Supporting Information 1

Summary documents of detailed literature searches for ESGE QIC Endoscopy services working group performed by:

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LEADERSHIP TEAM TO IMPROVE QUALITY AND SAFETY OF SERVICES/CARE

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Clinical question 1.1 (Statement 1.2)

Population
Any healthcare organisation/unit department or any healthcare provider /
Intervention
Introduction of Leadership team, with defined roles and responsibilities and accountability
Is this locally, regionally or nationally?
Control
No defined leadership team
Outcome
Continued improvements in technique, quality and safety of services/care provided
[(Detection, treatment, progression to advanced cancer.)
This outcome may not need to be described explicitly for each performance measure, but possibly an overarching statement of the ultimate aim of high-quality endoscopy services should be included in the manuscript.]

METHODS

Bibliographic search

In first instance we browsed the reviews published by the Cochrane Effective Practice and Organisation of Care (EPOC) Group to find reviews relevant fort the question.
Then we performed a bibliographic search on Cochrane Library, Pubmed, Embase, since 1/1/2000 to 12/11/2016 for systematic reviews using the following search strategies:

PubMed
(Leadership[Title/Abstract] OR team[Title/Abstract] OR "Patient Care Team"[Mesh] OR governance[Title/Abstract] OR "Clinical Governance"[Mesh]) **AND** ("Outcome Assessment (Health Care)"[Mesh] OR "Quality of Health Care"[Mesh] OR "Patient Safety"[Mesh]) **AND** ("Hospital Departments"[Mesh] OR hospital*[Title/Abstract] OR "Hospital Units"[Mesh]) **AND** ("systematic review"[Title/Abstract] OR "systematic reviews"[Title/Abstract] OR cochrane[Title/Abstract] OR meta-analysis[Publication Type] OR "meta analysis"[Title/Abstract] OR metanalysis[Title/Abstract])

Embase

('leadership'/exp OR team:ab,ti OR leadership:ab,ti OR governance:ab,ti) **AND** ('outcome assessment'/exp OR 'health care quality'/exp OR 'patient safety'/exp) **AND** ('hospital'/exp OR hospital*:ab,ti OR 'hospital department'/exp) **AND** (cochrane OR 'systematic review'/de OR 'systematic review' OR 'systematic reviews'/de OR 'systematic reviews' OR 'meta analysis'/de OR 'meta analysis' OR metanalysis OR [cochrane review]/lim OR [meta analysis]/lim OR [systematic review]/lim)

Cochrane Database of Systematic Reviews (CDSR) and **Database of Abstracts of Reviews of Effects (DARE)**

#1 MeSH descriptor: [Patient Care Team] explode all trees
#2 MeSH descriptor: [Clinical Governance] explode all trees
#3 leadership or team or governance:ti,ab,kw (Word variations have been searched)
#4 #22 or #23 or #24
#5 MeSH descriptor: [Outcome Assessment (Health Care)] explode all trees
#6 MeSH descriptor: [Quality of Health Care] explode all trees
#7 MeSH descriptor: [Patient Safety] explode all trees
#8 #7 or #6 or #5
#9 MeSH descriptor: [Hospital Departments] explode all trees
#10 MeSH descriptor: [Hospital Units] explode all trees
#11 hospital:ti,ab,kw (Word variations have been searched)
#12 #9 or #10 or #11
#13 #4 and #8 and #12 Publication Year from 2000 to 2016

RESULTS

Results of the bibliographic searches

Browsing the Cochrane Effective Practice and Organisation of Care (EPOC) Group and screening title and abstracts we found 2 reviews that seemed potentially relevant.
With the bibliographic searches on the other databases, after removing duplicates, we found 19 reviews that seemed potentially relevant.

Excluded studies

Two reviews were excluded from the Cochrane reviews (Lopez 2012, Welsh 2015) because they were protocol of systematic reviews without results.
Among the reviews found in the other databases twelve reviews were excluded with the following reasons:
Damery 2015 and Whitcombe 2016 are protocol of a systematic review without results.
Driscoll 2016 was aimed to examine systems of care for heart failure that reduce hospital readmissions and/or mortality but none of included studies assessed the impact of the introduction of a leadership team.
Flodgren 2011was aimed to assess the effectiveness of using opinion leaders to disseminate evidence-based practice as an educational approach, not the introduction of leadership team, with defined roles and responsibilities and accountability as an organizational change within a department, unit or hospital .

Foster 2016 assessed the effectiveness of staffing models that include physician trainees and advanced practice providers (APPs) such as nurse practitioners (NPs) or physician assistants (PAs) in the Intensive Care Units.
Hesselink 2016 was aimed to evaluate any intervention aimed at improving the governance of patient safety, but none of the included studies assessed the introduction of leadership team.
Kronberg 2011was aimed to identify the elements that define the "educationally influential physicians", their role, characteristics but did not report outcome of quality of care or patients related outcomes.
Kuo 2013 was aimed to identify key elements to improve orthopedic surgical safety and outline leadership roles for orthopedic surgeons needed to establish and sustain a culture of safety in contemporary healthcare systems; the review identified six elements as the ones necessary to reduce surgical harms (1) communication, (2) consent, (3) checklists, (4) confirmation, (5) concentration, and (6) collection; the introduction of leadership team was not considered.
Lawton 2012 was aimed to identify to identify contributory factors that feature most strongly in the literature and which might therefore be appropriate targets for interventions designed to improve patient safety but did not assess the efficacy of the introduction of leadership team on quality of care provided or patients outcomes.
Majka 2014 was aimed to evaluate team composition, implementation strategies, and the effectiveness of these interventions on patient outcomes, staff outcomes, and hospital costs assess in the management of patients requiring long-term enteral tube feeding. None of the included studies assessed the impact of the introduction of leadership team on quality of care provided or patients outcomes.
Tricco 2014 was aimed ti assess the efficacy of interventions targeted to adult patients (age $\geq$ 18 yr) who were frequent users of the health care system in order to reduce overuse of health care systems.
Straus 2013 was aimed to assess the efficacy of training programs for physicians to develop leadership skills, not of the implementation of leadership programs.

Included studies

No Cochrane reviews were finally included.
Seven systematic reviews found in the other databases was finally included (Brand 2012, Buljac-Samardzic 2010, Morello 2013, Parand 2014, Suelflow 2016, Wong 2007, Wong 2013).

Evidence tables were not done for most of the SRs because they reported the results in a narrative way not suitable to be synthetized in a table. Moreover for many of them, we considered only a small number of the studies included, relevant for our question. However we described extensively in the text below the characteristics of the reviews and of the relevant studies included.

Brand 2012 was aimed to assess what is the evidence for associations between high level hospital characteristics and improved hospital performance; hospital characteristics investigated were environment (incentives, market characteristics), structure (network membership, ownership, teaching status, geographical setting, service size) and operational design (innovativeness, leadership, organizational culture, public reporting and patient safety practices, information technology systems and decision support, service activity and planning, workforce design, staff training and education). Among the studies included only two assessed the effect of nursing leadership; the authors of the review concluded that, on the basis of these two studies "there is some evidence (Grade C: body of evidence provides some support for the association but care should be taken in its application) to support the association between nursing leadership and patients health outcomes. We retrieved in full text these two studies (Richardson 2010, McCutcheon 2009).

Richardson 2010 is a systematic reviews aimed to assess the impact on patients safety of nursing leadership, collaboration and empowerment. The review included Wong 2007 (already included in our documents and two other primary studies. (Spence Laschinger & Leiter 2006, Vogus & Sutcliffe 2007). Detailed results of these primary studies are reported in the table below.

McCutcheon 2009 is a cross sectional study conducted at seven teaching and community hospitals with a sample of 51 units, 41 nurse managers, 717 nurses and 680 patients. The aim of the study was to examine the relationships between leadership style, span of control, nurses' job satisfaction and patient satisfaction, as well as the moderating effect of span of control on the relationship between leadership style and the two outcomes. The results showed that higher spans of control decreased the positive effects of transformational and transactional leadership styles on job satisfaction and patient satisfaction, and increased the negative effects of management by exception and laissez-faire leadership styles on job satisfaction. Authors concluded that leadership matters, and certain leadership styles, particularly transformational, are better than others. Span of control also matters: the wider the span, the lower the nurses' job satisfaction and patient satisfaction. However, as spans of control increase in size, no leadership style, even transformational, can overcome the negative effects.

