Supplementary File D. Summary of Included Articles

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
Aiken et al., 2008	Analyse the net effects of nurse practice environments on nurse and patient outcomes after accounting for nurse staffing and education	Quantitative, cross-sectional study	**Work environment**: Practice Environment Scale of the Nursing Work Index (PES-NWI); six survey measures assessing job satisfaction, burnout, and intent to leave job within the next year; three questions assessing nurses' perceptions of quality of care **Patient outcome(s)**: 30-day mortality rates from discharge abstract data	232,342 patients; 10,184 nurses Data collected April 1998-November 1999	168 hospitals; USA	Care environment, along with nurses' education levels and nurse staffing, contributed to failure to rescue and mortality rates. Poorer environment had higher rates of mortality and failure-to-rescue Surgical mortality rates were more than 60% higher in hospitals with a poor work environment	High
Aiken et al., 2011	Determine the conditions under which the impact of hospital nurse staffing, nurse education, and work environment are associated	Quantitative, cross-sectional study	**Work environment**: Practice Environment Scale of the Nursing Work Index (PES-NWI) **Patient outcome(s)**: Patient deaths within 30 days of hospital admission and failure to rescue from the American Hospital	1,262,120 patients, 39,038 nurses Data collected 2005-2006	665 hospitals; USA	Lowering the patient-to-nurse ratios significantly improved patient outcomes in hospitals with good work environments, somewhat improved patient outcomes in hospitals with average work environments, and had no effect on patient	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	with patient outcomes		Association (AHA) Annual Survey			outcomes in hospitals with poor work environments	
Aiken et al., 2013	Determine the association between the use of agency-employed supplemental registered nurses (SRNs) to staff hospitals and patient mortality and failure to rescue	Quantitative, cross-sectional study	**Work environment**: Hospital use of SRNs; Practice Environment Scale of the Nursing Work Index (PES-NWI); nurse staffing metrics; nurse education metrics **Patient outcome(s)**: 30-day inpatient mortality and failure to rescue obtained from annual patient discharge summaries	40,356 registered nurses Data collected 2005-2006	665 hospitals; USA	Before controlling for nurse and hospital characteristics, higher proportions of SRNs nurses in hospitals were associated with higher mortality and failure to rescue This relationship became insignificant when work environments were taken into account Hospitals with higher proportions of supplemental registered nurses had significantly worse work environments	Medium
Ancarani et al., 2009	Analyse the relation between different organisational	Quantitative, cross-sectional study	**Organisation climate**: Interviews based on the Competing Value Framework	1,018 patients; 625 medical staff (470 nurses and 155 physicians)	47 wards across seven hospitals; Italy	An organisational model climate accentuating openness, change and innovation and a model emphasising cohesion	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	climate models and patient satisfaction		**Patient outcome(s)**: Interviews based on SERVQUAL instrument, measuring consumer expectations and perceptions of a service	Data collected November 2007-May 2009		and workers' morale were positively related to patient satisfaction, whereas a model based on managerial control where negatively associated with patient satisfaction Ward organisational climate significantly positively affected patient perceptions of the quality of care	
Ancarani et al., 2011	Test a model in which the ward manager's orientation towards a given organisational climate contributes to determine the climate perceived by medical and nursing staff.	Quantitative, cross-sectional study	**Organisational climate**: Organizational Climate Measure (OCM) **Patient outcome(s)**: Questionnaire based on the SERVQUAL instrument, measuring consumer expectations and perceptions of a service	57 managers; 621 nurses; 277 physicians; 1,598 patients. Data collected 2007-2009	57 wards across 10 hospitals; Italy	Ward managers' Human Relations climate orientation is positively related to patient satisfaction	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	Test whether this, in turn, has an impact on patient satisfaction						
Ansmann et al., 2014	Identify associations between hospital structures, physicians' social resources as well as job demands and control and patients perceived support from physicians	Quantitative, cross-sectional study	**Work environment:** Social capital measured by a six-item scale developed by Pfaff et al., 2004; Social support from colleagues measured using an adaptation of the original Caplan scales by Udris and Riemann; Job Content Questionnaire; Leadership survey measuring surgery volume and the number of hospitals constituting the breast cancer centre **Patient outcome(s)**: Three item questionnaire designed by authors assessing patients' perceptions of the support provided by physicians to help them cope with their illness and treatment	348 physicians; 108 leadership positions; 1,844 patients Physician survey November 2010-March 2011 Leadership survey July-September 2010	35 breast cancer centre hospitals; Germany	Patients felt better supported by their physicians in hospitals with high social capital, a high percentage of permanently employed physicians, and less physically strained physicians	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
Arnetz and Arnetz, 1996	Develop a reliable and valid instrument, to determine the predictors of patients' ratings of quality and to measure patient satisfaction at two points in time to determine whether patient ratings change following a quality improvement initiative	Quantitative, interventional study	**Work environment**: Questionnaire assessing patients' perceptions of quality of care and staff work environment **Patient outcome(s)**: Questionnaire assessing overall patient satisfaction with pain treatment	1,834 patients (1994); 2,499 patients (1995); unspecified numbers of hospital staff Data collected August 1994-November 1995	One hospital, Sweden	Perceived work environment was a significant predictor for a positive overall patient quality grade	Medium
Ausserhofer et al., 2013	Explore the relationship between patient safety climate and patient	Quantitative, cross-sectional study	**Work environment**: Safety Organizing Scale; Practice Environment Scale of the Nursing Work Index (PES-NWI); Basel Extent of Rationing of	1,633 RNs; 997 patients Data collected October 2009-June 2010	132 surgical, medical and mixed surgical-medical units across 35 acute	Patient safety climate was not found to be a significant predictor of patient satisfaction	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	outcomes in Swiss acute care hospitals, adjusting for major organisational variables		Nursing Care (BERNCA-R); nurse staffing level and skill mix items from the RN4CAST study nurse questionnaire **Patient outcome(s)**: Patient satisfaction item from the Hospital Consumer Assessment of Healthcare Providers and Systems		care hospitals; Switzerland		
