

**S6 Table. Multivariate analysis of factors associated with the use of crystalloid and colloid for fluid resuscitation episodes in 2014**

Characteristic	OR (95%CI) for receiving crystalloid	p_value	OR (95%CI) for receiving colloid	p_value
<b>Study region</b>		<0.001		<0.001
France	1.00		1.00	
Australia	0.16 (0.07 to 0.34)		4.16 (2.05 to 8.42)	
Brazil	6.69 (3.19 to 14.07)		0.19 (0.1 to 0.36)	
Canada	0.41 (0.18 to 0.95)		1.75 (0.79 to 3.88)	
China	0.20 (0.09 to 0.41)		6.96 (3.49 to 13.88)	
Denmark	0.68 (0.25 to 1.88)		1.02 (0.37 to 2.8)	
Germany	3.36 (1.37 to 8.23)		0.33 (0.15 to 0.71)	
New Zealand	0.31 (0.11 to 0.9)		2.28 (0.84 to 6.18)	
Saudi Arabia	0.57 (0.19 to 1.68)		1.87 (0.68 to 5.12)	
UK	1.46 (0.49 to 4.38)		0.44 (0.15 to 1.28)	
Other European countries	0.28 (0.12 to 0.64)		2.63 (1.21 to 5.70)	
Other countries	0.61 (0.28 to 1.37)		1.46 (0.7 to 3.06)	
Age (per one year increase)	0.99 (0.98 to 1)	0.026	1.01 (1 to 1.02)	0.156
Gender		0.108		0.063
Female	1.00		1.00	
Male	0.77 (0.56 to 1.06)		1.33 (0.98 to 1.79)	
<b>Number of days in ICU at survey date</b>		<0.001		<0.001
Number of days in ICU at survey date =0 day	1.00		1.00	
Number of days in ICU at survey date >0 day	0.46 (0.32 to 0.66)		1.75 (1.27 to 2.41)	
<b>Severity of illness in 24 hrs prior to survey date</b>				
Low(< median)	1.00	0.259	1.00	0.097
High(>= median)	0.93 (0.65 to 1.33)		1.05 (0.75 to 1.47)	
Missing	1.37 (0.84 to 2.24)		0.66 (0.42 to 1.03)	
<b>Trauma at hospital admission</b>				
No Trauma	1.00	0.086	1.00	0.006
Trauma without TBI	1.25 (0.68 to 2.28)		0.64 (0.35 to 1.15)	
Trauma with TBI	3.29 (1.11 to 9.74)		0.24 (0.1 to 0.62)	
<b>Sepsis in 24 hrs prior to survey date</b>				
No	1.00		1.00	
Yes	0.82 (0.59 to 1.14)	0.2412	1.12 (0.81 to 1.54)	0.489
<b>Chronic health point liver criteria</b>				
No	1.00		1.00	
Yes	0.40 (0.19 to 0.8)	0.010	1.99 (1.05 to 3.75)	0.035
<b>Chronic health point cardiac criteria</b>				
No	1.00		1.00	
Yes	0.75 (0.42 to 1.34)	0.335	1.26 (0.74 to 2.16)	0.392
<b>Chronic health point respiratory criteria</b>				
No	1.00		1.00	
Yes	1.07 (0.61 to 1.89)	0.815	0.74 (0.42 to 1.32)	0.307