Buljac-Samardzic 2010 focused on the different types of interventions to improve team effectiveness. The review included 48 studies, most of them assessing the efficacy of different forms of training. Only one study was included that assessed the impact of a leadership program (Crofts 2006) but review authors reported that it did not present clear outcomes. Crofts 2006 describes the genesis, design and implementation of a leadership program for critical care. Participation was from the multi-disciplinary critical care team. Six NHS hospitals took part in the program which was of 20 days duration and took place on hospital sites. The program used the leadership model of Kouzes and Posner (1995) as its template and had a number of distinct components; a baseline assessment, personal development, principles of leadership and critical case reviews. The program was underpinned by three themes; working effectively in multi-professional teams to provide patient focused care, managing change through effective leadership and developing the virtual critical care service. Outcome measures consisted of participants satisfaction with the program and judgments about strengths and weaknesses of the program but were described only in a narrative way. All groups evaluated the program positively with the following features rated most highly

- Critical case reviews
- Working together on group objectives
- Understanding more about leadership and how organizations work
- Meeting members of the Trust executive team and other key stakeholders Spending time with each other discussion common issues

Program weaknesses were mostly confined to administrative issues such as availability of rooms and frustration when invited speakers cancelled at short notice.

Morello 2013 was aimed to assess the evidence for the effectiveness of patient safety culture strategies for improving patient safety climate in hospitals, to support decision-making by organizations and funding providers. The review included a variety of safety culture strategies, of which the “leadership walk rounds “ was considered of interest for our question . In the “Leadership walk rounds” senior leaders wishing to demonstrate their commitment to safety and learn about the safety issues in their own organization make regular rounds for the sole purpose of discussing safety with the staff. During the Walk Round, the communication should go two ways, with both the executives and the staff talking honestly and listening carefully. Walk Round can be conducted in patient care departments (such as the emergency department, operating rooms, radiology), the

pharmacy, and laboratories. They provide an informal method for leaders to talk with front-line staff about safety issues in the organization and show their support for staff-reported errors.

Thomas 2005 was a randomized study comparing executive walk rounds versus no intervention at 23 clinical units in a tertiary care teaching hospital. The primary outcome measure was safety climate, measured using the Safety Climate Survey. The Safety Climate Survey is derived from similar surveys in commercial aviation that measured safety-related attitudes of cockpit crew members. There was no difference in safety climate between the EWR and control units when all providers were analyzed. The intervention showed positive effects only for nurses (P: 0.02; 52.5% positive in control group versus 72.9% positive in EWR group).
Frankel 2008 was a before – after uncontrolled prospective study assessing the impact of rigorously applied Walk Rounds on frontline caregivers assessments of safety climate in their patient care area. Walk Rounds were conducted weekly and according to the seven-step WalkRounds Guide. The Safety Attitudes Questionnaire was administered at baseline and approximately 18 months post-Walk Rounds implementation to all caregivers in patient care areas. The results showed an increase in mean safety climate scores following introduction of leadership walk rounds.
Detailed results of the two primary studies assessing the impact of walk rounds are reported in the table below.

Parand 2014 was aimed to identify empirical studies pertaining to the role of hospital managers in quality of care and patient safety, particularly to assess what impact do managers have on quality and safety and its improvement. All levels of managers including Boards of managers were included in this review with the exception of clinical frontline employees, e.g. doctors or nurses, who may have taken on further managerial responsibilities alongside their work but do not have a primary official role as a manager. Distinction between senior, middle and frontline management was as follows: senior management holds trust-wide responsibilities; middle managers are in the middle of the organizational hierarchy chart and have one or more managers reporting to them; frontline managers are defined as managers at the first level of the organizational hierarchy chart who have frontline employees reporting to them. Board managers include all members of the Board. Only managers who would manage within or govern hospitals were included. Of the articles that looked at either outcomes of management involvement in quality or at its perceived importance, 6 articles suggested that their role was beneficial to quality and safety performance (Baker 2010, Joshi 2006, Jiang 2009, Bradley 2006, Vaughn 2006, Weingart 2004). Senior management support and engagement was identified as one of the primary factors associated with good hospital-wide quality outcomes and QI programme success (Joshi 2006, Jiang 2009, Bradley 2006, Vaughn 2006). Conversely, 6 articles suggest that managers' involvement (from the Board, middle and frontline) has little, no or a negative influence on quality and safety (Joshi 2006, Jiang 2009, Caine 1997, Fox 1999, Saint 2010, Vaughn 2006). Practices that showed no significant association with quality measures included Board's participation in physician credentialing (Joshi 2006, Jiang 2009). Another noted that if other champion leaders are present, management leadership was not deemed necessary (Saint 2010). Two articles identified a negative or inhibitory effect on evidence-based practices and staff productivity from frontline and middle managers (Caine 1997, Fox 1999).

Suelflow 2016 was aimed to survey strategies hospital administrators utilize to engage providers in hospital quality initiatives. Providers were defined as physicians, fellows, residents, physician assistants, or advanced practice nurses. The reported strategies comprised financial incentives, public or private reporting, removing barriers, provider leadership, and hospital-provider alignment. For what concern providers leadership the review cite several studies. None of them were controlled studies where an Introduction of a leadership team was compared to no intervention. Salaz-Lopez 2014 was a case study; the intervention consisted of: development and implementation of alignment and integration models:

1. Medical directorship, 2. Professional services agreement, 3. Co-management services agreement, 4. Lease arrangement; the impact of these intervention on improvements in technique, quality and safety of services/care provided, patients outcomes are not assessed.
Taylor 2013 was another case study where the intervention consisted in the inclusion of a medical director along with nurse manager in unit-based walk rounds. Majority of feedback from attending physicians cited walk rounds as engaging. Kim 2012 is a case report assessing challenges for the implementation of the following strategies: clinical partnership model which pairs an inpatient nurse manager with a physician director: 1. Selection of medical director position , 2. Provide medical director with time and compensation, 3. Receive ongoing professional development training, 4. Organizational leadership endorsement, 5. Establish a "dashboard" for unit feedback.
Pardini- Kiely 2010 is a case study that assesses the holding clinical microsystems accountable through the establishment of a UBMD; the study reports that UBMD improved physician and nurse accountability for core measure performance.
Merlino 2013 is a case report where a prominent surgeon was appointed to Chief Experience Officer and provided with office of patient experience: personnel, budget, data experts, and service excellent trainers. The study reported that Physician appointed to Chief Experience Officer is successful in role.
Hayes 2010 is a case study where the successes of 4 Physician Leaders in Quality and Patient Safety on impacting hospital quality agenda were evaluated: the study reports that physician leaders had success with physician-led initiatives.
Wynn 2014 in another case study where the following intervention were implemented: 1. Mandatory leadership development courses,
2. Annual system-wide leadership development sessions, 3. Clinical executives received "Executive Sponsor Handbook" outlining roles, responsibilities, rules of engagement, and basics of performance improvement. 4. Physician sponsor for each quality priority. 5. Clear communication of improvement model, 6. Achievements awarded and recognized at meetings physician. The study reports that engaged staff recognized as critical success factor to system-wide quality transformation.

Liebhaber 2009 is a qualitative study where pros and cons of each of the following strategies were discussed: 1. Employment, 2. Using credible data, 3. Committed hospital leadership, 4. Physician champions, 5. Effective communication. Kim 2010 is a case study where the intervention consisted of: 1. Provide time to work on QI project. 2. Appoint resident representative. 3. Provide interactive didactic sessions on lean thinking. 4. Establish linkage between lean coaches and residents on project team. The study reports that these interventions achieved mutually beneficial goals simultaneously and provided a rich educational experience for residents.

Wong 2013 (update of Wong 2007) assesses the relationship between nursing leadership practices and patient outcomes. Leadership was defined broadly as 'the process through which an individual attempts to intentionally influence another individual or a group in order to accomplish a goal' (Shortell & Kaluzny 2000). Authors further categorised leadership as either relational or task-oriented . Cummings et al. 2010 explained that leadership styles may be broadly characterised as approaches that focus on people and relationships (relationally oriented) to achieve common goals or as styles that focus on structures and tasks (task-oriented). Only patients outcomes were considered. Patient outcomes were defined as outcomes describing patient mortality, patient safety outcomes such as the incidence of adverse events involving patients (e.g. falls, nosocomial infections) or complications during hospitalisation, patient perceptions of satisfaction with care, and healthcare utilisation such as length of stay. See table below for detailed results. Most studies were multisited, incorporated multiple levels of analysis, used more advanced statistical procedures (e.g. HLM, SEM) and examined the relationship leadership and patient outcomes in a wider variety of clinical settings, although the majority were conducted in acute care. What was disappointing was

that less than half of the studies used explicit leadership models, very few studies examined mechanisms of leadership influence on outcomes, there was an over-reliance on cross-sectional designs and considerable heterogeneity of patient outcomes and clinical settings precluding greater synthesis of findings. The findings provide support for the assertion that relational leadership practices are positively associated with some categories of patient outcomes. The findings highlighted a key relationship between relational leadership and the reduction of adverse events, specifically, medication errors, possibly through leaders' influence on human resource variables that may be connected to patient care outcomes, staff expertise, turnover, absenteeism, overtime and nurse to patient ratios. There were also promising trends in findings for restraint use and hospital-acquired infections. Findings on mortality outcomes were strong showing a significant negative relationship between leadership and patient mortality in three of six studies.

