

IMPROVING TIME-TO-CT SCAN FOR INPATIENT CODE WHITE ACTIVATIONS

Andrew Agustin, MSN, RN, CCRN, CNE; Hannah Stephens, MBA, BSN, RN, CCRN; Tisha Caparas, BSN, RN, CCRN; Matthew Abad, BSN, RN; Ruth Reed, BSN, RN; Tara Lam, BSN, RN; Xenia Dye, BSN, RN



BACKGROUND

Rapid transport to computed topography (CT) imaging during Code White activations is critical for timely diagnosis and intervention in patients with symptoms of acute stroke and/or neurologic decline. Delays in obtaining CT imaging contribute to delays in treatment, prolonged length of stay, and poorer patient outcomes. This quality improvement project aims to identify barriers and implement process improvements to decrease time-to-CT during Code White activations within the acute care hospital setting.

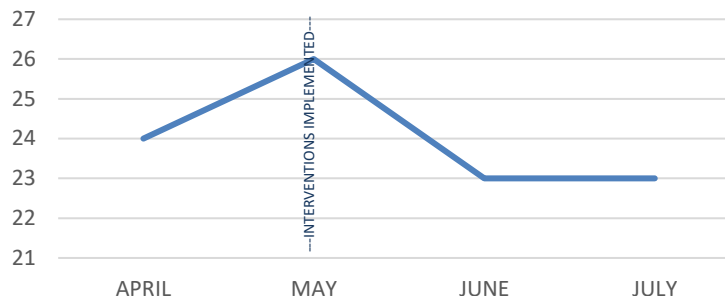
PURPOSE

UMCSN offers care to a diverse population and, "minority groups...experience greater prevalence of stroke, and experience worse outcomes" (Ross et al., 2024). Through analysis of delays in obtaining inpatient CT imaging and identification of contributing factors, we can improve time-to-CT and expedite treatment for patients presenting with acute stroke symptoms, thereby enhancing overall patient outcomes.

METHODS

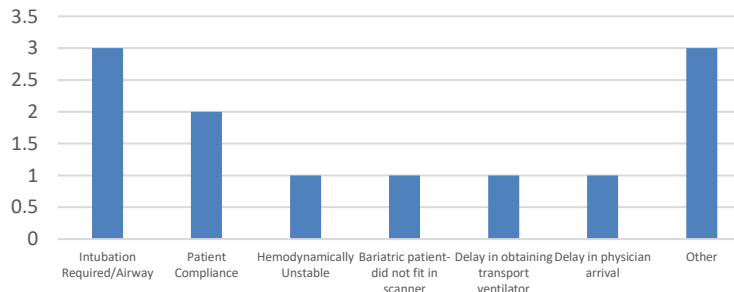
A multidisciplinary review of existing Code White data and workflows was conducted to identify delays related to communication, assessment, CT orders, patient transport, staff coordination, and imaging prioritization. Interventions included standardized activation procedures, enhanced communication between nursing, MERT, radiology, neurology, and transport teams, as well as education regarding Code White expectations and escalation pathways. Pre-intervention data was reviewed from April 2026 to May 2026. Post-intervention data was reviewed from June 2026 to July 2026.

CODE WHITE ACTIVATION TO CT SCANNER
AVERAGE TIME (MINUTES)



	April	May	June	July
Total Inpatient Code White Activations	28	18	15	23
Cancelled	3	1	0	7
Made Time	20	7	9	11
Missed Time	5	10	6	5
Percentage of Activation Times Met	64.3%		64.5%	

POST-INTERVENTION REASONS FOR DELAY



RESULTS

Implementation of targeted workflow interventions resulted in improved coordination among interdisciplinary teams and a reduction in average time-to-CT during Code White activations. Additional observed benefits included improved staff awareness, enhanced escalation efficiency, and better consistency in the emergency neurologic response process. Although the average Door-to-CT time decreased from an average of 25 minutes to an average of 23 minutes, the percentage of activation times met remain unchanged.

CONCLUSIONS

Health personnel and systematic factors can delay CT imaging and affect eligibility for thrombolytic therapy (Duodu et al., 2023). By standardizing workflows and improving interdisciplinary collaboration during Code White activations, delays in obtaining emergent CT imaging were identified. Through continued evaluation and quality improvement of the MERT/Code White process, post-intervention reasons for delay will be addressed to further improve diagnostic efficiency and patient outcomes during acute neurologic emergencies.

REFERENCES

- Duodu, F., Mends, D. B., Agbinko-Djabalar, B., Pekyi-Boateng, P., Amerwormu, M., Adjei, P., Akpalu, A., & Nkromah, K. (2023). Time to CT scan imaging after symptom onset among ISCHEMIC stroke patients presenting to a Quaternary Hospital in Ghana. *Journal of Stroke and Cerebrovascular Diseases*, 32(4), 107005. <https://doi.org/10.1016/j.jstrokecerebrovasdis.2023.107005>
- Ross, S., Inay, G., & Pacquiao, D. (2024). Direct to Computed Tomography (CT) Protocol and Impact on Door-To-Needle Time: A Systematic Review. *Journal of Nursing Practice Applications & Reviews of Research*, 14(1), 4-11. <https://doi.org/10.13178/jnparr.2024.14.01.1403>

