

Middle East Forum on Quality & Safety in Healthcare **2023**

16-19 March, Doha

Healthcare Resilience in Extraordinary Times

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I have nothing to disclose..

Implementation of an Innovative Patient Flow Management System: Hamad General Hospital – Surgical Specialty Center

Presented by:

Mr. Mohamed Hawari

A/DON of Surgical of Clinical Operation and Patient Flow

Learning Objectives

At the end of this session, participants will be able to:

1. Know the brief history of Hamad General Hospital (HGH);
2. Understand the organizational chart of Surgical Flow Team;
3. Recognize the implementation process of patient flow team;
4. Distinguish between the previous elective admission and current processes;
5. Understand the implementation process of Day of Surgery Admission (DOSA);
6. Value the outcome of DOSA implementation in Surgical Specialty Center (SSC).

Brief history of HGH-SSC

1982

Foundation of Hamad General Hospital (HGH)
(Medical, Surgical, Pediatrics, Emergency, Critical Units & OPD)

2016

Accreditation of HMC (7 Hospitals) by JCI as the first
Academic Medical Center, worldwide.

2019

Expansion of HGH to include Surgical Specialty Center with 301
beds

2023

Recognition of HMC among the top 250 world class Academic
Medical Centers, HGH achieved top 100 ranking (63) globally.

Surgical Specialty Center Capacity

Total
Capacity
301 beds



Non-Critical beds - 250



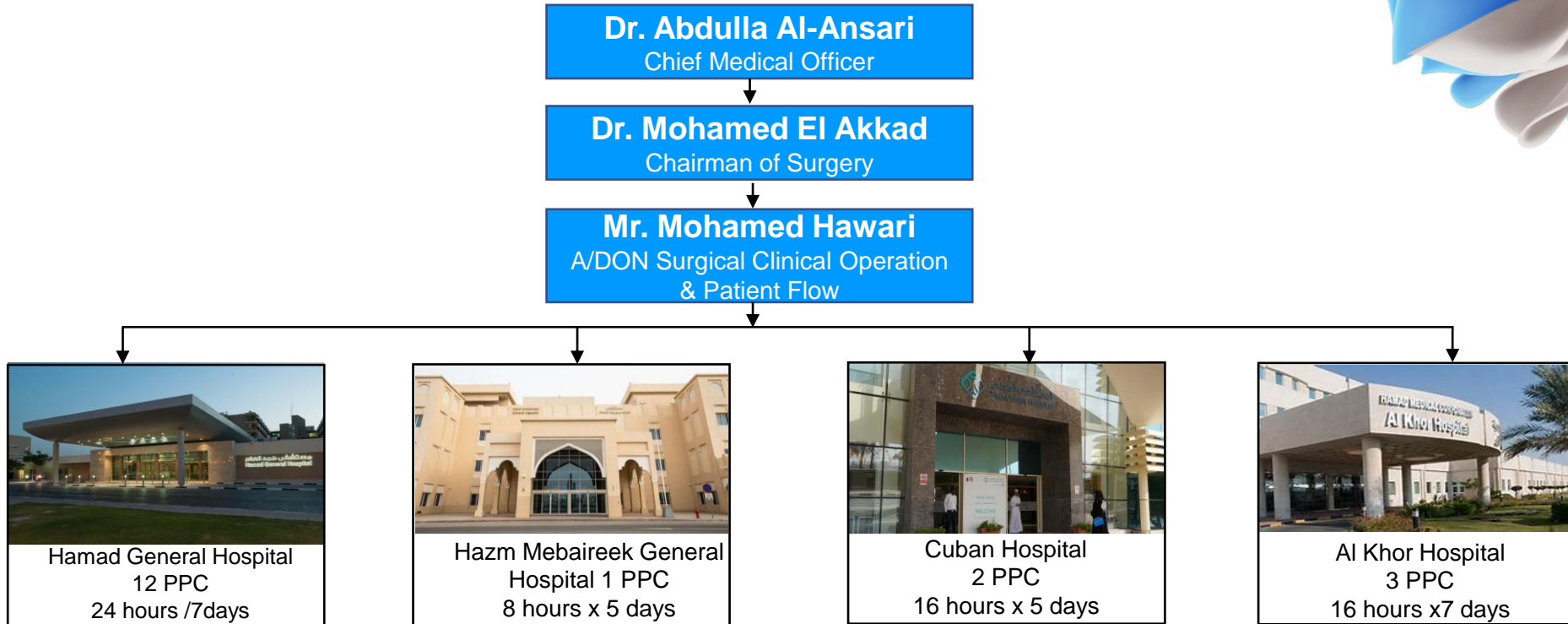
Critical - 38 beds
(SICU & TICU)



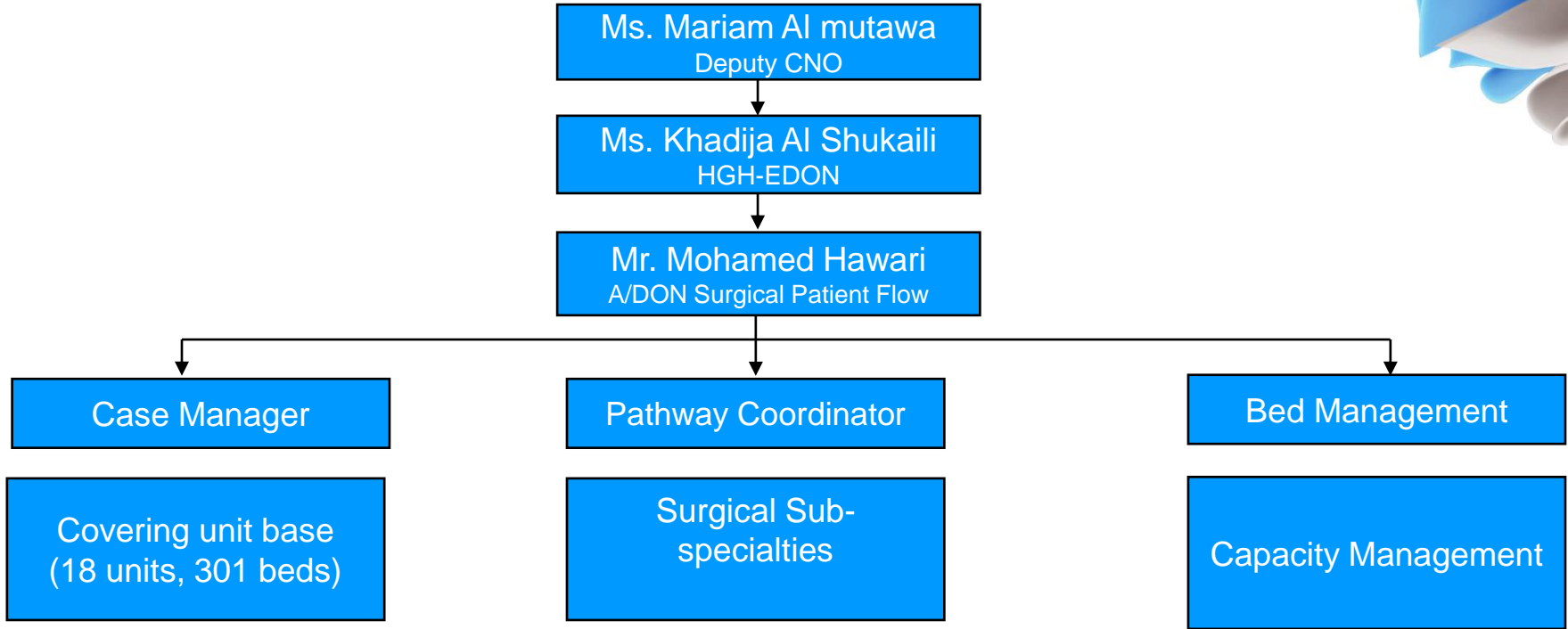
High Dependency Unit - 13 beds
(Surgical-6 & Trauma-7)



Corporate Surgical Patient Flow Organizational Chart



SSC-Patient Flow Organizational Chart





The person who says it cannot be done should not interrupt the person doing it

Implementation of Surgical Flow Team



Collaborative
work under one
leadership



Communication
Through
Regular Shift
Report

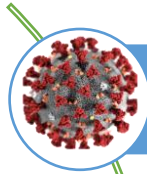


Design &
Implementation
of Live
Dashboard



PPC expansion
to cover the
critical, trauma
& other
services across
HMC

Insights from COVID-19 pandemic



Implementation of COVID-19 PPC in the COVID-19 facility & other hospitals



Coordination with HGH, NHICC, EMS & HMC transportation.



