Failure to rescue (FTR): A nursing led quality improvement project

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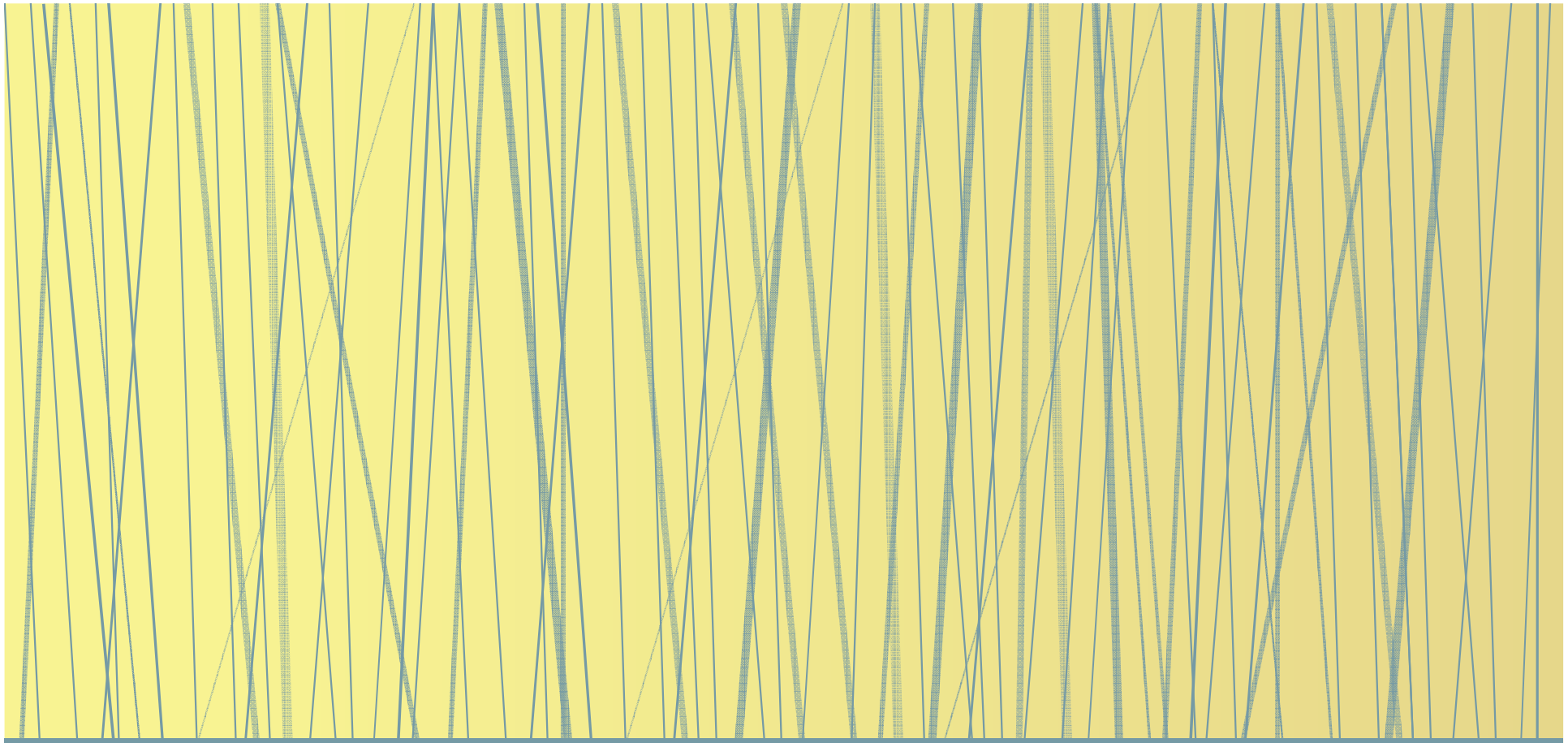
Situation

- Medical Patient with Resp. illness for admission
- No inpatient bed available - hospital overfilled
- Patient physically remained in ER boarding area but admitted under Internal Medicine
- Nursing staff deployed various units
- Unfamiliar with layout, processes and equipment

