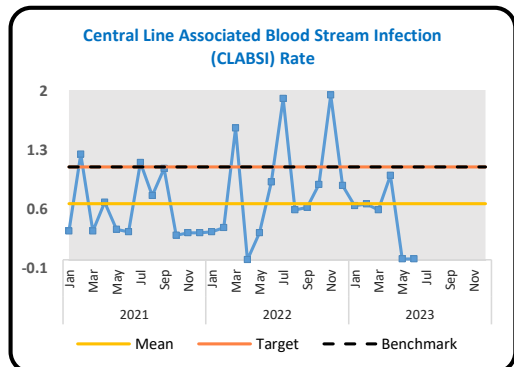
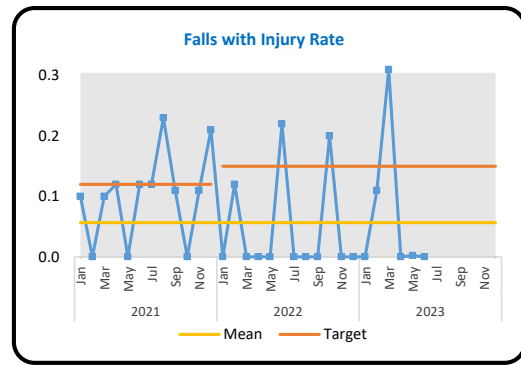
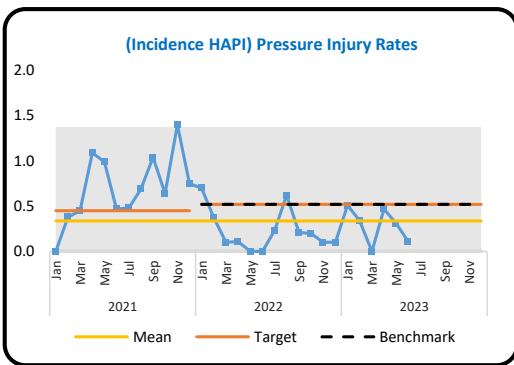


Patient Complaints





No data yet

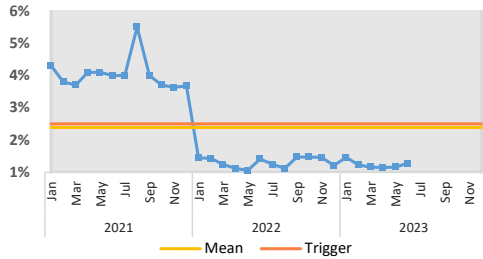




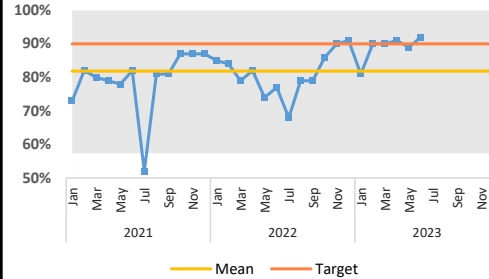




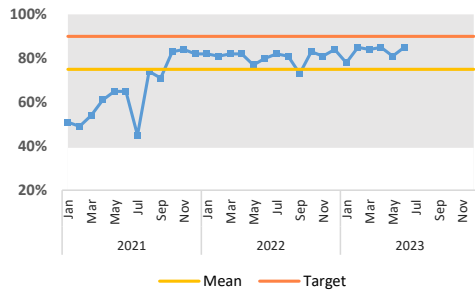
**% Medication Override from the Automated Dispensing Cabinets (ADC)**



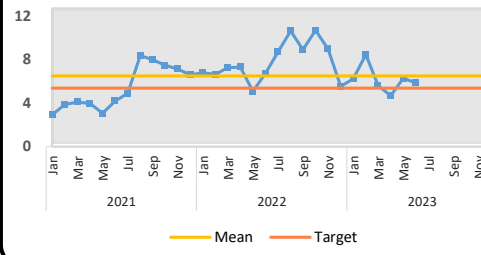
**% Admission Medication Reconciliation**



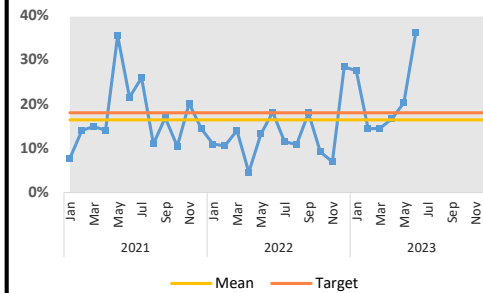
**% Discharge Medication Reconciliation**



**Reported Medication Errors per 1000 adjusted patient days**

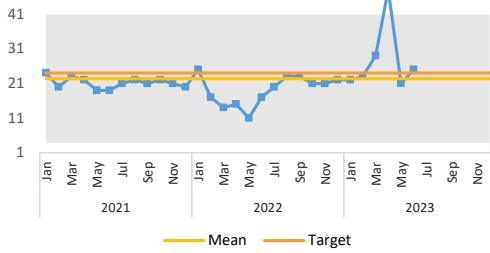


**% Medication Errors Reaching the Patient**

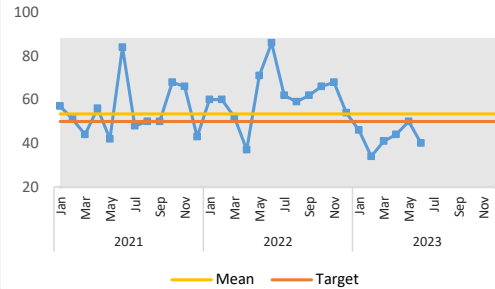




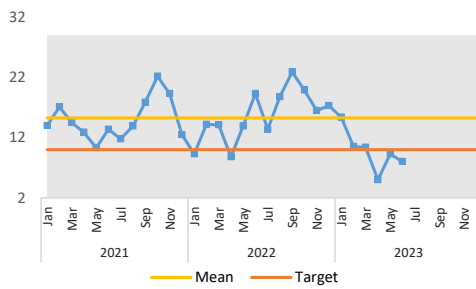
Outside Referral to Decision Waiting Time "hr."



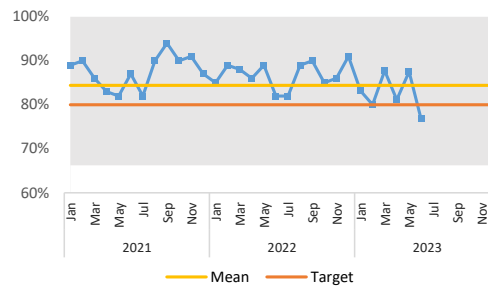
Emergency Room (ER) Waiting Time (Cat-3) "min"



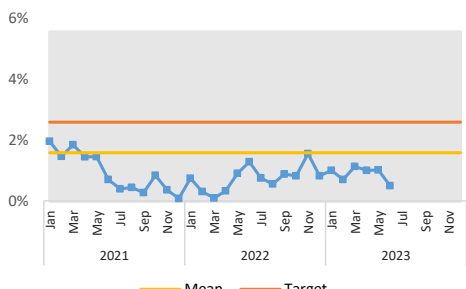
Emergency Room (ER) Boarding Time "hr."



