

# DELAYED MERT ACTIVATIONS AND PATIENT MORTALITY

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## BACKGROUND

The purpose of University Medical Center's (UMC) Medical Emergency Response Team (MERT) is early identification and intervention for patients at risk for clinical deterioration to improve patient safety and help prevent negative patient outcomes. Current research shows that delayed activation in a hospital's emergency response system is associated with increased patient morbidity, mortality, and length of stay (Padilla & Mayo, 2019). The following is a quality improvement (QI) project that highlights the importance of early detection of deterioration and timely MERT activation for decreasing patient mortality.

## PURPOSE

By examining when delays in MERT activations occur and identifying what trends and barriers exist to activating the emergency response system, we can work to decrease average length of stay and improve patient outcomes.

## METHODS

This QI project examines the relationship that delayed MERT activations has on code blue events. We analyzed data that included all code blue activations on the medical-surgical and intermediate care units from January 1, 2025 to May 31, 2025 to determine which patients met MERT criteria and/or had a documented decline in clinical condition within 48 hours prior to a code blue event.

CALL TYPE							
Call Type	Jan	Feb	Mar	Apr	May	Jun	
MERT	394	351	376	360	377	319	
Request	6	1	15	9	9	11	
Code BLUE	42	23	26	24	26	29	
Code WHITE	21	14	26	31	30	16	
OB Stork	33	27	13	30	15	15	
OB Stat	1	0	0	1	1	1	
Follow-up	28	25	32	32	25	15	
Code Crimson	1	2	2	2	2	1	
High Risk ID	1	1	2	0	1	1	
Code Sepsis	2	6	6	6	2	4	
Code Crimson	1	2	2	2	2	1	
Transport	1	0	1	0	0	1	
STEMI	2	2	1	1	1	1	
TOTAL	533	454	502	498	491	415	

### CALL 5

Dialing "5" on any hospital phone of any time will connect you with the emergency hospital operator. When speaking with the operator please state the code type\* and location of the patient. The Medical Emergency Response Team (MERT) will assist to stabilize and transport patients as needed to the appropriate location.

**Where should you call for help?**  
Anywhere in the hospital or on our campus.

**Why should you activate the MERT?**  
Staff members may call for patients with ACUTE changes in:

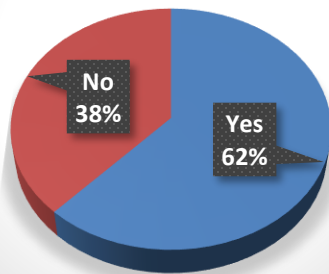
- Heart Rate: <40 or >130 bpm
- Systolic Blood Pressure: <90 mmHg
- Respiratory Rate: <8 or >28 bpm
- Oxygen Saturations: <92% after oxygen has been applied
- Change in Mental Status
- Urinary Output: <30 ml within 4 hours
- Chest Pain/Acute Coronary Syndrome
- Signs and Symptoms of Sepsis
- Employee or Visitor seeking immediate medical attention
- Any deterioration from previous condition — just doesn't look right

**For all other emergencies, please Dial "5" and activate the correct code\* type:**

- Code Sepsis (Alert code): asymptomatic patient meeting sepsis criteria
- Code Blue: cardiac or respiratory arrest
- Code Stork: pregnant patient/visitor in distress
- Code White: patient presenting with signs of F.A.S.S.
- Code STEMI: chest pain associated with confirmed ST elevation on EKG

Indicator	Benchmark	1Q25	2Q2
Total Adult MERT calls	N/A	1,121	1,056
Total Adult Code Blue calls	N/A	87	76
ROSC achieved	N/A	60%	64%
Total MERT calls converted to Code Blue	0	8	3
Total Inpatient Adult Code Blue debriefing forms reviewed	90%	95.4%	98.7%
Code Blue teams role carried out appropriately	90%	96.0%	98.6%
Code Blue within 24 hours of ER/Trauma/PACU admit *excludes ICU units	<5%	12.5%	0%
Code Blue within 24 hours of ICU downgrade *excludes ICU units	<5%	6.3%	14.3%
Equipment and supplies readily functioning and available	90%	94.7%	91.7%
Code Blue within 24 hours of MERT *excludes patients who were transferred to ICU units	<5%	2.3%	2.6%

## Met MERT Criteria <48 Hours Prior to Code Blue Event



## RESULTS

Of the 21 code blues activated on medical-surgical or intermediate care units, 13 of those had documentation of meeting UMC's established MERT criteria and/or clinical decline in condition within 48 hours prior to a code blue activation.

## CONCLUSIONS

Nearly 62% of the code blue activations occurring in the medical-surgical or intermediate care units showed signs of clinical deterioration or had documented clinical changes within 48 hours prior to the code blue event.

Through early identification of clinical deterioration and prompt activation of the emergency response team, we can work to decrease the number of code blue events and, in turn, decrease patient morbidity and improve patient outcomes.

## REFERENCES

Padilla, R. M., & Mayo, A. M. (2019). Patient survival and length of stay associated with delayed rapid response system activation. *Critical Care Nursing Quarterly*, 42(3), 235–245. <https://doi.org/10.1097/cnq.0000000000000264>