<b>Admission source</b>				
<b>Operating room after elective surgery</b>	1.00	0.072	1.00	0.023
<b>Emergency room</b>	1.58 (0.93 to 2.67)		0.68 (0.42 to 1.08)	
<b>Hospital floor</b>	1.06 (0.64 to 1.76)		0.82 (0.51 to 1.32)	
<b>Transferred from other ICU or hospital</b>	0.83 (0.5 to 1.39)		1.17 (0.72 to 1.9)	
<b>Operating room after emergency surgery</b>	1.10 (0.65 to 1.84)		0.94 (0.57 to 1.52)	
<b>Hospital floor after previous ICU stay</b>	0.61 (0.32 to 1.16)		1.78 (1 to 3.15)	
<b>Indication for fluid</b>				
<b>Impaired perfusion or low cardiac output</b>	1.00	0.070	1.00	0.382
<b>Ongoing bleeding</b>	0.53 (0.18 to 1.55)		1.33 (0.49 to 3.6)	
<b>Other fluid losses</b>	1.11 (0.58 to 2.12)		0.91 (0.49 to 1.7)	
<b>Unit protocol</b>	0.40 (0.2 to 0.8)		1.97 (1 to 3.88)	
<b>Abnormal vital signs</b>	0.88 (0.64 to 1.22)		1.00 (0.74 to 1.34)	
<b>Indication for fluid, other</b>	0.36 (0.1 to 1.32)		1.88 (0.51 to 6.94)	
<b>Fluid prescriber</b>				
<b>Specialist</b>	1.00	0.485	1.00	0.393
<b>Registrar</b>	1.09 (0.76 to 1.57)		0.94 (0.67 to 1.32)	
<b>Resident</b>	1.25 (0.79 to 1.97)		0.83 (0.55 to 1.26)	
<b>Nurse</b>	4.38 (0.56 to 34.25)		0.23 (0.03 to 1.71)	
<b>Fluid prescriber, other</b>	0.90 (0.3 to 2.68)		1.37 (0.53 to 3.52)	
<b>Cardiovascular dysfunction</b>				
<b>No (SOFA&lt;3)</b>	1.00		1.00	
<b>Yes (SOFA&gt;=3)</b>	1.07 (0.78 to 1.46)	0.672	0.99 (0.74 to 1.33)	0.960
<b>Respiratory dysfunction</b>				
<b>No (SOFA&lt;3)</b>	1.00		1.00	
<b>Yes (SOFA&gt;=3)</b>	1.32 (0.96 to 1.81)	0.093	0.92 (0.68 to 1.24)	0.572
<b>Renal replacement therapy</b>				
<b>No</b>	1.00		1.00	
<b>Yes</b>	0.59 (0.37 to 0.93)	0.022	1.77 (1.13 to 2.77)	0.013
<b>Mechanical ventilation</b>				
<b>No</b>	1.00		1.00	
<b>Yes</b>	0.65 (0.47 to 0.91)	0.012	1.36 (0.98 to 1.87)	0.063
<b>Low filling pressure</b>				
<b>No</b>	1.00	0.173	1.00	0.260
<b>Yes</b>	2.50 (0.74 to 8.43)		0.97 (0.39 to 2.4)	
<b>missing</b>	1.24 (0.89 to 1.72)		0.77 (0.55 to 1.05)	
<b>Bilirubin</b>				
<b>&lt;20 umol/L</b>	1.00	0.142	1.00	0.057
<b>&gt;=20 umol/L</b>	0.69 (0.47 to 1)		1.56 (1.08 to 2.23)	
<b>missing</b>	0.89 (0.59 to 1.35)		1.12 (0.76 to 1.66)	
<b>Albumin</b>				
<b>&lt;27 g/L</b>	1.00	0.997	1.00	0.783
<b>&gt;=27 g/L</b>	1.01 (0.69 to 1.49)		0.89 (0.61 to 1.29)	
<b>missing</b>	1.00 (0.62 to 1.61)		0.87 (0.55 to 1.37)	

<b>Fluid output</b>				
<b>&lt;1 ml/kg/hr</b>	1.00	0.973	1.00	0.737
<b>&gt;=1 ml/kg/hr</b>	0.97 (0.67 to 1.4)		1.14 (0.81 to 1.61)	
<b>missing</b>	0.95 (0.61 to 1.48)		1.15 (0.76 to 1.74)	

Results are generated from a generalised estimating equation model with patient ID as a cluster. The P-values displayed in the table are type III P-values. Analysis include 2,463 episodes and 1,317 study participants as data were lost due to missing values which could not be included in the multivariate analysis. This number represents a loss of 9.3% of episodes and 9.5% of study participants.