System ECMO Collaborative: Breaking Down Silos Improves Patient Outcomes
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Background
• Measuring and producing high quality outcomes are the focus of the current healthcare landscape.
• We examined operations, practices and quality outcomes of an extracorporeal membrane oxygenation (ECMO) program in a large healthcare system to surface and reduce clinical variation in 4 ECMO programs.

Methods
• ECMO data collection, data storage, existing treatment protocols, equipment, transfer and transport operations, ELSO outcomes, financial impact were extensively reviewed.
• Multidisciplinary team approach was utilized to address the key variables and to align 4 programs.

Example A -System Data Collection
An internal database, Apex, was developed for ECMO data collection and enhanced analytics.

Example B -Clinical Standardization: System ECMO Clinical Guidelines
To standardize clinical workflows and improve the care and management of ECMO patients and their outcomes, nine new system ECMO guidelines were developed and implemented.

Example C -ECMO Transport Initiation Checklist
The development of this checklist:
1. helps capture pertinent medical history and assists with relaying critical clinical information required by the CV surgical team
2. ensures case is reviewed and approved by appropriate clinical staff

Example D -Outcome Data

Results
Implementing standardized system ECMO guidelines, an internal database and transport process improvements resulted in positive trends in quality metrics: average days on ECMO and survival at discharge (9.3 days vs 7.0 days, p=0.37; 41% vs 51%, p=0.07). Volume metrics including total volume, VV ECMO, and ECPR increased, while VA ECMO and transport volume requiring cannulation on-site decreased.

Conclusions
This large-scale system quality improvement project provided valuable insights into building a foundation for introducing change and mobilizing alignment. This approach enabled system consensus on guidelines, protocols, process improvements and enhanced teamwork. Positive trends in our ECMO quality outcomes illustrate that this template for leading healthcare transformation is a model worth replicating in other improvement initiatives.

Disclosures
The authors have nothing to disclose.

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