Barsade and O'Neill, 2014	Examine the influence of a culture of compassionate love, on outcomes for employees, residents in a long-term care setting, and their families	Quantitative, longitudinal study	**Organisational culture:** Culture of Companionate Love Scale **Patient outcome(s)**: Questionnaires measuring mood, satisfaction and quality of life; medical database records of weight gain, emergency room transfers, and pressure ulcers	185 employees (certified nursing assistants, nurses, social workers, physicians, food service workers, and employees and other employees); 108 residents; 42 family members of residents Duration not specified	13 units across three long-term care residential sites; USA	There was a significant positive association between companionate love culture, patient mood, quality of life, satisfaction, and fewer trips to the emergency room There was no significant association between compassionate love culture and weight gain or lower incidence of pressure ulcers	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
Benning et al., 2011	Evaluation of the first phase of the Health Foundation's Safer Patients Initiative (SPI): organisational intervention that focused on improving the reliability of specific frontline care processes in designated clinical specialties and promoting organisational and cultural change	Mixed methods, interventional study	**Organisational culture:** Semi-structured interviews investigating understanding of and enthusiasm for the SPI1; NHS Staff Survey **Patient outcome(s)**: Errors and adverse events from case notes; mortality rates; patient satisfaction based on the National NHS Acute Inpatient Survey in England	Interviews: 60 senior/strategic staff; 47 ward staff Survey: 3,397 staff in hospitals enrolled in the intervention; 15,300 staff in control hospitals Case notes: 1,237 patients Data collected 2005-2006	Four hospitals participating in the first phase of the SPI and 18 control hospitals; United Kingdom	There was a small improvement in staff attitudes to organisational climate in intervention hospitals On a range of other measures and outcomes related to patient safety, there was no additive effect attributable to the SPI Survey of patients showed no significant differences apart from an increase in perception of cleanliness in favour of intervention hospitals	High
Borg et al., 2015	Establish the applicability of the Hofstede survey tool to measure and quantify organisational	Quantitative, cross-sectional study	**Organisational culture:** Hofstede Survey Tool **Patient outcome(s)**: Methicillin resistant Staphylococcus aureus (MRSA) prevalence	135 doctors and nurses Data collected July-August 2012	Intensive care departments of seven tertiary care hospitals; four European countries	Hospitals with a history of consistently low prevalence of MRSA exhibited high scores for change facilitation and change readiness,	Low

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	culture in healthcare settings, and attempt to evaluate any associations between Infection Prevention and Control (IPC) outcomes and organisational culture scores		identified from blood cultures			together with perceptions of trust. Hospitals with high prevalence of MRSA exhibited low scores for change readiness and change facilitation, but high scores for job security	
Bosch et al., 2008	Test the introduction of the diabetes passport and assess to what extent important aspects of restructured care such as multidisciplinary teamwork and different types of organisational	Quantitative, cross-sectional study	**Team climate:** Team Climate Inventory **Organisational culture:** Competing Values Framework **Patient outcome(s)**: Measures of quality of diabetes care and clinical patient characteristics from medical records and self-report	752 patients with Diabetes mellitus type II; 83 Dutch health care professionals Data collected during 2003-2004	30 primary care practices; The Netherlands	None of the selected clinical patient outcomes demonstrated significant associations with team climate or culture.	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	culture are associated with high quality diabetes care in small office-based general practices						
Bradley et al., 2012	Identify hospital strategies associated with lower RSMR (risk standardised mortality rates)	Quantitative, cross-sectional study	**Organisational environment:** Questionnaire assessing the use of hospital strategies **Patient outcome(s)**: 30-day hospital RSMR based on hospital discharges	Unspecified number of patients hospitalised with acute myocardial infarction Data collected July 2005-June 2008	533 acute care hospitals; USA	Key aspects of organisational environment (measured through hospital strategies) including effective communication and collaboration among groups, broad staff (cardiologist and pharmacist) presence and expertise, and a culture of creative problem solving and learning amongst cardiologists, were statistically associated with lower RSMRs	Medium
Brewer, 2006	Test the transtheoretical integration model (TIM)	Quantitative, cross-sectional study	**Organisational culture:** Questionnaire measuring two hospital culture variables (group culture	411 hospital employees (nurse and multi-	Four acute care hospitals; USA	A group-type culture (affiliation among all levels of hospital staff)	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	which proposes relationships among team-based phenomena and patient safety and resource-use outcome variables. TIM consists of Work Group Design, Hospital Culture, Positive Intrateam Process, Negative Intrateam Process, and Organisational Effectiveness		and developmental culture) through staff members' perceptions of hospital culture, work group design, and positive and negative team processes **Patient outcome(s)**: Administrative quality reports recording patient falls with injury; financial reports measuring patient care unit expenses and length of stay	disciplinary team members) Duration not specified		was inversely related to patient falls with injury Developmental culture (innovation and risk taking) was positively related to patient falls with injury and total expenses per patient day	
Carthon et al., 2015	Examine the relationship between missing nursing care and	Quantitative, cross-sectional study	**Work environment**: Practice Environment Scale of the Nursing Work Index (PES-NWI)	20,605 bedside nurses; 160,930 patients with heart failure	419 acute care hospitals; USA	Before adjusting for patient and hospital characteristics, patients were more likely to experience a	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	hospital readmissions		**Patient outcome(s)**: All-cause readmission within 30 days of discharge from an index admission for heart failure	Data collected 2005-2006		readmission when nursing care activities were more frequently missed (exception: pain management and timely medication administration) Once adjusting for work environment, the effects of missing essential nursing was no longer a significant predictor of readmissions	
Cassie and Cassie, 2012	Examine the effect of organisational culture and climate on depressive symptoms among nursing home residents	Quantitative, cross-sectional study	**Organisational culture**: Organizational Social Context Scale **Patient outcome(s)**: Minimum Data Set (Depression Rating Scale (DRS); Cognitive Performance Scale (CPS); Activities of Daily Living - Long Form (ADL-L))	1,114 employees; 5,497 residents Data collected Jan 2007-May 2008	23 nursing homes; USA	Depressive symptoms were associated with two dimensions of organisational culture (proficiency and resistance), and three dimensions of climate (stress, engagement, and functionality)	High
