

Table A: Summary of unit types and patient groups

Study	Unit type/patient group	Included cardiac surgery?	Other notes
Smith et al. 1995	SICU	N	
Wallace et al. 2002	MICU in a Cancer centre	N	
Enohumah et al. 2006	Mixed	N	
Yi et al. 2006	NICU	N	
Galhorta et al. 2007	Mixed	N	
Maia et al. 2008	SICU	N	
Roessler et al. 2009	Mixed	N	
Gershengorn et al. 2012	Mixed*	Y	
Schmittinger et al. 2012	Mixed*	Y	Only reported surgical patients with cardiovascular failure treated with catecholamine vasopressors
Lee et al. 2013	Mixed	N	
Efendijev et al. 2014	Mixed*	Y	
Rozen et al. 2014	Mixed*	Y	
Haerkens et al.*** 2015	Mixed*	Y	
Flato et al. 2015	NR	NR	
Garcia Huertas et al. 2016	Mixed	N	
Chanthawong et al. 2016	SICU	N	
Perman et al. 2016	Mixed*	Y	
Miana et al. 2017	Mixed*	Y	
Cook and Thomas 2017	Mixed	N	
Quinn et al. 2017	Mixed*	Y	Only included unplanned post-operative admissions

SICU surgical ICU; MICU medical ICU; NICU neurosurgical ICU; NR not reported

Table B: Disease severity scores reported

Study	Severity score reported
Enohumah et al. 2006	SAPS II
Gershengorn et al. 2012	MPMO-III
Lee et al.	APACHE II

2013	
Efendijev et al. 2014	SAPS II, APACHE II, SOFA, TISS
Rozen et al. 2014	APACHE III
Chanthawong et al. 2016	APACHE II, SOFA
Cook and Thomas 2017	ICNARC

APACHE Acute Physiology, Age, Chronic Health Evaluation; SAPS Simplified Acute Physiology Score; ICNARC Intensive Care National Audit and Research Centre; SOFA Sequential Organ Failure Assessment; MPM Mortality Probability Model; TISS Therapeutic Intervention Scoring System.

Table C: Outcomes reported: survival beyond hospital discharge and neurological outcome

Study	Survival* – other	Neurological outcome*
Wallace et al. 2002	2 (28.6%) transferred to other hospitals and survived >6months; 1 (14.3%) to a rehabilitation facility and survived >2 years; 4 (57.1%) were discharged home, of whom 2 survived >3 years, others lost to follow-up	
Enohumah et al. 2006		82.5% CPC 1-2; 17.5% CPC 3-4
Yi et al. 2006	14 (73.7%) survived beyond 12 months	21.1% irreversibly unconscious; 10.5% persistent neurological deficit; 68.4% complete recovery
Gershengorn et al. 2012		20.1% of survivors functionally independent on discharge; 34.1% fully dependent
Lee et al. 2013	32 (56.1%) of those surviving 24 hours still alive at 1 month; 27 (84.4%) of those were still alive at 3 months	At 3 months: 29.6% CPC 1; 18.5% CPC 2; 33.3% CPC 3; 18.5% CPC 4
Chanthawong et al. 2016	17 (60.7%) of those surviving 24 hours still alive at 28 days	40% CPC 1; 50% CPC 2; 0% CPC 3; 10% CPC 4
Miana et al. 2017		83.3% CPS 1-2; 16.7% CPS 3 (one was paraplegic beforehand)

*rates are of those discharged from hospital. CPC Cerebral Performance Category

Survival outcomes

The pooled 24-hour survival ($n = 7$) was 38.7% (95% CI 30.5-47.5 $I^2 = 83.0\%$; *Figure A*) and ICU survival ($n = 6$) 26.2% (95% CI 11.3-49.8 $I^2 = 96\%$; *Figure B*). When the centre with the lowest reported hospital and ICU survival rates, a cancer centre, was excluded the rates of ICU and hospital discharge were 37.7% (95% CI 24.6-52.9% $I^2 = 87.3\%$) and 20.9% (95% CI 11.8-34.4% $I^2 = 99.3\%$) respectively.