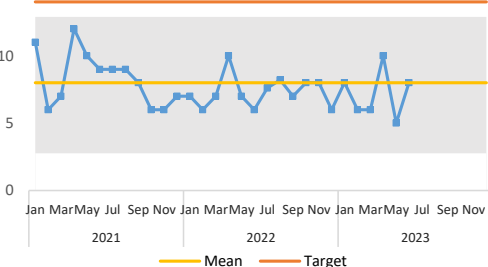
New Patient (NP) First Encounter <2 weeks



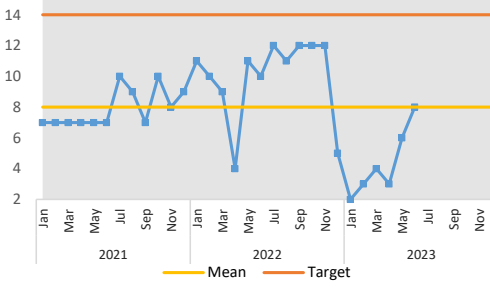
Emergency Room (ER) left without seen



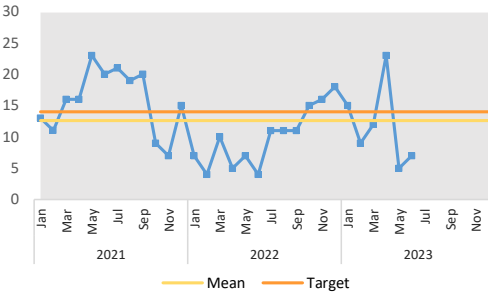
All Radiology Studies Average Waiting Time for Priority 1 (Days)



Fluoroscopy Average Waiting Time for Priority 1 (Days)

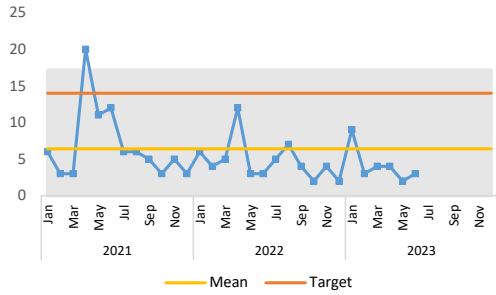


CT Average Waiting Time for Priority 1 (Days)

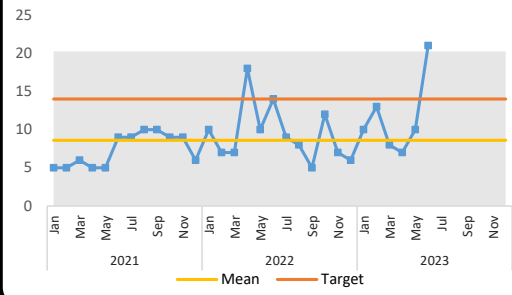




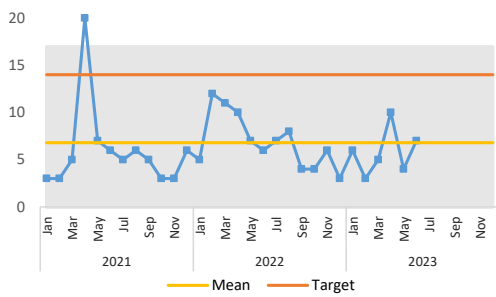
NM Average Waiting Time for Priority 1 (Days)



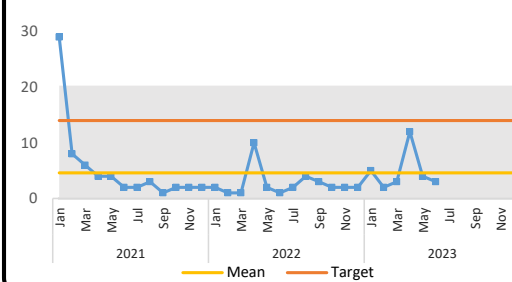
MRI Average Waiting Time for Priority 1 (Days)



US Average Waiting Time for Priority 1 (Days)



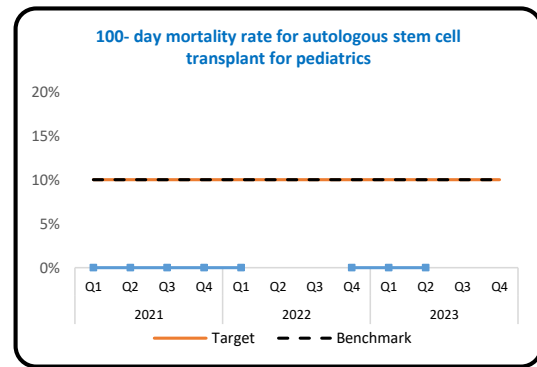
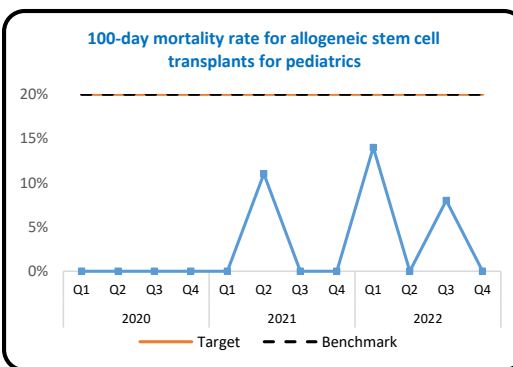
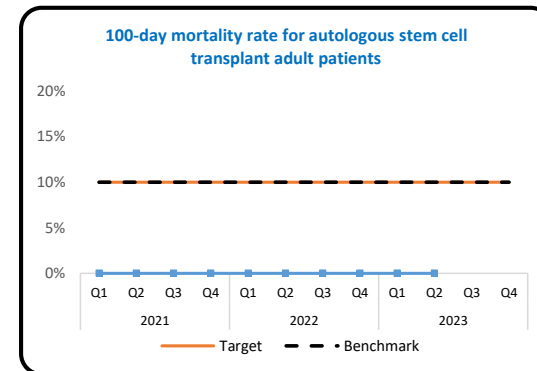
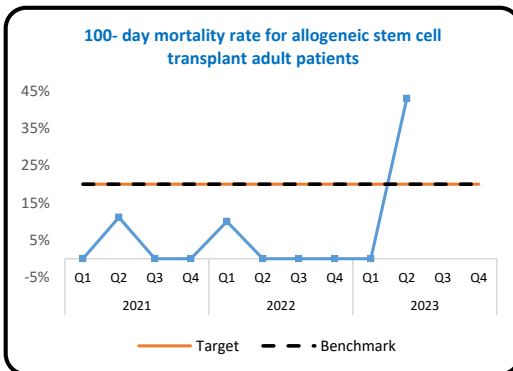
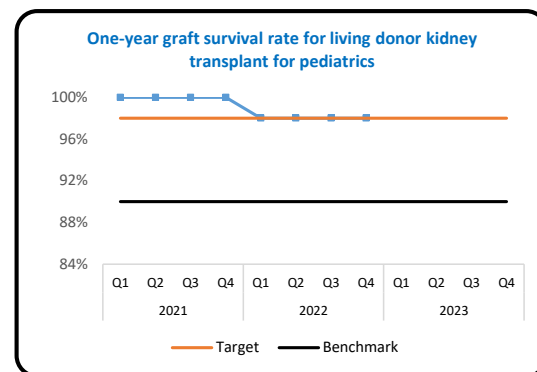
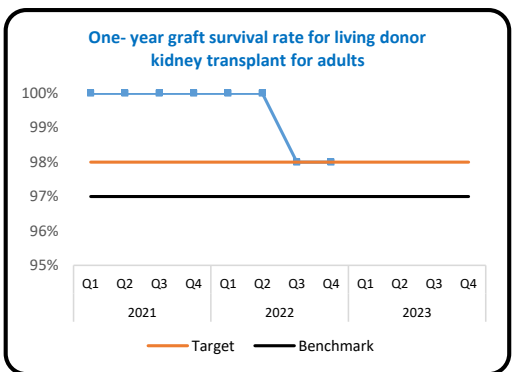
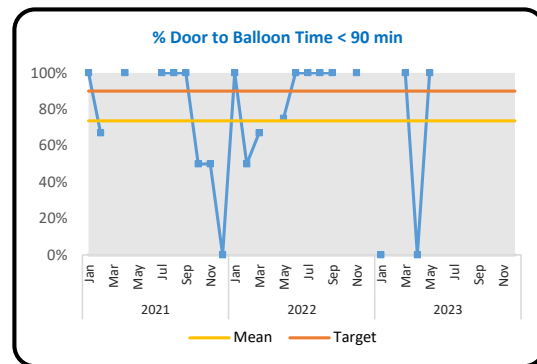
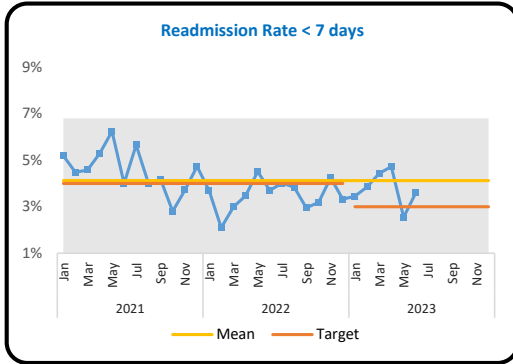
Mammography Average Waiting Time for Priority 1 (Days)