Chang and Mark, 2011	Investigate whether learning	Quantitative, cross-	**Work environment**: Questionnaires assessing work dynamics and	2,744 patients; 4,954 nurses	279 nursing units across 146 hospitals; USA	Significant negative relationship between learning climate and	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	climate moderates the relationship between error producing conditions and medication errors	sectional study	communication with physicians **Learning climate:** Error Orientation Scale **Patient outcome(s)**: Medication error obtained from incident reports	Data collected 2003-2004		medication errors (the more positive the learning environment was, the fewer medication errors occurred). However, there was no significant difference when the learning culture was average compared to when it was good Communication and experience were not associated with medication errors significantly Work dynamics was not significantly associated with medication errors, regardless of learning climate	
Cho et al., 2015	Examine the effects of nurse staffing, work environment,	Quantitative, cross-sectional study	**Work environment:** Practice Environment Scale of the Nursing Work Index (PES-NWI)	1,024 staff; 76,036 surgical patients	14 teaching hospitals; South Korea	Patient mortality was nearly 48% lower in hospitals with better nurse work	

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	and education on patient mortality		**Patient outcome(s)**: Patient discharge data recording patient characteristics and 30-day mortality rates	Data was collected January-December 2008		environments compared to hospitals with mixed or poor nurse work environments	
Coustasse et al., 2008	Analyse organisational culture in a community hospital in Texas to measure organisational culture change and its impact on patient satisfaction	Mixed methods, longitudinal case study	**Organisational culture**: Two sets of open-ended semi-structured interviews assessing organisational culture **Patient outcome(s)**: Patient satisfaction scores and percentiles from Inpatient and Outpatient care areas	Semi-structured interviews: 162 Hospital staff Culture interview: 29 members of the executive team Surveys: 600 staff employees Field experiment data collected January 2003-December 2003 Patient satisfaction data collected January 1998-December 2003	One community hospital; USA	The shared vision of one subculture within the hospital was associated with increased patient satisfaction	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
Davenport et al., 2007	Measure the impact of organisational climate safety factors (OCSFs) on risk-adjusted surgical morbidity and mortality	Quantitative, cross-sectional survey	**Organisational climate**: Safety Attitudes Questionnaire (SAQ) **Patient outcome(s)**: Risk-adjusted morbidity and mortality outcomes derived using the National Surgical Quality Improvement Program (NSQIP) dataset and models	6,083 attending and resident doctors, nurses, and other providers Models derived from data on more than 100,000 patients Data collected July 2003-September 2004	44 Veterans Affairs and eight academic medical centres; USA	The OCSF measures of teamwork climate, safety climate, working conditions, recognition of stress effects, job satisfaction, and burnout were not correlated with risk-adjusted morbidity and mortality Reported levels of positive communication/collaboration with attending and resident doctors correlated with lower risk-adjusted morbidity	High
Dubois C-A et al., 2013	Examine the associations of four distinct nursing care organisational models with patient safety outcomes	Quantitative, cross sectional study	**Organisational culture:** Four category variable representing nursing care organisational models **Patient outcome(s)**: Patient records reporting medication errors, falls, pneumonia, urinary tract infections, unjustified	2,699 patients Data collected in a 30-day period, undocumented timeframe	11 hospitals; Canada	After controlling for patient characteristics, patient risk of experiencing one or more events and of experience an event with consequences was significantly lower in the innovative professional and basic models compared to the	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
			restraints and pressure ulcers			adaptive functional and basic functional models The lowest rates of negative outcomes were seen in the innovative professional model, characterised by richer staff skill mix, higher staffing intensity, and an environment with greater support of professional practice and investments in innovation	
Duffield et al., 2011	What are the relationships among patient outcomes (OPSN (Outcomes Potentially Sensitive to Nursing) [consisting of 11 patient outcomes], falls, and	Quantitative, longitudinal and concurrent cross-sectional study	**Work environment:** The Area Health Services database; NWI-R; Nurse questionnaire measuring perceptions about the work environment and quality of care on the unit; Environmental Complexity Scale **Patient outcome(s)**: The Health Information	Longitudinal study: 10,132,246 (4,964,924 matched to wards) ward stay records, 10,963,806 (2,675,428 matched to wards) nurse roster and payroll records	Longitudinal study: Patient data from 80 hospitals; nursing staff data from 27 hospitals; Australia Cross-sectional study: 19 hospitals; Australia	Increased medication errors were associated with more nurses experiencing a threat of violence and tasks delayed Time-based medication errors were associated with perceptions of physical violence, emotional abuse, the amount of additional	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	medication errors), nurse skill mix, nursing workload, and the nursing work environment		Exchange (HIE) database; patient discharge data	Data collected from 2000-2006 Cross-sectional study: 5,885 patient records, 22,497 patient-days, 13,442 nurse shifts Data collected from 2004-2005		time needed for patient care per shift, higher turnover of patients, and the proportion of patients waiting for a care facility	
Estabrooks et al., 2011	Assess the relative effects and importance of nursing education and skill mix, continuity of care, and quality of the work environment on 30-day mortality rate of patients	Quantitative, cross-sectional study	**Work environment**: Questionnaire assessing nursing skill mix, use of casual and temporary nurses, quality of care, job satisfaction, and educational preparation **Patient outcome(s)**: Discharge abstracts reporting patient information (age, sex, vital status at discharge, and comorbid	18,142 patients; 6,526 nurses Data collected April 1998-March 1999	49 acute care hospitals; Canada	Factors associated with a lower patient mortality rate included high nurse education levels, richer skill mix, better nurse-physician relationship, less casual and temporary employment	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	(after adjusting for institutional factors and patient characteristics)		conditions, and primary diagnosis)				
