

Implementation of Extracorporeal Cardiopulmonary Resuscitation (eCPR) Guidelines for the Hospitalized Adult

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- Background
- 436,000 deaths/year occur from cardiac arrest
 - Cardiac arrest refractory to conventional methods carries a high mortality
 - Extracorporeal Membrane Oxygenation (ECMO) provides artificial systemic perfusion and oxygenation
 - eCPR is performed widely but lacks standardized candidate selection and implementation processes
 - Standardization is needed to reduce variability and improve eCPR utilization for potential patient benefits

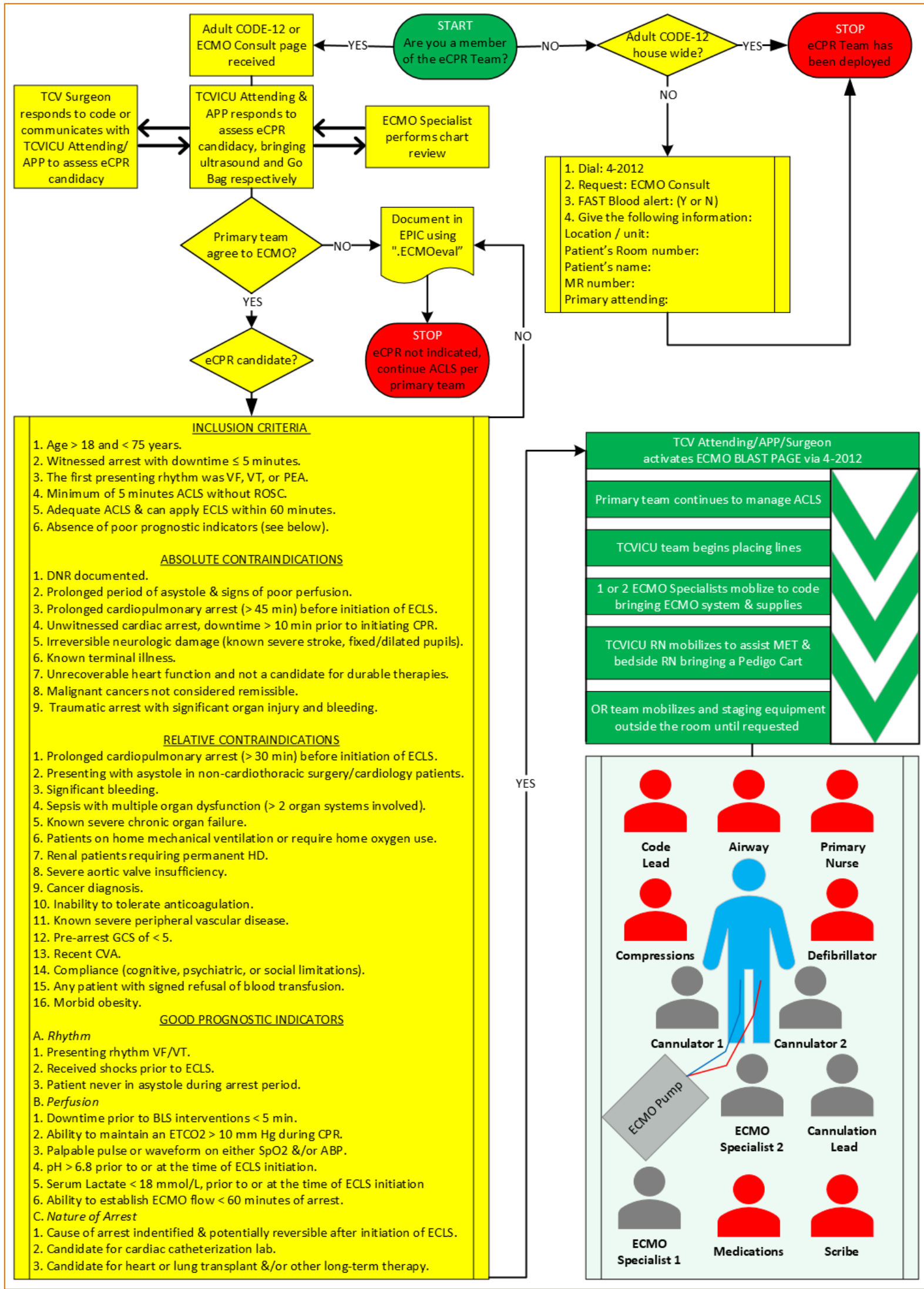
- Review of Literature Synthesis
- Need standardization for the eCPR process (JHEBP Level III B)
 - eCPR is superior to CCPR for survival & favorable neurological outcomes for those in refractory cardiac arrest (OR: 0.63, 95% CI 0.50-0.79) (JHEBP Level III A-Level I A)
 - Reduction in time from start of CPR to initiation of ECMO is vital for eCPR to be effective (JHEBP Level IV B-Level III A)