Constant contact for COVID-19 patient pathway in HGH (implemented later across HMC)



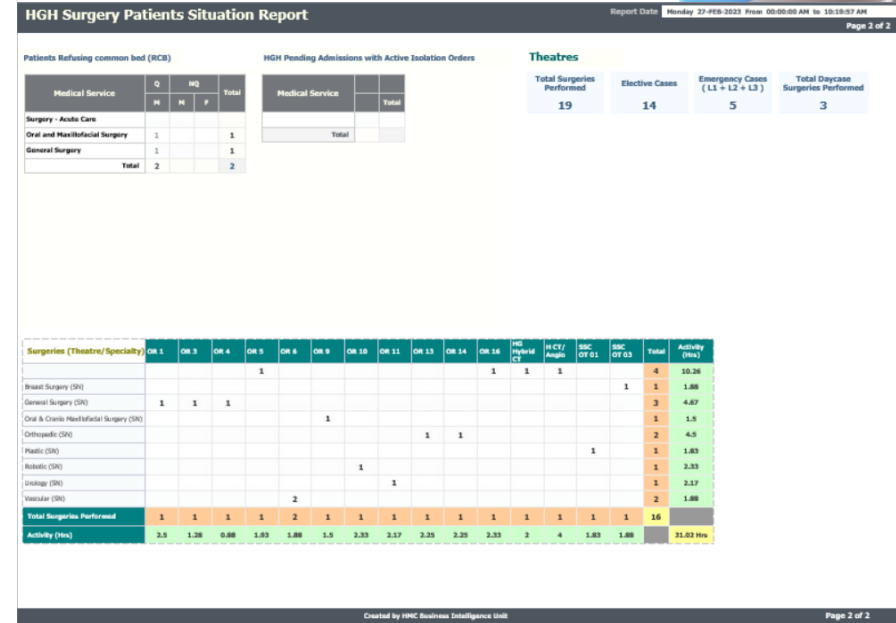
Remote support of other COVID-19 facilities across HMC

Before PPC implementation

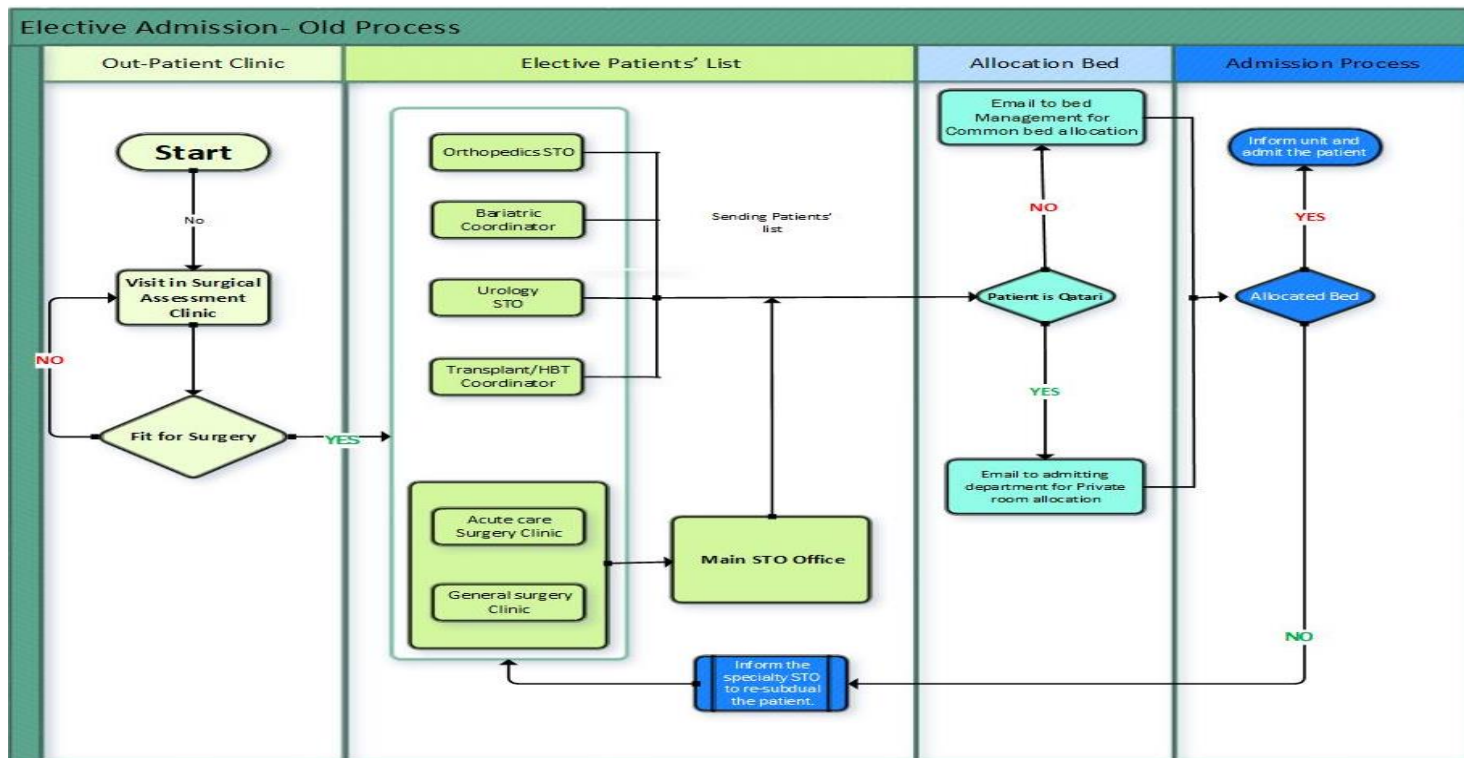
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DATE & TIME				SSC - Acute Care Surgery Patient's List											
26/02/2023 13:55															
DATE	CONSULTANT (Date-Time)	SPECIALIST (Date-Time)	SPECIALIST (Date-Time)	CONSULTANT (Date-Time)	SPECIALIST (Date-Time)	SPECIALIST (Date-Time)	Team Leader	6th Floor ROUNDING TEAM				7th Floor		New Adm & pending surgery	
								DR ARYAN	DR ZOUH	DR DESOUKY	DR TOUSRY			Operated cases	
								DR AM CLINIC (17:30-11:00)	DR PM CLINIC 1 (7 (11:30-13:00)					D/C	
														NLD	
														Death	
														Transfer to other hospital	
SR	LOCATION			PTS' NAME			HC #	AGE	SEX	O.C.I.	DX	Plan		DC	
1	HD SICU/Rev SICU D Bed 12			000 0000000000			HC00000000	88 years	Female	0000000000	Acute cholecystitis - ingested	FOR TRANSFER TO VARD			
2	HD SSC & Vwar 6B01-Bed#1			000 0000000000			HC00000000	88 years	Male	0000000000	HYPERNOIA, T-37, gastric aspiration of perigastric/periportal collection, SSO201	CT GUIDED ASPIRATION DONE. TODAY ENDOCYPIE PP			
3	HD SSC & Vwar 6B01-Bed#2			000 0000000000			HC00000000	88 years	Male	0000000000	INFECTED Wound on lower abdomen	Weg On VAC dressing			
4	HD SSC & Vwar 6B01-Bed#3			000 0000000000			HC00000000	88 years	Male	0000000000	acute cholecystitis	CIRM			
5	HD SSC & Vwar 6B01-Bed#4			000 0000000000			HC00000000	88 years	Male	0000000000	Infection and drainage of Right pleural abscess/CAH	PORT UP			
6	HD SSC & Vwar 6B01-Bed#1			000 0000000000			HC00000000	88 years	Male	0000000000	Infelix, hyperglycemia with insulin of a drainage catheter at the site of dermal penetration and pus exit of fluid (pus) in the PLEURAL. Fluid Analysis: no pus, hyperglycemia on 26/02 (By Phlebotomy) - in 20000. Repeat of pus and drainage at each Day 12	For Surging/ending/Thoracic/Phlebot. For possible removal of the tube to replace more IMAHs (Phlebot. For 1) guided drainage			
7	HD SSC & Vwar 6B01-Bed#2			000 0000000000			HC00000000	88 years	Male	0000000000	Left Lateral drainage and emiporation of the first distal phlegmon and intrapleural phlegmon Day 1	Cont. Wound Care VAC APPLIED TODAY			
8	HD SSC & Vwar 6B01-Bed#3			000 0000000000			HC00000000	88 years	Male	0000000000	Exploration and irrigation and antibiotic of retracted distal breast lumps Day 1	REPEAT LABS TOMORROW			
9	HD SSC & Vwar 6B01-Bed#1			000 0000000000			HC00000000	88 years	Male	0000000000	Exploration of infected left breast tissue Day 1	On VAC dressing/DEBRIDEMENT BED IDE			
10	HD SSC & Vwar 6B01-Bed#4			000 0000000000			HC00000000	88 years	Male	0000000000	Severe Acute Necrotizing Pneumonia (CT guided) post-pneumonic collection drain exchange - New drain insertion on 09/02/23	ENDOCYPIE PP REPEAT LABS TOM			
11	HD SSC & Vwar 6B01-Bed#1			000 0000000000			HC00000000	88 years	Male	0000000000	Cholecystitis	FORM/MCP scheduled under anesthesia			
12	HD SSC & Vwar 6B01-Bed#1			000 0000000000			HC00000000	88 years	Male	0000000000	Infection and Drainage of Left Axillary Abscess Day 1	FOR POSSIBLE DISCHARGE TOMORROW			
13	HD SSC & Vwar 6B01-Bed#1			000 0000000000			HC00000000	88 years	Male	0000000000	Interval distal breast drainage. Left Fore transverse incision. Drainage (left) - emiporation of the first locle and intracapsular emiporation of the second locle. Right Fore: emiporation of the 3rd and 4th locle. drainage post-DR Day 1	Weg On VAC dressing.			

