

APPENDICES TO APPEAR ONLINE

Appendix 1 Systematic review search strategies

Key: /=MeSH term; ti=title; ab=abstract; \$=truncation; *=focus of search & substitution; exp=explode; adj=adjacent to

MEDLINE SEARCH

Step	Search strategy formula
1	<p>((safe\$.ti,ab. or exp Safety/ or Err\$.ti,ab. or Adverse.ti,ab.) and (exp *Risk Management/ or exp medical Errors/ or Safety Management/ or Medical Audit.mp.)) or exp Health Care Quality/ or patient centred care/ or length of stay/ or exp consumer satisfaction/ or patient readmission/ or exp evidence based medicine/ or exp "outcome and process assessment (health care)"/ or exp Quality Indicators, healthcare/ or quality assurance, health care/ or exp clinical audit/ or exp program evaluation/ or guideline adherence/ or (patient centred care or length of stay or customer satisfaction or patient satisfaction or medical audit or clinical audit or clinical effectiveness or performance measurement or outcome assessment or process assessment or guideline adherence or compliance to practice\$1 or benchmarking or patient centred care or incident report\$ or infection control or patient readmission or evidence based medicine or (evidence based adj2 practice) or waiting times or patient experience or complaints or target\$1 or clinical excellence or service excellence or quality).ti,ab.</p>
2	<p>exp Hospital/ or (hospital\$ or secondary care or acute care or health care organi*ation\$1 or healthcare organi*ation\$1 or infirmar\$).ti,ab.</p>
3	<p>exp Health Facility Administrators/ or Governing board/ or (Manager\$1 or Matron\$1 or CEO\$1 or executive\$1 or director\$3 or board\$1 or middle management or senior management or lower management or frontline management or leader\$4 or president\$1 or head of department\$1.ti,ab. or department head\$1.ti,ab. or head of nursing or administrator\$1 or healthcare administration or (chief adj4 officer\$1) or (chief adj4 nurs\$) or (chief adj4 operation\$1) or (chief adj4 service\$1) or chief of staff).ti,ab.</p>
4	<p>1 and 2 and 3</p>
5	<p>limit 4 to (human and English language and yr="1983-Current")</p>

EMBASE SEARCH

Step	Search strategy formula
1	<p>((exp Safety/ or Safe\$.ti,ab. or Err\$.ti,ab. or Adverse.ti,ab.) and (Health Care Quality.mp. or exp Health Care Organization/ or Health\$.ti,ab.)) or exp Health Care Quality/ or clinical effectiveness/ or incident report/ or nursing outcome/ or performance measurement system/ or quality of nursing care/ or length of stay/ or hospital readmission/ or evidence based medicine/ or exp outcome assessment/ or quality control/ or medical audit/ or patient satisfaction/ or (patient centred care or length of stay or customer satisfaction or patient satisfaction or medical audit or clinical audit or clinical effectiveness or performance measurement or outcome assessment or process assessment or guideline adherence or compliance to practice\$1 or benchmarking or patient centred care or incident report\$ or infection control or patient readmission or evidence based medicine or (evidence based adj2 practice) or waiting times or patient experience or complaints or target\$1 or clinical excellence or service excellence or quality).ti,ab.</p>
2	<p>exp Hospital/ or Health care organization/ or (hospital\$ or secondary care or acute care or health care organi*ation\$1 or healthcare organi*ation\$1 or infirmar\$).ti,ab.</p>
3	<p>exp manager/ or (Manager\$1 or Matron\$1 or CEO\$1 or executive\$1 or director\$3 or board\$1 or middle management or senior management or lower management or frontline management or leader\$4 or president\$1 or head of nursing or head of department\$1.ti,ab. or department head\$1.ti,ab. or administrator\$1 or healthcare administration or health care administration or (chief adj4 officer\$1) or (chief adj4 nurs\$).ti,ab. or (chief adj4 operation\$).ti,ab. or (chief adj4 service\$).ti,ab. or chief of staff).ti,ab.</p>
4	<p>1 and 2 and 3</p>
5	<p>limit 4 to (human and English language and yr="1983-Current")</p>

