Wins, Challenges, and Next Steps: Implementing an Arkansas Statewide Heart Attack Quality Improvement Initiative in the Rural Setting

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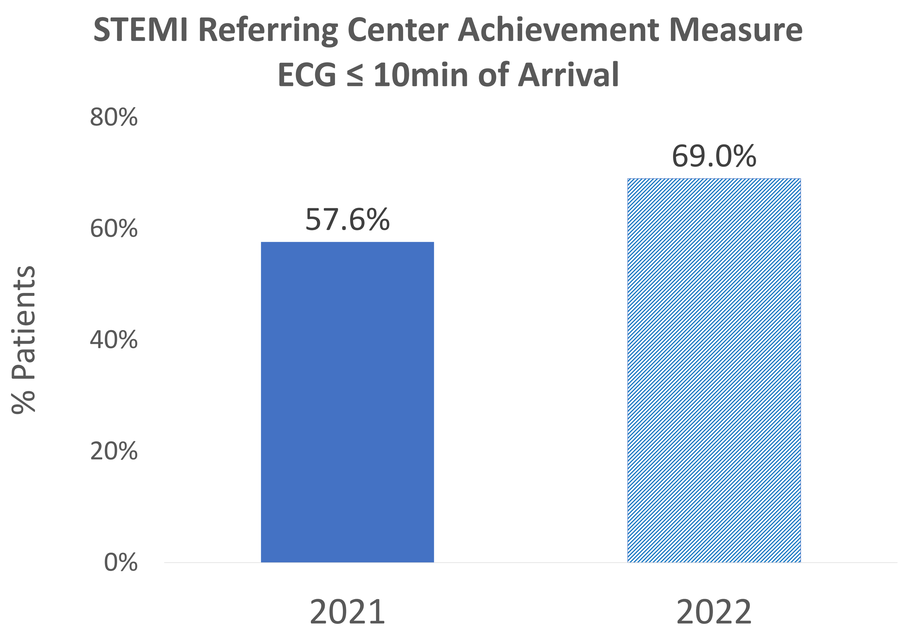
Background

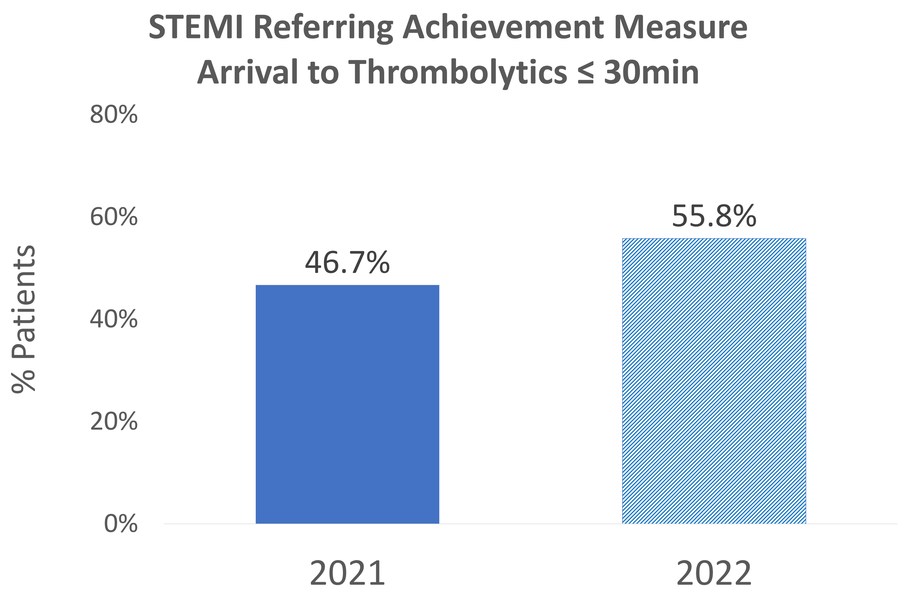
In 2020, Arkansas ranked first in the nation for the highest rate of death due to heart attack. Hospitals in the state without cardiac catheterization labs (approx. 2 out of 3) are generally rural and struggle to meet key heart attack referring hospital measures. A focus was needed on providing time-sensitive care at rural and critical access hospitals (CAHs) before patient transfer to PCI-capable (percutaneous coronary intervention) hospitals. The Arkansas Department of Health (ADH) responded with a multifaceted surveillance and quality improvement program specific to heart attack patients. In 2021, ADH broadened the Arkansas Heart Attack Registry to include Non-PCI Centers using the American Heart Association's (AHA) Get With The Guidelines®- Coronary Artery Disease (GWTG-CAD) registry and quality improvement program. Our overall goal is to ensure quality cardiac care regardless of which hospital patients go to first. ADH and the Arkansas STEMI Advisory Council (STAC) continue to oversee the program.

Methods

Seven regional benchmarking groups were created to align with the seven Arkansas STEMI (ST-elevation Myocardial Infarction) regions to promote systems of care process improvement and outlier mitigation. ADH's STEMI Coordinator and program Epidemiologist conducted hospital data reviews to provide Non-PCI Centers with key GWTG-CAD STEMI measure data and quality improvement opportunities. AHA Program Consultants hosted monthly Rural Arkansas Non-PCI Center Hospital GWTG-CAD Office Hours, a Critical Access Hospital (CAH) Abstraction & Reporting Series, and Arkansas Specific Abstraction Guidelines. Additionally, rural Arkansas hospitals were included in the quarterly Rural Health Care Outcomes Accelerator GWTG-CAD Learning Collaboratives to engage in educational resources and model-sharing practices.

Results





100% of the 46 participating non-PCI hospitals submitted STEMI data in GWTG-CAD by the end of 2022. Retrospective aggregate GWTG-CAD STEMI data from Jan. 2021 through Dec. 2022 revealed gains in two component measures: compliance with arrival to thrombolytics within 30 minutes (when primary PCI is unobtainable within 120 minutes) and door to 12-lead ECG within 10 minutes for STEMI patients. Data for 2021 included 25 of 46 Non-PCI Centers, while 2022 data included all 46 Non-PCI Centers enrolled in the Arkansas Heart Attack Registry.

Conclusions

Wins include 100% participation by Arkansas Non-PCI Centers enrolled in GWTG- CAD, creating a robust, comprehensive, statewide, baseline data set and improvements in several key STEMI measures. Identification of Arkansas' unique system challenges which represent many opportunities for improvement include non-universal acceptance of the STEMI patient by PCI Centers, bed shortages, hospital staff turnover, hesitancy to order lytics, lack of knowledge of heart attack guidelines and treatment, changes in reperfusion strategy after patient arrival, delayed thrombolytic administration, interfacility transfer delays caused by EMS agencies and air medical services auto-launch policies requiring a PCI hospital acceptance, lack of EMS backup coverage when transporting patients across county lines which simultaneously impacts rapid EMS response and patient transport times. Next steps include the addition of a Rural Hospital ED Board-Certified Physician and a representative from the Arkansas chapter of the National Association of EMS Physicians (NAEMS) to the Arkansas STAC, revisit and disseminate statewide STEMI lytic/Door-In Door-Out protocols, educate on importance of universal acceptance of STEMI patients at PCI Centers, prioritize auto launch protocols regardless of acceptance, and continue with GWTG-CAD data review and monitoring.