Estabrooks et al., 2015	Examine the influence of organisational context on symptom burden and to compare symptom burden in the last year of life between nursing home residents with and without dementia	Quantitative, longitudinal study	**Organisational environment:** In-person interviews using the Alberta Content Tool **Patient outcome(s)**: Resident Assessment Instrument-Minimum Data Set	3,647 residents (2,635 with dementia and 1,012 without); 1381 front-line care Organisational environment data collected July 2009-June 2010 Patient outcomes data collected 2008-2012	36 nursing homes (including both high and low care facilities); Canada	Symptom burden at end of life differs between low- and high-context facilities Residents of high-context facilities had longer average length of stay, more unstable health and aggressive and challenging behaviour, and higher prevalence of dementia and delirium, compared to low-context facilities The prevalence of dyspnea, pain, urinary tract infections, cancer diagnosis and use of antipsychotics without a diagnosis of psychosis was lower in high-	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
						context facilities	
Fan et al., 2016	Evaluate the association between safety culture and surgical site infection (SSI)	Quantitative, cross-sectional study	**Safety culture:** Hospital Survey on Patient Safety Culture (HSOPS) **Patient outcome(s)**: Postoperative colon surgery SSI data reported by hospitals	1,926 personnel from surgical units Safety culture data collected November 2012-December 2013 SSI data collected January-December 2013	Seven hospitals; USA	Ten of the 12 safety culture dimensions were associated with colon SSI rate (perceptions of patient safety, teamwork across units, organisational learning, feedback and communication about error, management support for patient safety, teamwork within units, communication openness, supervisor/manager expectations and actions promoting safety, non-punitive response to error and frequency of events reported)	Medium
Fedorowsky et al., 2015	Assess the association between organisational culture and health care workers'	Quantitative, cross-sectional study	**Organisational culture:** Questionnaire assessing staff engagement, overwhelmed/stress-chaos, hospital leadership, health care workers' knowledge, attitudes, and	268 health care workers (registered/academic nurses, practical nurses/auxiliary staff, physicians,	One Post-acute care facility (PACF) and one acute care hospital (ACH); Israel	The organisational culture factor known as staff engagement was negatively correlated with CRE acquisition rate	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	attitudes, knowledge, practices, and CRE (Carbapenem-Resistant Enterobacteriaceae) acquisition rates		practices regarding CRE prevention **Patient outcome(s)**: CRE acquisition rates from the Israeli National Infection Prevention Center	and paramedical staff, e.g., radiology technicians and physiotherapists) Organisational culture questionnaire distributed in January-February 2013 CRE acquisition rates obtained from January-December 2013 records		Overwhelmed/stress-chaos was positively correlated with CRE acquisitions Hospital leadership showed no significant correlation with CRE acquisition in either contexts	
Gardner et al., 2007	Examine the relationships between staff nurses' perceptions of dialysis work environments, nurses' intentions to leave their	Quantitative, cross-sectional study	**Work environment**: Practice Environment Scale of the Nursing Work Index (PES-NWI) **Patient outcome(s)**: Dialysis facility patient satisfaction survey; Number of patient hospitalisations	199 nurses Duration not specified	56 dialysis facilities; USA	Negative overall ratings of the dialysis work environment were significantly related to hospitalisations for patients on dialysis greater than 90 days PES-NWI scores were not significantly related to	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	current jobs, nurse turnover, patient satisfaction, and patient hospitalisation rates					patient satisfaction scores	
Greenslade and Jimmieson, 2011	Test the model that service climate would increase the effort and performance of nursing groups and, in turn, increase patient satisfaction	Qualitative, cross-sectional study	**Organisational climate:** Global Service Climate Scale; questionnaire measuring the effort exerted on specific tasks and effort intensity for contextual performance; Technical Care Scale; Job-Task Support Scale **Patient outcome(s)**: Questionnaire assessing patient satisfaction	156 nurses; 39 nurse unit managers (NUMs); 171 patients Data collected May 2007	Two hospitals; Australia	Patient satisfaction was positively associated with nurses' perception that there was a positive service climate Perceptions of service climate were associated with task and contextual effort, suggesting that a positive climate motivates nurses to provide quality patient care. Nurses felt that they exerted more effort towards providing technical care than towards performing extra-role tasks for patients	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
Hallowell et al., 2016	Examine the association of the neonatal intensive care unit (NICU) work environment, staffing levels, level of nurse education, lactation consultant availability, and nurse-reported breastfeeding support with very low birth weight (VLBW) infant receipt of human milk at discharge	Quantitative, longitudinal study	**Work environment:** Practice Environment Scale of the Nursing Work Index (PES-NWI); nursing metrics e.g., staffing, education, and experience **Patient outcome(s)**: Rate of very low birth weight infants discharged on "any human milk" from hospitalisation records	5,614 nurses; 6,997 patients (very low weight birth infants) Data collected 2008	97 neonatal intensive care units; USA	Better nurse work environments and better educated nurses in US NICUs were associated with a higher provision of human milk for VLBW infants In NICUs where more infants receive breastfeeding support from nurses, more VLBW infants received human milk at the point of discharge to home	High
Hansen et al., 2011	Define the relationship between hospital safety climate and readmission rates within 30	Quantitative, cross-sectional study	**Organisational culture:** Patient Safety Climate in Healthcare Organizations (PSCHO) **Patient outcome(s)**: Risk-standardised hospital	36,375 employees (frontline staff, nurses, physicians and senior managers)	67 acute care hospitals; USA	There was a significant positive association between lower safety climate and higher readmission rates for acute myocardial infarction (AMI) and	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	days following discharge		readmission rates from Centers for Medicare and Medicaid Services (CMS)	Survey data collected July 2006-May 2007 Admission rate data collected 2008		heart failure (HF), but not pneumonia. Perceptions of frontline staff associated with readmission rates but not those of senior management Physician and nurse perceptions of safety climate were associated with AMI and HF readmission rates, respectively, but senior management perceptions were not	
Kelly et al., 2014	Determine the extent to which variation in ICU nursing characteristics —staffing, work environment, education, and experience—is associated with mortality. A	Quantitative, cross-sectional study	**Organisational environment:** Two databases**:** University of Pennsylvania Multi-State Nursing Care and Patient Safety Study and the American Hospital Association (AHA) Annual Survey	55,159 older adults on mechanical ventilation; 3,193 critical care nurses Data collected 2006-2008	303 adult acute care hospitals; USA	Patients in critical care units with better nurse work environments experienced lower odds of 30-day mortality than those in worse nurse work environments	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	secondary result of this would be illuminating strategies to improve patient outcomes		Critical care nurses' reports; the Practice Environment Scale of the Nursing Work Index (PES-NWI) **Patient outcome(s)**: The Medicare Provider Analysis and Review (MedPAR) database reporting 30-day mortality				