Step	Search strategy formula
1	<p>((exp Safety/ or Safe\$.ti,ab. or Err\$.ti,ab. or Adverse.ti,ab.) and (Health Care Quality.mp. or risk management/ or Health\$.ti,ab.)) or exp quality of care/ or quality control/ or Quality of Services/ or Treatment Duration/ or exp consumer satisfaction/ or exp client satisfaction/ or exp evidence based medicine/ or clinical audit/ or (patient centred care or length of stay or customer satisfaction or patient satisfaction or medical audit or clinical audit or clinical effectiveness or performance measurement or outcome assessment or process assessment or guideline adherence or compliance to practice\$1 or benchmarking or patient centred care or incident report\$ or infection control or patient readmission or evidence based medicine or (evidence based adj2 practice) or waiting times or patient experience or complaints or target\$1 or clinical excellence or service excellence or quality).ti,ab.</p>
2	<p>Hospitals/ or (hospital\$ or secondary care or acute care or health care organi*ation\$1 or healthcare organi*ation\$1 or infirmar\$).ti,ab.</p>
3	<p>exp Management Personnel/ or exp Hospital Administration/ or (Manager\$1 or Matron\$1 or CEO\$1 or executive\$1 or director\$3 or board\$1 or middle management or senior management or lower management or frontline management or leader\$4 or president\$1 or head of department\$1.ti,ab. or department head\$1.ti,ab. or head of nursing or administrator\$1 or healthcare administration or (chief adj4 officer\$1) or (chief adj4 nurs\$) or (chief adj4 operation\$1) or (chief adj4 service\$1) or chief of staff).ti,ab.</p>
4	<p>1 and 2 and 3</p>
5	<p>limit 4 to (human and English language and yr="1983-Current")</p>

HMIC SEARCH

Step	Search strategy formula
1	<p>((exp Safety/ or Safe\$.ti,ab. or Err\$.ti,ab. or Adverse.ti,ab.) and (Health Care Quality.mp. or Health\$.ti,ab.)) or exp quality assurance in health services/ or patient centred care/ or hospital stay duration/ or exp consumer satisfaction/ or patient readmission/ or exp evidence based medicine/ or exp outcomes/ or benchmarking/ or (patient centred care or length of stay or customer satisfaction or patient satisfaction or medical audit or clinical audit or clinical effectiveness or performance measurement or outcome assessment or process assessment or guideline adherence or compliance to practice\$1 or benchmarking or patient centred care or incident report\$ or infection control or patient readmission or evidence based medicine or (evidence based adj2 practice) or quality improvement or waiting times or patient experience or complaints or target\$1 or clinical excellence or service excellence or quality).ti,ab.</p>
2	<p>Acute Hospitals/ or hospital care/ or (hospital\$ or secondary care or acute care or health care organi*ation\$1 or healthcare organi*ation\$1 or infirmar\$).ti,ab.</p>
3	<p>exp managers/ or "middle and lower management"/ or senior managers/ or top management/ or (Manager\$1 or Matron\$1 or CEO\$1 or executive\$1 or director\$3 or board\$1 or middle management or senior management or lower management or frontline management or leader\$4 or president\$1 or head of department\$1 or department head\$1 or head of nursing or administrator\$1 or healthcare administration or (chief adj4 officer\$1) or (chief adj4 nurs\$) or (chief adj4 operation\$1) or (chief adj4 service\$1) or chief of staff).ti,ab.</p>
4	<p>1 and 2 and 3</p>
5	<p>limit 4 to (human and English language and yr="1983-Current")</p>