Implementation of Dynamic Dashboards

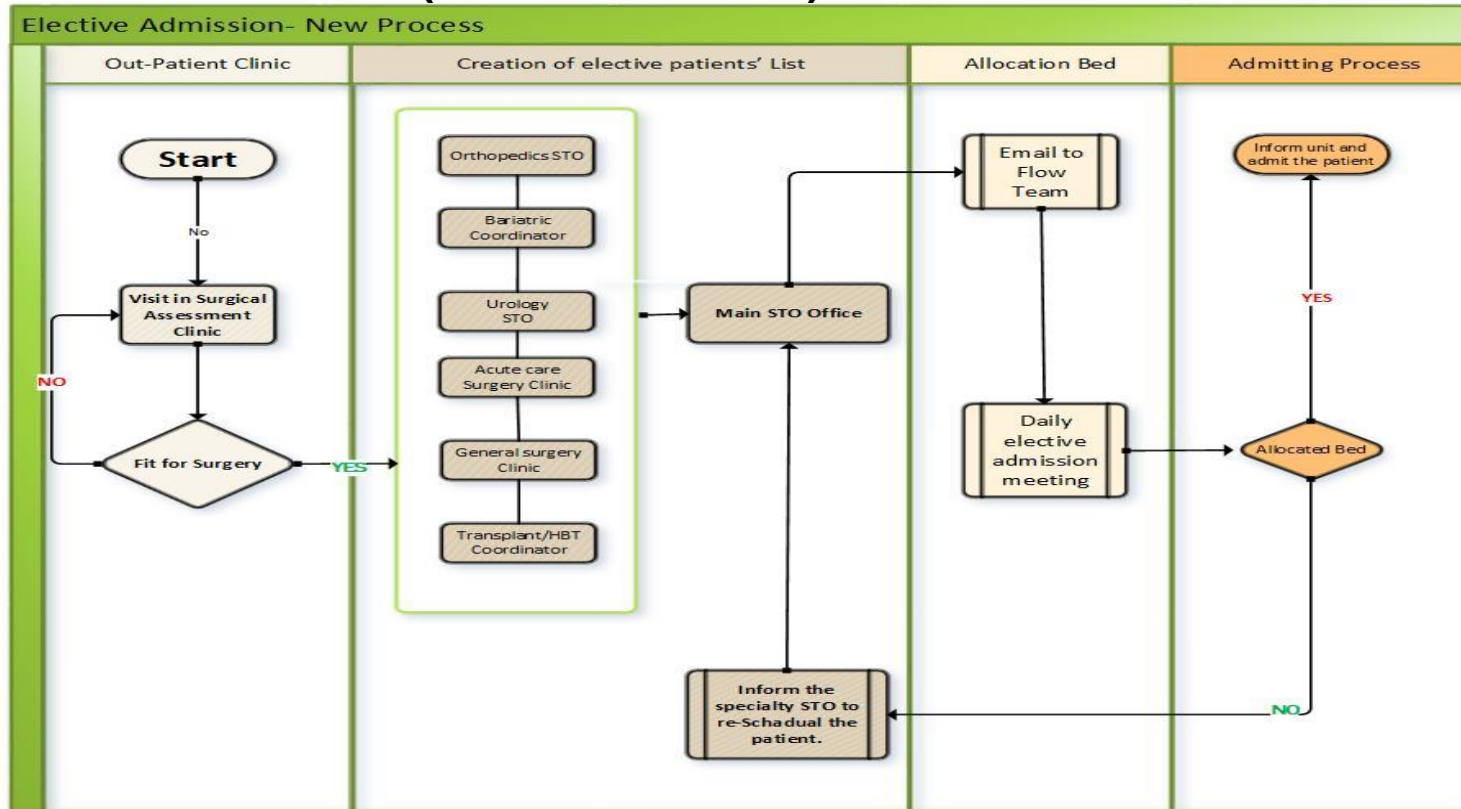


Elective Admission (Previous Process)



