

Optimizing Patient Outcomes Through MERT Activations

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BACKGROUND

- UMC’s Medical Emergency Response Team (MERT) is a group of specialized healthcare practitioners who respond to emergencies of experiencing unexpected changes in their health, requiring immediate attention.
- The MERT team is comprised of a critical care nurse specifically trained to run MERT activations, respiratory therapists, pharmacists, house supervisors, hospitalists, and ICU physicians that provide thorough assessments and utilizes hospital protocols to provide appropriate interventions to stabilize patients or facilitate safe transfer to a higher level of care.
- Many causes of deterioration are due to specific therapy delays which are associated with increased mortality (Mitchell et al., 2022).
- One of the Code Blue Committee’s goals is to decrease the number of code blues that occur outside of the intensive care unit (ICU) setting.

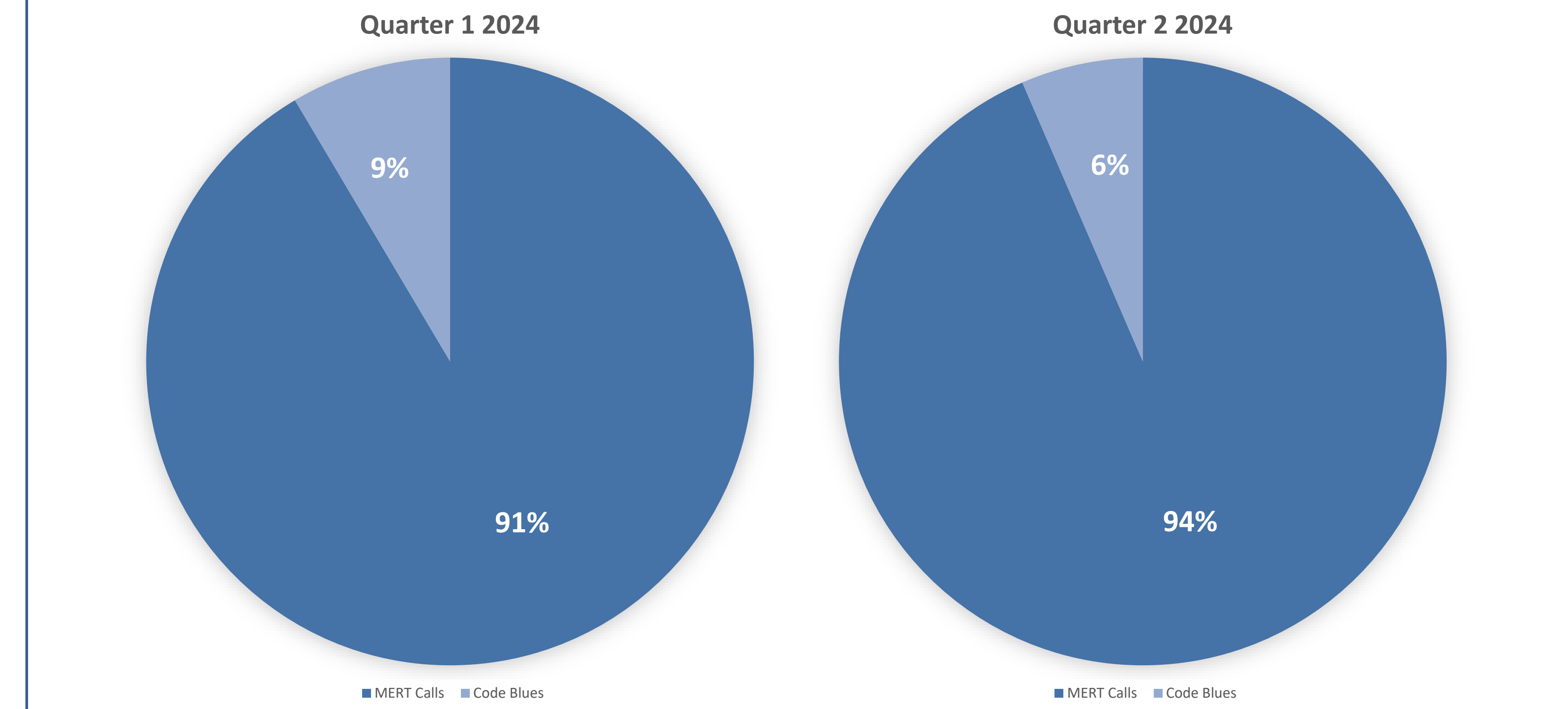
PURPOSE

- The purpose of this review is to determine the relationship between MERT activations and code blue activations on medical/surgical and intermediate care units. The MERT team wishes to provide education to hospital staff on the impact of MERT activations in reducing code blues outside of the ICU setting.