Systematic reviews	Studies included in the systematic reviews	Specification of leadership (intervention)	improvements in technique	quality of services/care provided	safety of services/care provided
Wong 2013 (update of Wong 2007)	Number of studies included: 20 (includes: seven studies from previous review Wong 2007) variety of care settings: inpatient acute care units of hospitals (n = 12), nursing homes (n = 4), dialysis facilities (n = 1), emergency units (n = 1), home healthcare agencies (n = 1) and neonatal intensive care (n = 1). The study samples represented nurses (n = 10), nurses and managers (n = 6), a cross-section of healthcare professionals including nurses (n = 2), a combination of nurses, auxiliary nurses and unlicensed care staff (n = 1) and directors of	leader was defined as a nurse in a formal leadership role at any level in a health care organization (e.g. first line, middle and/or senior leadership/management roles) and who had nurses reporting to him/her	not assessed	**Patient satisfaction**, n = 7 studies The results showed significant associations between leadership and increased patient satisfaction in four studies In three others the results were not significant. **Patient healthcare utilisation, n=3 studies** One study found that manager support was associated with a lower patient length of stay through the human resource indicators of lower absenteeism, overtime and nurse to patient ratio Two studies did not demonstrate significant findings for the effects of leadership on two healthcare utilisation outcomes (Number of hospitalizations for dialysis	**Patient mortality, n=6 studies** Transformational and resonant leadership were associated with lower patient mortality in three studies Leadership was associated with higher mortality in one study **Patient safety outcomes: adverse events, n=9 studies** medication errors: 4/5 studies showed significant negative relationships with leadership Patient falls: examined in four studies and the results were mixed since two studies showed significantly decreased patient falls related to transformational leadership, while in two other manager

	nursing (n = 1)			patients and Hospital readmission rates).	support was not significantly related to fall rates. A lower incidence of pressure ulcers was significantly associated with leadership in only one of three studies. Two studies found significant relationships between positive leadership styles (consensus and participative) and lower restraint use in nursing homes. In two of three studies examining hospital-acquired infections (pneumonia and urinary tract infections) transformational leadership was associated with lower infection rates **Patient safety outcomes: complications, n=2 studies** One study conducted in neonatal intensive care settings found a reduced incidence of neonatal periventricular

					haemorrhage/periventricular leukomalacia (PIVH/PVL) associated with higher leadership ratings. The other study found no relationship between leadership and pulmonary embolism/deep vein thrombosis
Richardson 2010 (Review cited in Brand 2012)	<u>Relevants primary studies included</u> Spence Laschinger & Leiter 2006: 8597 nurses, Acute care hospitals, Canada Vogus & Sutcliffe 2007: 2043 registered nurses and nurse managers in 78 departments (10 hospitals) across five US states; Acute care hospitals: emergency, internal medicine, intensive care and surgery nursing	Nursing leadership defined as the ability to influence others (Tappen et al. 2004) and engage them as partners in the development and achievement of shared visions (Redfern 2008).		<u>Laschinger & Leiter 2006</u>: Nursing leadership correlate with measures of lower burnout and work engagement, and with self-reports of lower incidence of patient safety incidents	<u>Spence Laschinger & Leiter 2006</u> The combination of safety organizing behaviour and care pathways, and safety organizing behaviour and trusted leadership, was associated with lower levels of medication error. Safety organizing defined as: collecting, analysing and disseminating information from errors and proactively checking indicators within the organization From a staff questionnaire and a number of incidents reported through the incident reporting system, they showed that when high

					levels of safety organizing are coupled with trusted leadership and extensive use of care pathways, units experience fewer reported medication errors. The major problem is the use of reported errors as the outcome measure, as they point out this reporting mechanism captures only 5–15% of medication errors.
Morello 2013	2 Relevants primary studies included Thomas 2005: cluster RCT Frankel 2008: historically controlled study	Leadership walk rounds Thomas 2005: 2 Vice Presidents and 4 Assistant Vice Presidents Executive walk rounds (EWRs) were conducted at each unit by one of six hospital executives once every four weeks for three visits. Frankel 2008: Senior leaders targeted for inclusion in WalkRounds were the Chief Executive Officer, Chief			Thomas 2005 After EWRs the mean safety climate scores were not significantly different for all providers nor for nurses in the control units and EWR units (77.93 and 78.33, P = 0.854) and (56.5% positive and 62.7% positive). nurses in the control group who did not participate in EWRs (n = 198) had lower safety climate scores than nurses in the intervention group who did participate in an EWR session (n = 85) (74.88 versus 81.01, P = 0.02; 52.5% positive versus 72.9% positive).

		Operating Officer, Chief Medical Officer, Chief Nursing Officer, or their equivalents. Walk Rounds training was done on-site at each institution in a half-day session. This session included a 2-hour presentation of the Patient Safety Leadership Walk Rounds project to senior leaders, quality and patient safety personnel, and clinical area managers/directors. Following this presentation, a subset of interested leaders who would shepherd the program forward were oriented to the underlying theories and concepts of Walk Rounds, a framework and timeline for implementation, and a process to manage the data and provide			<u>Frankel 2008</u> Two of seven hospitals complied with the rigorous WalkRounds approach; Safety climate scale scores in hospital A were 62 percent at baseline and 77 percent post-Walk Rounds (t=2.67, p=0.03), and in hospital B were 46 percent at baseline and 56 percent post Walk Rounds (t=2.06, p=0.06).

		feedback to those involved in rounds. The training also included recommendations for linking safety concerns identified during Walk Rounds to the hospital's existing operations committee, which could ensure actions were taken and changes instituted. Hospital leaders were specifically instructed how to conduct weekly rounds, integrate rounds into their routine, and use rounds to surface and address concerns or defects related to patient safety.			

Quality of evidence

Quality of the evidence according to the GRADE approach was not assessed because the literature found was too heterogeneous (different study designs, many of the reviews and primary studies reported results only in narrative way).

Conclusions

Overall the evidence about the impact of the introduction of Leadership team, with defined roles and responsibilities and accountability on continued improvements in technique, quality and safety of services/care provided is sparse, very heterogeneous, of low quality (many of the studies are uncontrolled studies) and most of the studies are only descriptive without assessing results on our outcome of interest.

The most reliable evidence is about the impact of nursing leaderships and patients outcomes, showing that relational leadership practices are positively associated with some categories of patient outcomes and nurses satisfaction. Walks Rounds seem to give promising results in increasing safety climate. .

Excluded studies

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Primary studies described in the systematic reviews