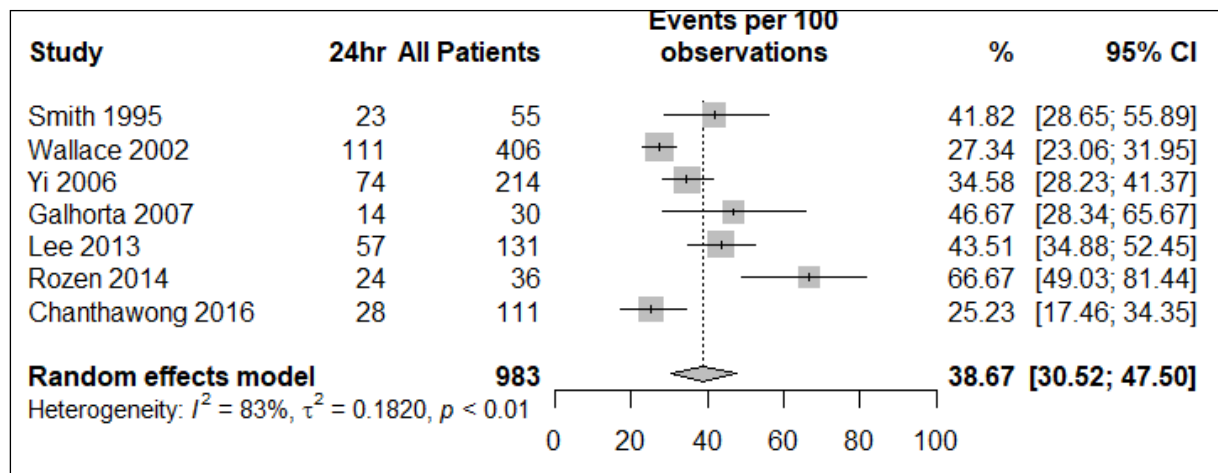


Figure A: 24-hour survival across all studies

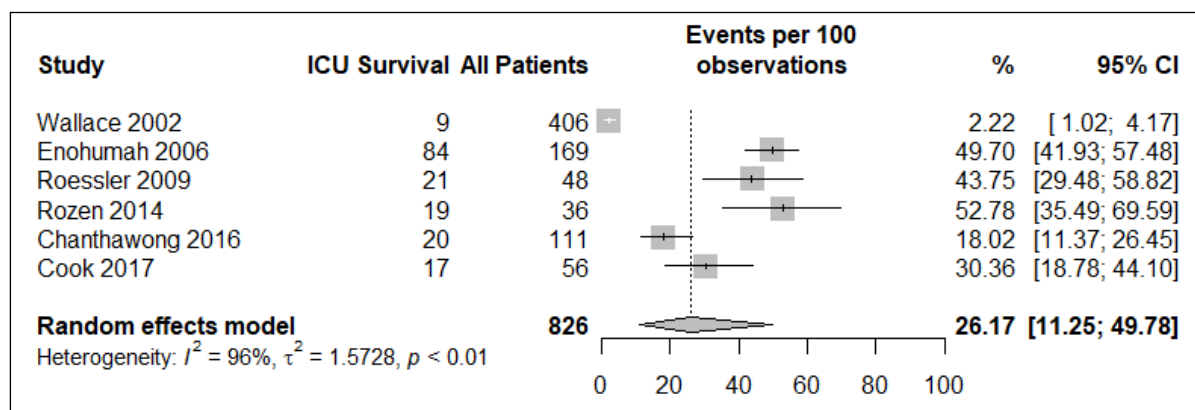


Figure B: ICU survival across all studies

