S9 Table. Sensitivity analysis – multivariate analysis of factors associated with the use of crystalloid or colloid for the first fluid resuscitation episode in 2014

Characteristic	OR (95% CI) for receiving crystalloid	p_value	OR (95% CI) for receiving colloid	p_value
Study region		<0.001		<0.001
France	1.00		1.00	
Australia	0.21 (0.06 to 0.73)		2.44 (0.76 to 7.86)	
Brazil	9.93 (3.22 to 30.63)		0.16 (0.06 to 0.44)	
Canada	0.59 (0.17 to 2.02)		1.06 (0.34 to 3.28)	
China	0.13 (0.04 to 0.41)		9.91 (3.49 to 28.12)	
Denmark	0.72 (0.17 to 3.02)		0.70 (0.16 to 2.99)	
Germany	5.25 (1.42 to 19.33)		0.14 (0.04 to 0.50)	
New Zealand	0.36 (0.08 to 1.56)		1.80 (0.44 to 7.33)	
Saudi Arabia	1.37 (0.22 to 8.55)		0.69 (0.11 to 4.31)	
UK	2.83 (0.37 to 21.72)		0.19 (0.03 to 1.14)	
Other European countries	0.24 (0.06 to 0.97)		1.91 (0.51 to 7.06)	
Other countries	0.59 (0.14 to 2.41)		1.67 (0.51 to 5.47)	
Age (per one year increase)	0.99 (0.98 to 1)	0.077	1.01 (0.99 to 1.02)	0.234
Number of days in ICU at survey date				
Number of days in ICU at survey date =0 day	1.00		1.00	
Number of days in ICU at survey date >0 day	0.4 (0.24 to 0.66)	<0.001	2.07 (1.28 to 3.33)	0.003
Severity of illness in 24 hrs prior to survey date				
Low(< median)	1.00	0.053	1.00	0.032
High(>= median)	0.72 (0.43 to 1.19)		1.24 (0.73 to 2.11)	
Missing	1.77 (0.81 to 3.87)		0.45 (0.21 to 1.01)	
Trauma at hospital admission				
No Trauma	1.00	0.116	1.00	0.050
Trauma without TBI	1.14 (0.53 to 2.44)		0.73 (0.34 to 1.58)	
Trauma with TBI	2.59 (1.04 to 6.41)		0.21 (0.06 to 0.73)	
Sepsis in 24 hrs prior to survey date				
No	1.00		1.00	
Yes	0.94 (0.62 to 1.41)	0.748	0.98 (0.67 to 1.42)	0.898
Chronic health point liver criteria				
No	1.00		1.00	
Yes	0.49 (0.21 to 1.16)	0.106	1.62 (0.79 to 3.33)	0.186
Admission source				
Operating room after elective surgery	1.00	0.007	1.00	<0.001
Emergency room	2.28 (1.12 to 4.61)		0.41 (0.21 to 0.78)	
Hospital floor	1.31 (0.66 to 2.6)		0.5 (0.26 to 0.97)	
Transferred from other ICU or hospital	1.36 (0.65 to 2.84)		0.72 (0.35 to 1.49)	
Operating room after emergency surgery	1.14 (0.6 to 2.19)		0.74 (0.4 to 1.37)	
Hospital floor after previous ICU stay	0.58 (0.28 to 1.23)		1.59 (0.8 to 3.18)	

Indication for fluid				
Impaired perfusion or low cardiac output	1.00	0.068	1.00	0.750
Ongoing bleeding	0.51 (0.14 to 1.83)		1.48 (0.51 to 4.28)	
Other fluid losses	0.97 (0.3 to 3.17)		1.10 (0.47 to 2.59)	
Unit protocol	0.48 (0.21 to 1.07)		1.63 (0.61 to 4.4)	
Abnormal vital signs	0.65 (0.43 to 0.99)		1.15 (0.8 to 1.64)	
Indication for fluid, other	0.21 (0.04 to 1.16)		2.37 (0.52 to 10.86)	
Respiratory dysfunction				
No (SOFA<3)	1.00		1.00	
Yes (SOFA>=3)	1.31 (0.8 to 2.14)	0.286	1.01 (0.66 to 1.55)	0.953
Renal replacement therapy				
No	1.00		1.00	
Yes	0.41 (0.22 to 0.79)	0.007	2.41 (1.13 to 5.12)	0.023
Mechanical ventilation				
No	1.00		1.00	
Yes	0.74 (0.46 to 1.2)	0.222	1.38 (0.87 to 2.19)	0.169
Low filling pressure				
No	1.00	0.232	1.00	0.464
Yes	1.52 (0.4 to 5.77)		1.33 (0.47 to 3.74)	
missing	1.45 (0.93 to 2.26)		0.81 (0.53 to 1.22)	
Bilirubin				
<20 umol/L	1.00	0.513	1.00	0.503
>=20 umol/L	0.75 (0.46 to 1.22)		1.32 (0.82 to 2.11)	
missing	0.85 (0.4 to 1.77)		1.06 (0.54 to 2.09)	
Albumin				
<27 g/L	1.00	0.717	1.00	0.181
>=27 g/L	0.88 (0.55 to 1.4)		0.88 (0.6 to 1.3)	
missing	1.14 (0.58 to 2.22)		0.57 (0.31 to 1.03)	
Fluid output				
<1 ml/kg/hr	1.00	0.153	1.00	0.024
>=1 ml/kg/hr	0.6 (0.35 to 1.03)		1.83 (1.09 to 3.07)	
missing	0.79 (0.38 to 1.64)		1.16 (0.59 to 2.29)	

Results are generated from a generalised estimating equation model with site/ICU ID as a cluster. When the P-values of the individual variable odds ratios (not presented) were <0.01 the odds ratios displayed in table are highlighted. The P-values displayed in the table are type III P-values. Analysis include 1,174 first fluid episodes from 1,174 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 19.4% of first fluid episodes/study participants.