- Methods
- Evidence-Based Quality Improvement (EBQI) for the eCPR process through creation of eCPR Guidelines, eCPR Response Bag, integration of Mechanical Chest Compressor, & Cannulation Mannequin
 - System-wide collaboration with institutional resuscitation committee for eCPR guideline recommendations & approval
 - eCPR guidelines with 3 high-fidelity eCPR simulations operationalized
 - Simulations progress from maximal education & direction → no notification of event
 - Debriefing following each simulation
 - Analyze each simulation recording for performance and time variables

Purpose

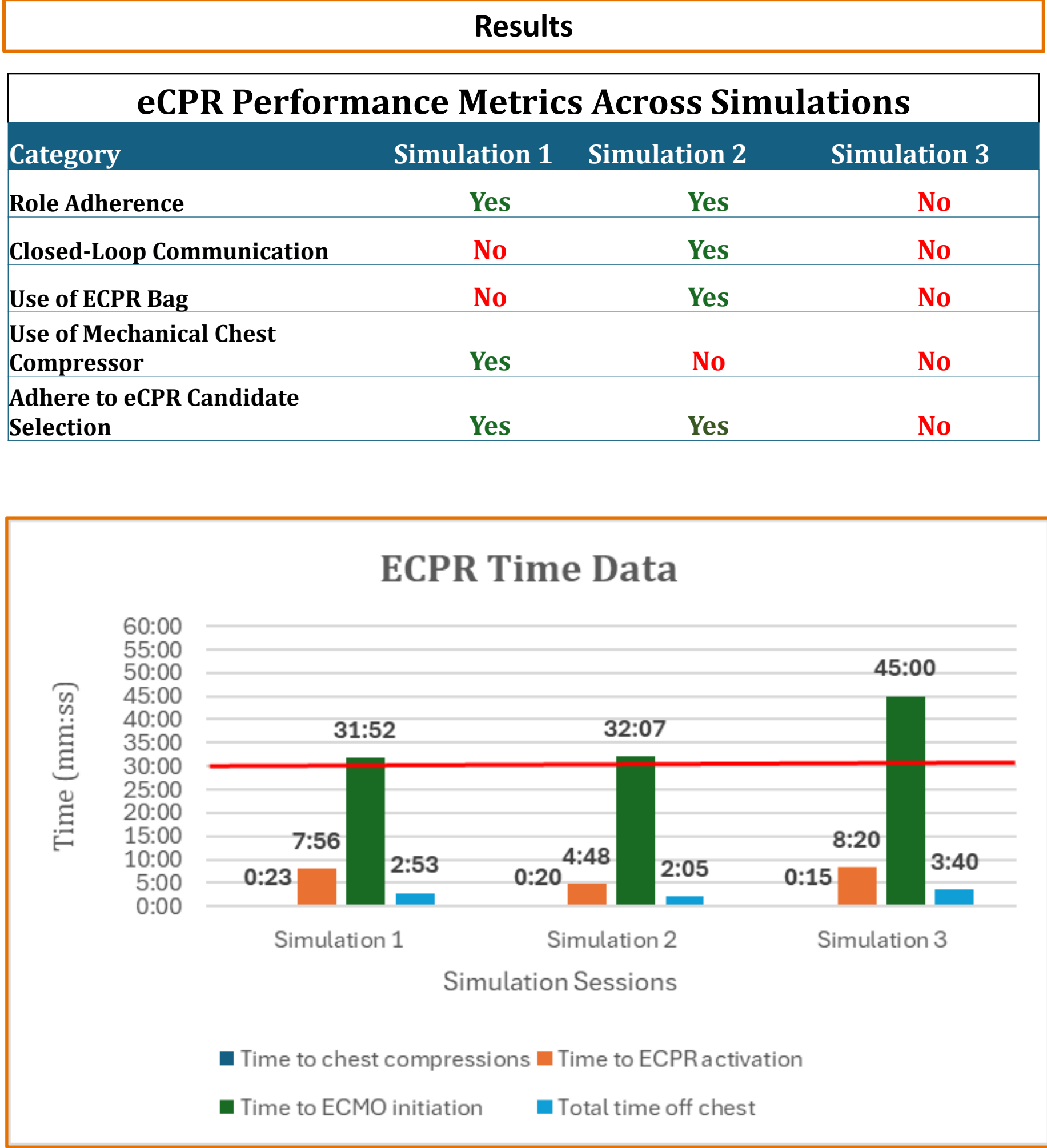
Catalyzing the implementation of eCPR practice guideline for the hospitalized adult through a systemwide collaborative training initiative



References & Literature Table

Acknowledgements

Terri Yost, PhD, RN, FNP-BC
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- Discussion
- Time to eCPR activation, role adherence, & use of the candidate selection algorithm are overall positive outcome metrics (66%)
 - Improvement Needed: Use of mechanical chest compressor, & eCPR response bag (33%)
 - Additional training and simulation needed; many of these areas for improvement could be confounded by the nature of a simulation event and not perceived as ‘real’
 - Plans underway to hardwire interprofessional consistency of eCPR simulation training along with other high risk, low volume procedures