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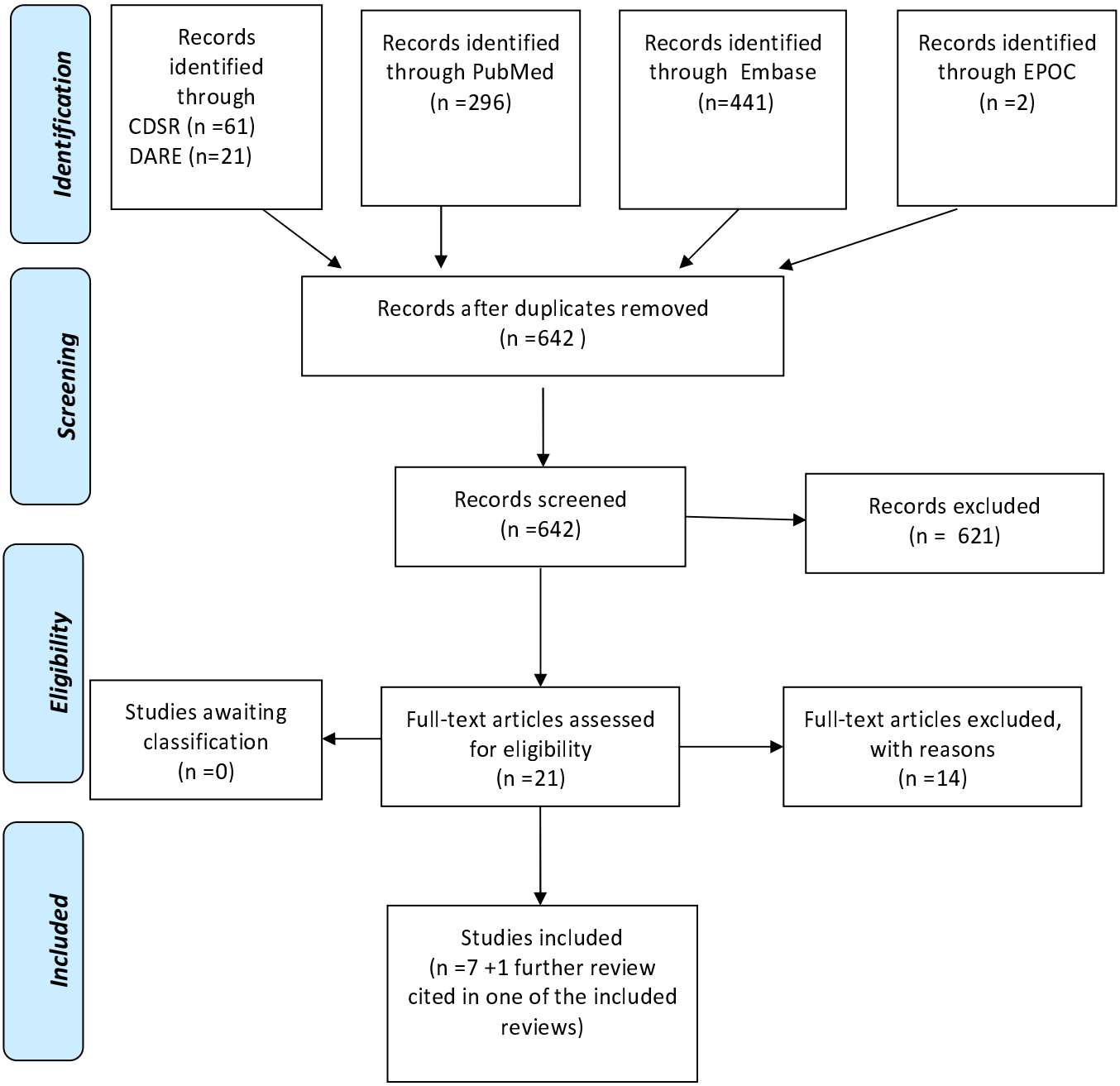
PRISMA 2009 Flow Diagram



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AUDIT AND FEEDBACK TO IMPROVE QUALITY AND SAFETY OF SERVICES/CARE

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Clinical question 1.1 (Statement 3.2)

Population
Any healthcare organisation/unit/ department or any healthcare provider
Intervention
Audit and feedback programs
Control
No audit and feedback programs
Outcome
Continued improvements in technique, quality and safety of services/care provided [(Detection, treatment, progression to advanced cancer.)
This outcome may not need to be described explicitly for each performance measure, but possibly an overarching statement of the ultimate aim of high-quality endoscopy services should be included in the manuscript.]

METHODS

Bibliographic search

In first instance we browsed the reviews published by the Cochrane Effective Practice and Organisation of Care (EPOC) Group to find reviews relevant for this question.

Then we performed bibliographic searches on Cochrane Library, Pubmed, Embase, since 1/1/2000 to 08/11/2016 for systematic reviews using the following search strategies:

PubMed
("audit and feedback"[Text Word] OR "Feedback"[Mesh] OR audit[Title/Abstract] OR feedback[Title/Abstract] OR "Medical Audit"[Mesh] OR "Nursing Audit"[Mesh]) **AND** ("Endoscopy, Gastrointestinal"[Mesh] OR endoscop*[Title/Abstract] OR gastrointestinal[Title/Abstract]) **AND** ("Outcome Assessment (Health Care)"[Mesh] OR "Quality of Health Care"[Mesh] OR "Patient Safety"[Mesh]) **AND** ("systematic review"[Title/Abstract] OR "systematic reviews"[Title/Abstract] OR cochrane[Title/Abstract] OR meta-analysis[Publication Type] OR "meta analysis"[Title/Abstract] OR metanalysis[Title/Abstract])

Embase

('medical audit'/exp OR 'feedback system'/exp OR audit:ab,ti OR feedback:ab,ti) **AND** ('outcome assessment'/exp OR 'health care quality'/exp OR 'patient safety'/exp) **AND** ('gastrointestinal endoscopy'/exp OR endoscop*:ab,ti OR gastrointestinal:ab,ti) **AND** (cochrane OR 'systematic review'/de OR 'systematic review' OR 'systematic reviews'/de OR 'systematic reviews' OR 'meta analysis'/de OR 'meta analysis' OR metanalysis OR [cochrane review]/lim OR [meta analysis]/lim OR [systematic review]/lim)

Cochrane Database of Systematic Reviews (CDSR) and **Database of Abstracts of Reviews of Effects (DARE)**

#1 MeSH descriptor: [Feedback] explode all trees
#2 MeSH descriptor: [Medical Audit] explode all trees
#3 MeSH descriptor: [Nursing Audit] explode all trees
#4 audit or feedback:ti,ab,kw (Word variations have been searched)
#5 #1 or #2 or #3 or #4
#6 MeSH descriptor: [Outcome Assessment (Health Care)] explode all trees
#7 MeSH descriptor: [Quality of Health Care] explode all trees
#8 MeSH descriptor: [Patient Safety] explode all trees
#9 #6 or #7 or #8
#10 MeSH descriptor: [Endoscopy, Gastrointestinal] explode all trees
#11 endoscopy or gastrointestinal:ti,ab,kw (Word variations have been searched)
#12 #11 or #12
#14 #5 and #9 and #12 Publication Year from 2000 to 2016

RESULTS

Results of the bibliographic searches

Browsing the Cochrane Effective Practice and Organisation of Care (EPOC) Group and screening title and abstracts we found five reviews that seemed potentially relevant.
With the bibliographic searches on the other databases, after removing duplicates, we found four reviews that seemed potentially relevant.

Excluded studies

Three reviews were excluded from the Cochrane reviews: one because it is a protocol of review without results (Zaugg 2016); one because assessed the effect of any kind of intervention without presenting separate results for audit and feedback (French 2010); one (Pattinsons 2005) because it aimed to include only randomised controlled trials comparing audit and feedback versus no audit and feedback, to assess whether critical incident audit and feedback is effective in reducing the perinatal mortality rate, the maternal mortality ratio, and severe neonatal and maternal morbidity and no studies were found fulfilling the inclusion criteria.

Among the reviews found in the other databases 2 reviews were excluded: one because it was a conference abstract and not enough information were reported about the intervention (Fraser 2010),

another because included only one primary study on audit and feedback but the comparator was computer reminders and not a ”no intervention” control group (Garrett 2006) .

Included studies

Two Cochrane reviews were finally included (Davey 2013, Ivers 2012).

Ivers 2012 was aimed to assess the effects of audit and feedback on the practice of healthcare professionals and patient outcomes in any field of medicine when compared to usual care. The reviews included 140 RCTs.

Davey 2013 was aimed to estimate the effectiveness of professional interventions that, alone or in combination, are effective in antibiotic stewardship for hospital inpatients. The review considered three types of interventions: persuasive, including audit and feedback, restrictive and structural). Only the results of audit and feedback were considered, coming from 9 studies.

Two systematic reviews found in the other databases were finally included (Brouwers 2011, Corley 2011). A third relevant systematic review was found browsing the references of the retrieved systematic review (Sabatino 2008).

Sabatino 2008 was aimed to assess efficacy of provider assessment and feedback intervention to increase screening for breast, cervical, and colorectal cancers**.** The review included 8 studies (3 RCTs, 4 uncontrolled pre-post test evaluation, 1 time series).

Brouwers 2011 was aimed to evaluate interventions designed to increase the rate of breast, cervical, and colorectal cancer (CRC) screening. Only the results of audit and feedback interventions were considered coming from 5 RCTs.

Corley 2011 evaluated the impact of colonoscopy quality improvement interventions on adenoma or polyp detection rates. The intervention assessed was increasing withdrawal times combined with monitoring and feedback. The review included two published studies and five abstracts (in 4 patient populations).

