

Supplementary Table 1. Detailed search strategies

MEDLINE Search Strategy

((((Intensive Care Units[Mesh] OR intensive care[tw] OR MRICU*[tw] OR RICU*[tw] OR critical care[mesh] OR intensive critical[tw] OR ICU*[tw] OR critical care[tw] OR MICU*[tw] OR medical intensive[tw] OR “medical critical” OR “oncology intensive care” OR oncology critical[tw] OR “respiratory intensive care” OR “respiratory critical” OR pulmonary critical[tw] OR “pulmonary intensive care” OR CCU*[tw] OR cardiac care unit*[tw] OR coronary care unit*[tw] OR “cardiac critical” OR CCCU*[tw] OR NCU*[tw] OR NICU*[tw] OR NCCU*[tw] OR “neurology intensive care” OR “neurology critical” OR neurocritical[tw] OR neurointensive[tw] OR neuro critical[tw] OR neuro intensive[tw] OR SICU*[tw] OR SCCU*[tw] OR surgery intensive[tw] OR surgery critical[tw] OR surgical intensive[tw] OR “surgical critical” OR trauma intensive[tw] OR trauma critical[tw] OR “neurosurgery critical care” OR neurosurgery intensive care[tw] OR neurosurgical critical care[tw] OR neurosurgical intensive care[tw] OR neurosurgery care unit*[tw] OR neurosurgical care unit*[tw] OR BICU*[tw] OR burn ICU*[tw] OR burn care unit*[tw] OR burn critical care[tw] OR burn intensive care[tw]))))

AND

(severity of illness index[Mesh] OR health status indicators[mesh] OR Health Status Indicator*[tw] OR APACHE*[tw] OR acute physiology and chronic health evaluation*[tw] OR simplified acute physiology score*[tw] OR SAPS*[tw] OR risk assessment[mesh] OR risk factor[mesh] OR risk factor*[tw] OR risk*[tw] OR MPM*[tw] OR mortality probability model*[tw] OR sequential organ failure*[tw] OR MODS[tw] OR multiple organ dysfunction score*[tw] OR multiple organs dysfunction[tw] OR LODS[tw] OR logistic organ dysfunction system*[tw] OR predictive value of tests[mesh] OR predictive value of test*[tw] OR Organ Dysfunction Scores[Mesh] OR Organ dysfunction*[tw] OR Organ failure score*[tw] OR SOFA*[tw] OR organ system failure*[tw] OR OSF[tw] OR ODIN[tw] OR TRIOS[tw] OR three-day recalibrating ICU outcomes score*[tw] OR three-days recalibrating ICU outcomes score*[tw] OR SWIFT[tw] OR TISS[tw] OR therapeutic intervention scoring system[tw] OR stability and workload index for transfer[tw] OR TISS-28[tw] OR TISS-76[tw]))

AND

(Patient Readmission[Mesh] OR patient readmission*[tw] OR readm*[tw] OR re-adm*[tw] OR patient transfer[mesh] OR patient transfer*[tw] OR recidivism*[tw])

EMBASE Search Strategy

'intensive care'/exp OR 'intensive care' OR 'intensive care unit'/exp OR 'intensive care unit' OR icu* OR MRICU* OR RICU* OR 'critical illness'/exp OR 'intensive critical' OR 'critical care' OR MICU* OR 'medical intensive care' OR 'medical critical' OR 'oncology intensive' OR 'oncology critical' OR 'respiratory intensive' OR 'respiratory critical' OR 'pulmonary critical' OR 'pulmonary intensive' OR CCU* OR 'cardiac care unit' OR 'coronary care unit' OR 'coronary critical' OR 'cardiac critical' OR CCCU* OR NCU* OR NICU* OR NCCU* OR 'neurology intensive' OR 'neurology critical' OR neurocritical* OR neurointensive* OR 'neuro critical' OR 'neuro intensive' OR SICU* OR

SCCU* OR 'surgery intensive' OR 'surgery critical' OR 'surgical intensive' OR
'surgical critical' OR 'trauma intensive' OR 'trauma critical'

