Improving Rural Critical Care Access: Outcomes and Insights from a Tele-Critical Care Program in Mississippi

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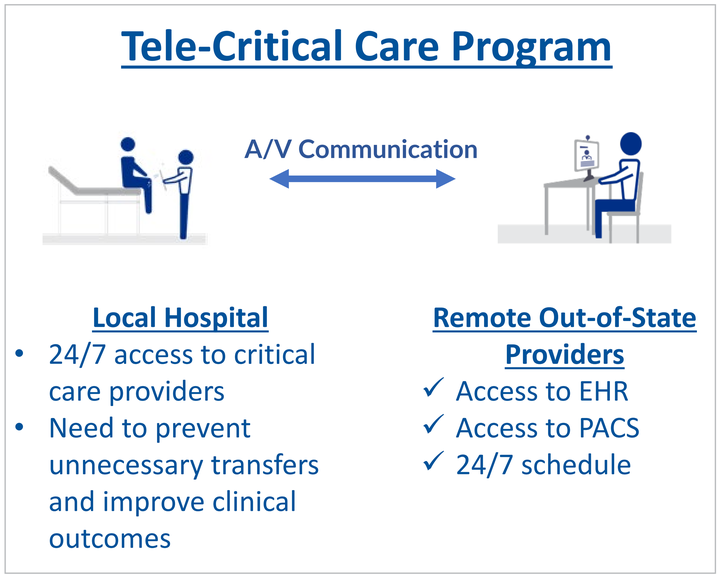
BACKGROUND

- Rural hospitals often face challenges such as limited access to specialists, leading to avoidable transfers and financial constraints.
- For critically ill patients, these factors lead to, delays in care, worsened outcomes, and increased strain on families.
- **Although Tele-ICUs have been in use for over two decades, there is paucity of data on its utilization and benefits for small, rural hospitals, especially in the South.**
- To address this, we implemented a Tele-Critical Care Program (TCCP) in two rural Mississippi hospitals—Copiah County Medical Center and Greenwood Leflore Hospital.



OBJECTIVE

Conduct clinical and financial analyses to assess patient outcomes, financial viability, sustainability, and scalability of the program.

METHODS AND RESULTS

- From Nov 2023 – Sept 2024, 287 total consults were provided, 119 of which were initial consults. Clinical data were retrospectively collected from the EHR.
- R software ranked discharge status, and consult reasons were manually reviewed and ranked.

Rank	Consult Reason	# of Pts	% of Pts
1	Respiratory distress	17	17.2%
2	Arrhythmia	16	16.2%
3	AMS	11	11.1%
4	AKI or CKD	10	10.1%
	Pneumonia	10	10.1%
5	Sepsis or septic shock	9	9.1%

Figure 2. Initial consult reasons for TCCP patients (Pts)

Snapshot: Copiah County Medical Center

227 critical care consults (Nov 2023 – Oct 2024)

High acceptance by bedside providers and administrators.

$278,821 direct financial impact, 6 mo.

Figure 3. TCCP consult number, rural staff sentiment, and direct financial impact from Nov 2023 – May 2023.

- Financial analyses were conducted to examine financial impact and swing bed unit length of stay.

Rank	Discharge Status	# of Pts	% of Pts
1	Another hospital	39	32.8%
2	Home	38	31.9%
3	Home health	13	10.9%
4	Swing bed	10	8.4%
5	Nursing home	5	4.2%
	Expired	5	4.2%

Figure 1. Discharge status of TCCP patients (Pts)

CONCLUSION

- **Most patients were treated on-site, reducing unnecessary transfers, optimizing care delivery, and improving clinical outcomes for patients in rural and underserved areas.**
- **TCCP has the potential to serve as a cost-effective model for extending the reach of specialized care to rural populations, mainly by keeping patients local and increasing swing bed length of stay.**
- Future directions:
  - ➢As of July 2025, clinical services are provided by UMMC critical care physicians.
  - ➢Expanding to additional specialties
  - ➢Assessing whether remote providers from UMMC enhance trust and engagement with patients and the bedside team, improving outcomes

CONFLICT OF INTEREST

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