

1 **SUPPLEMENTARY FILE - APPENDIX 1 – Search strategies**

2 Search strategy Jones et al (2016)^{21,28}

3 The search strategy sought to capture terms relating to (i) surgery, (ii) quality improvement and (iii) methodology.

Combine column A and column B using AND, then combine using AND to either column C or column D			
A: QI term family	B: Perioperative term family	C: Qualitative term family	D: Quantitative term family
Deming.ti,ab	preoperative.mp.	Qualitative.ti,ab.	Randomized.ti,ab
6 sigma.mp.	Per-operative.mp.	(Focus Groups.mp. OR exp	“Randomi?ed controlled
(Six adj1 sigma).mp.	surg\$.ti,ab.	Focus Groups/)	trial”.pt.
(Lean adj1 sigma).mp.	exp General Surgery/	(exp Interview/ OR	“Randomized controlled
Measurement for	exp Surgical Procedures/	interview.mp.)	trial”.pt
improvement.ti,ab.	exp Operative/ or Operative Time/	(Interviews as Topic.mp. OR	“controlled clinical trial”.pt.
(quality adj2 improv\$).ti,ab.	Perioperative.ti,ab.	exp Interviews as Topic/	“randomized controlled
(quality adj1	Perioperative.ti,ab.	ethnograph\$.mp.	trials”.sh.
management).ti,ab	Pre-operative.ti,ab.	content analysis.mp.	“random allocation”.sh.
		grounded theory.mp.	“double blind method”.sh.

Combine column A and column B using AND, then combine using AND to either column C or column D			
A: QI term family	B: Perioperative term family	C: Qualitative term family	D: Quantitative term family
(improv\$ adj2 science).ti,ab. (process adj2 improv\$).ti,ab. (Plan and do and study).ti,ab. PDCA.ti,ab. pdsa.ti,ab “plan do check”.ti,ab. (method adj2 improv\$).ti,ab. (health.mp. AND behavioural economics.ti,ab) “operations research”.ti,ab. “decision science”.ti,ab. Shewhart.ti,ab.	Operative.ti,ab. Cancer\$.mp. “enhanced recovery”.ti,ab eras.ti,ab. “rapid recovery”.ti,ab. (fast.mp. AND track.ti,ab.) Operating theatre.mp. “Operating room\$”.mp Anesthe\$ Anaesthe\$ Trauma.mp	grounded approach.mp. (exp Qualitative Research/ or qualitative.mp.) Phenomenology\$.mp. “discourse analysis”.mp. “constant comparison”.mp. “observational method”.mp “theoretical sampl\$”.mp. “thematic analys?s”.mp. “improvement report\$”.mp.	“single-blind method”.sh. single?blind method.sh clinical trial.pt. exp clinical trial/ (clin\$ adj25 trial\$).ti,ab. ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj25 (blind\$ or mask\$)).ti,ab. placebos.sh. placebo\$.ti,ab. “comparative study”.sh. exp evaluation studies/ prospective studies.sh.

Combine column A and column B using AND, then combine using AND to either column C or column D			
A: QI term family	B: Perioperative term family	C: Qualitative term family	D: Quantitative term family
Pareto?chart.ti,ab “Statistical process control”.mp. “Statistical quality control”.mp. Toyota.mp Paretochart\$.mp “Control chart”.mp			(control\$ or prospective\$ or volunteer\$ or retrospective\$).ti,ab. “Interrupted time?series”.ti,ab Time-series.ti,ab “Repeated measure”\$.mp Cohort.mp “Case?control”.mp “Case control”.mp (Assess\$ adj3 process quality.)mp Evaluat\$ adj3 process quality).mp

Combine column A and column B using AND, then combine using AND to either column C or column D			
A: QI term family	B: Perioperative term family	C: Qualitative term family	D: Quantitative term family
			Compliance.ti,ab "Quality control".mp Process control.ti,ab Control chart\$.ti,ab (Adherence OR adherence.ti,ab) Group adj3compar\$.mp Control.ti,ab Before adj2 after.mp Eval\$.ti,ab Variability OR variation OR variable.mp
Data bases searched:			

Combine column A and column B using AND, then combine using AND to either column C or column D			
A: QI term family	B: Perioperative term family	C: Qualitative term family	D: Quantitative term family
<p>Bibliographic databases were selected for their representation of both surgical and QI literature. The Ovid SP version of MEDLINE, Scopus, The Cochrane Central Register of Controlled Trials (CENTRAL) was searched using the terms 'quality improvement', 'quality improvement in surgery' applying the limit of 'trials.' CENTRAL was also used to search for records registered by the Cochrane Effective Practice and Organisation of Care (EPOC) group (which indexes interventional studies focused on improvement in health care delivery). The "related articles" function of PubMed was also searched. The restrictions of publication year (2000-2014), humans NOT animals, and NOT infants were applied.</p>			

Search Strategy Furnival et al (2017)²⁹

The search strategy was broad based sought to capture terms relating to (i) improvement capability (ii) assessment instruments.

Group 1	Group 2
Assess* Measure* Index Inspect* Model Instrument Framework tool	Continuous improv* Improv* Improve* capabilit* Quality manag* TQM TQM capabilit* Absorptive capacity Improve* capacity Maturity Business excellence Intangible assets Change capacit* Change capabil* Transform capaci* Transform capabil*
Databases searched: Embase, Scopus, Web of Science, Medline and the Cochrane database of systematic reviews. MeSH headings and free text keywords were used to take account of terminological differences and language used synonymously such as 'quality improvement' and 'continuous improvement'.	