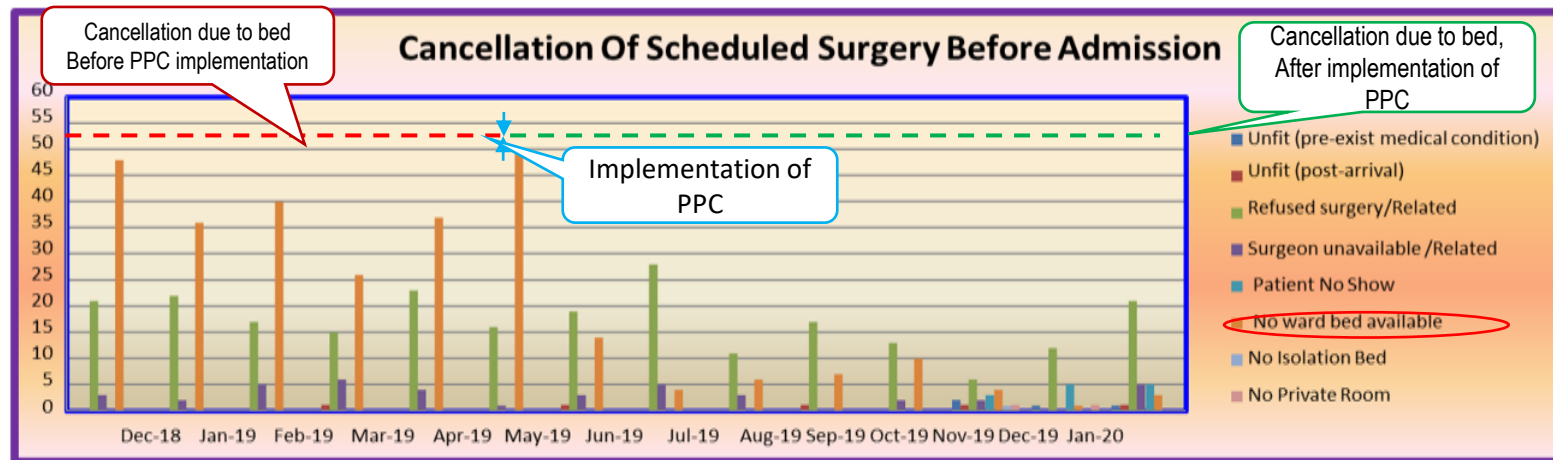
Until October 2019

Elective Admission (Current Process)



Since October 2019

QPS Cancellation of Scheduled Surgery Report



	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20
Total no of cancellation before admission	60	62	48	64	67	37	37	20	25	25	18	28	36
Total Number of cancellation of surgery on the day or the day before	140	153	128	153	149	88	113	60	84	109	90	81	95
Number of elective surgery planned	1076	919	977	987	982	710	859	650	989	1021	956	954	1028

In Collaboration with

October 2021- Site visit To HMC facilities

Date & Time		10/21/2021 1:00 PM		SSC Surgical Patient Flow Coordinator Shift Report	
Total Adm		2			
Total DC		0			
TCH Surgical ED Pending		0			
TCH PACU Pending		0			

Unit	Capacity	Occupied	Vacant	Admission	Discharge W/O	Plan for Discharge	Vacant beds	Remarks
4 East (Discharge/Transplant)	32	6	4	0	0	0	406-5, 520-2, 520-5, 527-2	
4 CENTRAL	6	0	0	438	0	0	0	
5 West (EDW)	27	22	5	506-1, 507-3	504-2	512-2, 509-3	509-2, 509-3, 510-1, 513-1, 513-3	
5 East (EDW)	32	7	5	0	527-3	0	526-1, 526-2, 527-2, 529-2, 530-2	
5C 5 Central	6	5	1	0	0	0	534	
6 East (Female Surgical)	25	13	12	629-1, 629-2	622-1, 625-2, 626-1, 629-1	0	620-1, 620-2, 2, 624-2, 625-1, 626-1, 626-2, 627-1, 627-2, 628-1, 628-2, 629-1, 629-2, 630-1, 630-2	
6 West (Male Surgical)	25	19	6	609-1, 612-1, 609-2	607-3	0	602-1, 609-1, 612-2, 613-1, 613-2, 613-3	
5C 6 Central	6	0	0	0	0	0	0	
Total	133	80	33	0	7	2	0	

No.	Patient Name	Nationality	Age	Sex	HC	Diagnosis	Plan
1							

No.	Patient Name	Nationality	Age	Sex	HC	Diagnosis	Plan
1							

No.	Patient Name	Nationality	Age	Sex	HC	Diagnosis	Plan
1							

Date & Time		10/21/2021 1:40:05 PM		TCH Surgical Patient Flow Coordinator Shift Report	
Total Adm		2			
Total DC		0			
TCH Surgical ED Pending		0			
TCH PACU Pending		0			

Unit	Capacity	Occupied	Vacant	Admission	Discharge W/O	Plan for Discharge	Vacant beds	Remarks
1st Floor-Day care ward	10	2	8	0	0	0	3, 4, 5, 6, 7, 8, 9, 10	ACS- TCH
Total	10	2	8	0	0	0	8	

No.	Patient Name	Nationality	Age	Sex	HC	Diagnosis	Plan

No.	Patient Name	Nationality	Age	Sex	HC	Diagnosis	Plan

Date & Time		1/20/22 9:29 AM		AKH Surgical Patient Flow Coordinator Shift Report	
Total Adm		2			
Total DC		0			
AKH Surgical ED Pending		0			
AKH PACU Pending		0			

Unit	Capacity	Occupied	Vacant	Admission	Discharge W/O	Plan for Discharge	Vacant beds	Remarks
2nd Floor-East 2	25	20	5	2	0	0		13 ACS PT
2nd Floor-West 2	24	13	9	0	0	0		0 ACS PT
1st Floor-West 1	10	5	5	0	0	0		0 ACS PT
Total	59	38	19	2	0	0	19	13

No.	Patient Name	Nationality	Age	Sex	HC	Diagnosis	Plan

Unit	Capacity	Occupied	Vacant	ADMISSION	Transfer W/O	Plan for Transfer	Vacant beds	Remarks
SIKU	10	8	2	0	0	0	2	8 ACS PT
Total	10	8	2	0	0	0	2	8 ACS PT

Date & Time		10/21/2021 1:00 PM		HMMGH Surgical Patient Flow Coordinator Shift Report	
Total Adm		0			
Total DC		0			
HMMGH Surgical ED Pending		0			
HMMGH PACU Pending		0			

Unit	Capacity	Occupied	Vacant	Admission	Discharge W/O	Plan for Discharge	Vacant beds	Remarks
Unit 14 (Unit 1)	34	25	9	0	0	0	9	ACS-1, Ortho-14, Urology-4, Plastic-4
Unit 15 (Unit 2)	34	23	11	0	0	0	11	ACS-14, Ortho-4, Urology-3, Plastic-4
Total	68	48	20	0	0	0	20	ACS 9 in ICU

No.	Patient Name	Nationality	Age	Sex	HC	Diagnosis	Plan

No.	Patient Name	Nationality	Age	Sex	HC	Diagnosis	Plan

Total Capacity of Surgical Beds	51 beds
Surgical Occupied Beds	36 beds
	ACS-21, Ortho-8, Plastic-5 Urology-2

"A Hospital Bed is a Parked Taxi
with the Meter Running"

- Groucho Marx



Day of Surgery Admission(DOSA)HGH- SSC

“**D**ay of **S**urgery **A**dmission (DOSA) describes the process whereby patients are admitted to hospital and have surgery, on the same day.”

Source: Ir Med J. 2008 Jul-Aug;101(7):218-9.

