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| National Clinical Guidelines Centre |

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| Multimorbidity |

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| Search strategies appendix |

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| Clinical guideline |

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| Appendices |

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| 30 January 2016 |

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| Draft |
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| Commissioned by the National Institute for Health and Care Excellence |

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| Guideline short title |
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| |  | | --- | | Disclaimer  Healthcare professionals are expected to take NICE clinical guidelines fully into account when exercising their clinical judgement. However, the guidance does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of each patient, in consultation with the patient and, where appropriate, their guardian or carer. | | Copyright | | National Clinical Guideline Centre, 2016. Confidential | | Funding | | National Institute for Health and Care Excellence | |

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1. Literature search strategies

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Search strategies used for the multimorbidity guideline are outlined below and were run in accordance with the methodology in the NICE guidelines manual.2 All searches were run up to **4 January 2016** unless otherwise stated. Any studies added to the databases after this date (even those published prior to this date) were not included unless specifically stated in the text. We do not routinely search for electronic, ahead of print or ‘online early’ publications. Where possible searches were limited to retrieve material published in English.

Table : Database date parameters

| Database | Dates searched |
| --- | --- |
| Medline | 1946 – 04 January 2016 |
| Embase | 1974 – 2015 Week 52 |
| The Cochrane Library | Cochrane Reviews to Issue 1 of 12, January 2016  CENTRAL to Issue 12 of 12, December 2015  DARE and NHSEED to Issue 2 of 4, April 2015  HTA to Issue 4 of 4, October 2015 |
| CINAHL | Inception – 04 January 2016 |
| PsycINFO | Inception – 04 January 2016 |
| AMED | Inception – 04 January 2016 |

Searches for the **clinical reviews** were run in Medline (OVID), Embase (OVID) and the Cochrane Library (Wiley). Additional searches were run in CINAHL, Cumulative Index to Nursing and Allied Health Literature (EBSCO), PsycINFO (ProQuest), AMED, Allied and Complementary Medicine (Ovid), see Table 2.

Table 2: Databases searched

| Question | Question number | Databases |
| --- | --- | --- |
| Barriers | A.4.4 | Medline, Embase, CINAHL, PsycINFO |
| Burden of treatment | A.4.5 | Medline, Embase, the Cochrane Library, CINAHL, PsycINFO |
| Expert patient programmes | A.4.12 | Medline, Embase, the Cochrane Library |
| Format of consultation | A.4.13 | Medline, Embase, the Cochrane Library |
| Frailty assessment | A.4.9 | Medline, Embase, the Cochrane Library |
| Holistic assessment | A.4.11 | Medline, Embase, the Cochrane Library |
| Identification: polypharmacy | A.4.2 | Medline, Embase, the Cochrane Library |
| Identification: risk tools | A.4.1 | Medline, Embase, the Cochrane Library |
| Models of care | A.4.10 | Medline, Embase, the Cochrane Library, CINAHL, AMED |
| Principles | A.4.3 | Medline, Embase |
| Stopping treatment: antihypertensives | A.4.6 | Medline, Embase, the Cochrane Library |
| Stopping treatment: bisphosphonates | A.4.7 | Medline, Embase, the Cochrane Library |
| Stopping treatment: statins | A.4.8 | Medline, Embase, the Cochrane Library |

Searches for **intervention and diagnostic studies** were usually constructed using a PICO formatwhere population (P) terms were combined with Intervention (I) and sometimes Comparison (C) terms. An intervention can be a drug, a procedure or a diagnostic test. Outcomes (O) are rarely used in search strategies for interventions. Search filters were also added to the search where appropriate.

Searches for the health economic reviews were run in Medline, Embase, the NHS Economic Evaluations Database (NHS EED), the Health Technology Assessment (HTA) database and the Health Economic Evaluation Database (HEED). NHS EED and HTA databases were hosted by the Centre for Research and Dissemination (CRD). The Health Economic Evaluation Database (HEED) ceased production in 2014 with access ceasing in January 2015. For the final dates of HEED searches, please see individual economic questions.

