

Supplementary file 2: Search strategy

Database	Number of hits
Medline	2401
CINAHL	1602
Pubmed	2054
HSE	38
Total	6, 905

Database: Ovid MEDLINE(R) Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) <1946 to Present>

Search Strategy:

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- 1 exp "attitude of health personnel"/ or attitude to computers/ or attitude to health/ or "patient acceptance of health care"/ or optimism/ or pessimism/ or stereotyping/ (260420)
 - 2 exp Database Management Systems/ or information management/ or exp health information management/ or health information exchange/ (12045)
 - 3 ((facility or facilities) adj3 (manage or management)).mp. (1246)
 - 4 Occupational Health/ (30429)
 - 5 exp Patient Satisfaction/ (78829)
 - 6 "quality of health care"/ or clinical competence/ or guideline adherence/ or "outcome and process assessment (health care)"/ or "outcome assessment (health care)"/ or patient reported outcome measures/ or program evaluation/ or benchmarking/ or quality assurance, health care/ or clinical audit/ or nursing audit/ or guidelines as topic/ or near miss, healthcare/ or potentially inappropriate medication list/ or time out, healthcare/ or total quality management/ or quality improvement/ or "meaningful use"/ or exp quality indicators, health care/ (417233)
 - 7 exp culturally competent care/ or exp needs assessment/ or exp professional practice gaps/ or exp professional-patient relations/ or exp patient handoff/ or exp education/ or exp curriculum/ or exp inservice training/ or exp mentoring/ or exp Management Audit/ or exp Personnel Management/ or "delivery of health care"/ or health services accessibility/ or health equity/ or healthcare disparities/ or practice patterns, dentists'/ or practice patterns, nurses'/ or practice patterns, physicians'/ or exp employee incentive plans/ or exp employee performance appraisal/ or exp management quality circles/ or exp workload/ or exp Patient Care Management/ or exp Leadership/ or exp capacity building/ or exp clinical governance/ (1532910)
 - 8 risk management/ or risk assessment/ or "healthcare failure mode and effect analysis"/ or exp safety management/ or exp patient harm/ or exp patient safety/ or exp workplace/ or time management/ or peer review, health care/ (291539)
 - 9 Quality Control/ or exp Management Information Systems/ or exp Job Satisfaction/ (112093)
 - 10 "referral and consultation"/ or gatekeeping/ (61180)
 - 11 referrals.ti,ab. (18813)
 - 12 (patient adj2 safety).ti,ab. (24339)
 - 13 ((quality adj2 (care or indicator or indicators or improvement)) or ((outcome or process or program) adj2 (assessment or evaluation))).ti,ab. (105105)
 - 14 (performance adj2 (measurement? or management? or assessment? or evaluation? or improvement?)).ti,ab. (20104)

- 15 ((professional or clinical) adj2 competenc*).ti,ab. (4629)
- 16 ((employee* or staff or physician* or nurse* or dentist* or doctor* or professional* or administrator* or pharmacist* or practitioner* or worker* or manpower or man-power or workforce or work-force) adj3 (turnover or retention or recruitment or incentive*).ti,ab. (6987)
- 17 ((safety or quality or risk) adj2 management).ti,ab. (20913)
- 18 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 (2271006)
- 19 exp Primary Health Care/ (137394)
- 20 exp Ambulatory Care/ (49952)
- 21 exp Family Practice/ (63845)
- 22 exp physicians, family/ or exp physicians, primary care/ (18335)
- 23 ((primary or ambulatory) adj2 (care or setting or healthcare)).ti,ab. (130692)
- 24 (family adj2 practice).ti,ab. (8867)
- 25 19 or 20 or 21 or 22 or 23 or 24 (322344)
- 26 iran/ or africa, northern/ or algeria/ or egypt/ or libya/ or morocco/ or tunisia/ or south sudan/ or sudan/ or middle east/ or bahrain/ or iraq/ or jordan/ or kuwait/ or lebanon/ or oman/ or qatar/ or saudi arabia/ or syria/ or united arab emirates/ or yemen/ or somalia/ or mauritania/ or djibouti/ or arabs/ or comoros/ or (iran* or persia* or islamic republic or algeria* or bahrain* or comoros* or egypt* or iraq* or jordan* or kuwait* or kuweit* or lebanon or lebanese or libanaise or yemen* or aden or sanaa or UAE or Emirat* or (abu adj dhabi) or dubai or libya* or morocco or moroccan* or oman* or muscat or palestin* or gaza or (west* adj2 bank) or qatar* or katar* or quatar* or saudi* or KSA or Syria* or tunis* or ((east* or north*) adj2 africa*) or sudan* or djibouti* or somali* or mauritania* or ifni or (trucial adj state*) or MENA or EMRO or ((middle or near) adj2 east*) or (east* adj2 mediterranean) or orient or arabs or arab or arabia or levant).mp. (203343)
- 27 18 and 25 and 26 (2401)