Study	Intervention (Type of audit and feedback)	Control	Number of included studies	Providers outcomes	Patients outcomes
Ivers 2012	any summary of clinical performance of health care over a specified period of time	Usual care	140 RCTs	**Dichotomous measures of compliance with desired practice,** 82 comparisons from 49 weighted median adjusted absolute risk difference (RD): 4.3% increase in compliance with desired practice (interquartile range (IQR) 0.5% to 16%). **Continuous measures of compliance with desired practice** 31 comparisons from 25 studies weighted median adjusted change relative to baseline control was a 1.3% increase in compliance with desired practice (IQR 1.3% to 28.9%).	**Patient dichotomous outcomes** 12 comparisons from 6 studies. weighted median adjusted RD 0.4% decrease in desired outcomes (IQR -1.3% to 1.6%) **Patient continuous outcomes** 8 comparisons from 5 studies. weighted median adjusted change relative to baseline control was a 17% improvement (IQR 1.5% to 17%).
Brouwers 2011	provider audit feedback	no intervention	5 RCTs or cluster RCTs		1st study **CRC screening**: statistically significant increase in CRC screening for the intervention group compared to the control group for completion of FOBT, FS, or colonoscopy: 8.9 percentage point (PP) increase; p = 0.003

					2nd study **mammography:** significantly increase mammography rates: 17.0 PP increase, p = 0.015 3rd study **breast cancer and CRC screening**: significant increases in screening rates for breast cancer: 20.0 PP increase; p =0.04 CRC: 0.0 PP 4th study **delivery of 13 preventive health manoeuvres**: mammography, 37.3 PP increase; Pap smear, 9.0 PP increase; and FOBT 33.3 PP increase 5th study provider assessment and education significantly increased colorectal screening in the intervention group compared to the control: 12.0 PP increase; OR = 2.25; 95% CI, 1.67, 3.04; p < 0.001
Corley 2011	increasing withdrawal times of colonoscopy combined with monitoring and feedback	No intervention	Two published studies and five abstracts (in 4 patient populations)	1st study Adenoma detection rates Pre-intervention: 19.6% [range 13.5%-27.1%] Post intervention: 22.7% [range 12.5%-31.9%] p= 0 .17	

				2nd study Overall adenoma detection rates: not reported overall polyp detection rates: range 35%-42%. Polyp detection rates did not change over the course of the intervention (P = 0.63). Five abstracts 2 small studies showed trends toward improvement that were not statistically significant, and the other 2 showed no improvement.	
Sabatino 2008	Feedback was based on individual provider performance, group performance, or both, and varied in frequency from a single feedback session to monthly sessions over a 5- to 7-month period or some other interval	no audit and feedback	8 studies: 3 RCTs, 4 uncontrolled pre-post test evaluation, 1 time series.		**Mammography use** increased 3 to 21 percentage points (median 14), **Pap tests** increased 4 to 30 percentage points (median 9) **FOBTs** increased 12 to 23 percentage points (median 13). The single effect measure for **flexible sigmoidoscopy** indicated no substantial change All effects on mammography, Pap test, and FOBT completion were in the positive direction, with a 13 percentage point median increase across these tests (interquartile interval [IQI]= 7 to 21 percentage points).

Quality of evidence

Outcome: providers outcomes

Study limitations (risk of bias): no
Inconsistency of results: yes
Indirectness of evidence: yes (the most relevant review (Ivers 2012) did not assess specific interventions delivered within the endoscopy services)
Imprecision: no (one review including more than 50 studies on any clinical setting; one review including two studies on colonoscopy)
Publication bias: not assessed

Overall quality of evidence
The overall quality of evidence was judged as low for inconsistency and indirectness.

Outcome: patients outcomes

Study limitations (risk of bias): no
Inconsistency of results: yes
Indirectness of evidence: yes (clinical settings were not only endoscopy services)
Imprecision: no (3 review which included more than 145 RCTs)
Publication bias: not assessed

Overall quality of evidence
The overall quality of evidence was judged as low for inconsistency and indirectness.

Conclusions

Providers outcomes: Audit and feedback generally leads to small but potentially important improvements in professional practice. The effects are generally small to moderate and vary based on the way the intervention is designed and delivered (**LOW QUALITY OF EVIDENCE).**
Patients outcomes: Provider assessment and feedback strategies may be effective in increasing breast, cervical, and colorectal FOBT screening uptake (**LOW QUALITY OF EVIDENCE**).

References

Included studies

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Excluded studies

1. Davey P, Brown E, Charani E, Fenelon L,Gould IM,Holmes A, Ramsay CR,Wiffen PJ,WilcoxM. Interventions to improve antibiotic prescribing practices for hospital inpatients. Cochrane Database of Systematic Reviews 2013, Issue 4. Art. No.: CD003543.DOI: 10.1002/14651858.CD003543.pub3.
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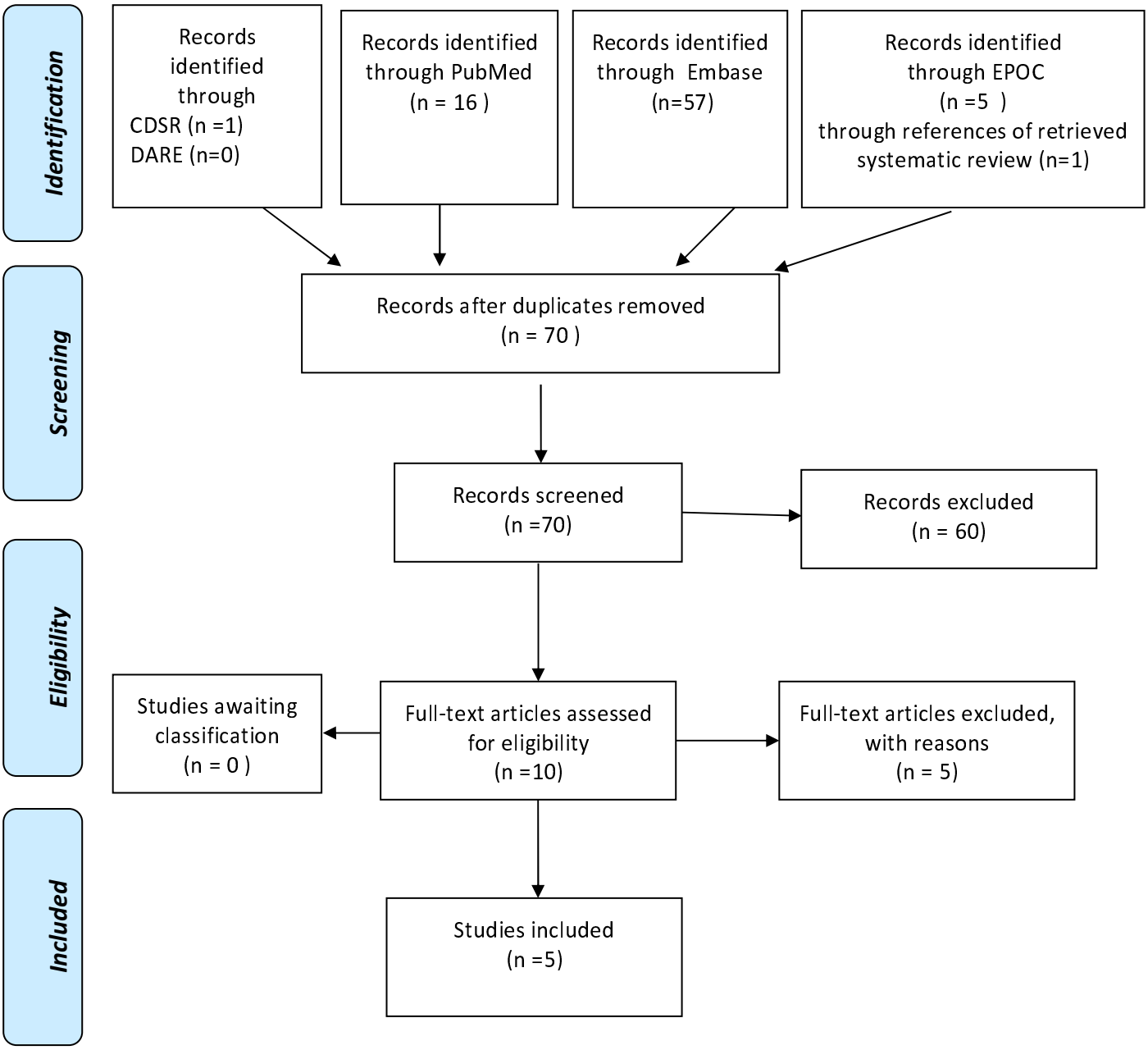
3. French SD, Green S, Buchbinder R, Barnes H. Interventions for improving the appropriate use of imaging in people with musculoskeletal conditions. Cochrane Database of Systematic Reviews 2010, Issue 1. Art. No.: CD006094. DOI: 10.1002/14651858.CD006094.pub2.
4. Garrett, M. M. and Fisher, D. A. Strategies to improve colorectal cancer screening rates. J. Clin. Outcomes Manage. 2006; 13(9):512-517;
5. Zaugg V, Savoldelli V, Durieux P, Sabatier B. Providing physicians with feedback on medication adherence. Effect on processes of care and patient outcomes. Cochrane Database of Systematic Reviews 2016, Issue 1. Art. No.: CD012042. DOI: 10.1002/14651858.CD012042.