Project Sponsor

- 👤 Chief Medical Officer
- 👤 Chairman of Surgery

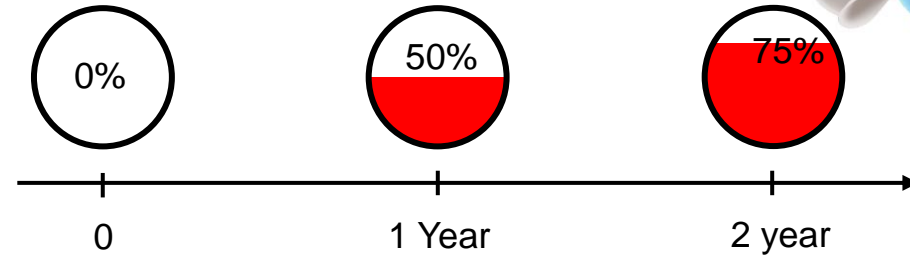
Lead Team

- 👤 Head of surgical department in SSC
- 👤 Executive nurse of SSC and Director of inpatient nursing, Operative and day care department
- 👤 Scheduling and tracking Office (STO)
- 👤 Director of surgical patient flow

Project Scope

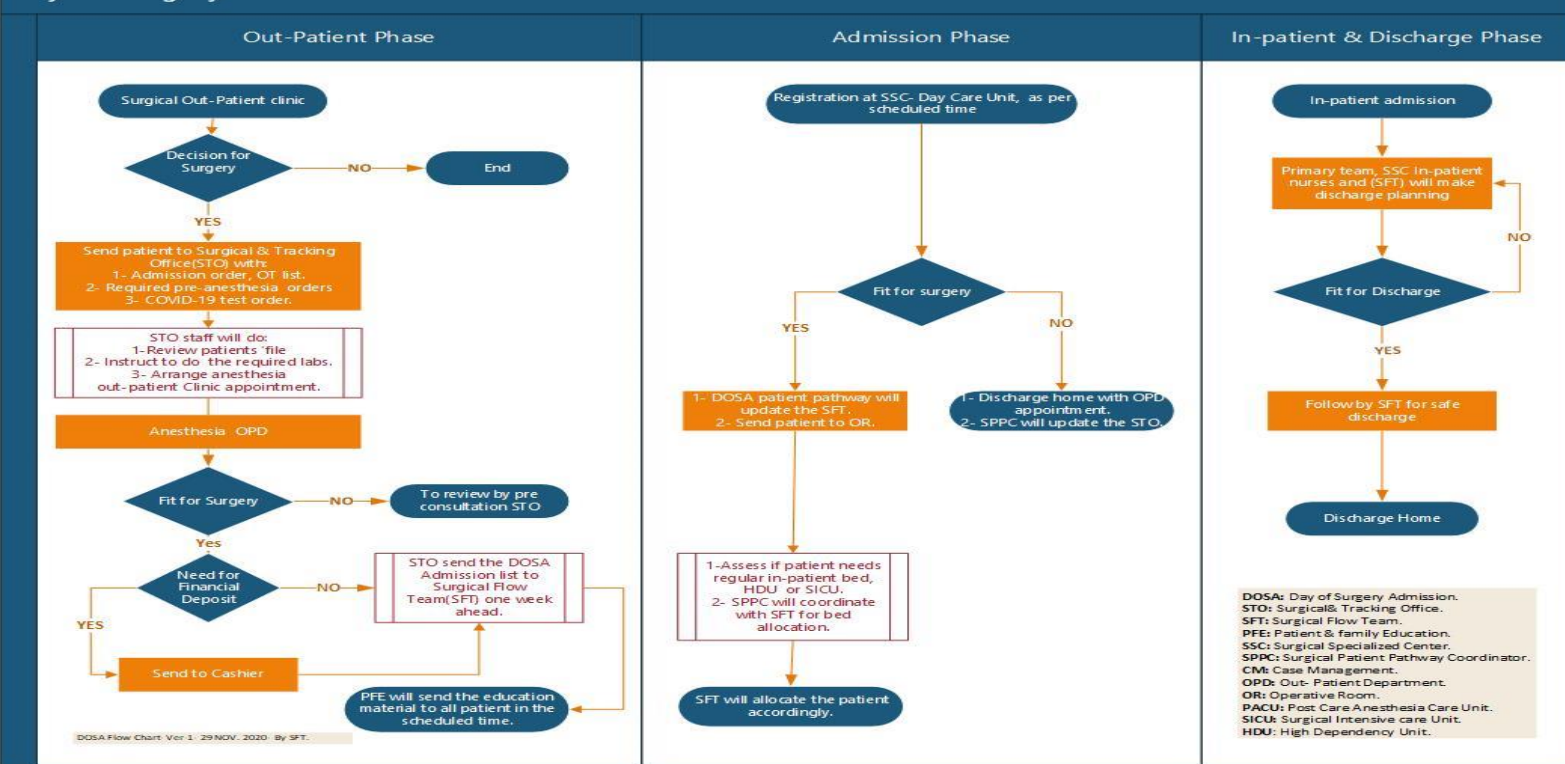
- Implementation of DOSA within SSC in June 2021
- Reduce the Length of Stay
(Reduced one bed day).
- Reduce the boarding time in HGH-ED