Kutney-Lee et al., 2009	Examine the contribution of nurses' work environments to patient satisfaction using national Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) data	Quantitative, cross-sectional study	**Work environment:** Practice Environment Scale of the Nursing Work Index (PES-NWI) **Patient outcome(s)**: HCAHPS	20,984 resident nurses Data collected 2006-2009	430 acute care hospitals; USA	The nurse work environment was significantly related to all HCAHPS patient satisfaction measures Patient-to-nurse workloads were significantly associated with patients' ratings and recommendation of the hospital to others, and with their satisfaction with the receipt of discharge information	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
Kutney-Lee et al., 2015	Compare changes over time in surgical patient outcomes, nurse-reported quality, and nurse outcomes in a sample of hospitals that attained Magnet recognition between 1999 and 2007 with hospitals that remained non-Magnet	Quantitative, longitudinal study	**Work environment:** A binary variable measuring Magnetic status; Pennsylvania Registered Nurse Survey; Multi-State Nursing Care and Patient Safety Survey; The American Hospital Association (AHA) Annual Survey; Practice Environment Scale of the Nursing Work Index (PES-NWI) **Patient outcome(s)**: Pennsylvania Health Care Cost Containment Council (PHC4) administrative discharge abstract files and death record files measuring 30-day surgical mortality and failure-to-rescue (FTR)	20,984 staff nurses; unspecified number of patients Data collected 2007	136 hospitals (11 emerging Magnets and 125 non-Magnets); USA	Emerging Magnet hospitals demonstrated markedly greater improvements over time on the PES-NWI overall score and all five subscales compared to hospitals that remained non-Magnet Emerging Magnet hospitals experienced significantly greater improvement 30-day surgical mortality and failure to rescue rates over time, compared to non-Magnetic hospitals	Medium
Larson et al., 2000	Assess the impact of an intervention to change	Quantitative, interventional study	**Organisational culture**: Handwashing frequency rates estimated from records of activation of	All staff in adult medical intensive care unit (MICU) and a neonatal	Two hospitals (one intervention hospital, once	Over a period of eight months, 860,567 soap dispensings were recorded, with	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	organisational culture on frequency of staff handwashing (as measured by counting devices inserted into soap dispensers on four critical care units) and nosocomial infections associated with methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VRE)		soap dispensers in study units **Patient outcome(s)**: Rates of nosocomial infections with MRSA and VRE. Data collected by infection control staff in each hospital.	intensive care unit (NICU) Duration not specified	comparison hospital); USA	significant improvements in the study hospital after six months of follow-up. There were no significant differences in rates of MRSA between the two hospitals, but rates of VRE were significantly reduced in the intervention hospital during implementation	
Ma and Park, 2015	Examine the effects of work environment	Quantitative, cross-	**Work environment**: Practice Environment	33,845 registered nurses	373 hospitals; USA	Units in Magnet hospitals had lower rates of pressure ulcers and	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	on patient outcomes at the unit level while adjusting for the influence on hospital-level organisational factors such as Magnet status	sectional study	Scale of the Nursing Work Index (PES-NWI) **Patient outcome(s)**: Hospital-acquired pressure ulcer rates from the National Database of Nursing Quality Indicators (NDNQI)	Data collected 2013		better work environments Hospital Magnet status and work environments were significantly associated with pressure ulcer rates after controlling for unit level covariates	
Ma et al., 2015	Determine the relationships between hospital nursing factors—nurse work environment, nurse staffing, and nurse education—and 30-day readmissions among Medicare patients undergoing	Quantitative, cross-sectional study	**Work environment:** Two databases**:** University of Pennsylvania Multi-State Nursing Care and Patient Safety Study and the American Hospital Association (AHA) Annual Survey **Patient outcome(s)**: Medicare Provider and Analysis Review File (MedPAR) measuring 30-day readmission rates	220,914 Medicare surgical patients; 25,082 nurses Data collected July 2006-June 2007	258 hospitals; USA	Patients cared for in hospitals with better nurse work environments had lower odds of readmission, independent of nurse staffing levels. Administrative support to nursing practice and nurse-physician relations were two main attributes of the work environment that were associated with readmissions	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	general, orthopaedic, and vascular surgery						
Maben et al., 2012	Examine the links between staff experience of work and patient experience of care in a 'Medicine for Older People' (MfOP) service in England	Mixed-methods, cross-sectional study	**Organisational climate**: Questionnaire assessing organisational and local climate **Patient outcome(s)**: Patient Evaluation of Emotional Care During Hospitalisation (PEECH); short-form Picker Instrument; additional items from the longer UK NHS National Patient Survey	Survey: 66 staff; 26 patients Interview: 18 staff; 18 patients and carers Data collected January 2010-August 2010	A dedicated service for older people situated in a large acute teaching hospital; England	Patients experienced more varied and unpredictable nursing care on those wards with a poor local work climate for staff Emotional labour involved in being a patient was greater in poor care climates where the quality of care was unpredictable and patient experience variable	Medium
Mahl et al., 2015	Evaluate the association of perceived organisational culture and quality improvement with the outcomes of	Quantitative, combined cross-sectional and longitudinal study	**Organisational culture**: Quality Improvement Implementation Survey (QIIS) **Patient outcome(s)**: Survival without major morbidity from patient records	1,133 health care professional; 1,028 extremely pre-term infants Data collected April 2008-March 2009	18 neonatal ICUs; Canada	Higher group culture scores were associated with significantly lower rates of survival without major morbidity Higher hierarchical culture and higher quality improvement	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	infants admitted to level III NICUs in Canada					scores were associated with higher rates of survival without major morbidity	
