

First Five to Stay Alive! Implementing In-Situ Mock Codes to Improve ROSC

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BACKGROUND

In-situ mock codes are an evidence-based method of education to improve quality of emergency response and preparedness^{6,7,9,11}. The UMC Mock Code program has been tracking patient's ROSC rate and survival-to-discharge rates in comparison to the national averages since 2019. Last year, the program coordinators have noticed that UMC has a higher survival to discharge rate of 43% compared to the national average of 24%¹.

However, the return of spontaneous circulation or ROSC is at 60% compared to 67% nationally³. The literature search revealed the use of simulations that focus on the first five minutes of emergency recognition and response had better return of spontaneous circulation or ROSC and improved patient outcomes^{10,11,12}.

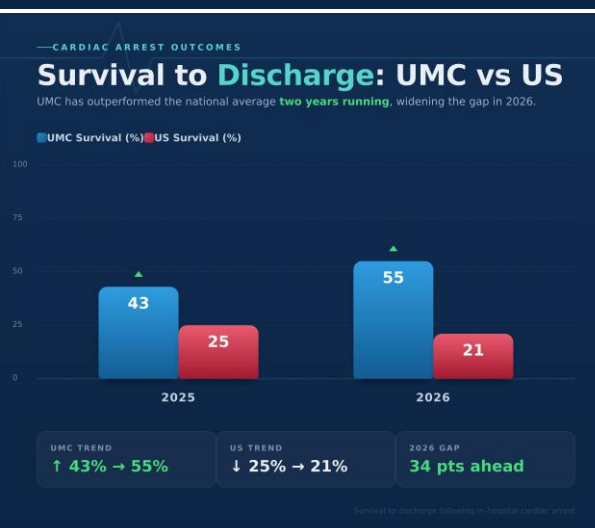
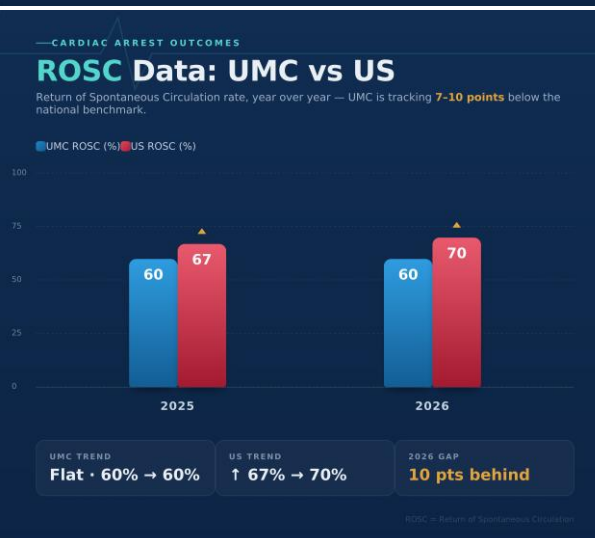
The team decided to make it this year's goal to improve ROSC rates by focusing on early recognition and initial response.

PURPOSE

The goal of the Mock Code program for this year is to improve adult patient outcomes by focusing on the first 5 minutes of emergency response to cardiac arrest. This is evidenced by achieving ROSC of 67% by performing in-situ hands-on simulations that focus on early recognition, response, and activation for the calendar year of 2026.

METHODS

UMC Department of Clinical Education has been conducting in-situ mock codes and keeping track of data since 2019. The program has grown and evolved by making improvements in both system-based response time and efficiency and clinical staff skills in early recognition and emergency response.



METHODS CONT.

The team continues to offer at least two mock codes per quarter per division, covering both day and night shift staff. The research suggests improvement in patient's outcomes with early recognition and initiation of CPR^{2,3,4,9,12}. Therefore, this year, the team's efforts have been focused on a first five minutes of in-hospital cardiac arrest algorithm: early recognition, activation of emergency response and high-quality CPR^{2,9,13}.

Hospital-wide efforts have also expanded to include interprofessional teams and specialized simulations for patients with stroke and myocardial infarctions to meet regulatory requirements and improve patient outcomes¹³.

Although all divisions and specialties have been included in mock codes, only adult units are included in data evaluation process to compare to the national benchmark for the same population.

RESULTS

The results are for the first 2 quarters of 2026, and more time and data are needed to show the effects of the interventions. Based on the previous year's data and anticipated scheduled mock codes, we are projecting about 45 drills by the end of 2026, which will surpass last year's efforts.

UMC ROSC remains the same from 2025 to 2026 at about 60%, while the national average is 70% for in-hospital cardiac arrests.

The UMC survival-to-discharge rate has improved from 43% in 2025 to 55% in 2026, which is significantly higher than the national average of about 21%. Therefore, the **survival to discharge rate has increased by 12%**, which is a significant finding. This means that, on average, UMC patients who have suffered cardiac arrest have more than double the chances of survival-to-discharge compared to the rest of the United States.

The team has also expanded the mock code program to include the stroke and myocardial infarction drills, which increased our adult mock code efforts and addressed a vulnerable population who were at higher risk for cardiopulmonary arrest⁵.

CONCLUSIONS

Patients' outcomes have shown significant improvement in survival-to-discharge rates for patients at UMC. Although ROSC data did not improve, other factors may have influenced it, such as patients with multiple co-morbidities, number of out-of-hospital cardiac arrests (OHCA)^{4,7,9}, recurrent in-hospital cardiac arrests (IHCA)⁷, all of which research suggests may lead to lower survival rates⁶.

The team of educators will continue offering in-situ mock code simulations as they have been a valuable education experience which have shown to promote better patient outcomes and improve organization-wide efforts in both early response and resuscitation.

REFERENCES