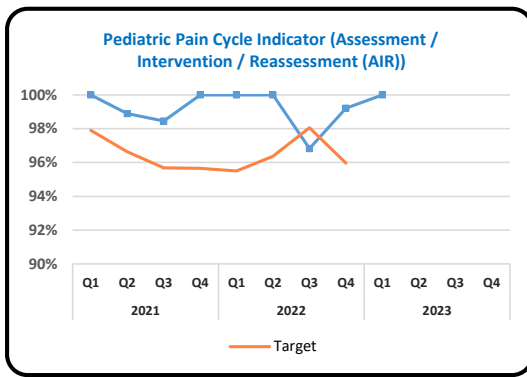
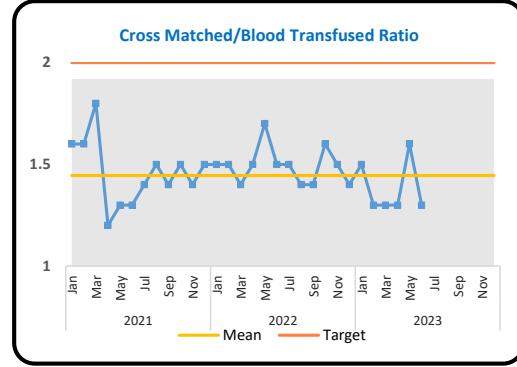
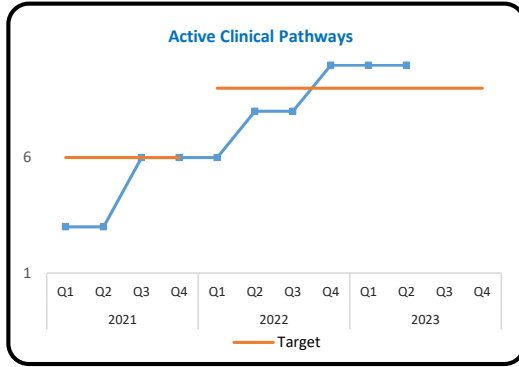


Effectiveness

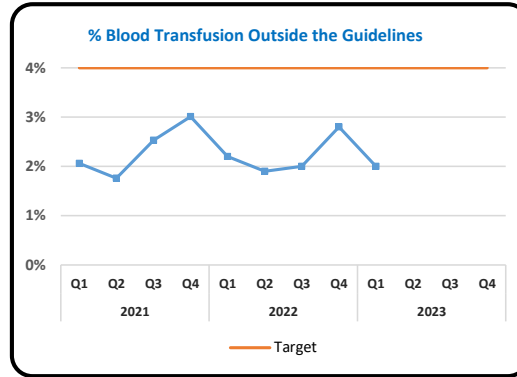




Appropriateness



No data

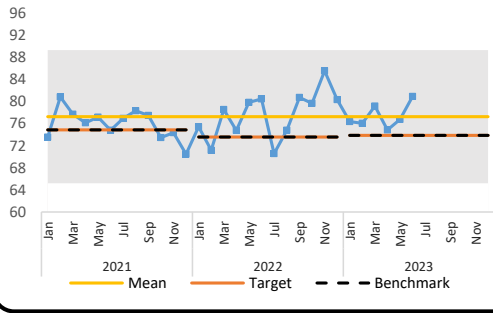


No data

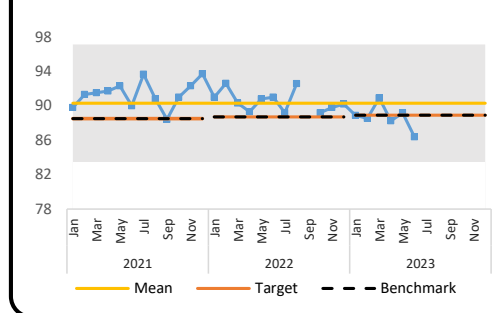


Experience

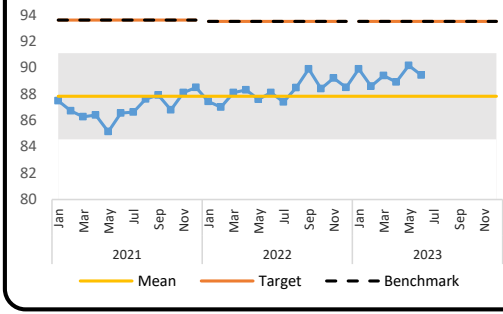
Overall Hospital Rating (Adult Inpatients)



