

Acute Ischemic Stroke Processes and Protocols Evaluated Through Collaborative Mock Stroke Simulations in a Rural Critical Access Hospital



Tracy Victory, MSN, RN, Hendry Medical Center; Lori Hollowell, RN, American Heart Association; Bernardo Kruszel, MD, Stroke/Emergency Department Director, Ruddy Valdes, DO AOBEM, AOBIM, President, Small Hospital Innovations

Background

Hendry Regional Medical Center (HRMC) in Clewiston, FL is a 25-bed Critical Access Hospital serving rural Hendry County and surrounding areas. In Florida, among 235 acute care facilities, the median 35+ heart disease/stroke age-adjusted death rate is 342 per 100,000, and Hendry County is just above the state median at 382 per 100,000¹. HRMC Emergency Department (ED) visits are ~18,000 annually, with 96 Stroke Alerts called in 2023. Rural residents have a 30% increased risk for stroke mortality compared with urban residents, and recent national increases in stroke mortality are steepest in the rural South.”¹ Prioritizing stroke care, HRMC earned American Heart Association (AHA)/Joint Commission (TJC) Acute Stroke Ready (ASR) Certification in November 2023 and earned a bronze level Get With The Guidelines®-Stroke Rural recognition award for data reported in the 2023 calendar year.

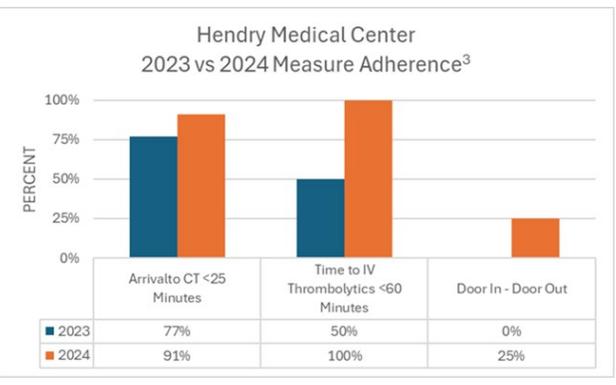
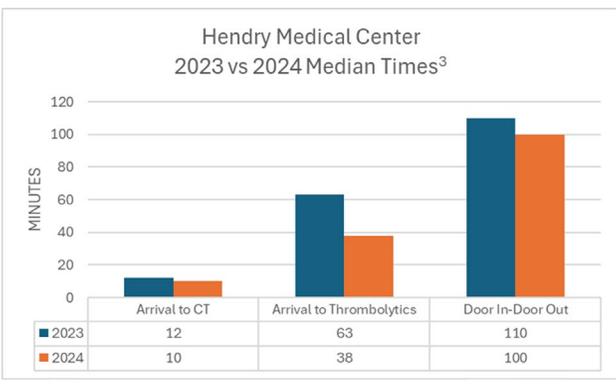
Objective

- Improve Door In- Door Out times and percentage within 90 minutes of arrival

Methods

Through GWTG-Stroke data submission and review, HRMC implemented collaborative stroke simulation drills evaluating processes and protocols used to treat ischemic stroke patients (ISP). These stroke simulation drills provide improved processes by offering feedback for staff and identifying areas where change, clinical education, and improvements may be needed. Stroke alert records from the previous months were reviewed, and opportunities for improvement were identified. The stroke simulation drill scenario was drafted from these records and included (mock) patient and family member engagement.

- Quarterly Mock Stroke Simulation Drills were held quarterly and across all shifts.
- These drills include Emergency Medical Services (EMS) and Tele-Neurology services.
- The stroke coordinator should not provide feedback during the drill.



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- Staff verbalize and walk through every step of the thrombolytic administration process, blood pressure checks and point of care blood glucose testing.
- Drill debriefing process is formal and provides immediate feedback to everyone on the team.
- Post Drill feedback and events are shared with the Stroke Multidisciplinary committee and with all impacted departments.

Results

Between 2023 and 2024, HRMC noted improvements in the care of suspected ISP as shown in GWTG-Stroke data to include, 14% improvement in the percentage of suspected ISP having CT scan initiated within 25 minutes of arrival and a 2-minute decrease in median time, 100% improvement in the percentage of ISP receiving IV thrombolytic therapy within 60 minutes of arrival and a 25-minute decrease in the median time, and 25% improvement in percentage of ISP with Door In-Door Out (DIDO) times within 90 minutes and 10 minute reduction in DIDO median time.

Conclusions

Since implementing the collaborative mock stroke drills, HRMC has observed a decrease in median times from arrival to CT scan and from arrival to the time of administering thrombolytic therapy. In 2025, HMC will conduct drills monthly to continue identifying opportunities for improvement in treating ISP.

References

1. Definitive Health, 2010-2020 County 35+ Age-Adjusted Rate per 100,000 Heart Disease/Stroke Deaths, July 2022.
2. [Call to Action: Rural Health: A Presidential Advisory From the American Heart Association and American Stroke Association](#) Originally published 10 Feb 2020 <https://doi.org/10.1161/CIR.0000000000000753> Circulation. 2020;141:e615–e644
3. Get With The Guidelines – Stroke – Hendry Medical Center, Rural Achievement Measures