Compliance with DOSA

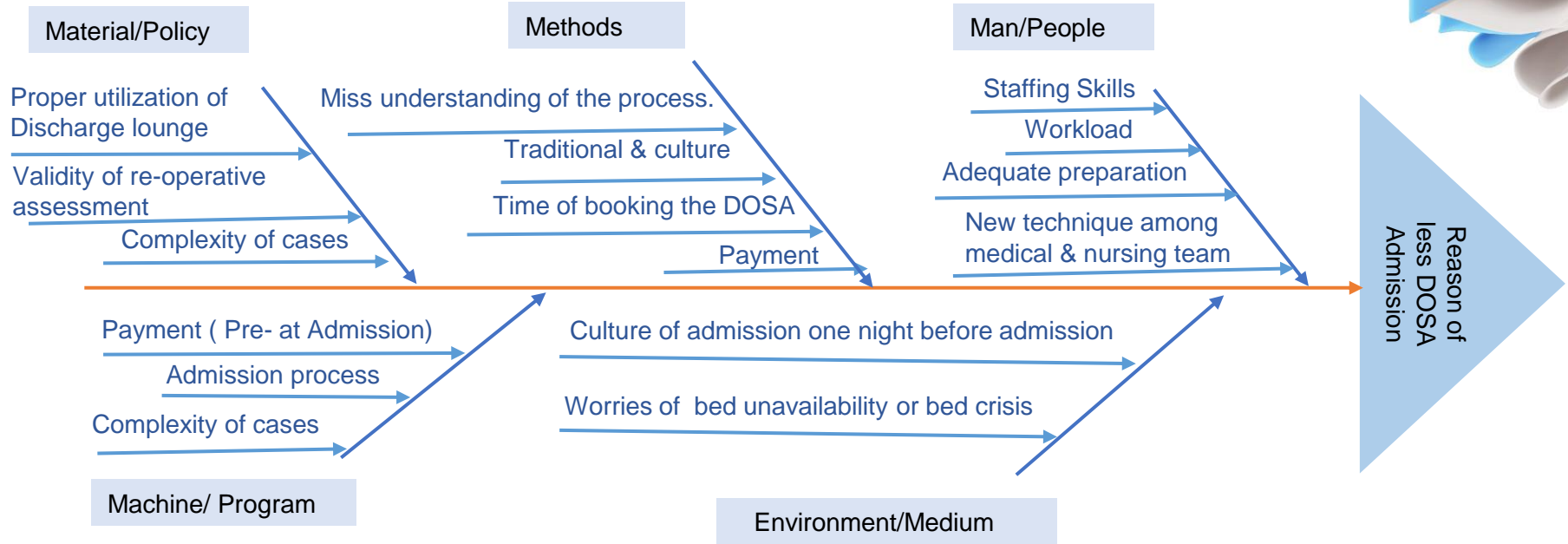


Process map

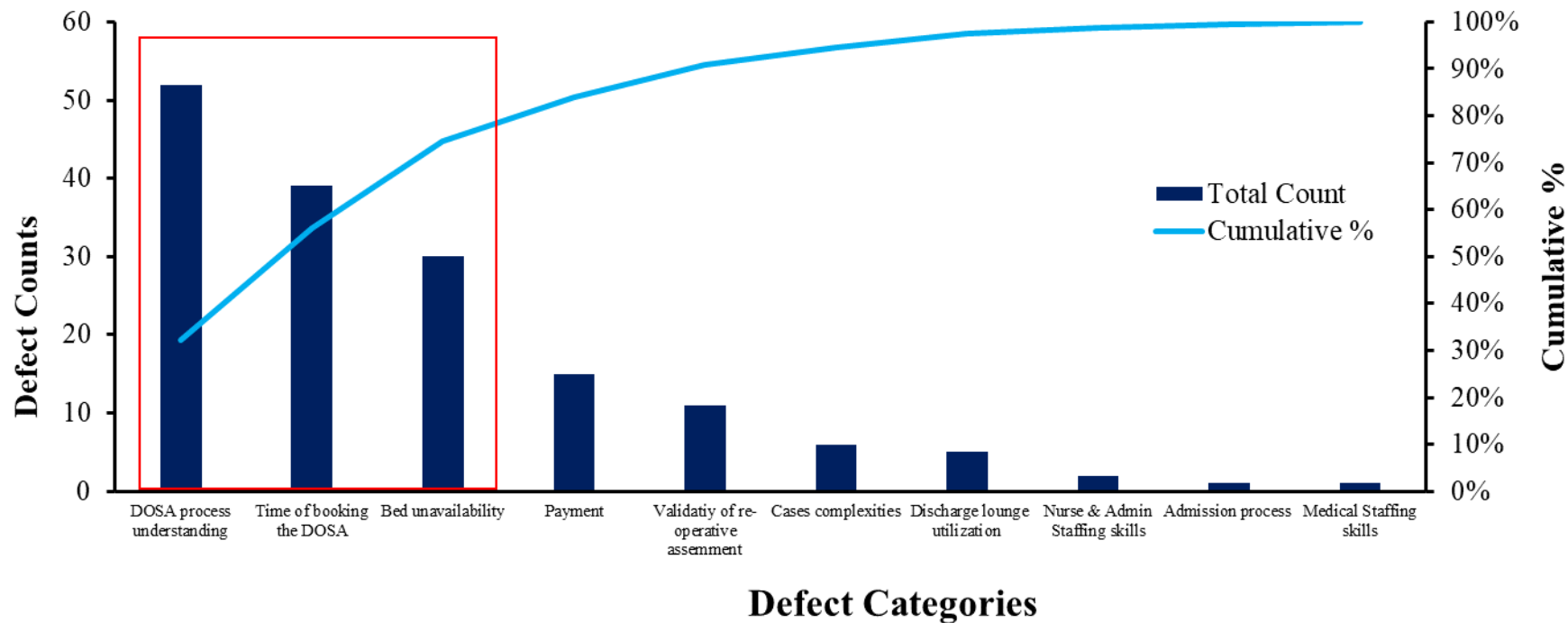
Day Of Surgery Admission- DOSA- Flow chart



Ishikawa Diagram (Causes & Effects)



DOSA Pareto Chart



Driver Diagram

Change concepts /Ideas

Review all scheduled surgery for DOSA eligibility

Train the surgical team for Cerner documentarian

Monitor the compliance of pre-anesthesia clinic

Orient the process to nursing, STO, Flow Team & perioperative

weekly meeting with perioperative team

Educate the patient and family for entire admission process

Modify pre-admission payment methods

Create morning virtual arrangement for DOSA cases

Secondary Drivers

Regular meeting with Stakeholder

Regular orientation for surgeon, anesthesia, STO, Day Care, Nurses & flow team

Creation of DOSA Documentation in Cerner

Education for patient and family

Balance between Demand and capacity

Primary drivers

Leadership and stakeholder engagement

Training Education and Awareness

Flow team

Aim

To increase the Percentage of DOSA cases (from 0% to 50 %) form total scheduled surgery within the first year, and from 50% to 75% for another 12 months and to sustain. (Started from Jun2021).

Outcome measures:

Measures

To **increase** the Percentage of **DOSA** cases (**from 0 to 50 %**) form total scheduled surgery within the first year, and from **50 to 75%** for another 12 months and to **sustain** the improvement for the next 12 months (since June 2021)

Process Measures:

Maintain the target of patients' discharge within **two hours** in SSC by **40%**.

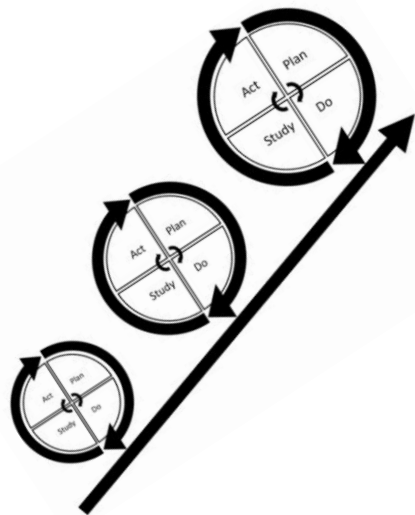
Maintain the target of patients' discharge before **11:00H** by **30 %**.

Percentage of transfer from **ED & Inpatient** (**40% from ED**)& percentage between the **transfer order** and **bed availability** in other facility **75%** within **two hour** from the order.

Balance Measures:

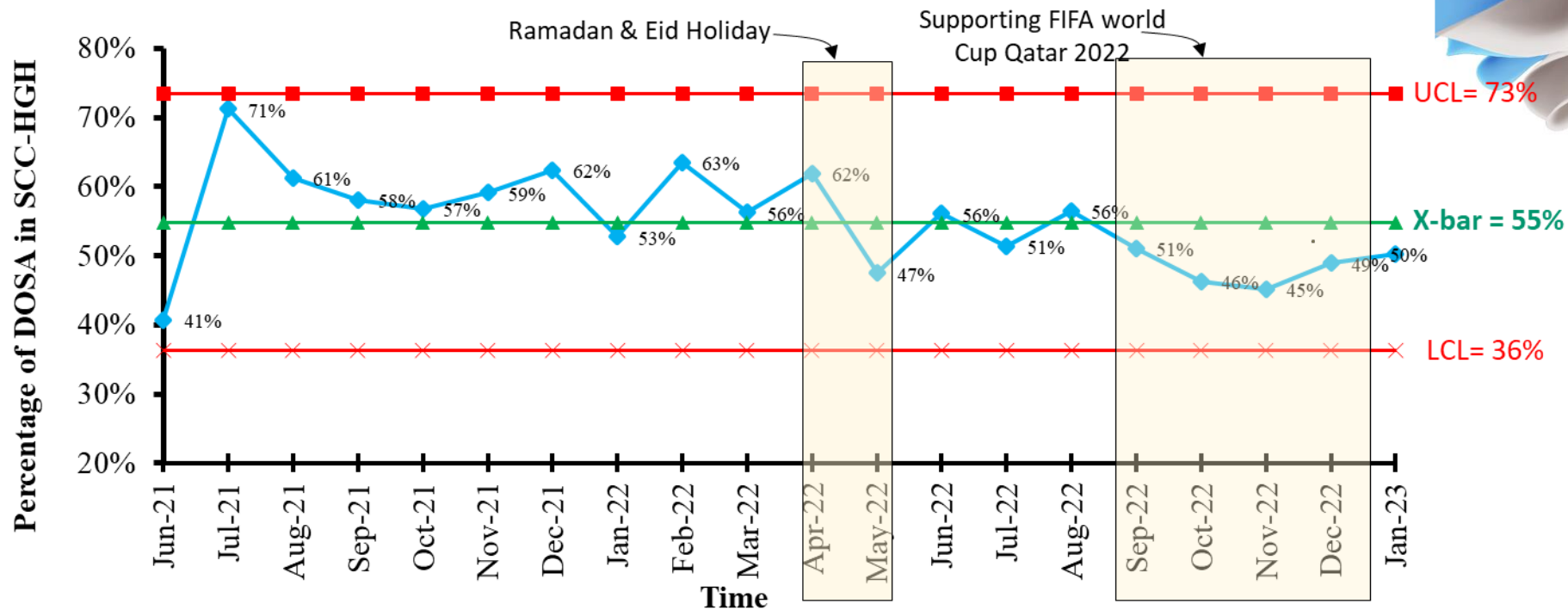
Boarding time of surgical **non-critical admission** from ED (**The Target is 60%**)