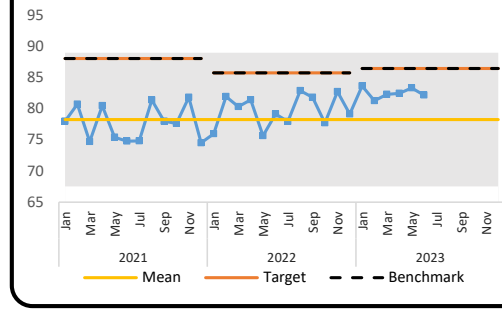
Inpatient Pediatrics Experience



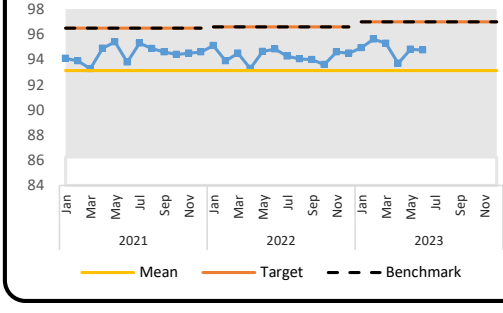
Outpatient Experience



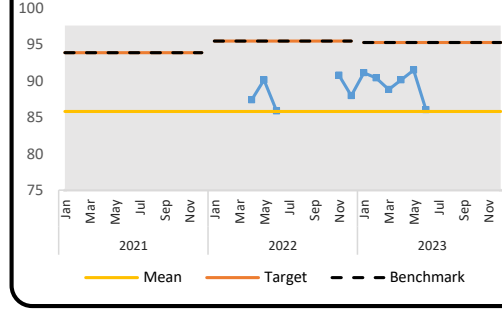
Emergency Room Experience



Ambulatory Care Experience

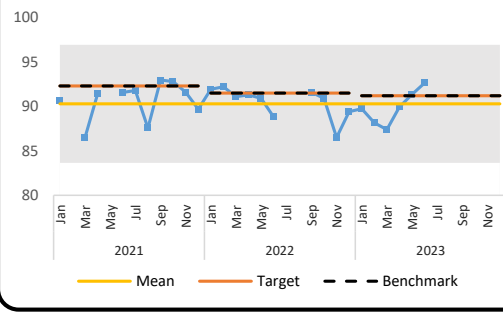


Oncology Outpatient Experience

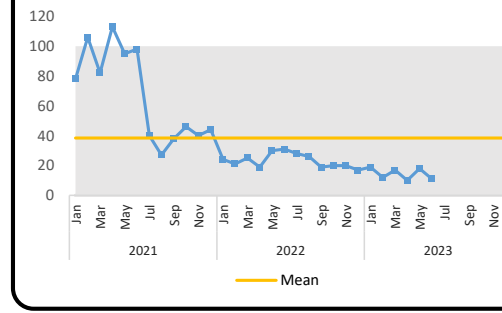


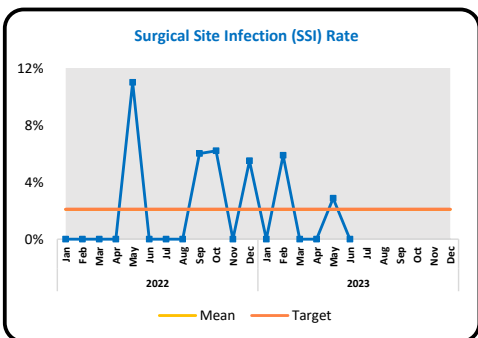
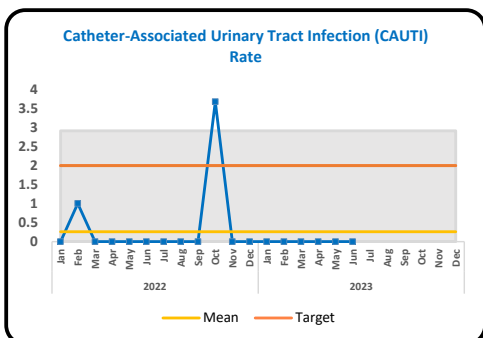
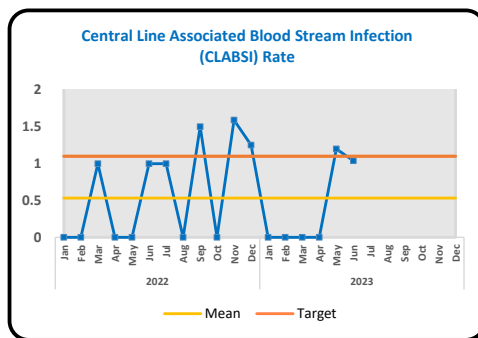
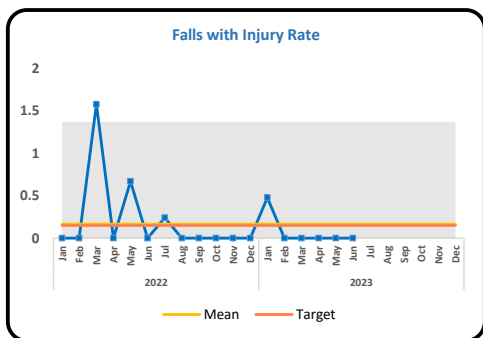
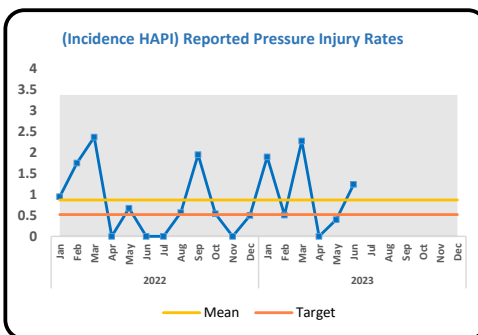
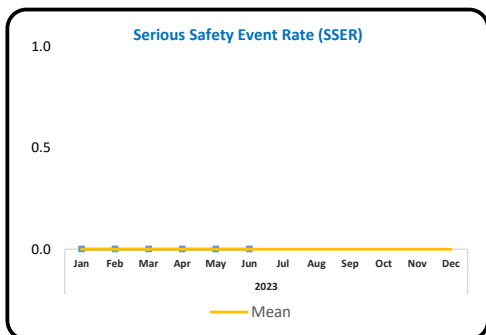
P.S. The sample size is very small.

Dental Services Experience

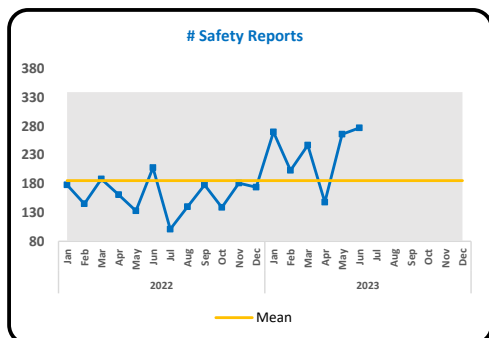
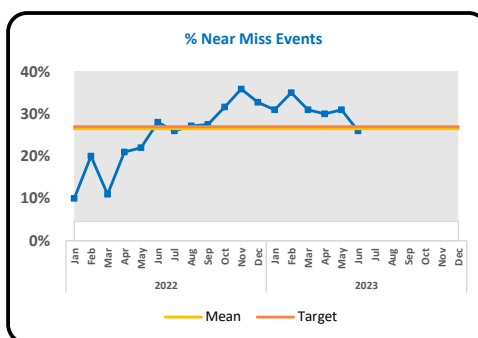
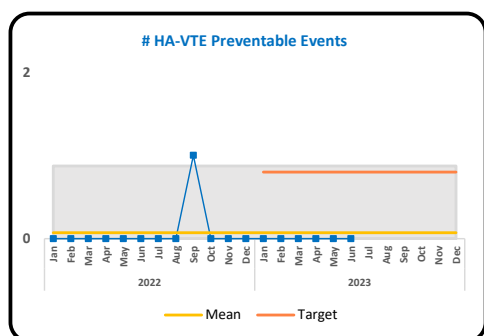
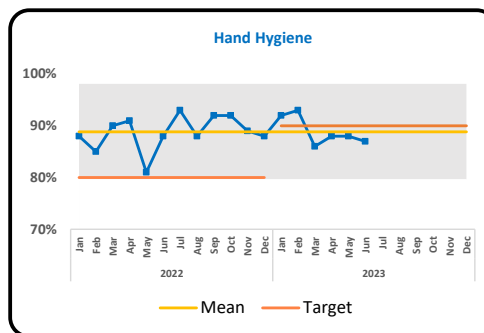
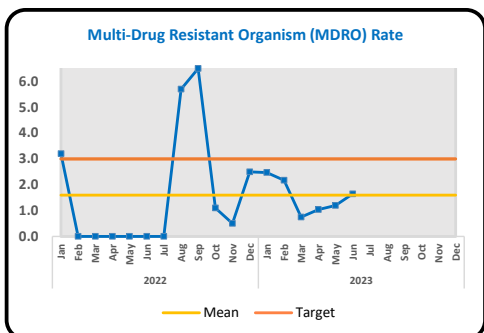


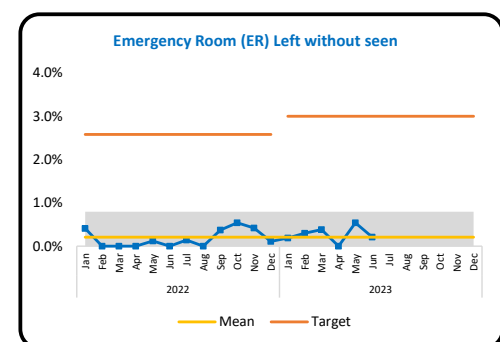
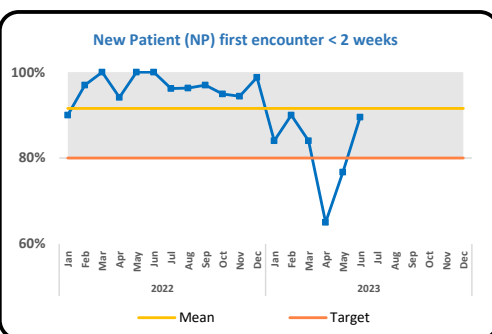
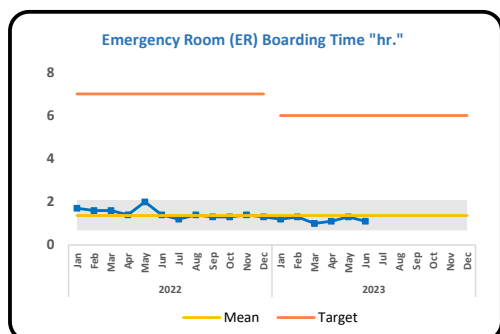
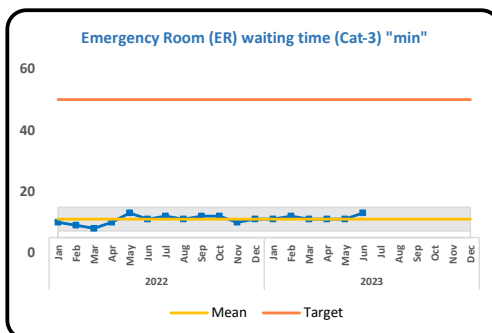
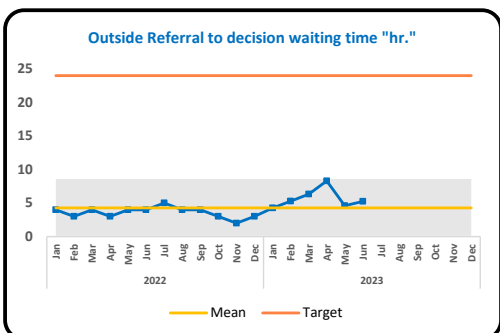
Patient Complaint