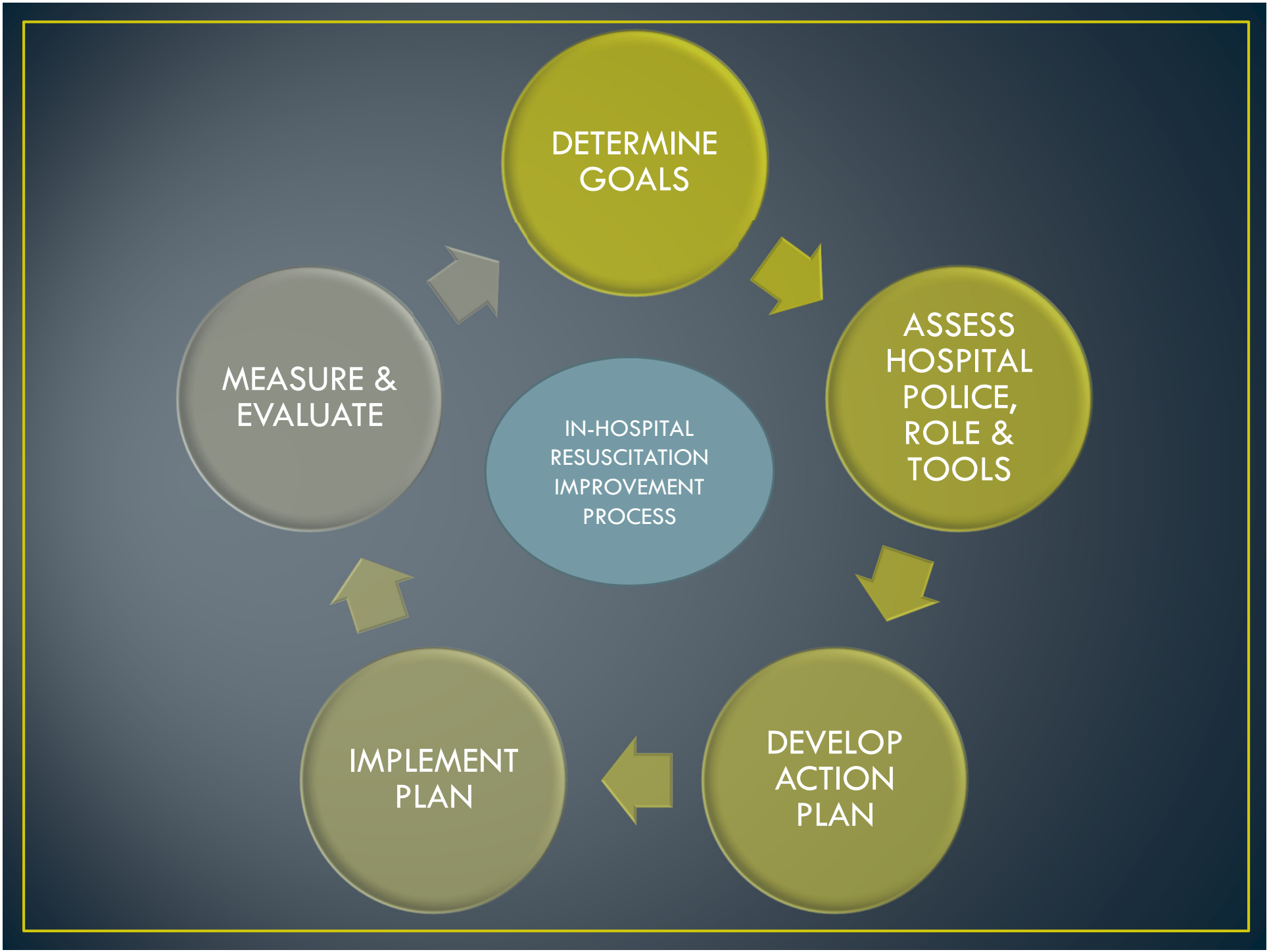
Outcome

- Resuscitation unsuccessful
- Family devastated
- Staff involved severely distressed
- Organisation demanded change
- Investigations and project design



Improving resuscitation care in a tertiary university hospital using Code Blue Nurse Coordinator role

Angela Schwarzboeck, *Critical Care RN, AHA ACLS & BLS instructor, Clinical Resource Nurse, BSN*


DETERMINE GOALS
ASSESS HOSPITAL POLICE, ROLE & TOOLS
DEVELOP ACTION PLAN
IMPLEMENT PLAN
MEASURE & EVALUATE
IN-HOSPITAL RESUSCITATION IMPROVEMENT PROCESS

SOLUTION FOR PATIENT SAFETY

OUR MISSION

Working together to improve bedside resuscitation care and optimizing patient safety.