PRISMA 2009 Flow Diagram



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Centro di Riferimento per l'Epidemiologia e la Prevenzione Oncologica in Piemonte

MONITORING AND REVISION OF ADVERSE EVENTS TO IMPROVE QUALITY AND SAFETY OF SERVICES/CARE

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Cristina Bellisario, MSc, S.C. Epidemiologia, Screening e Registro Tumori- CPO Piemonte
Literature Group Coordinator: Carlo Senore, MD, S.C. Epidemiologia, Screening e Registro Tumori- CPO Piemonte

Clinical question 1.5 (Statement 4.2)

Population
Any health care organisation/unit/ department or any healthcare provider
Intervention
Programs of monitoring and revision of adverse events
Is this locally, regionally or nationally?
Control
No defined Programs of monitoring and revision of adverse events
Outcome
Continued improvements in technique, quality and safety of services/care provided
[(Detection, treatment, progression to advanced cancer.)
This outcome may not need to be described explicitly for each performance measure, but possibly an overarching statement of the ultimate aim of high-quality endoscopy services should be included in the manuscript.]

METHODS

Bibliographic search

In first instance we browsed the reviews published by the Cochrane Effective Practice and Organisation of Care (EPOC) Group to find reviews relevant for this question.

Bibliographic searches were performed on Cochrane Library, Pubmed, Embase, since 1/1/2000 to 08/11/2016 for systematic reviews using the following search strategies:

PubMed
("Medical Errors"[Mesh] OR "Risk Management"[Mesh] OR "incident report" [Text Word] OR "adverse event report" [Text Word] OR "voluntary report"[Text Word] OR "mandatory report" [Text Word] OR "error report" [Text Word]) **AND** ("Endoscopy, Gastrointestinal"[Mesh] OR endoscop*[Title/Abstract] OR gastrointestinal[Title/Abstract]) **AND** ("Outcome Assessment (Health Care)"[Mesh] OR "Quality of Health Care"[Mesh] OR "Patient Safety"[Mesh]) **AND** ("systematic review"[Title/Abstract] OR "systematic reviews"[Title/Abstract] OR cochrane[Title/Abstract] OR meta-analysis[Publication Type] OR "meta analysis"[Title/Abstract] OR metanalysis[Title/Abstract])

Embase

('risk management'/exp OR 'medical error'/exp OR 'incident report':ab,ti OR 'adverse event report':ab,ti OR 'voluntary report':ab,ti OR 'mandatory report':ab,ti OR 'error report':ab,ti) **AND** ('gastrointestinal endoscopy'/exp OR endoscop*:ab,ti OR gastrointestinal:ab,ti) **AND** ('outcome assessment'/exp OR 'health care quality'/exp OR 'patient safety'/exp) **AND** (cochrane OR 'systematic review'/de OR 'systematic review' OR 'systematic reviews'/de OR 'systematic reviews' OR 'meta analysis'/de OR 'meta analysis' OR metanalysis OR [cochrane review]/lim OR [meta analysis]/lim OR [systematic review]/lim)

Cochrane Database of Systematic Reviews (CDSR) and **Database of Abstracts of Reviews of Effects (DARE)**

#1 MeSH descriptor: [Medical Errors] explode all trees
#2 MeSH descriptor: [Risk Management] explode all trees
#3 "incident report" or "adverse event report" or "voluntary report" or "mandatory report " or "error report":ti,ab,kw (Word variations have been searched)
#4 #1 or #2 or #3
#5 MeSH descriptor: [Outcome Assessment (Health Care)] explode all trees
#6 MeSH descriptor: [Quality of Health Care] explode all trees
#7 MeSH descriptor: [Patient Safety] explode all trees
#8 #6 or #7 or #8
#9 MeSH descriptor: [Endoscopy, Gastrointestinal] explode all trees
#10 endoscopy or gastrointestinal:ti,ab,kw (Word variations have been searched)
#11 #10 or #9
#12 #9 and #13 and #19 Publication Year from 2000 to 2016

RESULTS

Results of the bibliographic searches

Browsing the Cochrane Effective Practice and Organisation of Care (EPOC) Group and screening title and abstracts we found five reviews that seemed potentially relevant. With the bibliographic searches on the other databases, after removing duplicates, we found three reviews that seemed potentially relevant.

Excluded studies

Two reviews were excluded from the Cochrane reviews: two because they are protocols of reviews without results (Leon 2015, Lopez 2012). Among the reviews found in the other databases two reviews were excluded: one (MacFie 2016) because it reported only descriptive data about prevalence of medical errors and did not assess the effect of programs of monitoring and revision of adverse events, another because it did not address our question of interest (Schuemie 2013).

Included studies

Three Cochrane reviews were finally included (Algie 2015, Maaskant 2015, Parmelli 2012). One systematic review found in the other databases was finally included (McDonald 2013).

Algie 2015 included 2 interrupted-time-series (ITS) which evaluated the effectiveness of organisational and professional interventions for *reducing wrong-site surgery (WSS)* in two context: dental setting and neurosurgical procedures. The first study compared usual care to an educational intervention including examination of previous cases of wrong-site tooth extractions, a presentation of cases of erroneous extractions, explanation of relevant clinical guidelines and feedback by an instructor. The change in level for annual number of mishaps was statistically significant at -4.52 (95% CI) -6.83 to -2.217) (SE 0.5380). The change in slope was statistically significant at -1.16 (95% CI -2.22 to -0.10) (SE 0.2472; $P < 0.05$).
The second studies included reported the incidence of neurological WSS before and after the Universal Protocol's implementation. The change in level at the point the intervention was introduced was not statistically significant at -0.078 percentage points (PP) (95% CI -0.176 pp to 0.02 pp; SE 0.042; $P = 0.103$). The change in slope was statistically significant at 0.031 (95% CI 0.004 to 0.058; SE 0.012; $P < 0.05$).

Maaskant 2015 included 7 studies which assessed interventions applied in hospital care to improve patient safety in terms of medical errors. One study evaluated *the participation of a clinical pharmacist* in a clinical team and was found a statistical significant difference between the paediatric ICU (intervention unit) and the cardiac ICU (control unit) after the unit-based clinical pharmacist was introduced (P value < 0.01). One study evaluated *the implementation of a barcode medication administration system.* Medical errors increased after implementation of BCMA. The generalised estimating equation (GEE) to adjust for non-linearity and additional co-variates found a RR of targeted preventable ADEs in favour of intervention group of 0.53 (95%CI 0.29 to 0.98).
Another study found that the use of a structured pre-printed medication order sheet showed a reduction in medication errors in one RCTs (adjusted OR 0.55 (95% CI 0.34 to 0.90)). Potentially harmful MEs (significant and severe errors) were also significantly reduced, adjusted OR 0.39 (95% CI 0.21 to 0.77).
Another study aimed at the implementation of a check and control checklist in combination with feedback showed a decrease of 5% in the technical error rate (95% CI -7.09% to -2.95%) after the intervention. A decrease in the trend was also reported: -0.21 (95% CI -0.41 to -0.01). Regarding clinical medication errors, study authors reported no effect.
Two studies evaluated as intervention *the introduction of a computerised physician order entry (CPOE) system.* Time series regression analyses showed no differences for preventable ADEs and medical errors in one study. In the second study the change in rate ratios of medical errors after implementation of CPOE was significant: OR: 1.54 (95% CI 1.27 to 1.88). Also potential adverse drug events were reduced after CPOE implementation: OR 0.24, 95% CI 0.09 to 0.68.