Appendix 2 Inclusion/exclusion criteria for systematic review

							Population sample		
	Type of paper	Country	Language	Study design	Aims or focus	Setting	Population group reported on	Types of managers	Level of management
Inclusion	Empirical Data	Any	English	Any (e.g. qualitative, quantitative or mixed methods)	To identify, describe or test types of managerial activities (i.e. behaviours, actions, role) relating to Q&S and QSI	Hospital	Hospital Managers	Clinical & operational managers (E.g. general managers, service managers, service delivery managers, directorate managers, Matrons, Ward managers, chief operating officer, chief executive officer or clinical directors or board managers or US administrators) Q&S managers: case managers, quality managers, risk managers, quality improvement managers (<i>mark as QM</i>)	Includes any levels of management (e.g. senior or middle management)
Exclusion	Commentary/opinion papers; literature reviews; editorials; conference proceedings; books guides; manuals; leaflets; conference proceedings; seminar proceedings; meeting notes; internal letters; Single case studies; and case studies that have no methods description.	None	Non-English	None	Managers' perceptions, knowledge, attitudes, awareness, competencies, leadership styles, or contextual issues (e.g. system barriers to involvement) of Q&S. Quality of cost of care.	Services solely for mental health or solely non-acute care community services; primary care; and all other industries	Managers from other settings; Senior clinicians (e.g. Clinician leaders such as consultants)	Those whose main position is to deal with financial management responsibilities alone Other very specialist managers, e.g. materials specialist manager or information manager Managers whose official role is quality and safety, e.g. quality manager	None

Appendix 3 Full review screening for systematic review

Article ID:

Stage 1

A	Aim: Is the aim of the article to investigate <u>work activities/engagement/time</u>?	yes	no	unclear
B	Context: Are the work activities in the context of <u>Quality & Safety</u> ?	yes	no	unclear
C	Setting: Is the setting related to <u>hospitals</u> ?	yes	no	unclear
D	Sample Described: Are the work activities described those of <u>managers</u> ?	yes	no	unclear

If no to any of the above then exclude and do not proceed to stage 2.

If yes to all, proceed to Stage 2.

Proceed to stage 2	yes	no
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Stage 2

Type: Is it an <u>empirical</u> study?	yes	no	unclear
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If yes, tick box Yes

If unclear, tick box Maybe

If no tick box Yes commentary

Yes	
Maybe	
Yes commentary	

Terms to identify the inclusion criteria

A) ROLE	<p>Definition: Any activities carried out at work</p> <p>Key Terms: Role, tasks, work, responsibilities, activities, function, duties, undertaking, briefs, assignments, projects, errands, jobs, etc.</p> <p>Not: impact on quality & safety, managers competencies or knowledge on quality & safety etc</p>
B) QUALITY and/or SAFETY	<p>Definition: Safe, effective, patient-centred, timely efficient and equitable care.</p> <p>Key Terms Quality: Health Care Quality or length of stay or mortality or hospital readmission or exp evidence based medicine or evidence based practice or exp outcome assessment or quality control or medical audit or patient satisfaction or patient centred care or length of stay or mortality or customer satisfaction or patient readmission or evidence based medicine or or waiting times or patient experience or complaints or target(s) or clinical excellence or service excellence or quality or patient safety or medical errors or adverse events</p> <p>Not: Cost</p>
C) HOSPITALS	<p>Definition: Organisations that provide medical/surgical care</p> <p>Key Terms: Hospital(s) or acute care or acute care or health care organisation(s)</p> <p>Not: All other non-hospital settings, those that only focus on mental health & non-acute care community services, and all other industries</p>
D) MANAGEMENT	<p>Definition: A manager is a person that manages staff and has budgetary and service responsibilities. All levels of management are included (frontline managers, middle managers, senior managers, Board)</p> <p>Key Terms: General managers, service managers, service delivery managers, directorate managers, divisional managers, manager(s) or matron(s) or CEO(s) or executive(s) or director(s) or board(s) or middle management or senior management or leader(s) or president(s) or head(s) of nursing or head(s) of department(s) or department head(s) or administrator(s) or healthcare administration or chief officer(s) or chief(s) of staff, etc.</p> <p>Not: Clinician leaders such as consultants that do not hold budgetary responsibilities, those with financial management responsibilities, those with an official role in quality & safety (e.g. clinical governance managers, quality managers, risk managers)/</p>