OUR VISION

High quality and prompt resuscitation care for all adult and pediatric patients during resuscitation events.

SAFETY OF RESUSCITATION TEAM

"Organizations with potential for greatness have the characteristic of being places where people don't get hurt."

Paul O'Neill

SOLUTION FOR RESUSCITATION TEAM SAFETY

OUR MISSION

Working together with mutual respect and open communication to improve bedside resuscitation care and optimizing Resuscitation Team safety.

OUR VISION

Enhancing multidisciplinary teamwork and confidence of all involved colleagues during the challenging resuscitation situation.

JOINT COMMISSION INTERNATIONAL ACCREDITATION STANDARDS FOR HOSPITALS

Resuscitation services -Intent of COP.3.2

- Resuscitation services are available throughout the hospital. These services must be available to all patients 24 hours a day, every day.
- Basic life support must be implemented immediately upon recognition of cardiac or respiratory arrest and a process must be in place for providing advanced life support in fewer than 5 minutes.
- Successful resuscitation of patients in cardiopulmonary arrest is dependent on critical interventions, such as early defibrillation and accurate implementation of advanced life support.
- Essential to providing these critical interventions is the quick availability of standardized medical technology, medications for resuscitation and staff properly trained in resuscitation.

Failure to rescue (FRT) a nursing led quality improvement project for resuscitation care

- The concept of failure to rescue captures the idea that, although not every complication of medical care is preventable, health care systems should be able to rapidly identify and treat complications when they occur.

- Failure-to-rescue (FTR) is a term first coined by Silber in 1992.

- The term has been used increasingly as a measure of hospital quality of care and has been named by the Agency of Health Care Quality as one of 20 patient safety indicators.

- The term is defined as the probability of death after a complication or adverse occurrence within a particular hospital.

- Both patient-level factors as well as hospital-level factors and characteristics can influence a facility's FTR rate. The risk of FTR is lowered when complications and adverse occurrences are recognized quickly and treated aggressively.

- Likewise, the risk of FTR increases when deleterious changes in patient status occur and steps to reverse the change are not taken

Failures - system

- Variation in resuscitation equipment.

  Standardize

- Knowledge, Training, and Experience – who does what when & how.

  Standardize & practice

- Role of team members not defined well – who does what when and how.

  Standardize & practice

- Auditing and review.

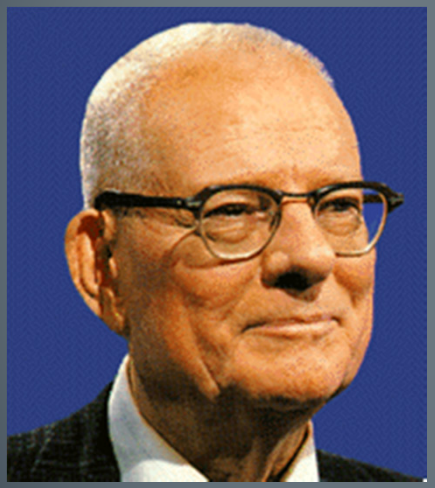
  Standardize

Failures - unit level

<u>Variations in resuscitation equipment:</u>

- Crash Carts (CC), Defibrillators, Suction pumps, Laryngoscopes
- CC not Ready For Use: who, when, how & follow up
- Activation processes