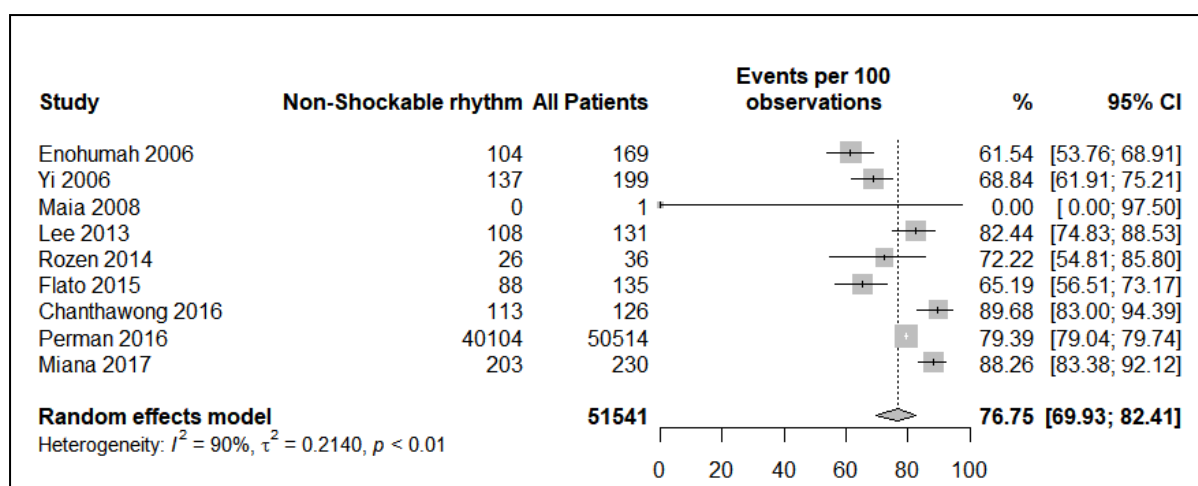


Figure C: Percentage non-shockable rhythm all studies

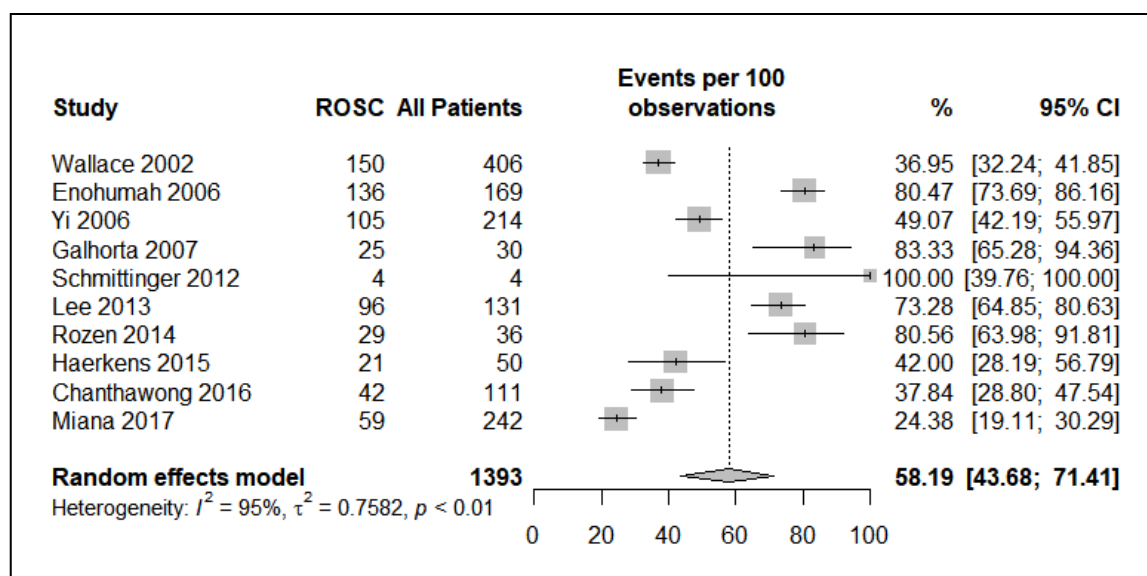


Figure D: Rates of return of spontaneous circulation (ROSC) in all studies

