Table 1. Study characteristics

Study	Design, country	Type of ICU patients	Patients, N, age, %M	NPR measure	Intervention	Comparison	Outcomes reported
Amaravadi, 2000	Retrospective cohort study of 35 (staffing data for 32) hospitals, Maryland, US	Patients admitted to ICU after esophageal resection	366 (353) patients (225/128), mean age 60/63 years, % male 79/77	Nighttime nurse-to-patient ratio	1 nurse cares for 1 or 2 patients: NNPR ≥ 1:2	1 nurse cares for 3 or more patients: NNPR < 1:2	Hospital mortality, length of hospital stay, postoperative complications
Dimick, 2001	Retrospective cohort study of 35 (staffing data for 33) hospitals, Maryland, US	Patients admitted to ICU after hepatic resection	569 (556) patients (316/240), mean age 56/57 years, % male 51/55	Nighttime nurse-to-patient ratio	More nurses: NPR 1:1 or 1:2	Fewer nurses: NPR 1:3 or 1:4	Hospital mortality, length of hospital stay, postoperative pulmonary complications
Pronovost, 2001	Retrospective cohort study of 46 (staffing data for 38) hospitals, Maryland, US	Patients admitted to ICU after abdominal aortic surgery	2,128/478 patients, mean age 68/68 years, 69/66% men	ICU nurse staffing during the day	More nurses: NPR 1:1 or 1:2	Fewer nurses: NPR 1:3 or 1:4	Inpatient mortality, length of ICU and hospital stay, postoperative complications
Blot, 2011	Prospective cohort study, 27 ICU's in 9 European countries	All patients who were admitted to the ICU for treatment of pneumonia or received invasive mechanical ventilation for more than 48 hours, irrespective of the admission diagnosis	1,658 patients (1,066/592), median age 59/69 years, %male 64/61	Routine staffing levels; nurse-to-patient ratio that is standard in a particular ICU	patient-to-nurse ratio ≤ 2:1	patient-to-nurse ratio > 2:1	Length of ICU and hospital stay, VAP

ICU = intensive care unit, (N)NPR = (nighttime) nurse-to-patient ratio, , VAP = ventilator-associated pneumonia