For Medline and Embase an economic filter (instead of a study type filter) was added to the same clinical search strategy.

* 1. Population search strategies

There is no standard population search strategy for this guideline. Population search terms were either not used or are included with the intervention terms in section A.4.

* 1. Study filter search terms
     1. Excluded study designs and publication types

The following study designs and publication types were removed from retrieved results using the NOT operator.

**Medline search terms**

|  |  |
| --- | --- |
|  | letter/ |
|  | editorial/ |
|  | news/ |
|  | exp historical article/ |
|  | anecdotes as topic/ |
|  | comment/ |
|  | case report/ |
|  | (letter or comment\*).ti. |
|  | or/1-8 |
|  | randomized controlled trial/ or random\*.ti,ab. |
|  | 9 not 10 |
|  | animals/ not humans/ |
|  | exp animals, laboratory/ |
|  | exp animal experimentation/ |
|  | exp models, animal/ |
|  | exp rodentia/ |
|  | (rat or rats or mouse or mice).ti. |
|  | or/11-17 |

**Embase search terms**

|  |  |
| --- | --- |
|  | letter.pt. or letter/ |
|  | note.pt. |
|  | editorial.pt. |
|  | case report/ or case study/ |
|  | (letter or comment\*).ti. |
|  | or/1-5 |
|  | randomized controlled trial/ or random\*.ti,ab. |
|  | 6 not 7 |
|  | animal/ not human/ |
|  | nonhuman/ |
|  | exp animal experiment/ |
|  | exp experimental animal/ |
|  | animal model/ |
|  | exp rodent/ |
|  | (rat or rats or mouse or mice).ti. |
|  | or/8-15 |

**CINAHL search terms**

|  |  |
| --- | --- |
|  | pt anecdote or pt audiovisual or pt bibliography or pt biography or pt book or pt book review or pt brief item or pt cartoon or pt commentary or pt computer program or pt editorial or pt games or pt glossary or pt historical material or pt interview or pt letter or pt listservs or pt masters thesis or pt obituary or pt pamphlet or pt pamphlet chapter or pt pictorial or pt poetry or pt proceedings or pt “questions and answers” or pt response or pt software or pt teaching materials or pt website |

* + 1. Randomised controlled trials (RCT) search terms

**Medline search terms**

|  |  |
| --- | --- |
|  | randomized controlled trial.pt. |
|  | controlled clinical trial.pt. |
|  | randomi#ed.ab. |
|  | placebo.ab. |
|  | randomly.ab. |
|  | clinical trials as topic.sh. |
|  | trial.ti. |
|  | or/1-7 |

**Embase search terms**

|  |  |
| --- | --- |
|  | random\*.ti,ab. |
|  | factorial\*.ti,ab. |
|  | (crossover\* or cross over\*).ti,ab. |
|  | ((doubl\* or singl\*) adj blind\*).ti,ab. |
|  | (assign\* or allocat\* or volunteer\* or placebo\*).ti,ab. |
|  | crossover procedure/ |
|  | double blind procedure/ |
|  | single blind procedure/ |
|  | randomized controlled trial/ |
| 10. | or/1-9 |

* + 1. Systematic review (SR) search terms

**Medline search terms**

|  |  |
| --- | --- |
|  | meta-analysis/ |
|  | meta-analysis as topic/ |
|  | (meta analy\* or metanaly\* or metaanaly\*).ti,ab. |
|  | ((systematic\* or evidence\*) adj3 (review\* or overview\*)).ti,ab. |
|  | (reference list\* or bibliograph\* or hand search\* or manual search\* or relevant journals).ab. |
|  | (search strategy or search criteria or systematic search or study selection or data extraction).ab. |
|  | (search\* adj4 literature).ab. |
|  | (medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab. |
|  | cochrane.jw. |
|  | ((multiple treatment\* or indirect or mixed) adj2 comparison\*).ti,ab. |
|  | or/1-10 |

