

**Appendix**

This appendix was part of the submitted manuscript and has been peer reviewed. It is posted as supplied by the authors.

**Electronic Supplementary Material**

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to Linke N, Fulcher B, Engeler D et al. A survey of extracorporeal membrane oxygenation practice in 23 Australian adult intensive care units.

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## SUPPLEMENTARY METHODS

**Table S1. Summary of the Australian extracorporeal membrane oxygenation survey**

### TYPE OF ECMO PROVIDED

1. What type of extracorporeal support does your centre provide? *VA/VV/ECPR/ECCO<sub>2</sub>R*
2. How many patients received ECMO in your ICU in the last 12 months (1 July 2017 to 30 June 2018)?
3. Did your ICU transfer any patients to another centre for ECMO management in the last 12 months (1 July 2017 to 30 June 2018)? *Y/N Specify*
4. Did your ICU retrieve any ECMO patients to your centre in the last 12 months (from July 2017 to 30 June 2019)? *Y/N Specify*

### CLINICAL PRACTICE GUIDELINES

5. Does your ICU have a written clinical practice guideline that outlines the training requirements needed by staff involved with ECMO at your centre? *Y/N*
6. Does your ICU have a written clinical practice for ECMO clinical management at your centre? *Y/N Specify*
7. Does your ICU have documented criteria for ECMO patient selection? *Y/N Specify*
8. Does your ICU have documented criteria on the timing of ECMO initiation in a deteriorating patient? *Y/N Specify*

### DATA MANAGEMENT AND COMPLICATION REPORTING

9. Does your ICU monitor staff ECMO activity? *Y/N Specify*
10. Would your ICU like to track clinician ECMO clinical activity? *Y/N*
11. Does your ICU routinely collect ECMO utilisation data? *Y/N Specify*
12. Does your ICU report data on ECMO utilisation an organisation outside of your hospital? *Y/N Specify*
13. Does your ICU measure ECMO adverse events? *Y/N Specify*

### TRAINING PRACTICES

14. What staff are involved in providing direct care of ECMO services at your centre? *Intensivist/ surgeon/ perfusionist/ anaesthetist/ ICU trainee/ ICU nurse/ other(specify)*
15. What type of ECMO training does your hospital provide for intensivists? *External/ internal/ simulator/ bedside/ accreditation/ credentialing*
16. What type of ECMO training does your hospital provide for ICU trainees? *External/ internal/ simulator/ bedside/ accreditation/ credentialing*
17. What type of ECMO training does your hospital provide for ICU nurses? *External/ internal/ simulator/ bedside/ accreditation/ credentialing*
18. What type of ECMO training does your hospital provide for perfusionists? *External/ internal/ simulator/ bedside/ accreditation/ credentialing*
19. Is there any formal feedback about ECMO activity at your hospital to the staff involved in ECMO? *Y/N*
20. Do you require additional staff for education or on-call services? *Y/N*

### RESOURCE UTILISATION

20. Do you require additional staff for education or on-call services? *Y/N*
- Number of Staff involved in the management of ECMO patients**

	Intensivist	Surgeon	Perfusionist	Anaesthetist	Trainee	Nurse	Other
21. Staff required for ECMO retrieval							
22. Staff required for ECMO cannulation							
23. Staff required for ECMO transport e.g. CT/MRI/ OT							
24. Staff required for ECMO circuit change							
25. Staff required in the first 24 hours of ECMO initiation							
26. Staff required per patient each day after the first 24 hours of ECMO initiation							
27. Staff required for ECMO decannulation							
28. Staff required for the daily VA ECMO management							
29. Staff required for daily VV ECMO management							
30. Staff required for daily ECPR ECMO management							
31. Staff required for the daily management of ECCO <sub>2</sub> R							

ECMO= extracorporeal membrane oxygenation; CT= computed topography scan; MRI= magnetic resonance imaging; OT= operating theatre; Mdn= median; IQR= inter quartile range; VA= venoarterial; VV= venovenous, ECPR= extracorporeal cardiopulmonary resuscitation, ECCO<sub>2</sub>R= extracorporeal carbon dioxide removal

