



# Kingdom of Saudi Arabia - Ministry of National Guard – Health Affairs

## CRASH EMERGENCY CESEAREN SECTION KEY PERFORMANCE INDICATOR



المركز السعودي  
لسلامة المرضى  
SAUDI PATIENT  
SAFETY CENTER

### BACKGROUND

In the year 2015, the 1st Edition of Book of Measures (BOM) was published in the Ministry of National Guard Health Affairs (MNG-HA) for all regions. This innovation aimed to ensure that all organizations practiced a standardized performance structure to ensure uniformity in the organization. King Abdulaziz Hospital (KAH ) Labor & Delivery (L & D) adopted the Key Performance Indicator (KPI) " Patients Who Delivered within 30 Minutes of Request for Crash Emergency C/ Section." When the BOM was circulated L & D had no data to measure the service provision for crash C/Section.

### TOPIC ALIGNMENT

#### Objective

The aim objectives of this project were to measure compliance and identify areas of weakness following results analysis by collecting and analyzing the data regarding the management of Crash Emergency C/ Sections cases

Data Collection Methodology and Type of Measure Definition	
Definition:	Patients Who Delivered within 30 Minutes of Request for Crash Emergency C/ Section
Methods:	Numerator: Total number of patients who delivered within 30 minutes of request for immediate C / Section Denominator: Total number of patients who have crash C-Section
Rationale:	To monitor the patients who delivered within 30 minutes for crash emergency C-Section
Type:	Outcome
Census Source:	Labor & Delivery (L&D)
Data source:	Labor & Delivery
Data collection methodology:	Retrospective
Data collection frequency:	Monthly
Responsible:	Labor and Delivery Collated by: Quality Management
Reporting frequency:	Monthly
Target Population	Patient with Crash Emergency C-Section
Type of analysis:	Control Chart and written analysis
Reporting to:	Quality & Patient Safety Department, Nursing & Medical Services Leadership

#### Methodology

The PDSA –Cycles (Plan Do Study Act) model for improvement was adopted.

#### Plan

Collaboration and coordination  
Built a team  
Communication with all stake holders

#### Do

Project implementation as a pilot study in the first quarter of 2020.  
Review, analyze and determine any deficiencies on a monthly basis.

#### Study

Researched the topic  
Data analysis

#### Act

Results of 1st and 2nd Quarter 2020 needed to be actioned. It was clearly noted that the Departmental Policy & Procedure (DPP) needed to be reviewed and updated to ensure compliance to the KPI.  
The time frame for these results is from January 2020 to June 2021

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### OUTCOME

1st QUARTER 2020	2st QUARTER 2020
<ul style="list-style-type: none"> <li>Total number C/S 180 (37 %).</li> <li>The total number of crash emergency C/S 51 (28%)</li> <li>Twelve (12) cases (24 %) did not met criteria</li> <li>Thirty Nine 39 cases 76% met criteria</li> </ul>	<ul style="list-style-type: none"> <li>Total number of C/S 170 (37 %)</li> <li>Total number of crash emergency C/S 50 (29%)</li> <li>Twelve (12) cases (24%) did not met criteria</li> <li>Thirty Eight (38) cases (76%) met criteria</li> </ul>
THEMES	THEMES
Delays in Anesthesia: : Seven (7) cases (59%)	Delays in anesthesia: Five (5) cases (42%)
Delays in transferring patient to Operating Room (OR) by Nurses/Midwives & Anesthesia: Two ( 2 ) cases (17%)	Delays in preparation of patient by Nurses/Midwives in L&D: Two (2) cases (17%)
Delays in Anesthesia & decision making by Obstetrician: One (1) case (8%)	Delays in preparation of patient by Nurses in Ward 1: Three (5) cases (25%)
Delays inside Operating room (OR) in commencement of Surgery by Obstetrician: One (1) case (8%)	Delays in obtaining consent by both Obstetrician & Anesthesia: One (1) case (8%)
Delays in transferring patient to OR by the nurses and midwives in L & D: One (1) case (8%)	Delays in preparation by Nurses/Midwives & anesthesia: One (1) case (8%)

### Challenges to patient safety

- Delays in Anesthesia Services provision
- No clear policy and procedures relating to effective management of Obstetric emergency.
- Noncompliance of the measure due to lack of knowledge
- Sound & prompt decision making not made causing delays in care delivery
- Ward 1 caters for antenatal and postnatal patients and is located on the 1st floor of the main hospital building. L&D and OR are located on the ground floor of the main hospital building. Emergency cases needing OR were transferred to L&D for preparation before moving to OR.
- Time wastage performing procedures at the bedside.
- Delays in obtaining consent. The MGN-HA policies clearly gives guidance on obtaining written consents in dire emergency.

