# CRITICAL CARE AIR TRANSPORT JOB ANALYSIS FOR CURRENT AND PAST CONFLICTS

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## Introduction

- Critical Care Air Transport (CCAT) teams will face unprecedented challenges in large-scale operations (LSCO)
- There is a lack of comprehensive job analysis defining CCAT tasks
- Systematic analysis of CCAT operations will inform training and aid identification of knowledge, skills, and abilities (KSAs) for LSCO

## Methods

- Developed a comprehensive task inventory
  - Materials leveraged: 2019 CCAT-Advanced Course Training Standard, Unit Type Code Materials
- Recruited 35 CCAT subject matter experts
  - Physicians, nurses, and respiratory therapists
  - Operational experience from Operations Iraqi Freedom and Enduring Freedom
- Experts independently rated role-specific tasks using Likert-type scales
- Calculated "Very Critical", "Very Frequent", or "Very Important" tasks = scoring at or above 90th percentile
  - **Criticality**: Risk of adverse consequences if performed incorrectly
  - **Frequency**: How often performed
  - **Importance**: Calculated product of normalized criticality and frequency scores

**Figures 1-3. Demographics.**
**Figures 4-5. Distribution of tasks across roles.**
**Figure 6. Very Critical Tasks (≥90th Percentile) by Critical Care Air Transport Team Provider Role.**

