

**Supplemental table 3 – Exploratory multivariable analyses of sodium correction rate and association with in-hospital mortality**

	MIMIC-III (n = 2,982)		eICU (n = 8,594)	
<b>Multivariable logistic regression</b>	<b>OR (95% CI)</b>	<b>p-value</b>	<b>OR (95% CI)</b>	<b>p-value</b>
Age (numeric, per 10 years)	1.04 (1.03-1.05)	<0.001	1.00 (1.00-1.01)	0.244
Male (binary)	1.02 (0.98-1.07)	0.312	1.02 (0.99-1.04)	0.186
<b>Sodium correction rate</b> (numeric, per 1 mmol/L/h)	<b>1.07 (1.02-1.13)</b>	<b>0.003</b>	<b>1.09 (1.06-1.12)</b>	<b>&lt;0.001</b>
APS III (numeric, per 10 points)	1.03 (1.02-1.05)	<0.001	-	-
APACHE IV (numeric, per 10 points)	-	-	1.03 (1.03-1.04)	<0.001
Number of samples (numeric, per 10 samples)	0.98 (0.97-0.99)	<0.001	0.97 (0.97-0.98)	<0.001
Administration of Hypertonic saline or sodium bicarbonate (binary)	1.00 (0.95-1.06)	0.883	-	-
Neurological Ward (binary)	-	-	1.07 (1.03-1.11)	<0.001
<b>Multivariable Cox regression</b>	<b>HR (95% CI)</b>	<b>p-value</b>	<b>HR (95% CI)</b>	<b>p-value</b>
Age (numeric, per 10 years)	1.13 (1.07-1.18)	<0.001	1.00 (0.96-1.04)	0.920
Male (binary)	1.07 (0.93-1.22)	0.332	1.08 (0.96-1.21)	0.218
<b>Sodium correction rate</b> (numeric, per 1 mmol/L/h)	<b>1.32 (1.16 -1.51)</b>	<b>&lt;0.001</b>	<b>1.47 (1.32-1.63)</b>	<b>&lt;0.001</b>
APS III (numeric, per 10 points)	1.12 (1.09-1.16)	<0.001	-	-
APACHE IV (numeric, per 10 points)	-	-	1.19 (1.16-1.21)	<0.001
Number of samples (numeric, per 10 samples)	0.84 (0.81-0.89)	<0.001	0.80 (0.75-0.84)	<0.001
Administration of Hypertonic saline or sodium bicarbonate (binary)	1.12 (0.94-1.33)	0.212	-	-
Neurological Ward (binary)	-	-	1.51 (1.25-1.82)	<0.001

APS III: Acute Physiology Score 3; APACHE IV: Acute Physiology And Chronic Health Evaluation IV;

LOS: Length of stay; OR: Odds ratio; HR: Hazard ratio.