Parmelli 2012 included 3 interrupted time series (ITS) and 1 controlled before-after studies (CBA) to assess the effects of *interventions designed to increase clinical incident reporting in healthcare settings*.
Just one of the three ITS studies showed a statistically significant increase of the mean number of reported events from nine months after the introduction of the new reporting system. This system is a non punitive, voluntary, anonymous, standardized, with a format of a checklist, with feedback for planning improvement, timely (within 24 hours). Another ITS study showed at 1, 3, 6 and 8 months, after the introduction of a weekly reminder to report complications and near-miss events, a statistically significant decrease in the mean number of reporting events (respectively four, five, six and six events). In the last ITS study which the increases were not significant the intervention was electronic (intranet) confidential, standardized, timely, with educational program in tandem.
The CBA study showed a significant improvement in incident reporting rates after the introduction of the new reporting system shorter (1 page instead of 3), anonymous, with feedback (four newsletters were distributed to inform staff about incidents reported during the study period), with

education (development of a manual to improve knowledge of reportable incidents and education sessions to explain the purpose of the study).
Compared with control units, the intervention resulted in an absolute increase of 60.3 reports/ 10,000 occupied bed days (OBDs) (95% CI 23.8 to 96.8 reports/10 000 OBDs) in inpatient areas (P=0.001), 39.5 reports/10 000 Emergency Department attendances (95% CI 17.0 to 62.0 reports/10 000 ED attendances;P=0.001) and 20.2 anonymous reports/10,000 ED attendances and OBDs combined (95% CI 12.6 to 27.8 reports/10000 ED attendances and OBDs combined; P=0.001). Within inpatient areas, the most significant improvement occurred in medical units, with an additional 84.5 reports/10 000 OBDs (95% CI 24.9 to 144.1 reports/10,000 OBDs). The intervention was not able to demonstrate improved reporting in the Intensive Care Units. There was heterogeneity between individual units, with rates in medical and surgical intervention units (n = 6) ranging from 113 to 431 reports/10,000 OBDs.

McDonald 2013 included 109 studies which evaluated the effect of this interventions: personnel changes (6 studies), educational interventions (11 studies), technique changes (23 studies), structured process changes (27 studies), technology-based systems interventions (32 studies), and review methods (38 studies).
Technique changes: The majority of the studies, including 3 randomized trials, found that these interventions can enhance diagnosis (for example, visual enhancements via ultrasonography-guided biopsy, changes to number of biopsy cores, and cap-fitted colonoscopy) or not make it worse (for example, medical interventions for pain relief in patients with abdominal pain).
Personnel Changes: (e.g. substituting 1 type of professional for another, or adding another professional to the care team). The 3 studies (1 RCT) in which a specialist was added to examine the interpretation of a test result reported an increase in case detection, although the studies were quite small and targeted narrow patient populations.
Educational Interventions: strategies targeted at professionals produced improvements, but the studies were non- randomized.
Structured Process Changes: (e.g. triage protocols, feedback steps, and quality improvement Processes). Most interventions included the addition of a tool, often a checklist or a form (for example, to guide and standardize physical examination of a patient).
Beneficial effects on diagnosis-related outcomes were seen in most nonrandomized studies, but of the 3 randomized trials, 2 did not show benefit for improving diagnosis of mental illness and 1 had mixed results for a protocol for ordering radiography in injured patients.
Technology-Based Systems Interventions: thirty-two studies included computerized decision support systems and alerting systems (for example, for abnormal laboratory results), most of which were associated with improvements to processes on the diagnostic pathway. All 4 randomized trials reported beneficial diagnostic error effects.
Additional Review Methods: the most common type of intervention that was evaluated was the introduction of redundancy in interpreting test results. Most studies showed that an additional review step (usually by a separate reader) had a positive effect on diagnostic performance. However, in some cases, false-positive results also increased.
Overall, all the processes and methods assessed seem to be beneficial in reducing diagnostic errors bur evidence seemed strongest for technology-based systems (for example, text message alerting) and specific techniques (for example, testing equipment adaptations).

Quality of evidence

Study limitations (risk of bias): yes (most of the studies included in the reviews were non-randomised studies)
Inconsistency of results: no

Indirectness of evidence: yes (none of the reviews specifically addressed intervention delivered at the endoscopy services; the types of interventions assessed varied greatly)
Imprecision: no (4 reviews with more 115 studies)
Publication bias: not assessed

Overall quality of evidence
The overall quality of evidence was judged as low for risk of bias and indirectness.

Conclusions

Overall, all the processes and methods assessed seem to be beneficial in reducing diagnostic errors and increasing reporting but the studies were very heterogeneous for study design, settings and outcomes (**LOW QUALITY OF EVIDENCE).**

References

Included studies

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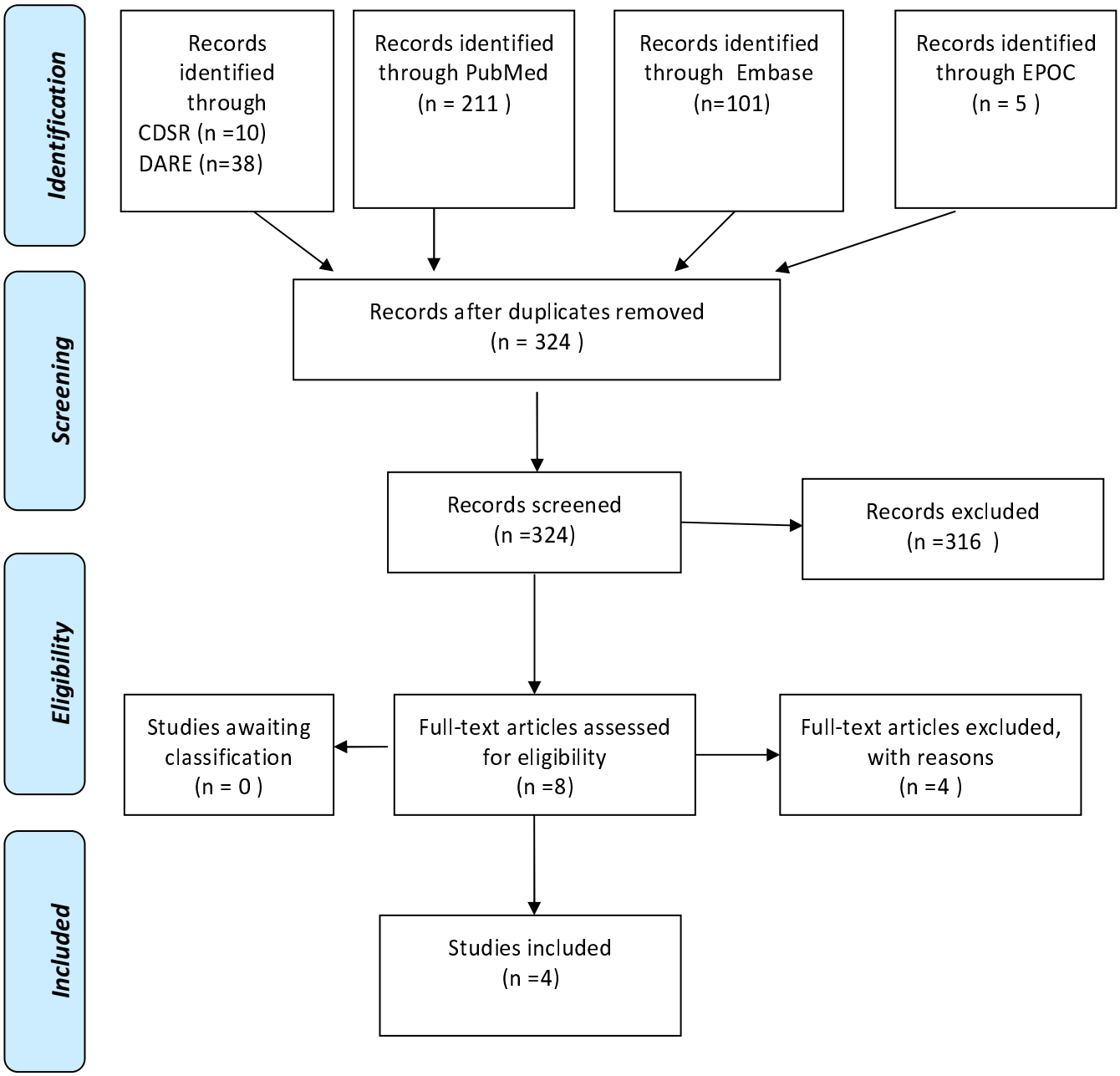
PRISMA 2009 Flow Diagram



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RECOGNITION/REWARD (OF PROFESSIONALS) POLICIES TO IMPROVE QUALITY AND SAFETY OF SERVICES/CARE

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Clinical question 1.4 (Statement 8.4)

Population
Any healthcare organisation/unit/ department or any healthcare provider
Intervention
recognition/reward (of professionals) policies
Is this locally, regionally or nationally?
Control
No defined recognition/reward (of professionals) policies
Outcome
Continued improvements in technique, quality and safety of services/care provided
[(Detection, treatment, progression to advanced cancer.)
This outcome may not need to be described explicitly for each performance measure, but possibly an overarching statement of the ultimate aim of high-quality endoscopy services should be included in the manuscript.]