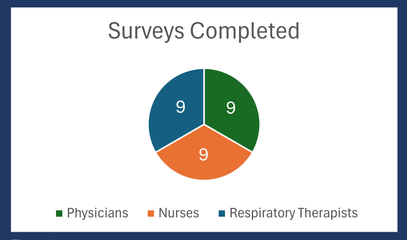

Figure 1

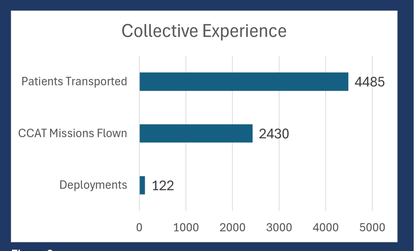

Figure 2

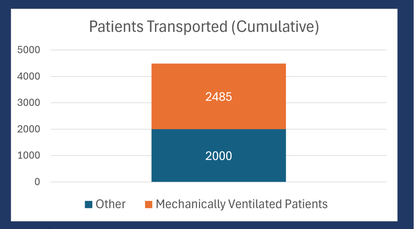

Figure 3

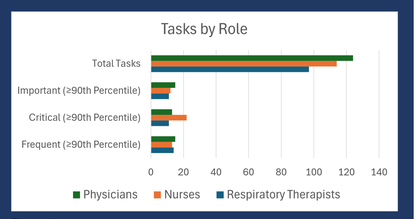

Figure 4

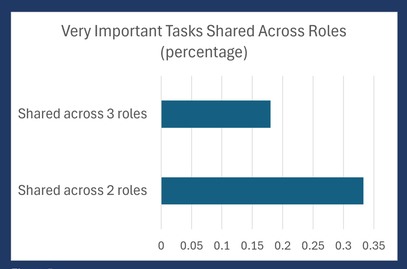

Figure 5

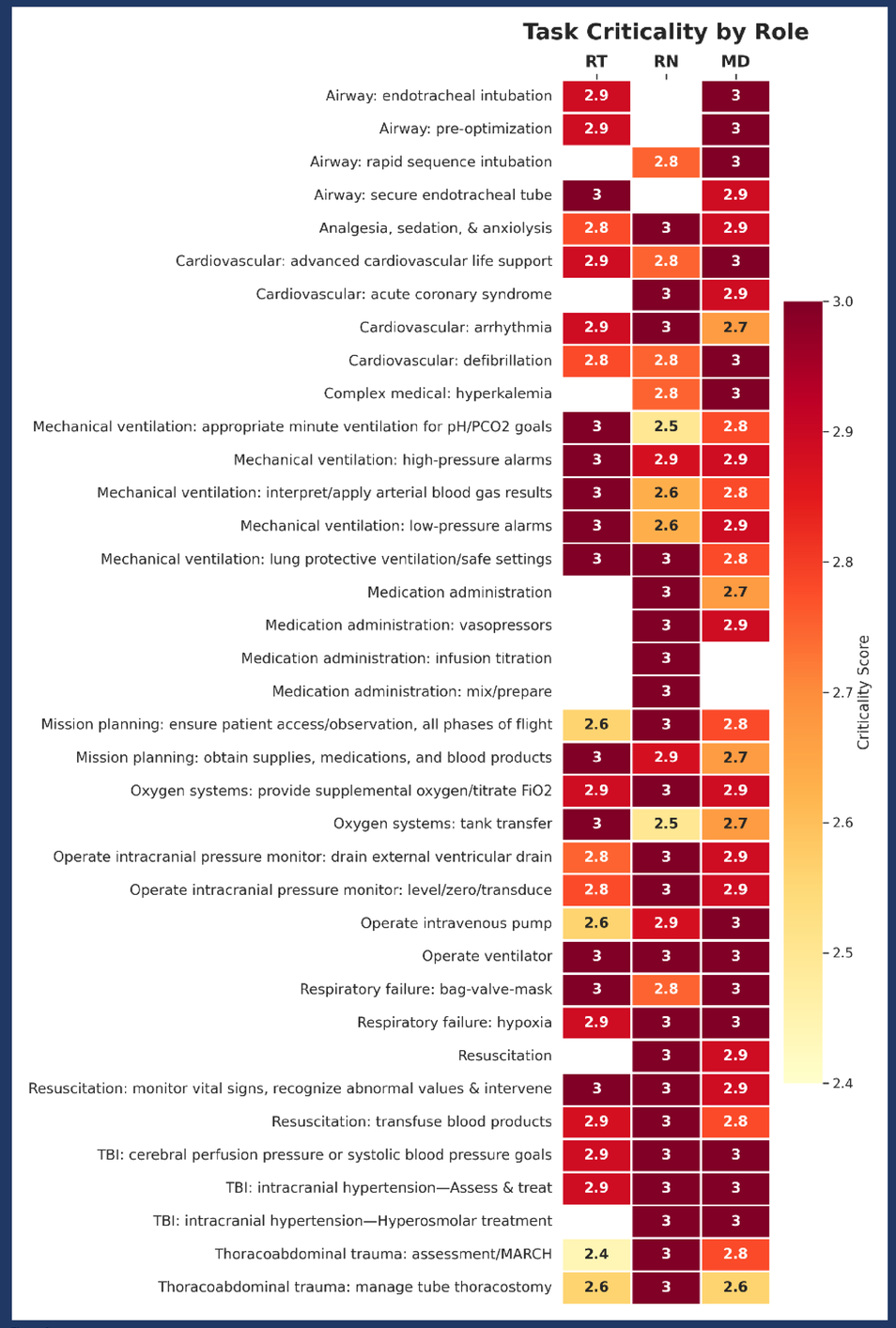

Figure 6

## Results

- 27 subject matter experts completed surveys
  - 9 physicians, 9 nurses, 9 respiratory therapists
  - 122 deployments, 2430 CCAT missions
  - 4485 patients transported (55% mechanically ventilated)
- Nurses had the most "Very Critical" tasks
  - Nurses: n = 22
  - Physicians: n = 13
  - Respiratory Therapists: n = 11
- Four tasks rated as "Very Important" for all roles
- "Very Important" tasks were evenly divided between physical and cognitive tasks
  - 18% shared across the 3 roles
  - 33% shared by at least 2 roles

## Discussion

- First-of-it's-kind multi-role CCAT job analysis
- Foundation for evidence-based framework to inform:
  - Training prioritization
  - Sustainment program design
  - Readiness assessment
- Role-specific task distribution has critical implications for LSCO:
  - Team composition
  - Cross-training strategies
  - Personnel augmentation
- Impact: Will inform CCAT KSAs and support development of training and assessment paradigms for contested, resource constrained environments

## References

- Burkhardt, J. N., Strilka, R. J., Cheney, M., Etherton, K., Smith, M. P., Kay, K., ... & Winner, J. (2026). Critical Care Air Transport Job Analysis for Current and Past Conflicts. *Military Medicine*, https://doi.org/10.1093/milmed/usag208