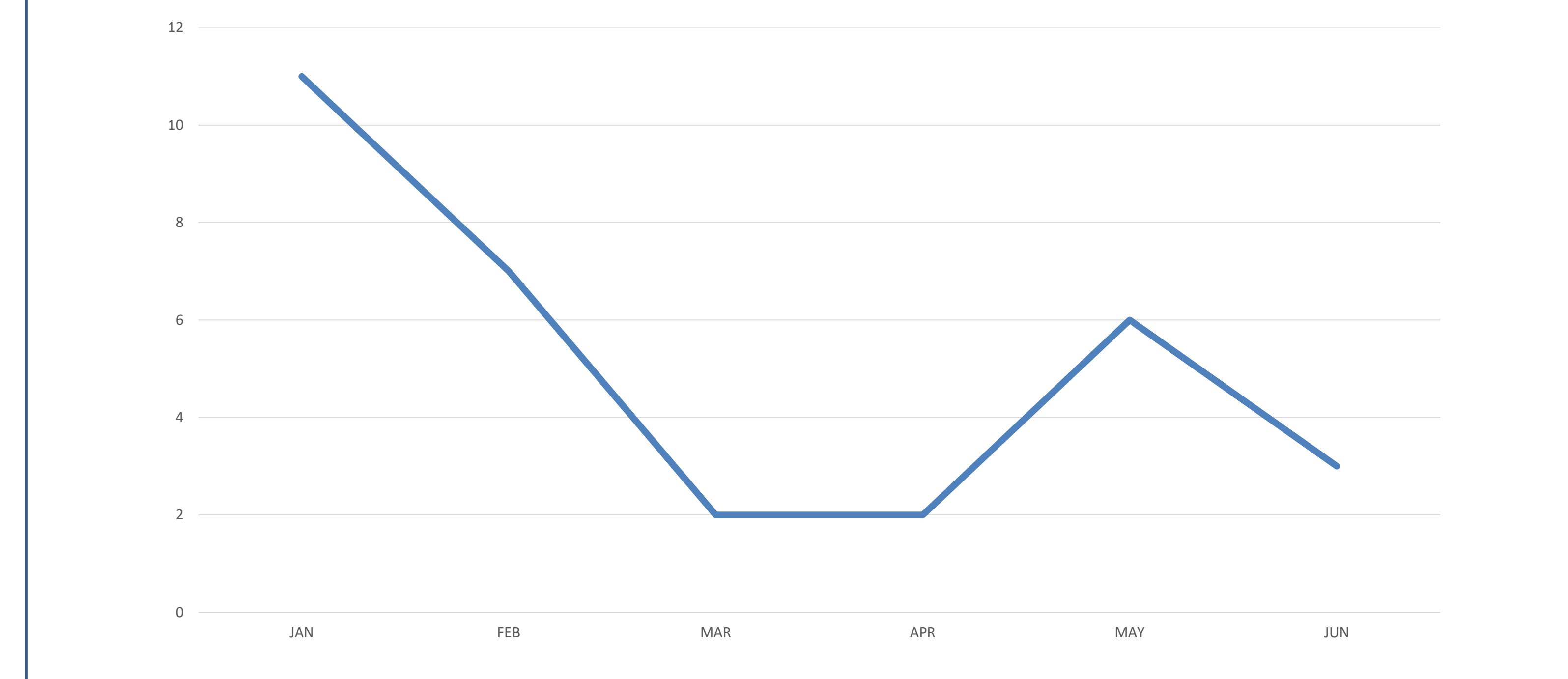
METHODS

- A systematic review was performed of MERT and Code Blue data that was compiled by the MERT team.
- Data from January 2024 to June 2024 were analyzed to determine if the increase in the number of MERTs contributed to a decrease in Code Blue activations outside of the ICU.
- The MERT Team and Code Blue Committee provided continuous education to inpatient nurses throughout these months on MERT criteria and activations.

Total MERT vs Total Code Blues Activations



Inpatient Cardiac Arrest Expirations



CALL 5

Dialing "5" on any hospital phone at 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 Saturation: <92% after oxygen has been applied
Change in Mental Status
Urinary Output: <50 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 (silent 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.T.
Code STEMI: chest pain associated with confirmed ST elevation on EKG

Call Type	Jan	Feb	Mar	Apr	May	Jun	Total
MERT	319	287	327	327	335	318	1913
Request	9	5	4	5	3	4	30
Code BLUE	35	30	22	13	27	31	158
Code WHITE	27	18	8	20	17	17	107
OB Stork	14	13	20	18	19	21	105
OB Stat	0	3	2	1	0	1	7
Follow-up	22	7	17	14	16	2	78
Code Crimson	2	1	3	0	0	0	6
High Risk ID	7	3	2	1	2	2	17
Code Sepsis	2	2	3	6	4	1	18
Code Crimson	2	1	3	0	0	0	6
Transport	6	3	2	1	0	0	12
Ultrasound PIV	1	0	0	0	0	0	1
STEMI	0	0	1	1	0	0	2
TOTAL	446	373	414	407	423	397	2460

RESULTS

- There was 933 total MERT activations and 87 total Code Blue activations in Quarter 1 of 2024. There were 980 total MERT activations and 68 total Code Blue activations in Quarter 2 of 2024.
- An increase in MERT activations resulted in a decrease in total Code Blue activations.
- Patients expiring after cardiac arrest have had an overall downward trend since the beginning of the year.
- Early warning systems, such as the “CALL 5” poster seen here, aid in the reduction of cardiac arrests in hospital settings (Monteith, 2022).
- Activating a MERT optimizes patient outcomes by allowing a critical care RN to evaluate a patient for potential deterioration and facilitation of transfer to an appropriate level of care.

CONCLUSIONS

- Activating MERTs when patients are meeting MERT criteria have been shown to reduce the number of cardiac arrest events outside of the ICU.
- There are proven benefits in having a MERT RN evaluate a patient meeting MERT criteria even if the patient appears to be “stable”.

REFERENCES

- Mitchell, O. J., Neefe, S., Ginestra, J. C., Schweickert, W. D., Falk, S., Weissman, G. E., Covin, D., Shults, J., Abella, B. S., & Shashaty, M. G. (2022). Association of time to rapid response team activation with patient outcomes using a range of physiologic deterioration thresholds. *Critical Care Explorations*, 4(11), e0786. <https://doi.org/10.1097/ccx.0000000000000786>
- Monteith, M. (2020). Further reducing the rate of code blue calls through early warning systems and Enabling Technologies. *Healthcare Management Forum*, 33(1), 30–33. <https://doi.org/10.1177/0840470419872770>