Database: CINAHL

S1

((MM "Primary Health Care") OR (MH "Ambulatory Care") OR (MH "Ambulatory Care Information Systems") OR (MH "Ambulatory Care Facilities+") OR (MH "Health Care Errors+") OR (MM "Family Practice") OR (MH "Physicians, Family")) OR (TI ((primary or ambulatory) N2 (care or setting or healthcare) OR (FAMILY N2 PRACTICE)) OR AB ((primary or ambulatory) N2 (care or setting or healthcare) OR (FAMILY N2 PRACTICE))) (154,212)

S2

((MH "Middle East+") OR (MH "Africa, Northern+")) OR (TI ((middle W2 east*) OR (north* W2 Africa*) OR (east* W2 mediterranean) OR iran OR islamic republic OR persia* OR lebanon OR lebanese OR algeria* OR bahrain* OR comoros* OR egypt* OR iraq* OR jordan* OR kuwait* OR libanise OR yemen* OR dubai OR (abu W2 dhabi) OR aden OR sanaa OR UAE OR emirat* OR libya* OR morocco OR moroccan* OR ifni OR (trucial W2 state*) OR oman* OR muscat OR palestin* OR gaza OR qatar* OR katar* OR quatar* OR saudi* OR KSA OR Syria* OR tunis* OR sudan* OR djibouti* OR somali* OR mauritania* OR levant OR MENA OR EMRO OR orient OR arabs OR arab OR arabia) OR AB ((middle W2 east*) OR (north* W2 Africa*) OR (east* W2 mediterranean) OR lebanon OR lebanese OR algeria* OR bahrain* OR comoros* OR egypt* OR iraq* OR jordan* OR kuwait* OR libanise OR yemen* OR dubai OR (abu W2 dhabi) OR aden OR sanaa OR UAE OR emirat* OR libya* OR morocco OR moroccan* OR ifni OR (trucial W2 state*) OR oman* OR muscat OR palestin* OR gaza OR qatar* OR katar* OR quatar* OR saudi* OR KSA OR Syria* OR tunis* OR sudan* OR djibouti* OR somali* OR mauritania* OR levant OR MENA OR EMRO OR orient OR arabs OR arab OR arabia)) (72,150)

S3

((MH "Quality Management, Organizational") OR (MH "Quality Improvement+") OR (MH "Quality Assessment+") OR (MH "Quality Control (Technology)") OR (MH "Quality Circles") OR (MH "Quality Assurance+") OR (MH "Quality of Health Care+") OR (MH "Clinical Competence+") OR (MH "Practice Patterns") OR (MH "Competency Assessment") OR (MH "Hand Off (Patient Safety)") OR (MH "Outcomes (Health Care)") OR (MH "Program Evaluation") OR (MH "Benchmarking") OR (MH "Process Assessment (Health Care)+") OR (MH "Audit") OR (MH "Nursing Audit") OR (MH "Clinical Governance+") OR (MH "Guideline Adherence") OR (MH "Practice Guidelines") OR (MH "Safety") OR (MH "Patient Safety+") OR (MH "Adverse Health Care Event+") OR (MH "Health Care Errors") OR (MH "Clinical Indicators") OR (MH "Professional-Patient Relations+") OR (MH "Personnel Management+") OR (MH "Management Information Systems+") OR (MH "Health Care Delivery+") OR (MH "Healthcare Disparities")