Regaining Control

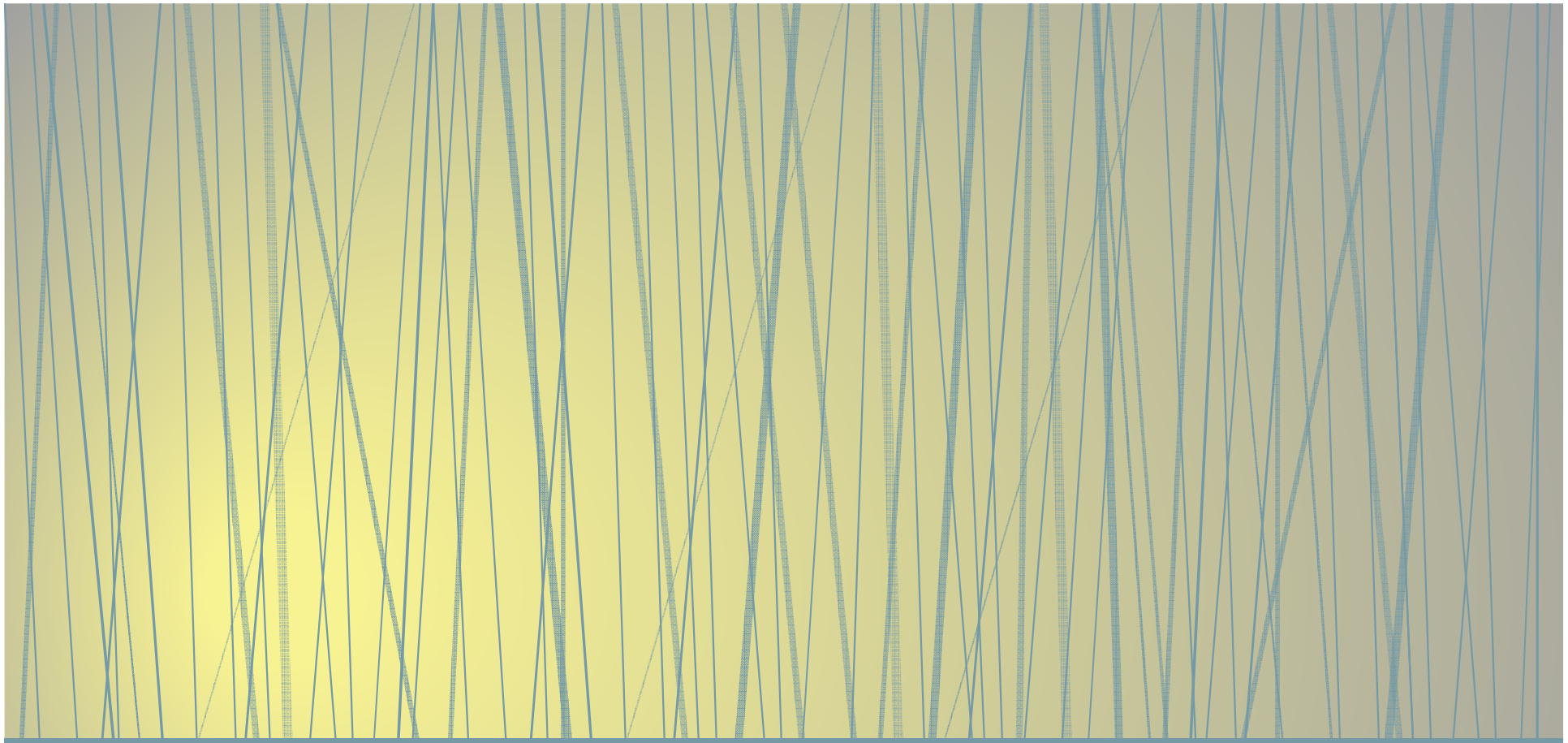


"In any process, reducing variability in that process ultimately leads to a higher quality product."

W. Edwards Deming

Regaining Control

- Variability and unpredictability is the enemy of good health care.
- Evidence shows patient deteriorate in a predictable pattern.
- If it can be predicted, it can be managed.
- Controlling monitoring processes inhibits further variation from standardized plan of care.
- Controlling systemic response processes leads to a more controlled resuscitation response program; thus giving patients a higher opportunity for positive outcome.



