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# Evolution of the United States Military Extracorporeal Membrane Oxygenation Transport Team

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## INTRODUCTION

- The use of extracorporeal membrane oxygenation (ECMO) for the care of critically ill adult patient with cardiac and/or respiratory failure has gained traction over the past decade
- As experience with ECMO has grown, it has been utilized in more austere, remote locations, to include use in those injured in combat
- The United States (US) military established the Acute Lung Rescue Team in 2005 to transport and care for patients unable to be managed by standard medical evacuation resources
- In 2012, the US military expanded upon this capacity, establishing an ECMO program.
- This allowed for the development of a robust, highly functioning unit to provide this life-saving technology to US service members
- To maintain currency, the program was designed to treat both military beneficiaries and civilian patients referred from the community

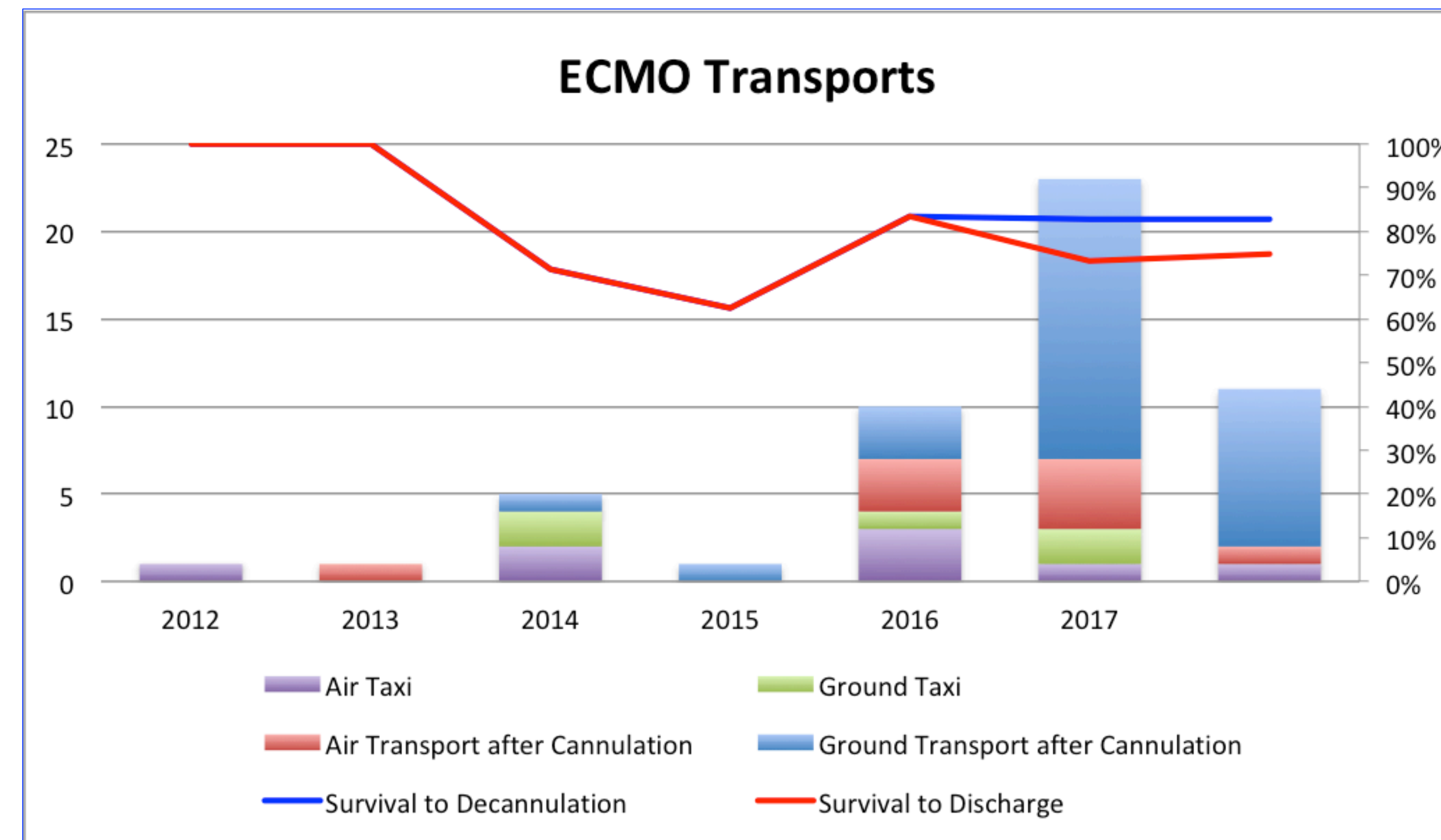


## RESULTS

- A total of 39 patients were placed on ECMO at referring facilities and transported back to our center
- An additional 13 ECMO transports were performed for inter-facility transfer
- The primary indication for ECMO was respiratory failure (83.7%) followed by cardiac failure (16.3%)
- Trauma was a factor in 6.1% of all patients
- The range of transport distance was 7.4 to 8,451 miles (median air transport distance = 1,328 miles, median ground transport distance = 16 miles)
- Twelve transports were over 850 miles and performed by fixed wing air transport
- In patients who were cannulated by our team remotely, survival to decannulation was 82.9% and survival to discharge was 71.4%
- The surge of the program has been immense, with 79.6% of all transports being performed in the last two years, and 51% being performed in the last 12 months

## METHODS

- We conducted a single-center retrospective review of all patients transported by the sole US military ECMO program from September 2012 to March 2018
- We analyzed basic demographic data, ECMO indication, transport distance range, survival to decannulation and discharge, and programmatic growth over this time period



## CONCLUSIONS

- Utilization of the US military ECMO team has increased exponentially over the past few years
- With an increased tempo of transport operations and distance of critical care transport, survival to decannulation and discharge rates remain robust
- The ability to cannulate patients in remote locations and provide critical care transport to a military medical treatment facility has allowed the US military to maintain readiness of a critical medical asset, in preparation for the next major conflict

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