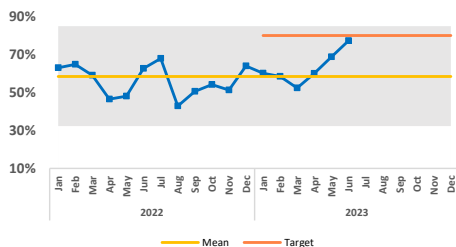




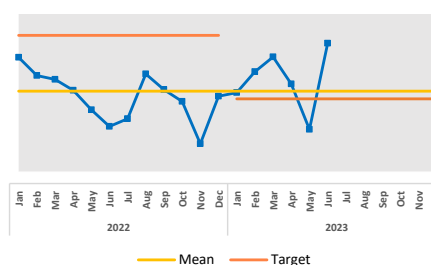




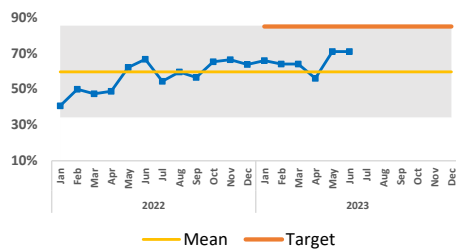
% Operating Room (OR) Utilization Rate



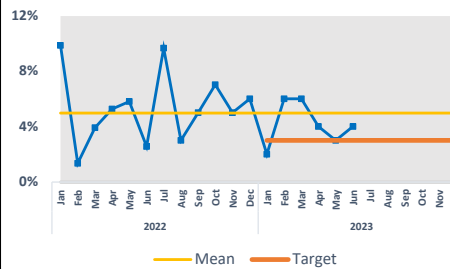
Average Length of Stay



Bed Occupancy Rate

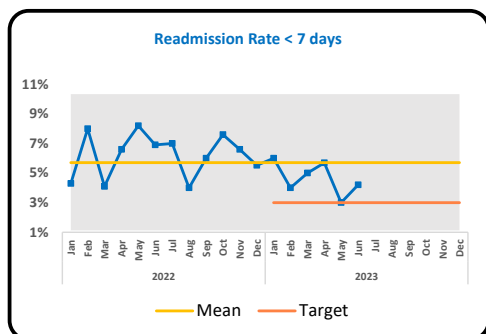


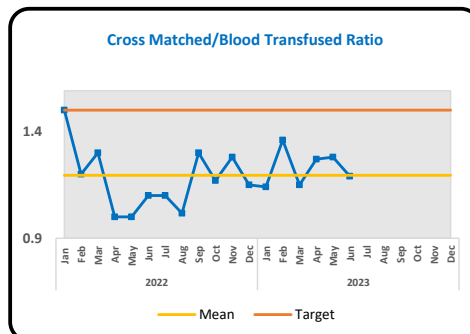
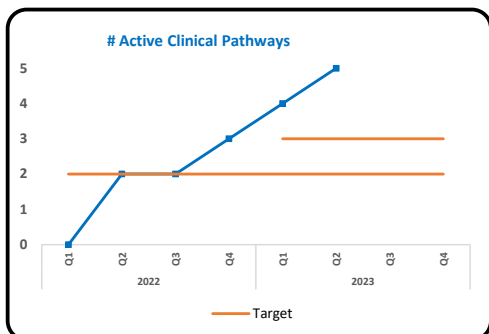
OR Cancellation





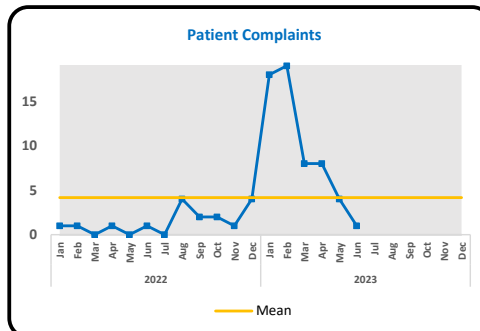
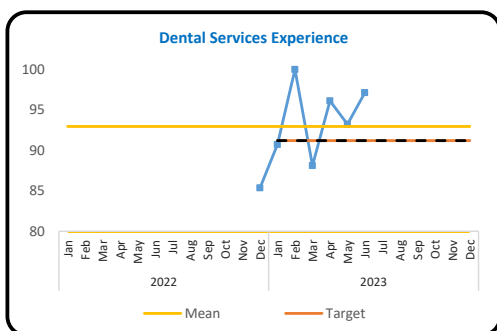
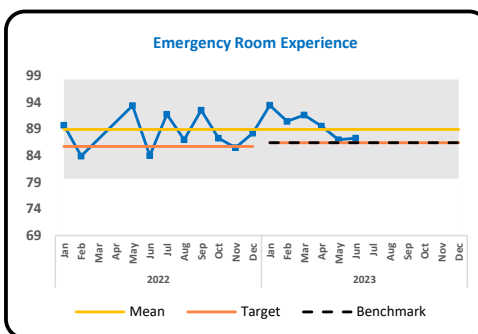
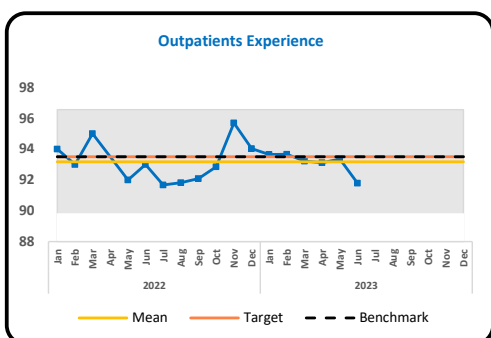
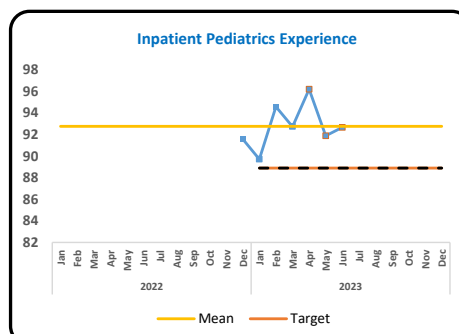
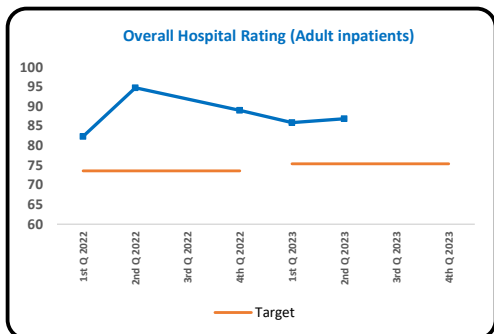
Effectiveness







Experience



# Appendix A

## KPIs Definitions

Safety
1. Serious Safety Event Rate (SSER) per Adjusted Patient Days
<p>The Serious Safety Event Rate (SSER) for hospitals is calculated as a rolling 12-month average of Serious Safety Events (SSE) per 10,000 Adjusted Patient Days. Twelve consecutive months of SSE data is required to calculate the initial SSER. Serious Safety Event is defined as a deviation from Generally Accepted Performance Standard (GAPS) that reaches the patient and results in moderate to severe harm or death.</p> <p>Total number of Serious Safety Events during past 12 months/Adjusted Patient Days for past 12 months X 10,000.</p> <p>Target: Riyadh: 0.43, Jeddah Target: 0.15, Madinah: NA</p>
2.1 A Percent of surveyed patient with Hospital Acquired pressure injury (stage 2 and above)
<p>The number of patients with a documented pressure injury of Stage 2,3,4, Unstageable or DTI on the day of the NDNQI pressure injury survey that is hospital acquired divided by the total number of patients surveyed and multiplied by 100.</p> <p>Target NDNQI (National Database of Nursing Quality Indicators) hospitals with bed size of 500 staffed bed or more.</p> <p>Benchmark Riyadh and Jeddah: NDNQI</p>
2.2 Pressure Injury Rate
<p>Total number of Hospital acquired Pressure Injury (HAPI) Stage 2 and Above per 1000 patient days. If a patient has more than one HAPI it is counted as one HAPI. Community acquired pressure injuries are excluded.</p> <p>Total No. of PU in a month /Patient Days X 1000.</p> <p>Target: Riyadh: 0.24, Jeddah: 0.52, Madinah 0.52</p>
3. Falls with Injury
<p>Total number of patient falls that result in injury based on the inclusion criteria reported monthly in QIS (Quality Information system). It's a combination of Inpatient and Outpatient. Our internal target is set based on the previous year result and changed based on KFSH strategic objective.</p> <p>Total Number of Falls in a month with inclusion criteria x 1000/Patient Days.</p> <p>Target: Riyadh: 0.19, Jeddah: 0.15, Madinah: 0.15</p>
4. Central Line (CLABSI) Rate
<p>"A laboratory confirmed bloodstream infection (LCBI) where an eligible bloodstream infection organism is identified, and an eligible central line is present on the LCBI date of event or the day before.</p> <p>Incidence Density: the number of new cases within a specified time period divided by the size of the population initially at risk"</p> <p>(# of New CLABSI / # of Central Line Days) X 1000</p> <p>Target: Riyadh: 1.1, Jeddah: 1.1, Madinah: 1.1</p>
5. Catheter-Associated Urinary Tract Infection (CAUTI) Rates
<p>A urinary tract infection where an indwelling urinary catheter was in place for &gt;2 calendar days on the date of event, with day of device placement being Day 1, and an indwelling urinary catheter was in place on the date of event or the day before. If an indwelling urinary catheter was in place for more than 2 consecutive days in an inpatient location and then removed, the date of event for the UTI must be the day of device discontinuation or the next day for the UTI to be catheter-associated.</p> <p>(# of New CAUTI / # of Urinary Catheter Days) X 1000</p> <p>Target: Riyadh: 2, Jeddah: 2, Madinah: 2</p> <p>Benchmark: 2 (National Healthcare Safety Network (NHSN))</p>