Reducing "failure to rescue" occurrences during in-hospital adult and pediatric resuscitation event

***Andrea Kadlckova**, MSN & BSN, Critical Care RN*

Standardize resuscitation practice

- Despite Basic Life and Advanced Life Support courses being mandatory every two years for hospital staff
- Knowledge and skills retention
- In hospital BLS and ALS practice focus on team members priority

A nursing led quality program

Goal of our program

Reduce failure occurrences during in-hospital adult and pediatric resuscitation event through BLS and ALS knowledge evaluation and resuscitation skills practice

System failure can prohibit us getting the right people with the right equipment and right training to the right person at the right time.

A Nursing Led Quality Program

- Introduction of dedicated senior clinical nursing position for resuscitation care for adult and pediatric hospital
- Auditing of Crash Cart ready for use
- Facility standardization of resuscitation equipment
- Revised organization and department policies and procedures
- Divided hospital resuscitation response zones to ensure ALS initiation within 5 minutes
- Developed paging system notification

Location	Response Team	Areas
Surgical Tower	CODE BLUE RESPONSE TEAM SICU CODE BLUE NURSE SICU RT SICU INTENSIVIST	• All units in Surgical Tower and non-clinical areas
Cardiac Building Adults	CODE BLUE RESPONSE TEAM MCICU CODE BLUE NURSE MCICU RT Adult Cardiac PHYSICIAN on call	• All units, procedural areas & clinics in Cardiac Building and non-clinical areas- except Pediatric Code Blue
Cardiac Building Pediatrics	CODE BLUE RESPONSE TEAM PCICU CODE BLUE NURSE PCICU RT Pediatric Cardiac PHYSICIAN on call	• All pediatric units, procedural areas & clinics in Cardiac Building and non-clinical areas except Adul Code Blue
KAMC Hospital	CODE BLUE RESPONSE TEAM IMCU CODE BLUE NURSE IMCU RT Senior Medical Resident on call	• All units, procedural areas in Main Hospital and non clinical areas except neonatal area
ADCU 1& 2, ASU & MDU	*Interim management:* CODE BLUE RESPONSE TEAM ER CODE BLUE NURSE ER- RT ER physician Backup in case of Bed crisis: IMCU nurse	• ADCU 1& 2, ASU & MDU
KAMC Neonatal patients	Hotline- 13999 CODE BLUE RESPONSE TEAM NICU CODE BLUE NURSE NICU- RT NICU - physician	• NICU, ICN, ADMISSION NURSERY • LABOUR WARDS • SCABU • ALL Antenatal and Postnatal units • Emergency Room • Operating Rooms

A Nursing Led Quality Program

- Paradigm shift in knowledge and skills for all resuscitation team members
- Establish Basic Life Support responder roles through a coordinated program for:
  - Adult First Responder guideline
  - Pediatric First Responder guideline
  - Labor and delivery First Responder guideline
  - OR First Responder guideline

FIRST RESPONSE TEAM ROLE EXPECTATION IN CARDIOPULMONARY ARREST

1ST RESPONDER

PRIORITY

ASSESSMENT /ACTIVATES EMERGENCY RESPONSE SYSTEM/COMPRESSIONS

- Checks for responsiveness CALL FOR HELP
- Check simultaneously for pulse and for normal or abnormal breathing(gasping).
- Take minimum of 5 sec. and no more than 10 sec. if no pulse and signs of breathing
- SHOUT CODE BLUE and perform high-quality chest compressions

HIGH-QUALITY CHEST COMPRESSION

- 2 handed on lower half of sternum
- compression rate at least of 100 to 120min.
- count compressions aloud : 10; 20; 28, 29,30
- delivers each set of 30 chest compression in 15-18 sec.
- compression depth and recoil- at least 2 inches (5cm)
- minimizes interruptions in compression (less than 10 seconds)

Ask for switch compressor if needed

2ND RESPONDER

PRIORITY

AIRWAY

AMBUBAG AT BEDSIDE:

- Identify and instructs Team member to Activate Code Blue
- Allocates Team member to bring crash cart

AMBUBAG NOT AT BEDSIDE:

- Runs to Crash cart: Immediately takes Ambu Bag from bottom drawer and brings to the patient
- Identify and instructs Team member to Activate Code Blue
- Allocates Team member to bring crash cart