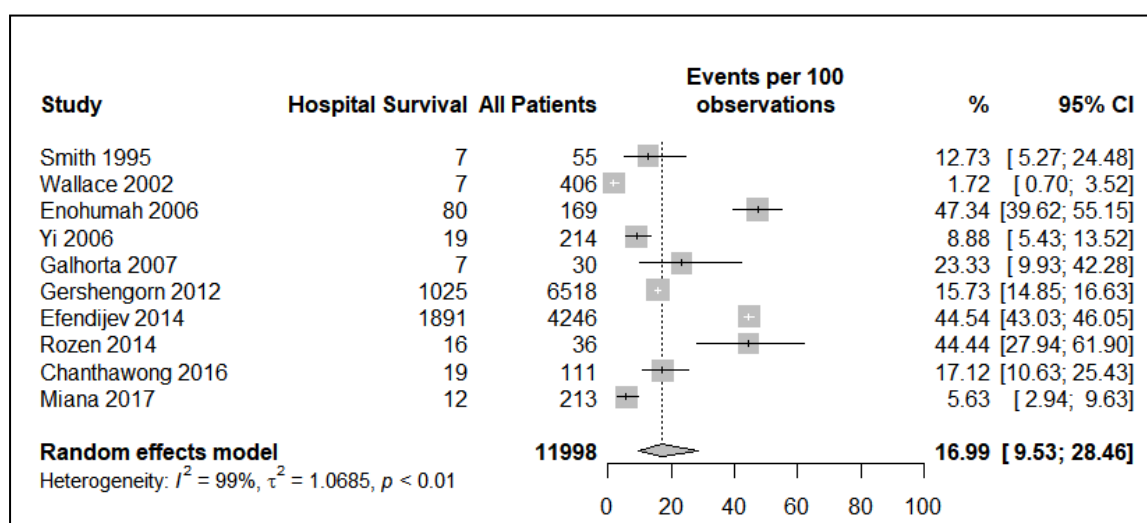


Figure E: Rates of hospital survival across all studies

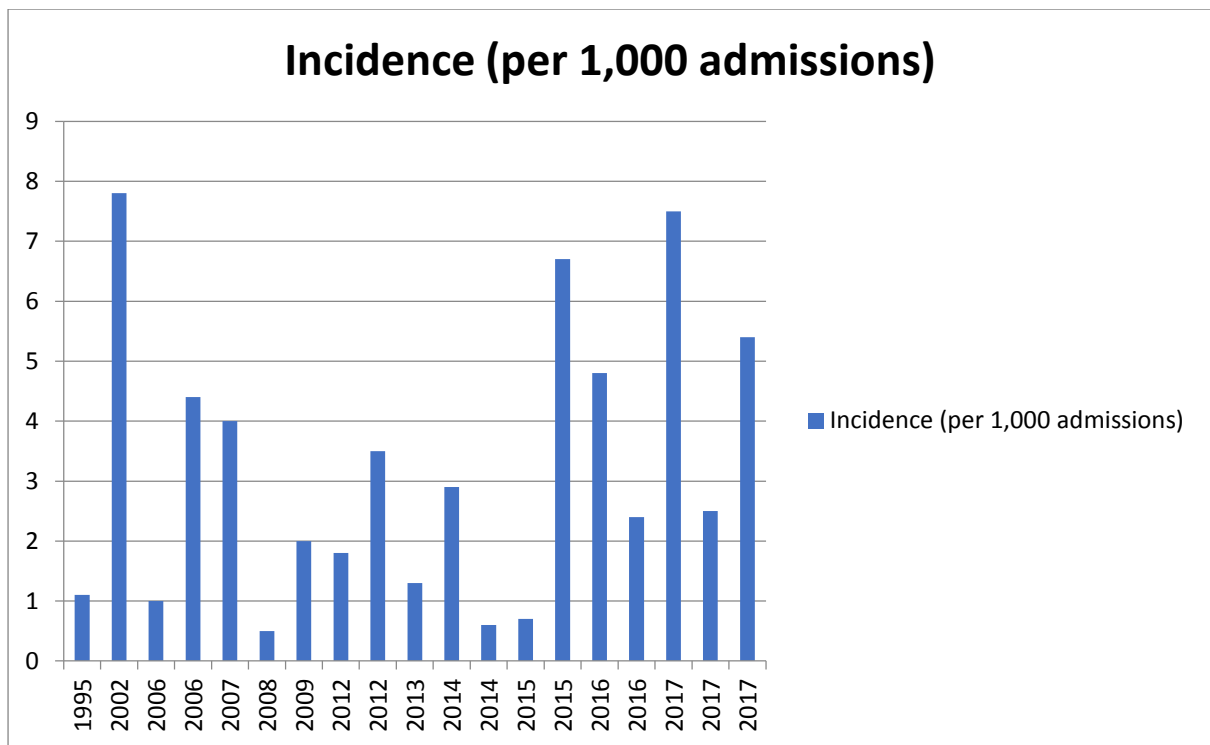


Figure F: Incidence of ICU-CA by year of reporting