4

OR (MH "Primary Health Care") OR (MH "Employee Incentive Programs") OR (MH "Employee Performance Appraisal") OR (MH "Personnel Turnover") OR (MH "Staff Development") OR (MH "Mass Casualty Training") OR (MH "Workload") OR (MH "Personnel Retention") OR (MH "Personnel Recruitment") OR (MH "Job Performance") OR (MH "Mentorship") OR (MH "Leadership") OR (MH "Risk Assessment") OR (MH "Job Satisfaction") OR (MH "Patient Satisfaction")) OR ((MH "Attitude of Health Personnel+") OR (MH "Personnel, Health Facility+") OR (MH "Rural Health Personnel") OR (MH "Attitude to Computers") OR (MH "Attitude to Health") OR (MH "Medical Records") OR (MH "Electronic Health Records") OR (MH "Database Management Software") OR (MH "Management Information Systems") OR (MH "Stereotyping") OR (MH "Stigma")) OR (TI ((facility or facilities) N3 (manage or management)) OR (patient N2 safety) OR ((quality N2 (care or indicator or indicators or improvement)) or ((outcome or process or program) N2 (assessment or evaluation)) OR ((performance N2 (measurement? or management? or assessment? or evaluation? or improvement?)) OR ((professional or clinical) N2 competenc*) OR ((employee* or staff or physician* or nurse* or dentist* or doctor* or professional* or administrator* or pharmacist* or practitioner* or worker* or manpower or man-power or workforce or work-force) N3 (turnover or retention or recruitment or incentive*)) OR ((safety or quality or risk) N2 management)) OR AB ((facility or facilities) N3 (manage or management)) OR (patient N2 safety) OR ((quality N2 (care or indicator or indicators or improvement)) or ((outcome or process or program) N2 (assessment or evaluation)) OR ((performance N2 (measurement? or management? or assessment? or evaluation? or improvement?)) OR ((professional or clinical) N2 competenc*) OR ((employee* or staff or physician* or nurse* or dentist* or doctor* or professional* or administrator* or pharmacist* or practitioner* or worker* or manpower or man-power or workforce or work-force) N3 (turnover or retention or recruitment or incentive*)) OR ((safety or quality or risk) N2 management)) OR (referral or referrals)) OR ((MH "Referral and Consultation") OR (MH "Gatekeeping")) (1,408,809)

S4

S1 AND S2 AND S3 (1602)

Database: PUBMED

((referral[tw] or referrals[tw] OR QUALITY CARE*[TW] OR QUALITY INDICATOR*[TW] OR QUALITY IMPROVEMENT*[TW] OR OUTCOME ASSESSMENT*[TW] OR OUTCOME EVALUATION*[TW] OR PROCESS ASSESSMENT*[TW] OR PROCESS EVALUATION*[TW] OR PROGRAM ASSESSMENT*[TW] OR PROGRAM EVALUATION*[TW] OR PERFORMANCE MEASUREMENT*[TW] OR PERFORMANCE MANAGEMENT*[TW] OR PERFORMANCE ASSESSMENT*[TW] OR PERFORMANCE EVALUATION*[TW] PERFORMANCE IMPROVEMENT*[TW] OR PROFESSIONAL COMPETENC*[TW] OR CLINICAL COMPETENC*[TW] OR EMPLOYEE TURNOVER*[TW] OR EMPLOYEES TURNOVER*[TW] OR EMPLOYEE RETENTION*[TW] OR EMPLOYEES RETENTION*[TW] OR EMPLOYEE RECRUITMENT*[TW] OR EMPLOYEES RECRUITMENT*[TW] OR EMPLOYEE INCENTIVE*[TW] OR EMPLOYEES INCENTIVE*[TW] OR STAFF TURNOVER*[TW] OR STAFF RETENTION*[TW] OR STAFF RECRUITMENT*[TW] OR STAFF INCENTIVE*[TW] OR PHYSICIAN TURNOVER*[TW] OR PHYSICIANS TURNOVER*[TW] OR PHYSICIAN RETENTION*[TW] OR PHYSICIANS RETENTION*[TW] OR PHYSICIAN RECRUITMENT*[TW] OR PHYSICIANS RECRUITMENT*[TW] OR PHYSICIAN INCENTIVE*[TW] OR PHYSICIANS INCENTIVE*[TW] OR NURSE TURNOVER*[TW] OR NURSES TURNOVER*[TW] OR NURSE RETENTION*[TW] OR NURSES RETENTION*[TW] OR NURSE RECRUITMENT*[TW] OR NURSES RECRUITMENT*[TW] OR NURSE INCENTIVE*[TW] OR NURSES INCENTIVE*[TW] OR DENTIST TURNOVER*[TW] OR DENTISTS TURNOVER*[TW] OR DENTIST RETENTION*[TW] OR DENTISTS RETENTION*[TW] OR DENTIST RECRUITMENT*[TW] OR DENTISTS RECRUITMENT*[TW] OR DENTIST INCENTIVE*[TW] OR DENTISTS INCENTIVE*[TW] OR DOCTOR TURNOVER*[TW] OR DOCTORS TURNOVER*[TW] OR DOCTOR RETENTION*[TW] OR DOCTORS RETENTION*[TW] OR DOCTOR RECRUITMENT*[TW] OR DOCTORS RECRUITMENT*[TW] OR DOCTOR INCENTIVE*[TW] OR DOCTORS INCENTIVE*[TW] OR PROFESSIONAL TURNOVER*[TW] OR PROFESSIONALS TURNOVER*[TW] OR PROFESSIONAL RETENTION*[TW] OR PROFESSIONALS RETENTION*[TW] OR PROFESSIONAL RECRUITMENT*[TW] OR PROFESSIONALS RECRUITMENT*[TW] OR PROFESSIONAL INCENTIVE*[TW] OR PROFESSIONALS INCENTIVE*[TW] OR ADMINISTRATOR TURNOVER*[TW] OR ADMINISTRATORS TURNOVER*[TW] OR ADMINISTRATOR RETENTION*[TW] OR ADMINISTRATORS RETENTION*[TW] OR ADMINISTRATOR RECRUITMENT*[TW] OR ADMINISTRATORS RECRUITMENT*[TW] OR ADMINISTRATOR INCENTIVE*[TW] OR ADMINISTRATORS INCENTIVE*[TW] OR