<b>6. Surgical Site Infection (SSI) Rate</b>
<p>"An infection that occurs after surgery in the part of the body where the surgery took place. Surgical site infections can sometimes be superficial infections involving the skin only. Other surgical site infections are more serious and can involve tissues under the skin, organs, or implanted material. The composite indicator that provides a combined score for the following indicators:</p> <ul style="list-style-type: none"> <li>• CABG, Cesarean Section, Colon Surgery, Rectal Surgery, Ventricular Shunt Procedure, Abdominal Hysterectomy, Cardiac Procedure, Craniotomy, Hip Prosthesis, Kidney Transplant, Knee Prosthesis, Liver Transplant, Heart Transplant. Each indicator presents the percentage of surgical procedures included in the surveillance that meets National Healthcare Safety Network (NHSN) benchmark."</li> </ul> <p># of Surgical Site Infections (SSI) of selected operative procedure category for surveillance during the quarter / # of procedures of the same selected operative category for surveillance during the same quarter X 100</p>
<b>7. Multi-Drug Resistant Organism (MDRO) Rate</b>
<p>Incidence rate of Hospital onset MDRO from all inpatient locations includes infection and colonization.  (Total number of hospital onset MDRO / Patient days) * 1000  Target: Riyadh: 3, Jeddah: 3, Madinah: 3</p>
<b>8. Hand Hygiene</b>
<p>The proportion of audited staff that follow hand hygiene procedures before and after contact with patients and their environment.  Number of compliance events before or after contacts/ Total number of audits*100  Target: Riyadh: 90%, Jeddah: 90%, Madinah: 90%</p>
<b>9. % Near Miss Events</b>
<p>The percentage of the incidents reported through the QIS that was about to occur, but was captured before they reach the patient to the total number of reported incidents.  Reported Near Misses/ Total number of Reported Incidents x 100  Target: Riyadh: 27%, Jeddah: 27%, Madinah: 27 %  Benchmark: Not Available (NA)</p>
<b>10. Number of Safety Reports</b>
<p>It is the number of the incidents that are reported through the Quality Information system (QIS) on the last day of the reporting period.  Total incidents reported in QIS (- All rejected incidents).  Target: Riyadh: 1020, Jeddah: 870, Madinah: 170</p>
<b>11. # HA-VTE Preventable Events</b>
<p>Hospital-Acquired Preventable Venous thromboembolism (HA-VTE) is defined as any episode of venous thromboembolism during admission and within 60 days after discharge that is not present during admission and were not on appropriate measures.  Target: Riyadh: 0.80, Jeddah: 0.80, Madinah: 0.80  Benchmark: Not Available (NA)</p>
<b>12. % Medication Override from the Automated Dispensing Cabinets (ADC)</b>
<p>Percent of medication removed from the automated dispensing cabinets (ADC) utilizing the override function in relation to the total number of medications removed from the (ADC).  Formula: Medication removed from the automated dispensing cabinets (ADC) utilizing the override function divided by / total number of medications removed from the (ADC) X100  Trigger: Riyadh: 2.5%, Jeddah: 2.5%, Madinah: NA  Benchmark: Not Available (NA)</p>



<b>13. % Admission Medication Reconciliation</b>
<p>Admission Medication reconciliation is the process of creating the most accurate list possible of all medications the patient is taking including drug name, dosage, frequency, and route and comparing that list against the physician's admission orders, with the goal of providing correct medications to the patient at all transition points within the hospital.</p> <p>The indicator will show the percent of patients who had their medications reconciled upon admission to the hospital out of the total number of admitted inpatients.</p> <p>Total number of patients with completed admission medication reconciliation / Total number of admitted inpatients x100</p>
<b>14. % Discharge Medication Reconciliation</b>
<p>Discharge Medication reconciliation is the process of creating the most accurate list possible of all medications the patient is taking including drug name, dosage, frequency, and route and comparing that list against the physician's discharge orders, with the goal of providing correct medications to the patient at all transition points within the hospital.</p> <p>The indicator will show the percent of patients who had their medications reconciled upon discharge from the hospital out of the total number of discharged inpatients</p> <p>Total completed Discharge reconciliation / total inpatient discharges x100</p> <p>Target: Riyadh 100%, Jeddah: 100%, Madinah: NA</p> <p>Benchmark: Not Available (NA)</p>
<b>15. Reported Medication Errors per 1000 adjusted patient days</b>
<p>Total number of reported medication errors including all levels of harm and all stages of the medication use process, reported through the Quality Information System by incident date per 1000 patient days</p> <p>Total number of reported medication errors including all levels of harm and all stages of the medication use process in QIS by incident date/Patient Days X 1000</p> <p>Target: Riyadh: 3.4, Jeddah: 5.38, Madinah: NA</p> <p>Benchmark: Not Available (NA)</p>
<b>16. % Medication Errors Reaching the Patient</b>
<p>The percent of reported medication errors reaching the patient (non near miss events), from the total number of reported medication errors including all stages of medication use process reported through the Quality Information System per month.</p> <p>Number of reported medication errors reaching the patient (non near miss reports) / Total number of reported medication errors including all stages of medication use process and all levels of harm reported through the Quality Information System per month X100</p>
<b>Access</b>
<b>1. Outside Referral to decision waiting time "hr"</b>
<p>This is the median time (in hours) from when the referred case is uploaded in the referral system to decision (to either accept/not accept/Incomplete) by the appropriate medical department/referred medical department during the period under review</p> <p>Decision time – Case upload time</p> <p>Target: Riyadh: 24, Jeddah: 24, Madinah: 24</p> <p>Benchmark: Not Available (NA)</p>
<b>2. Emergency Room (ER) waiting time to be seen (3) "min".</b>
<p>It is the median time (minutes) to be seen by a physician spent in the ER by patients who are categories as a (3). It is computed from time of patient register in the registration desk till been seen by a DEM consultant for that category. (Seen by a DEM consultant is dropped when the consultant claims the case in FirstNet)</p> <p>"Actual time patients seen by DEM consultant – time patient was register then (Total number of patient +1)/2 "</p> <p>Target: Riyadh: 50, Jeddah: 50, Madinah: 50</p> <p>Benchmark: Not Available (NA)</p>