Rapid Cycle of PDSA



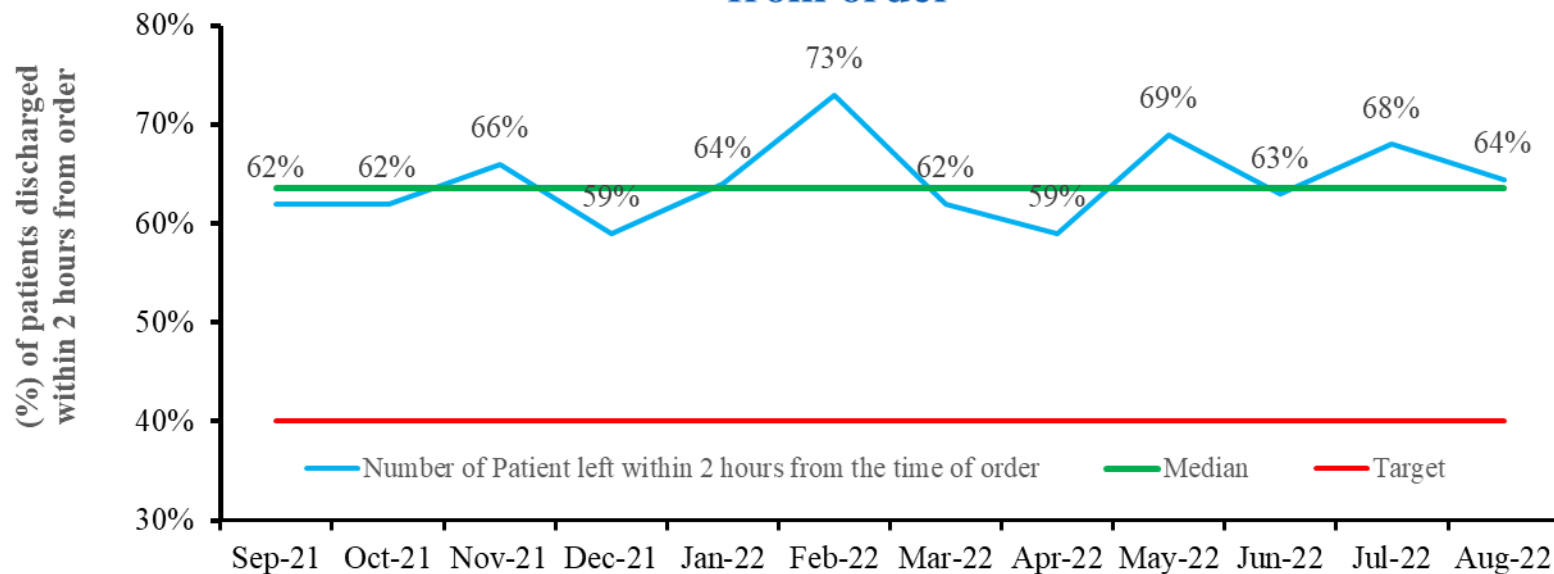
- Run multiple PDSA cycles for education orientation and training of the surgical team
- Monitor the balance between demand and the capacity
- Test the teleconference meeting with team
- Use of weekly list for DOSA patients
- Reduce the time gaps between the transfer order and the time of bed allocation from 50% to 86% with 2 hours from the transfer order

Outcome Measures: Percentage of DOSA in SSC-HGH



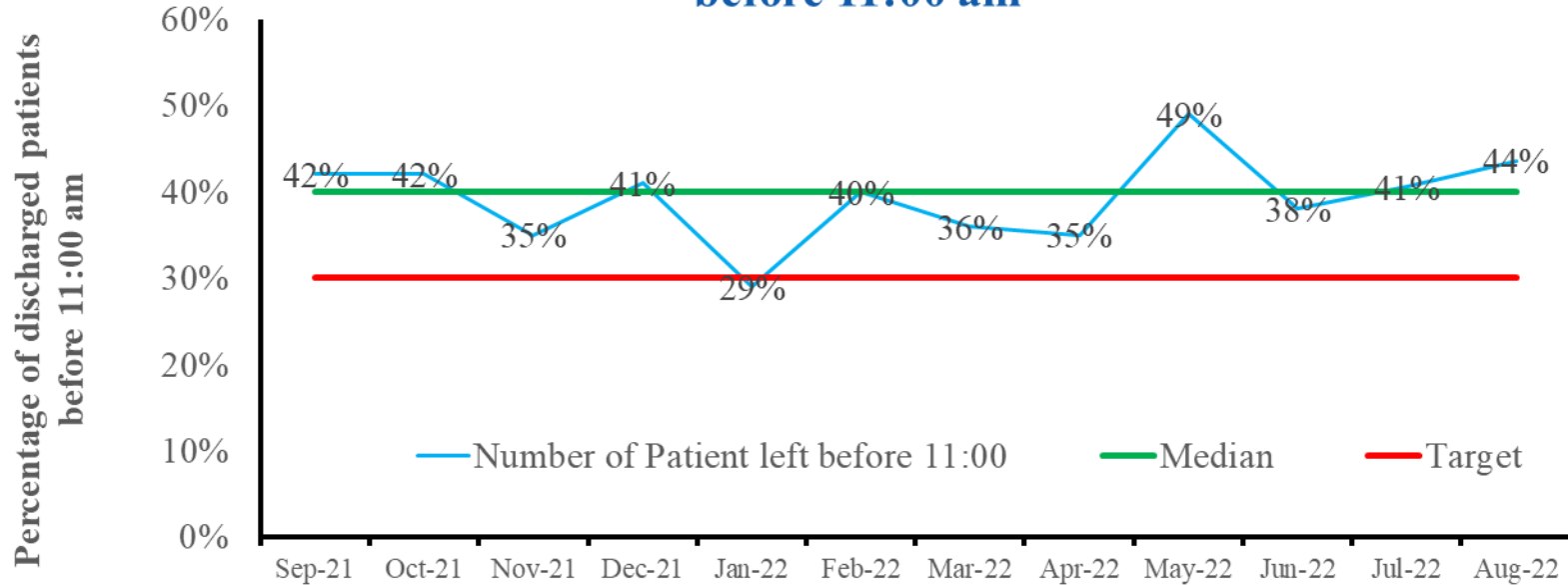
Process Measures 1:

SSC-Inpatients: Percentage of Surgery Patients Discharged within 2 hours from order



