Increasing Critical Care Access in Rural Communities: Effectiveness of an APP Led Service

J. Myers, MSN, ACNPC-AG, BSN, CCRN, Doctoral Candidate
K. Reid, PhD, RN, FNP-C, CNL; R. Ridge, PhD, RN, MBA, NEA-BC, CNL

UVA SCHOOL of NURSING

Introduction

Access to critical care in rural communities is highly variable, and shortages of intensivists persist (Kanter, 2020 & Deslich, 2014). Rising numbers of patients require intensive care unit admissions (Lipsky, 2011). A rural community hospital transitioned from general hospitalist coverage to an APP led critical care service. The APPs were specially trained in critical care in the system's regional academic center. The APP led service functions without a physician on-site and with intensivist tele-consultation available.

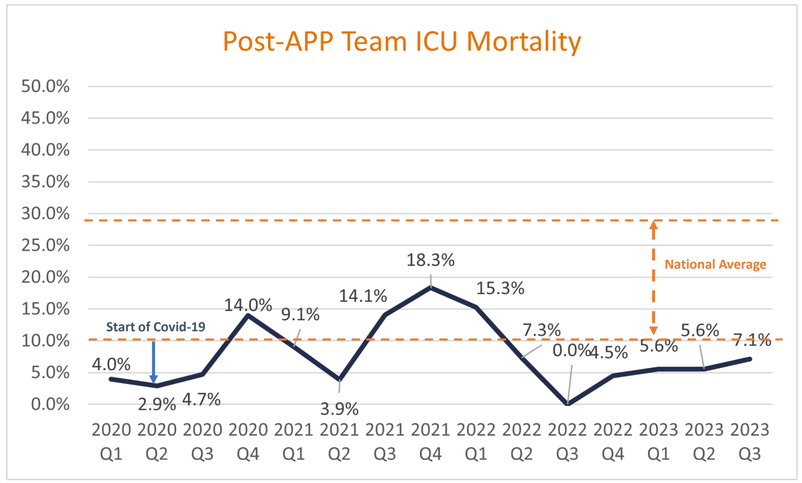
This project evaluated the APP led critical care service effectiveness in providing safe patient outcomes while promoting access to services in the community.

Methods

Using the CDC's framework for program evaluation, the PI conducted a retrospective analysis of critical care specific outcomes from 2018 to 2023. These dates bridge initiation of 24/7 APP coverage starting in 2019. Variables measured mimic those found in the literature: ICU LOS, Hospital LOS, ICU mortality, disposition, and transfer data.

Findings

ICU Disposition Destination	ICU Disposition Data (%) 2018- 2023	Pre-APP Critical Care Team (%) 2018-2019	Post-APP Critical Care Team (%) 2020-2023
Extended Recovery Care	23.4	26.8	21.8
Home w/ Assistance	16.2	16.6	15.9
Home	16.1	15.4	16.5
Tertiary Care Hospital	12.8	13.5	12.5
Expired	8.9	5.1	10.6



The average ICU mortality over the 5-year period was 8.9%, below the national average of 10-29%. There was an increase in overall mortality post implementation of the critical care APP team however, this was likely caused by a multitude of factors.

An increase in patient acuity and the COVID-19 pandemic had a major influence in the fluctuations in mortality rate. The 6-bed ICU took care of 154 covid patients with the highest occupancy rates accounting for 50%.

After implementation of the APP critical care program, vent utilization nearly doubled. There was a decreased need for transfers to outlying tertiary care centers, allowing patients to stay in their home community.

The APP critical care team also allowed for the ability to provide ICU consultation throughout the entire hospital, averaging 2 consults/day.

Conclusions

The APP critical care program meets national benchmarks for safe patient care. This model helps ensure quality and safe care to a rural area. It has enabled increased ICU utilization in comparison to previous hospitalist coverage allowing for increased acuity, vent utilization and management, maintaining patients in their home community, and allowed for hospital wide ICU consultation.

*References Available by Request