<b>3. Emergency Room (ER) Boarding Time "hr."</b>
<p>"It is the median time (hours) to admission spent in the ER by patients who had a decision to be admitted. It is computed from time of doctor decision to admit patient to the time the patient leaves the emergency room heading to the floor, discharged from DEM or dead in DEM.  Actual admission time is the time where patient physically leave DEM to inpatient Unit."  Actual patients admission time to floor – DEM doctor decision to admit patient time then (Total # +1) /2= Median  Target: Riyadh: 6, Jeddah: 10, Madinah: 6  Benchmark: Not Available (NA)</p>
<b>4. New Patient (NP) first encounter &lt; 2 weeks</b>
<p>"Percentage of new patients accepted that have a first encounter before 2 weeks from acceptance for the 5 core services in the Riyadh (Oncology, Heart center, Organ Transplants, Neuroscience, Genetics), in Jeddah (Oncology, Heart center, Neuroscience)."  Total number of accepted patients first encounter before 2 weeks as per the inclusion criteria divided by total number of accepted patients in the same period X 100  Target: Riyadh: 80% Jeddah: 80%, Madinah: 80%  Benchmark: Not Available (NA)</p>
<b>5. Emergency Room (ER) Left without seen</b>
<p>It is the percentage of patients who left the emergency department because of waiting for a long time and before they are been seen by a physician.  Total Number of patient who Left Without Being Seen / total emergency visits X 100  Target: Riyadh: 3%, Jeddah: 2.58%, Madinah: 3%  Benchmark: Not Available (NA)</p>
<b>6. Radiology waiting time Priority 1 (New Patient: Oncology, Cardiac, Transplant, Neuro)</b>
<p>The waiting time (in days) to the third available Radiology appointment slot per Modality.  Target: Riyadh: 14 Days, Jeddah 14 Days, Madinah: NA  Benchmark: Not Available (NA)</p>
<b>Efficiency</b>
<b>1. % Operating Room (OR) utilization rate</b>
<p>OR Utilization rate is the time (in hours) actually used for patient care plus average turnover time for the reporting period divided by the number of hours available/schedulable.  (Utilized time in hours / Available time in hours)  Target: Riyadh: 80%, Jeddah: 85%, Madinah: %80  Benchmark: Not Available (NA)</p>
<b>2. Average Length of Stay (ALOS)</b>
<p>The length of stay of a patient should be counted as the date of discharge minus the date of admission.  (Total Discharge Days / Total Discharges).  Target: Riyadh: 8.5, Jeddah: 8.5, Madinah: 7  Benchmark: Not Available (NA)</p>
<b>3. Bed Occupancy Rate</b>
<p>Occupancy rate is the average daily census divided by the number of flagged as counted inpatient beds on the last day of the reporting period, expressed as a percentage (Patients are counted at 23:59 every day). Counted beds are beds flagged by the admission office based on Approval of the COO. Counted beds include beds closed on the short term for infection control, staffing or maintenance reasons.  Average Daily Census / Inpatient beds (include ICU) X100  Target: Riyadh: 85%, Jeddah: 85%, Madinah: 85%  Benchmark: Not Available (NA)</p>
<b>4. Operating Room (OR) Cancellation</b>
<p>Percentage of OR cancellation.  Target: Riyadh: 7.5%, Jeddah: 7.5%, Madinah: 3%  Benchmark: Not Available (NA)</p>

<b>Effectiveness</b>
<b>1. Readmission Rate &lt; 7 days</b>
<p>This is the number of patients who were readmitted within 7 days of discharge during the period under review. (All patients readmitted within 7 days of discharge / All patients discharged) X 100.</p> <p>Target (Riyadh, Jeddah, &amp; Madinah): 3%</p> <p>Benchmark: Not Available (NA)</p>
<b>2. Door To Balloon Time</b>
<p>Percentage of Chest pain patients arriving at the DEM with ST elevation who are taken to the CCL for reperfusion in 90 minutes or less.</p> <p>Target: Riyadh: 85%, Jeddah: 90%, Madinah: NA</p> <p>Benchmark: Not Available (NA)</p>
<b>3. Transplant Quality Index</b>
<p>A composite index which is a combination of the 4 sub indicators, which are; 1-year graft survival rate for living donor liver transplants for adults, 1-year graft survival rate for living donor liver transplants for pediatrics, 1-year graft survival rate for living donor kidney transplants for adults, and 1-year graft survival rate for living donor kidney transplants for pediatrics. Adults are 18+.</p> <p>Transplant Quality Index<sup>2</sup></p> <p>3.1 1-year graft survival rate for living donor liver transplants for adults. <b>Riyadh</b> Target: 85%; Benchmark: 92.14%.</p> <p>3.2 1-year graft survival rate for living donor liver transplants for pediatrics. <b>Riyadh</b> Target: 98%; Benchmark: 91.68%.</p> <p>3.3 1-year graft survival rate for living donor kidney transplants for adults. <b>Riyadh</b> Target: 98.09%; Benchmark: 98.%, <b>Jeddah</b> Target: 98%; Benchmark: 97%.</p> <p>3.4 1-year graft survival rate for living donor kidney transplants for pediatrics. <b>Riyadh</b> Target: 95%; Benchmark: 98.74%, <b>Jeddah</b> Target: 98%; Benchmark: 90%.</p>
<b>4. Oncology Quality Index for Adults</b>
<p>A composite index which is a combination of the 5 sub indicators, which are; 100-day patient mortality rate for allogenic stem cell transplant adult patients, 100-day patient mortality rate for autologous stem cell transplant adult patients, 5-year actual patient survival rate for colorectal cancer in adults, 5-year actual patient survival rate for lymphoma for adults and 5-year actual patient survival rate for breast cancer for adults. Adults are 18+.</p> <p>Oncology Quality Index for Adults</p> <p>4.1 100-day patient mortality rate for allogenic stem cell transplant adult patients. <b>Riyadh</b> Target: 10%; Benchmark:10%, <b>Jeddah</b> Target: 20%.</p> <p>4.2 100-day patient mortality rate for autologous stem cell transplant adult patients. <b>Riyadh</b> Target: 5%; Benchmark:5%, <b>Jeddah</b> Target: 10%.</p> <p>4.3 5-year actual patient survival rate for colorectal cancer in adults. <b>Riyadh</b> Target: 94.5%.</p> <p>4.4 5-year actual patient survival rate for lymphoma for adults.</p> <p>4.5 5-year actual patient survival rate for breast cancer for adults.</p> <p>Benchmark: Not Available (NA)</p>
<b>5. Oncology Quality Index for Pediatrics</b>
<p>A composite index which is a combination of the 4 sub indicators, which are; 100-day patient mortality rate for allogenic stem cell transplants for pediatrics, 100-day patient mortality rate for autologous stem cell transplants for pediatrics, 5-year patient survival rate for Renal Tumors for pediatrics, and 5-year patient survival rate for acute lymphoblastic leukemia for pediatrics.</p> <p>Oncology Quality Index for Pediatrics<sup>2</sup></p> <p>5.1 100-day patient mortality rate for allogenic stem cell transplants for pediatrics. <b>Riyadh</b> Target: 10%; Benchmark:10%, <b>Jeddah</b> Target: 20%; Benchmark: 10%.</p> <p>5.2 100-day patient mortality rate for autologous stem cell transplants for pediatrics. <b>Riyadh</b> Target: 5%; Benchmark:0%, <b>Jeddah</b> Target: 10%; Benchmark: 5%.</p> <p>5.3 5-year patient survival rate for Renal Tumors for pediatrics. Target: 94%.</p> <p>5.4 5-year patient survival rate for acute lymphoblastic leukemia for pediatrics. Target: 88%.</p> <p>Benchmark: Not Available (NA)</p>