Mardon et al., 2010	Examine relationships between the Agency for Healthcare Research and Quality's (AHRQ) Hospital Survey of Patient Safety Culture and rates of in-hospital complications and adverse events as measured by the AHRQ Patient Safety Indicators (PSIs)	Quantitative, cross-sectional study	**Safety culture:** The Agency for Healthcare Research and Quality (AHRQ) Hospital Survey on Patient Safety Culture (HSOPS) **Patient outcome(s)**: Selected AHRQ Patient Safety Indicators (PSI)	56,480 hospital employees Data collected 2004-2006	179 hospitals; USA	Hospitals with higher patient safety culture scores tended to have lower rates of documented adverse events: 12/15 HSOPS variables were negatively correlated with PSIs. After controlling for hospital characteristics, seven HSOPS (frequency of events reported, handoffs and transitions, organisational learning—continuous improvement, staffing, teamwork across units, teamwork within units, HSOP composite average) remained statistically correlated with PSIs	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
McHugh and Ma, 2013	Understand how the nursing care environment affects readmissions	Quantitative, cross-sectional study	**Work environment:** Practice Environment Scale of the Nursing Work Index (PES-NWI); nurse staffing levels; nurse educational attainment **Patient outcome(s)**: Data on index admissions and readmissions obtained from state discharge abstract databases	375,681 patients; 20,585 nurses Data collected 2006	412 hospitals; USA	Care in a hospital with a good versus poor work environment was associated with 7% lower odds of 30-day readmission for heart failure patients, 6% lower odds for acute myocardial infarction patients and 10% lower odds for pneumonia patients The odds of readmission was 4% lower for heart failure, 3% lower for acute myocardial infarction and 6% lower for pneumonia patients cared for in a hospital with a mixed versus poor work environment	High
Meraviglia et al., 2008	Assist rural or small hospitals (average daily census < 100) with	Quantitative, interventional study	**Work environment**: Nursing Work Index-Revised (NWI-R)	1,150 nurses Duration not specified	30 hospitals; USA	There were positive changes in the nurses' perception of their work environment (indicating that that the	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	implementing 12 nurse friendly criteria into the policies and practices of the hospital to create a positive work environment		**Patient outcome(s)**: Hospital reported prevalence of pressure ulcers, patient falls, and hospital-acquired pneumonia and urinary tract infections			intervention successfully improved organisational culture) Quality of care improved at participating hospitals, as measured by the nurse-sensitive quality indicators (QI)	
Morris A et al., 2007	Examine the effects of organisational culture and climate, as well as individual characteristics, on outcomes of care for adults with severe mental illness	Quantitative, longitudinal study	**Organisational culture and climate:** Questionnaire assessing organisational culture and climate **Patient outcome(s)**: Quality of Life (QOL) index; SF-36; Medicaid claims data; Clinician diagnoses using the DSM IV	424 Patients with chronic mental illness; 274 administrators and health workers Data collected over three years; collection dates not specified	14 Community Mental Health Organizations (CMHOs); USA	Organisational culture and climate were strong predictors of perceived improvements in physical and mental health status over time, but were not associated with changes in QOL	High
Nasirpour et al., 2010	Determine the relationship of Centralisation and organisational culture and	Quantitative, cross-sectional study	**Organisational culture**: Robbin's organizational culture questionnaire	441 personnel Data collected 2007	13 hospitals; Iran	No significant correlation was observed between organisational culture and hospital performance indexes	Low

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	performance indexes in Teaching Hospitals affiliated to Tehran University of Medical Sciences		**Patient outcome(s)**: Performance indexes (average length of stay, inpatient bed occupancy ratio, rate of admissions per active bed, net death rate and ratio of surgical operations to inpatients)				
Nowinski et al., 2007	Monitor changes in organisational culture, continuous quality improvement (QI), maturity and QI indicators overtime	Quantitative, longitudinal study	**Organisational culture**: Culture and Quality Questionnaire (CQQ) **Patient outcome(s)**: Press Ganey patient satisfaction survey; multiple standard quality indicators	621 employees at Baseline and 471 employees at Time 2 Data collected March 2003-March 2006	Three hospitals; USA	Several strong correlations were found between changes in culture score and changes in quality indicators at the three facilities. Appropriate discharge of patients with chest pain was negatively correlated with developmental culture; use of antibiotics within four hours of admission was positively associated with rational culture and quality management and negatively related to group culture and	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
						human resource utilisation; and patient satisfaction was positively correlated with group culture and negatively correlated with rational culture	
Prezerakos et al., 2015	Investigate the correlation between haemodialysis work environment and patients' outcomes	Quantitative, cross-sectional study	**Work environment**: Practice Environment Scale of the Nursing Work Index (PES-NWI) **Patient outcome(s)**: Questionnaire assessing how often selected errors and adverse events have occurred under the nursing care during the previous three months	133 nurses Data collected June-July 2012	11 hospital-based dialysis units; Greece	Hypotension, venous needle disconnection and patient falls were associated with non-favourable work environment Hypoglycaemia, medication error and catheter-associated infections were not associated with work environment	High
Purdy et al., 2010	Determine impact of the work environment on patient care	Quantitative, cross-sectional study	**Work environment:** Work Effectiveness Questionnaire (CWEQ-II); Work Group Characteristics Measure; Psychological	679 nurses; 1,005 patients Duration not specified	61 medical and surgical units across 21 hospitals; Canada	Structural empowerment, mediated through group processes, significantly impacted a variety of patient outcomes including nurse-assessed	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
			Empowerment Questionnaire (PEQ) **Patient outcome(s)**: Patient falls and nurse assessed risks, measured using an instrument developed by Sochalski (2001); Nursing Care Quality Questionnaire (PSNCQQ); Therapeutic Self-care Questionnaire-Acute Care Version			quality and risk as well as an objective measure of patient falls although no significant effect was found for variables assessed using the patient's perspective	
Saame et al., 2011	Outline the relationships between organisational culture and patient satisfaction	Quantitative, cross-sectional study	**Organisational culture**: Organisational Values Questionnaire (OVQ) **Patient outcome(s)**: Patient satisfaction ratings	456 medical and non-medical professionals Data collected October 2005-February 2006	One hospital (including two clinics with high patient satisfaction and four with low); Estonia	Clinics with high patient satisfaction did not score more than clinics with low patient satisfaction in terms of the Human Relations type Clinics with high patient satisfaction were less oriented towards Rational Goal type values than clinics with low patient satisfaction	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