↓↓

- Maintain an open airway using HEAD TILT- CHIN LIFT OR JAW THRUST
- Attaches AMBU BAG to supplemental oxygen (15 liters)
- Places mask on patients face, with the narrow portion at the bridge of the nose
- Ventilates the patient at a ratio of 30 compressions to 2 breaths watching for chest rise
- Count cycles loudly and informs documenting nurse on arrival how many pulse checks have been done

Encourages 1st responder to perform compressions that are deep enough and fast enough to allow chest recoil between compressions

3RD RESPONDER

PRIORITY

ATTACHMENT OF DEFIBRILLATOR

ARRIVES WITH CRASH CART:

- Press ON at defibrillator
- Check skin is dry and clean
- Attaches Defib PADS to multifunctional cable and to the correct position on patients chest
- Places Back Board in correct position under Patient during ventilation
- Start by yourself or ensures charge nurse or senior trained staff starts code blue record
- Press PRINT during first PULSE CKECK

- Delegate the primary nurse to open the best care and get ready for short handover on Physician Team Leader arrival.

- Gives Physician Team Leader on arrival the print out of the rhythm strips

4TH RESPONDER

Ensure availability of IV access

Prepares 1l NS infusion in pressure bag with 3 way connector for flush of emergency drugs

Set up suction and checks if functioning

Start documenting in LifePak15 →event button → cpr metronome on and off→ option button→ code summary

DELEGATES:

- paging of ECG, CXR, Social Services.
- Informs primary team of code for patient

CODE NURSE ROLE

- **defibrillate** a patient in Vtach/Vfib
- check if patent iv line is ready for use
- administered drugs as per PTL order
- support recorder
- ensure that someone is doing event marking
- after code ensure that documentation is correct

Tracheostomy is an advanced airway, patients have to receive continuous compressions for 2 minutes and one breath every 6 seconds counting 1001,1002,1003,1004, 1005, 1006 ventilate in cardiopulmonary arrest! Count the breaths up to 20 breaths than announce Pulse Check until defibrillator is connected.

NURSING SERVICES
Failure to Rescue Project
1st Responder Responsibilities
King Abdulaziz Medical City - Riyadh

PEDIATRIC CODE BLUE SIMULATION

Sample Pediatric First Response Team Role expectation

1st Responder		2nd Responder	3rd Responder	4th Responder
Priority:	**Assessment & Chest compression**	**Airway**	**Crash Cart- Quick Combo**	**Code Blue caller, IV line & assist**
• Unresponsiveness No breathing or no normal breathing. **(i.e. only gasping)** • Shout for Pediatric Code blue • **Pulse check** for not more than 10 seconds If no pulse – start chest compressions		**Ambubag at bedside** • Get the ambubag **Ambubag in the Crash Cart** • Runs to the crash, opens bottom draw to get the all the Ambubags • Summons someone to "call for Pediatric Code Blue and get the Crash Cart" • Attaches Ambubag to 15 liters Oxygen flow • Places the Face mask with narrow portion at the bridge of the patient's nose • Maintains an open airway using ***head tilt – Chin lift or Jaw trust*** for Trauma patient • Counts the Cycles aloud until the defibrillator is connected and pulse check done.	• Press defibrillator **ON** button • Consider patient's weight and Attaches **QUICK COMBO** to multifunctional cable and to the correct position on patients chest • Start Code Blue recording • Act a team leader until PTL arrives • Await 2 minutes (pulse check), and press print the script during **PULSE CHECK.** Press **PRINT** during **PULSE CKECK** and press **PRINT** a second time to stop printing Gives Physician Team Leader the printed rhythm strips	• Place Back Board in correct position under patient – (at pulse check time). **Ensure availability of IV access** **Prepare:** • Emergency drug list • 5 – 1 ml syringes • Labels • 5 - 10 ml syringes • Normal saline for flush. • 3 way stop cock • Alcohol swabs • **Relieve the primary nurse** if she/he was the 1st responder. so she can prepare for PTL SBAR report and Lab results. Suction: checks if functioning well **In PICU/PCICU** – she administers medication. **In the ward** – she hands over medication administration responsibility to PICU/PCICU Code Nurse.
No pulse (Compression-ventilation ratio(until advanced airway placed)	**One rescuer** • Begin cycles of **30 COMPRESSIONS** and **2 BREATHS** **Two rescuer** • Begin cycles of **15 COMPRESSIONS** and **2 BREATHS**			
• **Definite Pulse**	• Give **1 breath** every **3 seconds.** • Add compressions if pulse remains **less than 60/min** with **poor perfusion** despite adequate oxygenation & ventilation • Recheck pulse **every 2 minutes**			
High- Quality CPR • Rate at least 100/min • Compression depth to at least 1/3 anterior- posterior diameter of chest about 1½ inches (4cm) in infants and 2 inches (5cm) in children • Count compressions aloud when reaching: 10, 20, 28, 29, 30 • Allow complete chest recoil after each compression • Minimize interruptions in chest compressions • Avoid excessive ventilation/				