Sub Indicator Description ( <i>Updated 3rd Q 2021</i> )
<p>100-day patient mortality rate for allogenic stem cell transplants for pediatrics: Measures the percentage of pediatric patients who have received allogenic stem cell transplant which have not survived past the 100 day mark since the procedure. A measurement lag will exist when measuring the 100 day mortality rate to ensure 100 days have elapsed since the patient received the procedure (e.g. reporting in H1 2019 will include only those who received a procedure 100 days before the end of H1 2019).</p> <p>(Number of pediatric patients who received allogenic stem cell transplant which have not survived for more than 100 days / Number of pediatric patients who received allogenic stem cell transplant in the same period) * 100</p>
<b>6. Cardiology Quality Index</b>
<p>Cardiology quality index is the composite of three sub indicators, which are; the 1-year patient survival rate for heart transplants for adults, the 1-year patient survival rate for heart transplants for pediatrics, and the 30-day re-admission rate for heart failures. The patients who are tracked for survival rates do not have to be the same patients for both time horizons. Adults are 18+.</p> <p>Target: Not Available (NA)</p> <p>Cardiology Quality Index</p> <p>6.1 1-year patient survival rate for heart transplants for adults. <b>Riyadh</b> Target: 85%</p> <p>6.2 1-year patient survival rate for heart transplants for pediatrics. <b>Riyadh</b> Target: 90%</p>
<b>Appropriateness</b>
<b>1. Active Clinical Pathways</b>
<p>The total number of active Clinical Pathways.</p> <p>Target: Riyadh:40 per year, Jeddah: 9, Madinah: 3</p> <p>Benchmark: Not Available (NA).</p>
<b>2. Crossmatch : Blood Transfusion Ratio (C:T ratio) New</b>
<p>In the Blood Bank, this is a ratio of crossmatched red blood cell units (RBC) for potential transfusion, versus the number of actual transfused units. By tracking the C:T ratio, the ordering process for the efficient use of red blood cell units is monitored.</p> <p>Target: Riyadh: 2, Jeddah: 2, Madinah: 1.5</p> <p>Benchmark: Not Available (NA).</p>
<b>3. % CT Scan Radiation Dose following the NDRL guidelines (Adults)</b>
<p>The percentage of CT scan cases following the recommended national diagnostic reference levels (NDRL) guidelines for adults.</p> <p>Target: Riyadh: 95%, Jeddah: NA, Madinah: NA</p> <p>Benchmark: Not Available (NA).</p>
<b>4. % CT Scan Radiation Dose following the NDRL guidelines (Pediatrics)</b>
<p>The percentage of CT scan cases following the recommended national diagnostic reference levels (NDRL) guidelines for pediatrics.</p> <p>Target: Riyadh: 95%, Jeddah: NA, Madinah: NA.</p> <p>Benchmark: Not Available (NA).</p>
<b>5. % Blood Transfusions outside the Guidelines</b>
<p>The percentage of the blood transfusion cases outside the guidelines covering all inpatients units in KFSH&amp;RC excluding ICU'S and ER.</p> <p>for RBC &lt; 80 g/l , and for Platelets &lt; 10.</p> <p>Total number of Transfusion outside the guidelines /Total transfusion (within and outside the guidelines) X 100</p> <p>Target: Riyadh: 12%, Jeddah: 12%, Madinah: &lt;2%</p>
<b>6. Pediatric Pain Cycle Indicator (Assessment / Intervention / Reassessment (AIR))</b>
<p>A cross-sectional count of the number of cases with completed pain AIR cycles who exist on the patient care unit at a specific point in time.</p> <p>Target: Riyadh: NDNQI Benchmark, Jeddah: NDNQI Benchmark, Madinah: NA.</p>

<b>Experience</b>
<b>1. Overall Hospital Rating</b>
<p>Patient satisfaction HCAHPS – Composite: Over all hospital rating (Q21).  The percentage of patients who rate the hospital 9 and 10 among all admissions.  Benchmark/Target (2022): Riyadh: 73.6, Jeddah: 73.6, Madinah: 75.4; ; Target/ Benchmark for Riyadh, Jeddah, and Madinah (2023):73.9</p>
<b>2. Inpatient Pediatrics Experience</b>
<p>Average score of pediatric patient experiences within inpatient hospital stays, Inpatient ≤ 14 years old.  Overall Mean score = Patient (1) mean score+...Patient (n) mean score / total # of patients.  Target/ Benchmark (2022): Riyadh: 88.7, Jeddah: 88.7. Madinah: NA; ; Target/ Benchmark for Riyadh, Jeddah, and Madinah (2023): 88.9</p>
<b>3. Outpatients Experience</b>
<p>Average score of patient experiences with the Outpatient Physician/Nurse Practitioner clinic visits.  Overall Mean score = Patient (1) mean score+...Patient (n) mean score / total # of patients.  Target/ Benchmark (2022): Riyadh: 93.5, Jeddah: 93.5, Madinah: 93.5; ; Target/ Benchmark for Riyadh, Jeddah, and Madinah (2023):93.5</p>
<b>4. Emergency Room Experience</b>
<p>Average score of patient experiences with the emergency department visits, who were treated and discharged.  Overall Mean score = Patient (1) mean score+...Patient (n) mean score / total # of patients.  Target/ Benchmark (2022): Riyadh: 85.7, Jeddah: 85.7, Madinah: 85.7; ; Target/ Benchmark for Riyadh, Jeddah, and Madinah (2023): 86.4.</p>
<b>5. Ambulatory Care Experience</b>
<p>Average score of patient satisfaction with same day surgical procedures, tests, treatments and programs.  Overall Mean score = Patient (1) mean score+...Patient (n) mean score / total # of patients.  Target/ Benchmark (2022): Riyadh: 96.6, Jeddah: 96.6, Madinah: NA; Target/ Benchmark for Riyadh, Jeddah, and Madinah (2023): 97</p>
<b>6. Oncology Outpatient Experience</b>
<p>Average score of patient experiences with the Oncology Outpatient Services (Chemotherapy, Radiotherapy).  Overall Mean score = Patient (1) mean score+...Patient (n) mean score / total # of patients.  Target/ Benchmark (2022): Riyadh: 95.5, Jeddah: 95.5, Madinah: NA; Target/ Benchmark for Riyadh, Jeddah, and Madinah (2023):95.3</p>
<b>7. Dental services Experience</b>
<p>Average score of patient experience during dental practice or orthodontic service visits.  Overall Mean score = Patient (1) mean score+...Patient (n) mean score / total # of patients.  Target/ Benchmark (2022): Riyadh: 91.5, Jeddah: 91.5, Madinah: NA; ; Target/ Benchmark for Riyadh, Jeddah, and Madinah (2023): 91.2</p>
<b>8. Patient complaints</b>
<p>Total number of received patient written complaints.  ∑ Total number of received patient written complaints.  Target: Not Available (NA)</p>

# Appendix B

## Mortality Categories

<b>Category 1</b>	Expected death due to terminal illness/end of stage chronic disease. Without health care provider delay, omission and/or commission identified
<b>Category 2</b>	Expected death, with health care provider delay, omission and/or commission identified
<b>Category 3</b>	Unexpected death, without health care provider delay, omission and/or commission identified
<b>Category 4</b>	Unexpected preventable death, with health care provider delay, omission and/or commission identified

## Morbidity Categories

### SEVERITY ASSESSMENT CODE (SAC)

Adapted from Department of Veterans Affairs, Veterans Affairs National Center for Patient Safety, Ann Arbor, Michigan, USA

**Figure 1 Consequences Table**

		SERIOUS	MAJOR	MODERATE	MINOR	NEAR MISS
<b>Clinical Consequences</b>		<ul style="list-style-type: none"> <li>* Cardiac and/or respiratory arrest/ Failure as result of occurrence</li> <li>* Ventilation required or prolonged</li> <li>* Patient with Death unrelated to the nature course of illness and differing from the immediate expected outcome of the patient management</li> <li>* Procedures involving the wrong patient or body part</li> <li>* Possible suicide</li> <li>* Retained instruments/material requiring intervention</li> <li>* Intravascular gas embolism resulting in death or neurological damage</li> <li>* Hemolytic blood transfusion</li> <li>* Medication error leading to death</li> <li>* Maternal death or serious morbidity associated with labor or delivery</li> <li>* Infant abduction or discharge to wrong family</li> </ul>	<ul style="list-style-type: none"> <li>* Cardiac changes requiring intervention as a result of occurrence</li> <li>* Hospital-acquired fractures</li> <li>* Bleeding requiring immediate intervention</li> <li>* Transfer to higher level of care (ICU) as result of occurrence</li> <li>* Change of laboratory values of critical levels</li> <li>* Surgical intervention required as a result of occurrence</li> <li>* Increased length of stay</li> <li>* Hospital admission is Required as result of occurrence</li> </ul>	<ul style="list-style-type: none"> <li>* Vital Signs changed as result of occurrence</li> <li>* Decreased level of consciousness</li> <li>* Additional medication</li> <li>* treatment required</li> <li>* Invasive diagnostic procedures required</li> </ul>	<ul style="list-style-type: none"> <li>* <b>No harm</b> to the patient or person involved</li> <li>* Patient <b>requiring increase level of care including:</b></li> <li>* Review and evaluation</li> <li>* Additional investigations</li> <li>* Referral to another clinician</li> </ul>	<ul style="list-style-type: none"> <li>* Occurrence <b>did not reach</b> the patient</li> <li>* May have potentially led to harm, but did not actually occur (for example wrong medication prescribed but alerted before dispensed)</li> </ul>
	<b>Patient</b>					