### Value and Innovation

There are occasions when birth of the neonate needs to be expedited warranting the performance of a C/Section as soon as possible to optimize the health outcomes for the mother and/or her neonate. Conditions such as Abruption Placenta & Eclampsia to mention but a few can be detrimental for the mother and /or neonate. C/Section may be deemed necessary to save the fetus or mother from death or permanent birth injury. Birth injuries can contribute to prolonged length of stay and extra costs to the organization. Failures in maternity care over the past decade have left more than 1,200 children permanently brain damaged and cost taxpayers more than £4 billion in compensation as per new data reviewed from the United Kingdom. In approximately 40 % of such cases, a C/section offers the safest route of birth. Delays in interventions in an emergency can lead to incident of avoidable patient harm and is deeply distressing for mothers and their families.

### Performance Improvement Action Plan

The leadership decided to update the DPP: 4671-11 (2020) Obstetric Emergency Response. The updated policy had clear guidelines relating to obstetric emergency Code entitled Ob-Code. The OB-Code is defined as a notification used to alert staff of an obstetric emergency. Once OB-Code is activated the Obstetric Emergency Response Team is mandated to respond. This interdisciplinary team has specific roles. This critical care team aims to assesses and manage high risk patients prior to the development of progressive and irreversible deterioration. The Obstetric Emergency Response Team; comprises of the following:

Chairman of OB -GYN  
Anesthesia doctor  
OB – GYN on call Team  
OB – GYN L & D on call Team  
OB – GYN 2nd on call Team

Nursing Shift Coordinator  
L & D Unit Nurse Manager  
Anesthesia on – call Technician  
Second on call Neonatology  
Midwives & Nurses

### The policy addressed below main headings but not limited to

#### System Changes

- Ob-Code can be activated via the Workstation Application available in all computers in the clinical areas in L & D & Ward 1 by following the prompts on the system.
- These prompts relay a message to the Communication Call Centre Agent
- Communication Department ensures the activation is within 30-40 seconds and announced via the Public Address System as opposed to previous system which was a "silent Code " unannounced
- Ward 1 is included whilst previously Ob- Code could only be accessed in L & D

#### OB - Code Response Team

- Roles and responsibility were well defined
- Neonatology Pager was included to the team whilst previously they were paged separately
- Effective communication was enhanced within the team and all staff

#### Timeliness

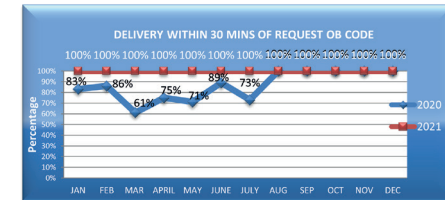
- Staffs were empowered to activate the OB-Code Upon recognition of fetal or maternal compromise
- Parameters to response time upon OB - CODE activation were highlighted

#### Practice Changes

- Bedside Ultrasound were to be avoided to prevent delays
- Inserting of Foley catheters to be conducted in OR
- Mothers needing Emergency C/section from Ward1 are transferred straight into OR & not L & D Improving flow

### Sustainability Plan

By August 2020 through to December 100% compliance to the measure was met. The results are showing a remarkable improvement. Not only was the measure met but there has been evidence of sustainability from 2020 to date



#### Reliable measuring method

- Method can be replicated and used in other institutions

#### Local context

- Positive organizational characteristics (participative management style, history of successful change, commitment to find better ways of working and clear corporate vision)
- Staff empowerment inclusion of all staff leading to empowered workforce

#### Support at senior level

- Endorsement and support from key senior individuals
- Clinical leadership engagement : support and involvement of consultant medical staff
- Gaining leadership buy in, such as the compelling use of data and stories to enhance the sense of urgency around quality improvement efforts

#### Dedicated resources

- Effective collaboration with the Communication Call Centre Department
- Sufficient and appropriate staff to initiate, deliver and support new initiative
- Dedicated time for all staff involved to meet, plan, develop and undertake improvement activities
- Adequate infrastructure to support new processes