METHODS

Bibliographic search

In first instance we browsed the reviews published by the Cochrane Effective Practice and Organisation of Care (EPOC) Group to find reviews relevant fort the question.
Then we performed the bibliographic searches on Cochrane Library, Pubmed, Embase, since 1/1/2000 to 12/11/2016 for systematic reviews using the following search strategies:

PubMed
(recognition[Title/Abstract] OR recognitions[Title/Abstract] OR reward[Title/Abstract] OR rewards[Title/Abstract] OR "Recognition (Psychology)"[Mesh] OR "Reward"[Mesh]) **AND** ("Outcome Assessment (Health Care)"[Mesh] OR "Quality of Health Care"[Mesh] OR "Patient Safety"[Mesh]) **AND** ("Hospital Departments"[Mesh] OR hospital*[Title/Abstract] OR "Hospital Units"[Mesh]) **AND** ("systematic review"[Title/Abstract] OR "systematic reviews"[Title/Abstract] OR cochrane[Title/Abstract] OR meta-analysis[Publication Type] OR "meta analysis"[Title/Abstract] OR metanalysis[Title/Abstract])

Embase

('recognition'/exp OR 'reward'/exp OR recognition:ab,ti OR recognitions:ab,ti OR reward:ab,ti OR rewards:ab,ti) **AND** ('outcome assessment'/exp OR 'health care quality'/exp OR 'patient safety'/exp) **AND** ('hospital'/exp OR hospital*:ab,ti OR 'hospital department'/exp) **AND** (cochrane OR 'systematic review'/de OR 'systematic review' OR 'systematic reviews'/de OR 'systematic reviews' OR 'meta analysis'/de OR 'meta analysis' OR metanalysis OR [cochrane review]/lim OR [meta analysis]/lim OR [systematic review]/lim)

Cochrane Database of Systematic Reviews (CDSR) and **Database of Abstracts of Reviews of Effects (DARE)**

#1 MeSH descriptor: [Recognition (Psychology)] explode all trees
#2 Recognition or reward:ti,ab,kw (Word variations have been searched)
#3 MeSH descriptor: [Reward] explode all trees
#4 #1 or #2 or #3
#5 MeSH descriptor: [Outcome Assessment (Health Care)] explode all trees
#6 MeSH descriptor: [Quality of Health Care] explode all trees
#7 MeSH descriptor: [Patient Safety] explode all trees
#8 #7 or #6 or #5
#9 MeSH descriptor: [Hospital Departments] explode all trees
#10 MeSH descriptor: [Hospital Units] explode all trees
#11 hospital:ti,ab,kw (Word variations have been searched)
#12 #9 or #10 or #11
#13 #4 and #8 and #12 Publication Year from 2000 to 2016

RESULTS

Results of the bibliographic searches

Browsing the Cochrane Effective Practice and Organisation of Care (EPOC) Group and screening title and abstracts we found two reviews that seemed potentially relevant.
With the bibliographic searches on the other databases, after removing duplicates, we found 179 reviews that seemed potentially relevant.

Excluded studies

Both the Cochrane reviews were excluded: one because it was a protocol of review without results (Lopez 2012); one because assessed the effect of any kind of intervention without presenting separate results for recognition/reward (of professionals) policies (French 2010).
Brouwers 2011 was excluded because did not assess intervention of interest: financial incentives (cash or coupons).
Luangasanatip 2015 was excluded because none of the included studies assessed the efficacy of recognition/reward (of professionals) alone (two studies assessed the efficacy of non monetary rewards but they were in combination with other interventions, as goal settings or WHO-5 (multimodal strategy consisting of five components: system change, training and education, observation and feedback, reminders in the hospital, and a hospital safety climate) so it was not possible to evaluate the efficacy of the recognition/reward component alone.

Included studies

None of the reviews assessed and reported results for the intervention of interest.

Conclusions

No conclusion can be drawn because no reviews were found addressing the question of interest.

References

Excluded studies

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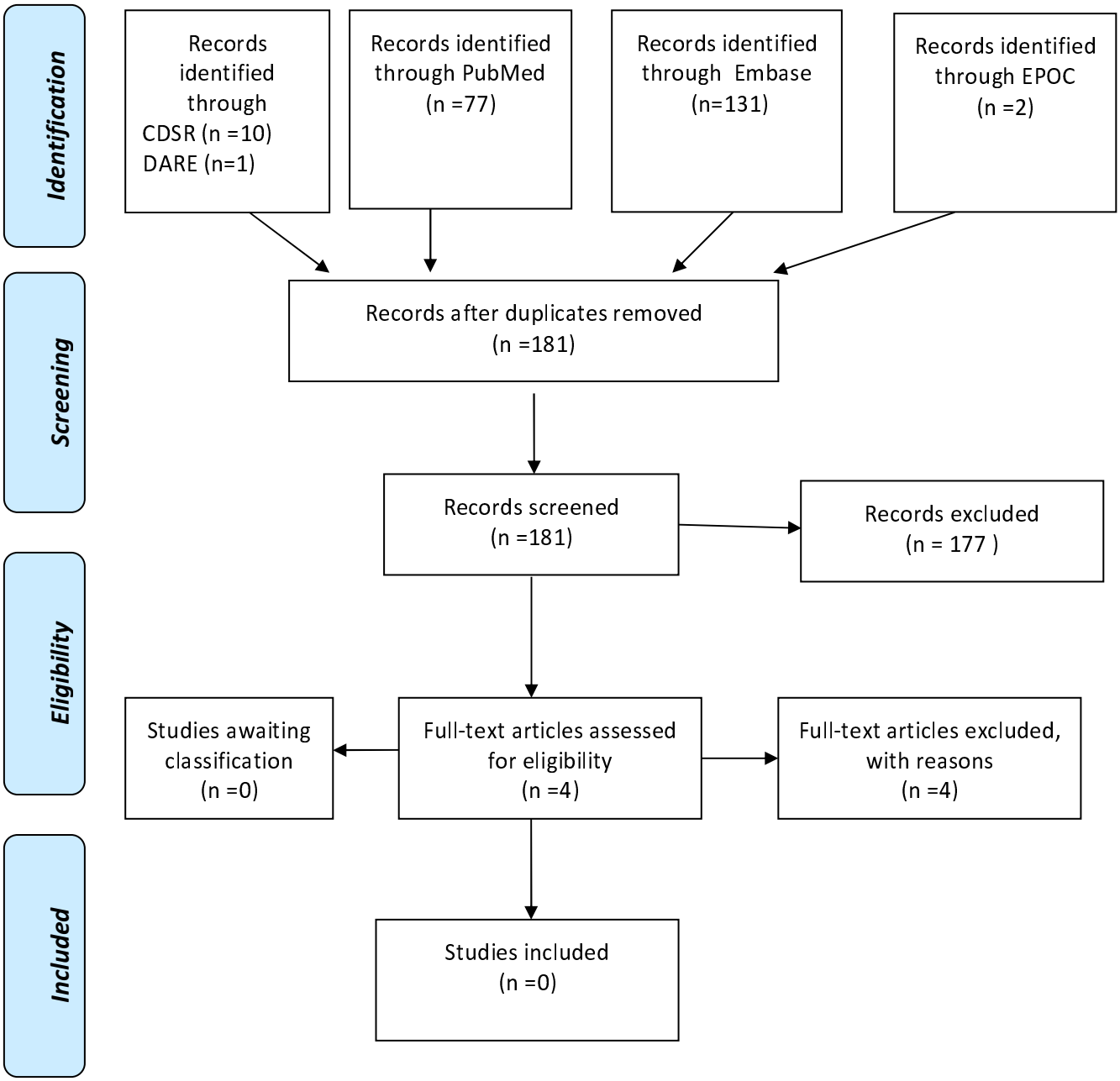
PRISMA 2009 Flow Diagram