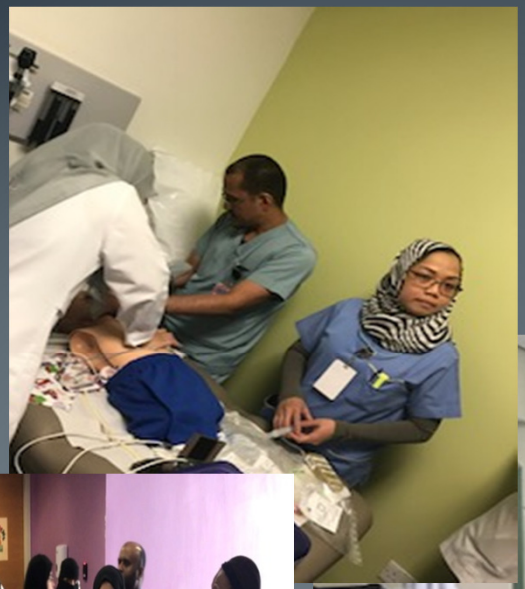
NB: NC/Charge Nurse or Senior Nurse: Responsible for Code Blue Documentation
Primary Nurse/Partner: Give brief SBAR about patient condition to Physician Team Leader (Includes Assessment, vital signs and recent Blood test results pre code)
Code Blue Activator/Caller: Activates Code Blue by dialing **77**, Example: **Ward 9, Room 11**. Code Blue activator must Listen to announcement for accurate Location

A Nursing Led Quality Program

- Developed specific Code Blue Nurse Role and privileging process to use the Automatic External defibrillator during adult resuscitation event if arrive before physician.

- High and low fidelity combined training of Code Nurse (Intensive care nurse)and Medical Residents/EMS as a Physician Team Leader during Resuscitation event.

- Using check list and monitoring data tool during multidisciplinary simulations for measuring each team member's performance during the simulation to be able to create a high-quality education plan to improve their knowledge retention.



Debriefing

The goal of debriefing is to allow the participants to integrate behavior change by discussion and self-assessment.

- Standardized Debriefings for all Code events outside of Critical Care
- Standardized Pediatric Multidisciplinary post Resuscitation debriefing.

In Progress

Resuscitation management tool [Resuscitation Database]

- Create monthly quality in hospital resuscitation incidents reports
- Compare the code blue incidence in critical care and non-critical care
- Response time reports BLS and ACLS initiation time
- Survival reports/mortality reports
- Conduct real-time data checks to identify potential deviations against AHA guideline's
- Benchmark performance by NGHA hospital size
- Based on the final report build the education plan for residents and nurses

In Progress

- Evaluate CPR quality (rate and depth) based on TRUE CPR device

Evidence of achievement

- Dedicated Adult & Pediatric Code Blue Coordinator
- 100 % of Crash Cart resuscitation equipment is standardized
- Trained & qualified Adult & Pediatric Code Blue Nurses
- Observable increased in familiarity with resuscitation equipment and processes
- Effective delivery of BLS by 1st Responders
- Feedback from staff on value of dedicated Code Blue Nurse Coordinator
- Improved skill retention through the use of simulation training

"Never doubt that a small group of thoughtful committed people can change the world for indeed, it is the only thing that ever has."

-Margret Meade

THANK YOU FOR YOUR ATTENTION

ANY QUESTIONS?