PHARMACIST TURNOVER*[TW] OR PHARMACISTS TURNOVER*[TW] OR
PHARMACIST RETENTION*[TW] OR PHARMACISTS RETENTION*[TW] OR
PHARMACIST RECRUITMENT*[TW] OR PHARMACISTS RECRUITMENT*[TW] OR
PHARMACIST INCENTIVE*[TW] OR PHARMACISTS INCENTIVE*[TW] OR
PRACTITIONER TURNOVER*[TW] OR PRACTITIONERS TURNOVER*[TW] OR
PRACTITIONER RETENTION*[TW] OR PRACTITIONERS RETENTION*[TW] OR
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PRACTITIONER INCENTIVE*[TW] OR PRACTITIONERS INCENTIVE*[TW] OR
WORKER TURNOVER*[TW] OR WORKERS TURNOVER*[TW] OR WORKER
RECRUITMENT*[TW] OR WORKERS RECRUITMENT*[TW] OR WORKER
RETENTION*[TW] OR WORKERS RETENTION*[TW] OR WORKER INCENTIVE*[TW]
OR WORKERS INCENTIVE*[TW] OR SAFETY MANAGEMENT*[TW] OR QUALITY
MANAGEMENT*[TW] OR RISK MANAGEMENT*[TW] OR PATIENT SAFETY*[TW] OR
consultation and referral[MeSH Terms] OR OCCUPATIONAL HEALTH[MESH:NOEXP] OR
PATIENT SATISFACTION[MESH] OR QUALITY OF HEALTH CARE[MESH:NOEXP] OR
CLINICAL COMPETENCE[MESH:NOEXP] OR GUIDELINE
ADHERENCE[MESH:NOEXP] OR OUTCOME AND PROCESS ASSESSMENT (HEALTH
CARE)[MESH:NOEXP] OR OUTCOME ASSESSMENT (HEALTH CARE)[MESH:NOEXP]
OR PATIENT REPORTED OUTCOME MEASURES[MESH:NOEXP] OR PROGRAM
EVALUATION[MESH:NOEXP] OR BENCHMARKING[MESH:NOEXP] OR QUALITY
ASSURANCE, HEALTH CARE[MESH:NOEXP] OR CLINICAL AUDIT[MESH:NOEXP] OR
NURSING AUDIT[MESH:NOEXP] OR GUIDELINES AS TOPIC[MESH:NOEXP] OR NEAR
MISS, HEALTHCARE[MESH:NOEXP] OR POTENTIALLY INAPPROPRIATE
MEDICATION LIST[MESH:NOEXP] OR TIME OUT, HEALTHCARE[MESH:NOEXP] OR
TOTAL QUALITY MANAGEMENT[MESH:NOEXP] OR QUALITY
IMPROVEMENT[MESH:NOEXP] OR MEANINGFUL USE[MESH:NOEXP] OR QUALITY
INDICATORS, HEALTH CARE[MESH] OR CULTURALLY COMPETENT CARE[MESH]
OR NEEDS ASSESSMENT[MESH] OR PROFESSIONAL PRACTICE GAPS[MESH] OR
PROFESSIONAL-PATIENT RELATIONS[MESH] OR PATIENT HANDOFF[MESH] OR
EDUCATION[MESH] OR CURRICULUM[MESH] OR INSERVICE TRAINING[MESH] OR
MENTORING[MESH] OR MANAGEMENT AUDIT[MESH] OR PERSONNEL
MANAGEMENT[MESH] OR DELIVERY OF HEALTH CARE[MESH:NOEXP] OR HEALTH
SERVICES ACCESSIBILITY[MESH:NOEXP] OR HEALTH EQUITY[MESH:NOEXP] OR
HEALTHCARE DISPARITIES[MESH:NOEXP] OR PRACTICE PATTERNS,
DENTISTS'[MESH:NOEXP] OR PRACTICE PATTERNS, NURSES'[MESH:NOEXP] OR
PRACTICE PATTERNS, PHYSICIANS'[MESH:NOEXP] OR EMPLOYEE INCENTIVE