Scotti et al., 2007	Examine how a high-involvement approach to the work environment of healthcare employees may lead to exceptional service quality, satisfied patients, and ultimately to loyal customers	Mixed-methods cross-sectional study	**Work climate**: Questionnaire assessing human resource practices, customer orientation and employee-perceived service quality based on pre-existing Veterans' Affairs Questionnaire **Patient outcome(s)**: Questionnaire assessing customer perceived quality and customer satisfaction based on pre-existing Veterans Health Administration Questionnaire	59,464 employees; 212,874 respondents Data collected 2001	113 Veterans Health Administration ambulatory care centres; USA	High-performance work systems are linked to employee perceptions of their ability to deliver high-quality customer service, both directly and through their perceptions of customer orientation Employee perceptions of customer service are linked to customer perceptions of high-quality service Perceived service quality is linked with customer satisfaction	High
Shortell et al., 1995	Examine the relationships between organisational culture, quality improvement processes and selected	Quantitative, cross-sectional study	**Organisational culture**: 20-item questionnaire developed by Zammuto and Krakower (1991) assessing group culture, developmental culture, hierarchical culture, and rational culture scales	Continuous quality improvement and total quality management: an unspecified number of CEOs and person in	61 hospitals; USA	A participative, flexible, risk-taking organisational culture was significantly related to quality improvement implementation	Medium

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	patient outcomes		**Patient outcome(s)**: A patient outcome impact scale assessing improved patient outcomes, reduced errors and inappropriate treatment, increased patient satisfaction, and improved continuity of patient care	charge of quality assessment Organisational culture: 7,337 hospital staff Implementation: Approximately 50 respondents from per hospital Duration not specified		Quality improvement implementation was significantly associated with greater perceived patient outcomes and human resource development, but not financial outcomes	
Shortell et al., 2000	Test impact of total quality management (TQM) and organisational culture on a comprehensive set of endpoints of care for coronary artery bypass graft surgery (CABG)	Quantitative, longitudinal study	**Organisational culture:** Previously validated 20-item questionnaire developed by Zammuto and Krakower (1991) **Patient outcome(s)**: CABG care endpoints (mortality, adverse outcome, clinical efficiency); Patient satisfaction questionnaire consisting of Patient Judgment System 24-item (PJS-24) questionnaire,	3,045 patients; an average of 54 staff per hospital Data collected 1995-1996	16 nongovernmental, not-for-profit, short-term-care general service hospitals engaged in TQM interventions; USA	A supportive group culture was significantly associated with shorter postoperative intubation times, and higher patient physical and mental functional health status scores six months after CABG, but also with longer operating room times There was little effect of organisational culture on	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
			'returning to home issues' items, and 'the needs of heart patients' items			multiple end-points of care for CABG patients	
Singer et al., 2009	Study the relationship between safety climate and safety performance using Patient Safety Indicators (PSIs)	Quantitative, cross-sectional study	**Safety climate**: Patient Safety Climate in Healthcare Organizations (PSCHO) 2004 **Patient outcome(s)**: The Medicare Provider Analysis and Review (MEDPAR) File from 2005	18,223 hospital staff Data collected 2004-2005	91 hospitals; USA	Higher levels of safety climate were associated with higher safety performance Hospitals in which personnel reported more problems with fear of shame and blame had significantly greater risk of experiencing PSIs Perceptions of higher safety climate overall among frontline personnel were associated with a relative increase in the risk of experiencing PSIs, but safety climate perceptions overall among senior managers were not	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
Stone et al., 2007	Examine effects of a comprehensive set of working conditions on elderly patient safety outcomes in intensive care units	Quantitative, cross-sectional study	**Organisational climate**: Perceptions of Nurse Work Environment Scale; administrative processes derived from monthly payroll data; monthly total ICU patient census data; Bureau of Labor Statistics regional estimates of RN salary **Patient outcome(s)**: Central line associated bloodstream infection (CLBSI), ventilator associated pneumonia (VAP), and catheter-associated urinary tract infection (CAUTI) derived from Nosocomial Infections Surveillance's (NNIS) system of infection surveillance; 30-day mortality and decubiti were determined using Medicare files	15,846 patients; 1,095 nurses Data collected 2002	51 adult intensive care units across 31 hospitals; USA	Units with higher staffing had lower incidence of CLBSI, VAP, 30-day mortality, and decubiti Increased overtime was associated with higher rates of CAUTI and decubiti, but slightly lower rates of CLBSI The effects of organisational climate on patient safety outcomes were inconsistent. Patients admitted to ICUs in which the nurses' perceived a more positive organisational climate had slightly higher odds of developing a CLBSI, but were 39% less likely to develop a CAUTI	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
Taylor et al., 2012	Investigate the extent to which organisational characteristics (working conditions and safety climate) predict injuries for patients and nurses	Quantitative, cross-sectional study	**Safety climate**: Safety Attitudes Questionnaire (SAQ); unit turnover rates; registered nursing hours per day data obtained from Human Resources **Patient outcome(s)**: Patient injuries (falls, pressure ulcers, and pulmonary embolism/deep vein thrombosis) from administrative discharge data and Patient Safety Net software	723 nurses; 28,876 patient discharges Data collected: Safety climate: 2004 Injury outcomes: 2005	A trauma centre with Magnet nursing status; USA	Safety culture was significantly associated with patient outcomes e.g., falls, decubitus ulcers and PE/DVT Working conditions were significantly associated with patient and nurse injury	High
Tei-Tominaga and Sato, 2016	Examine the effect of nurses' work environment with characteristics that are similar to those of Magnet hospitals on patient	Quantitative, cross-sectional study	**Work environment:** Japanese version of the Practice Environment Scale of the Nursing Work Index (PES-NWI) **Patient outcome(s)**: Questionnaire assessing information about hospitalisation (number of hospitalisations, duration of hospitalisation, having	425 nurses; 379 inpatients Data collected August 2011	Four hospitals; Japan	Hospitals in Japan with a work environment that nurses perceive to be similar to the work environment in Magnet hospitals were associated with patient satisfaction Specifically, collegial nurse-physician relations was associated with low	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	satisfaction in Japan		operative treatment), and patient satisfaction			patient satisfaction, however this association was weak, and diminished when hospital characteristics were considered in the analysis	