## SUPPLEMENTARY RESULTS

**Table S2. Number of staff involved in the management of ECMO patients**

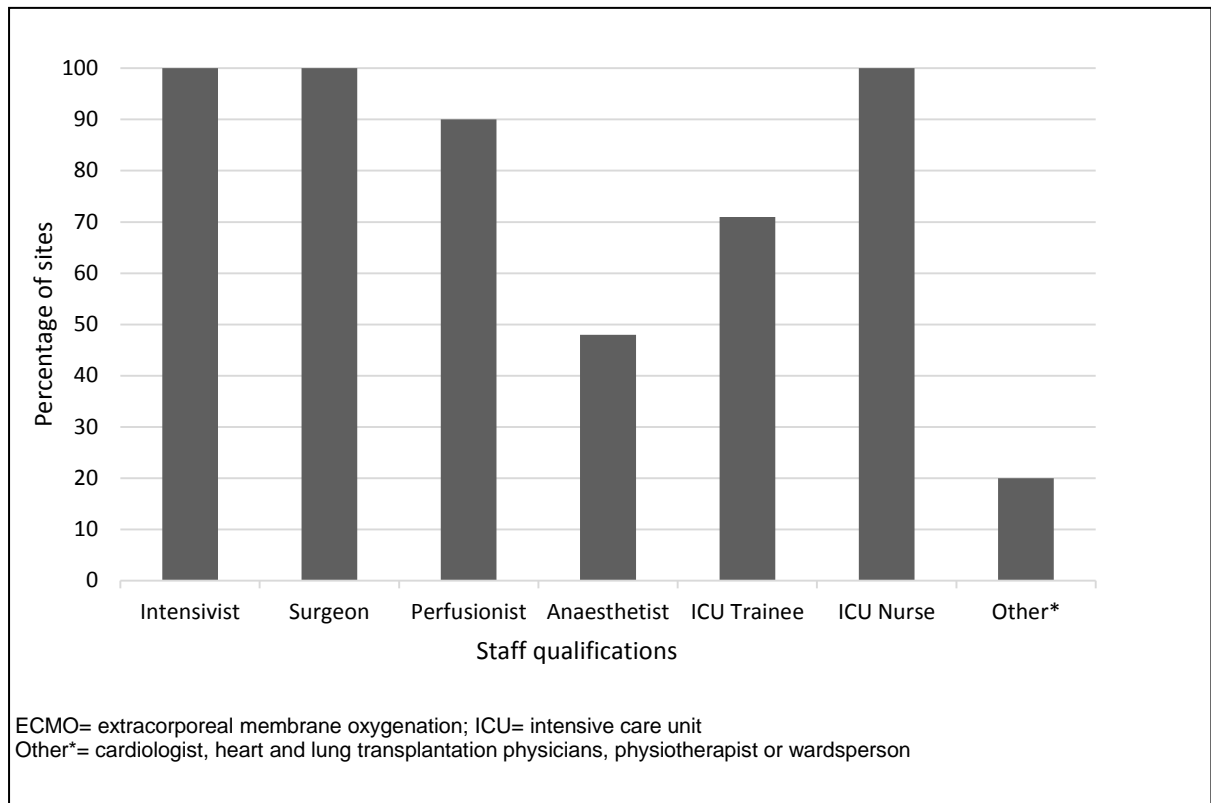
	<b>Intensivist</b>	<b>Surgeon</b>	<b>Perfusionist</b>	<b>Anaesthetist</b>	<b>Trainee</b>	<b>Nurse</b>	<b>Other</b>
<b>Staff required for ECMO cannulation (n=23) Mdn (IQR)</b>	2 (1,2)	1 (0,1)	1 (1,1)	0 (0,1)	1 (0,0)	2 (1.5,3)	0 (0,0)
<b>Staff required for ECMO transport e.g. CT/MRI/ OT (n=23) Mdn (IQR)</b>	1 (1,1)	0 (0,0)	1 (0,1)	0 (0,0)	1 (0,1)	2 (1.5,2)	0 (0,0.5)
<b>Staff required for ECMO circuit change (n=23) Mdn (IQR)</b>	1.5 (1,2)	0 (0,1)	1 (1,1)	0 (0,1)	1 (0,2)	2 (2,3)	0 (0,0)
<b>Staff required in the first 24 hours of ECMO initiation (n=23) Mdn (IQR)</b>	1 (1,2)	0 (0,1)	0 (1,1)	0 (0,0.5)	0 (1,2)	3 (2,4)	0 (0,0)
<b>Staff required per patient each day after the first 24 hours of ECMO initiation (n=23) Mdn (IQR)</b>	1 (1,1.5)	0 (0,0.5)	1 (0,1)	0 (0,0)	2 (0.5,2)	3 (2,4)	0 (0,0)
<b>Staff required for ECMO decannulation (n=23) Mdn (IQR)</b>	1 (0,1)	1 (1,1)	1 (0.5,1)	1 (0.5,1)	0 (0,1)	2 (0,2)	0 (0,0)
<b>Staff required for daily VA ECMO management (n=23) Mdn (IQR)</b>	1 (1,1)	0 (0,0)	1 (0,1)	0 (0,0)	1 (0.5,2)	3 (2,4)	0 (0,0)
<b>Staff required for daily VV ECMO management (n=22) Mdn (IQR)</b>	1 (1,1)	0 (0,0)	1 (0,1)	0 (0,0)	1 (0,2)	3 (2,4)	0 (0,0)

ECMO= extracorporeal membrane oxygenation; CT= computed topography scan; MRI= magnetic resonance imaging; OT= operating theatre; Mdn= median; IQR= inter quartile range; VA= venoarterial; VV= venovenous

**Table S3. Type of ECMO training provided by sites**

<b>Training Type</b>	<b>Intensivists%</b>	<b>ICU Trainees%</b>	<b>ICU Nurses%</b>	<b>Perfusionists%</b>
<b>External</b>	57	26	44	30
<b>Internal</b>	83	83	96	57
<b>Simulator</b>	70	57	70	48
<b>Bedside</b>	96	87	96	52
<b>Accreditation</b>	44	8	39	13
<b>Credentialing</b>	57	4	52	13

ECMO= extracorporeal membrane oxygenation; ICU= intensive care unit



**Figure S1. Staff involved in providing direct ECMO care**