PLANS[MESH] OR EMPLOYEE PERFORMANCE APPRAISAL[MESH] OR MANAGEMENT QUALITY CIRCLES[MESH] OR WORKLOAD[MESH] OR PATIENT CARE MANAGEMENT[MESH] OR LEADERSHIP[MESH] CAPACITY BUILDING[MESH] OR CLINICAL GOVERNANCE[MESH] OR RISK MANAGEMENT[MESH:NOEXP] OR RISK ASSESSMENT[MESH:NOEXP] OR "HEALTHCARE FAILURE MODE AND EFFECT ANALYSIS"[MESH:NOEXP] OR SAFETY MANAGEMENT[MESH] OR QUALITY CONTROL[MESH:NOEXP] OR MANAGEMENT INFORMATION SYSTEMS[MESH] OR JOB SATISFACTION[MESH] OR PATIENT HARM[MESH] OR PATIENT SAFETY[MESH] OR WORKPLACE[MESH] OR TIME MANAGEMENT[MESH:NOEXP] OR PEER REVIEW, HEALTH CARE[MESH:NOEXP] OR attitude of health personnel[MESH] OR attitude to computers[MESH:NOEXP] OR attitude to health[MESH:NOEXP] OR patient acceptance of health care[MESH:NOEXP] OR optimism[MESH:NOEXP] OR pessimism[MESH:NOEXP] OR stereotyping[MESH:NOEXP] OR database management systems[MESH] OR information management[MESH:NOEXP] OR health information management[MESH] OR health information exchange[MESH:NOEXP] OR FACILITY MANAGEMENT*[TW]) AND (PRIMARY CARE*[TW] OR PRIMARY SETTING*[TW] OR PRIMARY HEALTHCARE*[TW] OR AMBULATORY CARE*[TW] OR AMBULATORY SETTING*[TW] OR AMBULATORY HEALTHCARE*[TW] OR FAMILY PRACTICE*[TW]) OR ("primary health care"[MeSH Terms] OR "ambulatory care"[MeSH Terms] OR "family practice"[MeSH Terms] OR "physicians, family"[MeSH Terms] OR "physicians, primary care"[MeSH Terms]) AND (IRAN[MESH] OR africa, northern[mesh] OR algeria[mesh] OR egypt[mesh] OR libya[mesh] OR morocco[mesh] OR tunisia[mesh] OR south sudan[mesh] OR sudan[mesh] OR middle east[mesh:noexp] OR bahrain[mesh] OR iraq[mesh] OR jordan[mesh] OR kuwait[mesh] OR lebanon[mesh] OR oman[mesh] OR qatar[mesh] OR saudi arabia[mesh] OR syria[mesh] OR united arab emirates[mesh] OR yemen[mesh] OR IRAN[TW] OR PERSIA*[TW] OR ISLAMIC REPUBLIC*[TW] OR algeria*[tw] OR somalia[mesh] OR mauritania[mesh] OR djibouti[mesh] OR arabs[mesh] OR comoros[mesh] OR bahrain*[tw] OR egypt*[tw] OR iraq*[tw] OR jordan*[tw] OR kuwait*[tw] OR lebanon[tw] OR lebanese[tw] OR libanaise[tw] OR yemen*[tw] OR aden[tw] OR sanaa[tw] OR UAE[tw] OR emirat*[tw] OR abu-dhabi[tw] OR dubai[tw] OR libya*[tw] OR morocco[tw] OR moroccan*[tw] OR oman*[tw] OR muscat[tw] OR palestin*[tw] OR gaza[tw] OR west-bank[tw] OR qatar*[tw] OR katar*[tw] OR quatar*[tw] OR saudi*[tw] OR KSA[tw] OR syria*[tw] OR tunis*[tw] OR ifni[tw] OR trucional state*[tw] OR comoros*[tw] OR north africa*[tw] OR northern Africa*[tw] OR sudan*[tw] OR MENA[tw] OR EMRO[tw] OR middle east*[tw] OR east mediterranean[tw] OR eastern mediterranean[tw] OR near east*[tw] OR orient[tw] OR arabs[tw] OR arab[tw] OR arabia[tw] OR somali*[tw] OR mauritania*[tw] OR djibouti*[tw] OR levant[tw])) (2054)