Temkin-Greener et al., 2010	Examine the association between nursing home (NH) work environment attributes such as teams, consistent assignment and staff cohesion, and the risk of pressure ulcers and incontinence	Quantitative, cross-sectional study	**Work environment:** Questionnaire purpose designed for the study assessing staff cohesion, presence of teams and consistent assignment **Patient outcome(s)**: Pressure ulcer and incontinence from the Minimum Data Set	46,044 residents; 7,418 workers Data collected June 2006-July 2007	162 long-term care nursing homes; USA	Residents in facilities with worse staff cohesion had significantly greater odds of pressure ulcers and incontinence, compared with residents in facilities with better cohesion scores Residents in facilities with greater penetration of self-managed teams had lower risk of pressure ulcers, but not of incontinence Prevalence of consistent assignment was not significantly associated	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
						with pressure ulcers or incontinence	
Tervo-Heikkinen et al., 2008	Assess the interrelationships between nurses' work environment and nursing outcomes	Quantitative, cross-sectional study	**Work environment**: Registered Nurse Working Conditions Barometry Index-revised (RN-WCBI-R); items from the Nurse Work Index-revised (NWI-R) **Patient outcome(s)**: Total satisfaction indicator from the Humane Caring Scale-revised	664 registered nurses (RN); 1,730 patients Data collected during 2005	34 acute care inpatient hospital wards across four hospitals; Finland	Professional nursing standards staffing adequacy, and nursing respect and relationships were found to be important predictors of patient satisfaction	High
Tzeng et al., 2002	Investigate the relationship among staff nurses' assessment of organisational culture and general inpatient satisfaction with nursing care	Quantitative, cross-sectional study	**Organisational culture**: Nurse Assessment Survey (NAS) **Patient outcome(s)**: Nursing Services Inpatient Satisfaction Survey (NSISS)	520 registered nurses; 345 patients Duration not specified	13 medical/ surgical adult units; two adult psychiatric units; two gynaecology/obstetric units; USA	Strength of culture had indirect positive effects (through nurse satisfaction) on patient satisfaction	Medium
Virtanen et al., 2009	Examine the association	Quantitative, cross-	**Organisational climate**: Questionnaire measuring	1,092 patients; 1,159 staff	Six hospitals; Finland	Long working hours among staff, high work	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	between work hours, work stress, and collaboration among the ward personnel, and the risk of hospital-associated infection among patients	sectional study	mean working hours, work stress (job strain and effort-reward imbalance), and collaboration (communication, justice in the distribution of work, support from supervisor, and quality of the collaboration between supervisors in the ward) **Patient outcome(s)**: Hospital-associated infection derived from medical records and infection surveillance records	Data collected March 2004-June 2004		stress, and problems in collaboration between personnel were related to infection among patients High effort-reward imbalance, low trust between ward members, injustice in the distribution of work, and poor collaboration between supervisors were all related to approximately a 2-fold infection risk among patients	
Warren et al., 2007	Explore the association between health care employees' perceptions of their organisations and objective measures of	Quantitative, cross-sectional study	**Organisational climate:** All Employee Survey (AES) comprising questions from the National Institute for Occupational Safety and Health (NIOSH) Instrument and the Organizational Assessment Survey (OAS); Bureau of Labor Statistics Survey of Employment;	74,662 employees of the VHA Data collected 2001	141 VHA facilities; USA	There was a relationship between some patient outcomes and organisational culture Patient satisfaction demonstrated the strongest connection with organisational climate. Inpatient and outpatient satisfaction	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	system performance (including employee and patient outcomes).		Federal Aviation Administration Instrument **Patient outcome(s)**: AES measuring attitudinal outcomes, and health and safety outcomes; Administrative Veterans Health Administration (VHA) Data Sets			was strongly related to increased levels of support, and increased inpatient satisfaction is also associated with higher levels of Professional Demands	
Weinberg et al., 2013	Examine the benefits of a high-performance work environment (HPWE) for employees, patients, and hospitals	Quantitative, cross-sectional study	**Work environment:** Questionnaire based on Revised Nursing Work Index, Picker Hospital Employee Survey; variety of tools from other workplace settings, with particular focus on research on high-performance work systems and teams **Patient outcome(s)**: Hospital Consumer Assessment of Healthcare Providers and	16,459 discharge records; 2,920 patient surveys; 1,527 staff surveys Duration not specified	45 units across nine hospitals and seven health systems; USA	HPWE was significantly associated with patients' experience and safety. HPWE was related to lower odds that a patient will experience an adverse outcome during the hospital stay	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
			Systems (HCAHPS); discharge data				
You et al., 2013	Evaluate the link between nurse resources and nurse and patient outcomes	Quantitative, cross-sectional study	**Work environment:** Four of the five subscales of the Practice Environment Scale of the Nursing Work Index (PES-NWI) **Patient outcome(s)**: Adapted version of the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Hospital Survey	9,688 staff (nurses in particular); 5,786 patients Duration not specified	181 hospitals; China	Patients in hospitals with better work environments were more likely to rate their hospital highly, to be satisfied with nursing communications, and to recommend their hospitals Higher patient-to-nurse ratios were unrelated to patient outcomes Higher percentages of baccalaureate nurses were strongly related to better patient outcomes	High
Zhou P, 2011	Determine whether perceptions of organisational culture among employees of public hospitals in China are	Quantitative, cross-sectional study	**Organisational culture:** Employee questionnaire measuring organisational culture **Patient outcome(s)**: Hospital questionnaire assessing performance	3,437 staff; 8,276 patients Data collected June-October 2009	87 hospitals; China	Culture emphasising social responsibility was negatively associated with length of stay Hospitals with culture emphasising cost control had higher rates of	High

Study	Study objective(s)	Study design	Measures	Participants; Duration	Context; Setting	Key findings	Quality rating
	associated with hospital performance		outcomes such as LOS, outpatient visits per year, bed days per year, patient satisfaction; patient survey measuring satisfaction with medical care			outpatient visits and BDPPPD, as well as lower levels of patient satisfaction Hospitals in which employees perceived the culture as customer-focused had longer length of stays but lower patient satisfaction	