AND

'severity of illness index'/exp OR 'health status indicators'/exp OR 'Health Status
Indicators' OR APACHE* OR 'acute physiology and chronic health evaluation' OR saps
OR 'simplified acute physiology score' OR SAPS* OR 'risk assessment'/exp OR 'risk
factor'/exp OR 'risk factor' OR MPM* OR 'mortality probability model' OR 'organ
dysfunction score'/exp OR SOFA OR 'sequential organ failure assessment' OR 'organ
dysfunction score' OR 'organ failure score' OR 'sequential organ failure' OR 'SOFA
score' or 'sequential organ failure assessment score' OR MODS* or 'multiple organ
dysfunction score' OR 'multiple organs dysfunction score' OR LODS* OR 'logistic
organ dysfunction system' OR SWIFT* or 'stability and workload index for transfer' OR
TISS-76 OR TISS-28 OR 'therapeutic intervention scoring system' OR 'predictive value
of test' OR 'organ system failure' OR OSF* OR ODIN* OR TRIOS*

AND

'hospital readmission'/exp OR 'patient readmission' OR readm* OR re-admit OR
readmission* OR rehosp* OR re-hospitalization OR 'hospital admission'/exp OR 'patient
admission' OR admi* OR 'hospital discharge'/exp OR 'patient discharge' OR 'patient
transfer'

Supplementary Table 2. Available secondary outcomes in included studies

Authors	ICU LOS (days) Mean (S.D.) or median (interquartile range)		Hospital LOS (days) Mean (S.D.) or median (interquartile range)		Hospital mortality (%)	
	Readmitted	Non-Readmitted	Readmitted	Non-Readmitted	Readmitted	Non-Readmitted
Durbin et al.	8.3 (16)	4(5)	47.8 (41.7)	20.8 (14.3)	41.5	7.3
Chen et al.	6.0 (9.2) ^a /4.1 (4.8) ^b	3.8 (8.5) ^a /2.9 (4.3) ^b			31.0	4.5
Cooper et al.	5.2 (6.4)	3.7 (4.2)	29.3 (23.4)	11.7 (11.1)	24.7	4.0
Chung et al.					30.8	0
Metnitz et al.	3 (2-7)	3 (2-6)				
Alban et al., Nishi et al.	4.9(6.7)	3.2(6.0)	32.5(35.5)	14.6(18.9)	20.3	9.1
Gajic et al.					33	
Conlon et al.	6.4 (8.2)	4.7 (7.8)			42.5	
Kaben et al.					17.1	2.9
Campbell et al.	2.9 (1-7.5)	2 (1-5)			40.2	8.4
Park et al.	2.0 (1.0-4.4)	2.9 (1.1-5.5)	33 (20-55)	17 (13-24)	33.9	7.8
Chan et al.	8.05 (7.17) ^c	5.22 (4.95)	59.49 (53.41)	18.4 (12.47)	40.0	3.6
Gerber et al.	37.1 (26.3)	33.5 (27.2)				
Butler et al.	2.9 (1.5-7.6)	2.1 (1.2-4.2)				
Ho et al.	5.3 (7)	4.9 (7.7)	46.1 (52)	18.9 (5.3)	21.8	14.8
Arsenault et al.						
Park et al.	55 (75)	15 (23)			13.0	0.5
Lee et al.	7.6 (7.05)	5.2 (4.7)	48.8 (29.8)	18.7 (11.8)		
Carrillo Alcaraz et al.				16 (16)	30.7	17.8
Khaja et al.	6.3 (6)	3.7 (NR)			56.0	9.3
Nassar et al.	3.92 (2.20-8.39)	2.45 (1.58-3.85)			28.6	1.3
Renton et al.	2.2 (1.0-5.7)	1.8 (0.9-3.4)			20.7	4.4
Timmers et al.	2 (1-4)	2 (1-4)	36 (22-65)	13 (8-24)	10	11
Lissauer et al.	13.9 (15.7)	6.8 (9.2)	52.6 (43.5)	18.5 (17.4)	23.4	2.7
Yip et al.	2.3 (1.1-6.7)	1.9 (1.0-5.0)	28 (16-48)	12 (6-24)	24.5	5.7

Studies without relevant data were omitted from Table 2. ICU=Intensive care unit; LOS=Length of stay; ^aAcademic hospital; ^bCommunity hospital