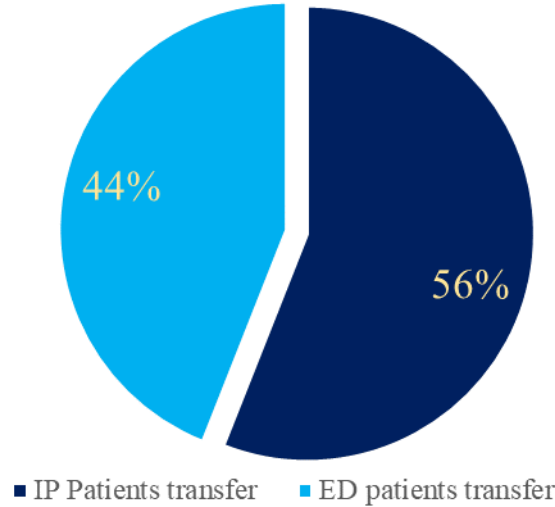
Process Measures 2:

SSC-Inpatients: Percentage of Surgery Patients Discharged before 11:00 am

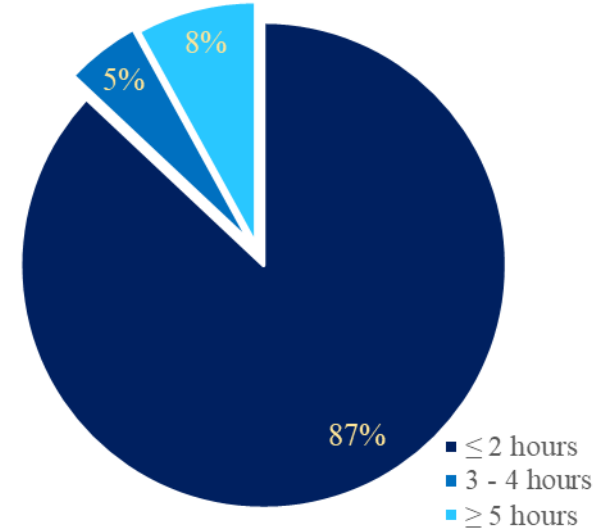


Process Measures 3:

SSC-Inpatients: Percentage of Patients Transfer from ED & Inpatient and Time distribution from Transfer order to Bed availability in other facilities



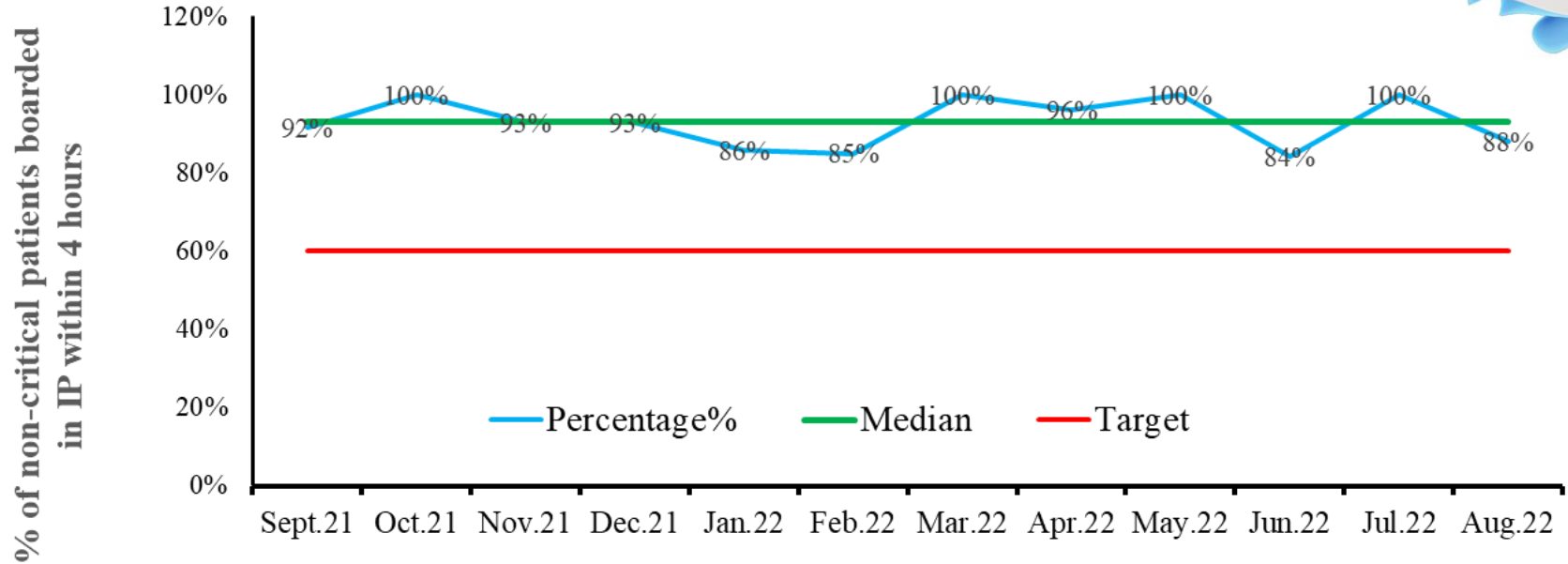
Percentage of Transfer from Emergency and In-patients



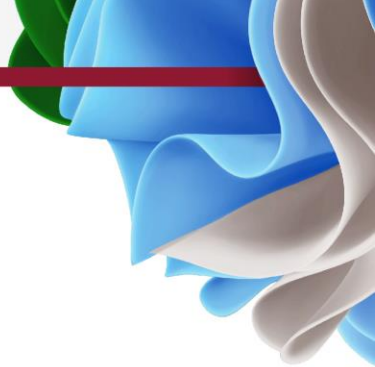
Time distribution from transfer order to bed availability in other facilities

Balance measures:

Percentage of non-critical Patients Boarded in ED & Admitted to IP within 4 hours



Challenges



- ✦ The staffing shortage
- ✦ Payment
- ✦ Traditional & cultural of patients
- ✦ The COVID-19 pandemic
- ✦ Complexity of cases
- ✦ Validation of pre-operative assessment

Recommendations

- Standardized the DOSA criteria for each specialty.
- Use the media for DOSA introduction to population in Qatar.
- Standardize clinical protocols for DOSA across HMC.
- Implement corporate DOSA project among HMC services.

Acknowledgements

Medical Team

Dr. Abdulla Al-Ansari,
Chief Medical Officer

Dr. Mohamed Elakkad,
Chairman of Surgery.

Heads of Surgery.

Head of Anesthesia.

Nursing Team

Mariam Al-Mutawa, Deputy
CNO

Khadija Al Shukaili, HGH-
EDON

Nadia Al-Mansoor, Surgical
AED

SSC- Directors of Nursing.

Allied Health Team

Aidan Paul Kehoe, CEO

Dr. Abdelfatteh El Omri,
Senior Scientist Surgical
Research Section

Business Intelligence Unit
Scheduling & Tracking
Office.

HGH-Infection Control
department.

SSC-Admitting department.

Surgical flow team



References:

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Kummerow Broman K, Hayes RM, Kripalani S, Vasilevskis EE, Phillips SE, Ehrenfeld JM, Holzman MD, Sharp KW, Pierce RA, Nealon WH, Poulose BK. Interhospital transfer for acute surgical care: does delay matter? Am J Surg. 2016 Nov;212(5):823-830. doi: 10.1016/j.amjsurg.2016.03.004.

Fernandes-Taylor S, Yang DY, Schumacher J, Ljuman F, Fertel BS, Ingraham A. Factors associated with Interhospital transfers of emergency general surgery patients from emergency departments. Am J Emerg Med. 2021 Feb;40:83-88. doi: 10.1016/j.ajem.2020.12.012.



Thank you