**Embase search terms**

|  |  |
| --- | --- |
|  | systematic review/ |
|  | meta-analysis/ |
|  | (meta analy\* or metanaly\* or metaanaly\*).ti,ab. |
|  | ((systematic or evidence) adj3 (review\* or overview\*)).ti,ab. |
|  | (reference list\* or bibliograph\* or hand search\* or manual search\* or relevant journals).ab. |
|  | (search strategy or search criteria or systematic search or study selection or data extraction).ab. |
|  | (search\* adj4 literature).ab. |
|  | (medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab. |
|  | cochrane.jw. |
|  | ((multiple treatment\* or indirect or mixed) adj2 comparison\*).ti,ab. |
|  | or/1-10 |

* + 1. Health economics (HE) search terms

**Medline search terms**

|  |  |
| --- | --- |
|  | economics/ |
|  | value of life/ |
|  | exp "costs and cost analysis"/ |
|  | exp economics, hospital/ |
|  | exp economics, medical/ |
|  | economics, nursing/ |
|  | economics, pharmaceutical/ |
|  | exp "fees and charges"/ |
|  | exp budgets/ |
|  | budget\*.ti,ab. |
|  | cost\*.ti. |
|  | (economic\* or pharmaco?economic\*).ti. |
|  | (price\* or pricing\*).ti,ab. |
|  | (cost\* adj2 (effective\* or utilit\* or benefit\* or minimi\* or unit\* or estimat\* or variable\*)).ab. |
|  | (financ\* or fee or fees).ti,ab. |
|  | (value adj2 (money or monetary)).ti,ab. |
|  | or/1-16 |

**Embase search terms**

|  |  |
| --- | --- |
|  | health economics/ |
|  | exp economic evaluation/ |
|  | exp health care cost/ |
|  | exp fee/ |
|  | budget/ |
|  | funding/ |
|  | budget\*.ti,ab. |
|  | cost\*.ti. |
|  | (economic\* or pharmaco?economic\*).ti. |
|  | (price\* or pricing\*).ti,ab. |
|  | (cost\* adj2 (effective\* or utilit\* or benefit\* or minimi\* or unit\* or estimat\* or variable\*)).ab. |
|  | (financ\* or fee or fees).ti,ab. |
|  | (value adj2 (money or monetary)).ti,ab. |
|  | or/1-13 |

* + 1. Quality of life (QOL) search terms

**Medline search terms**

|  |  |
| --- | --- |
|  | quality-adjusted life years/ |
|  | sickness impact profile/ |
|  | (quality adj2 (wellbeing or well-being)).ti,ab. |
|  | sickness impact profile.ti,ab. |
|  | disability adjusted life.ti,ab. |
|  | (qal\* or qtime\* or qwb\* or daly\*).ti,ab. |
|  | (euroqol\* or eq5d\* or eq 5d\*).ti,ab. |
|  | (qol\* or hql\* or hqol\* or h qol\* or hrqol\* or hr qol\*).ti,ab. |
|  | (health utility\* or utility score\* or disutilit\*).ti,ab. |
|  | (hui or hui1 or hui2 or hui3).ti,ab. |
|  | health\* year\* equivalent\*.ti,ab. |
|  | (hye or hyes).ti,ab. |
|  | rosser.ti,ab. |
|  | (willingness to pay or time tradeoff or time trade off or tto or standard gamble\*).ti,ab. |
|  | (sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab. |
|  | (sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab. |
|  | (sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab. |
|  | (sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab. |
|  | (sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab. |
|  | or/1-19 |

**Embase search terms**

|  |  |
| --- | --- |
|  | quality adjusted life year/ |
|  | "quality of life index"/ |
|  | short form 12/ or short form 20/ or short form 36/ or short form 8/ |
|  | sickness impact profile/ |
|  | (quality adj2 (wellbeing or well-being)).ti,ab. |
|  | sickness impact profile.ti,ab. |
|  | disability adjusted life.ti,ab. |
|  | (qal\* or qtime\* or qwb\* or daly\*).ti,ab. |
|  | (euroqol\* or eq5d\* or eq 5d\*).ti,ab. |
|  | (qol\* or hql\* or hqol\* or h qol\* or hrqol\* or hr qol\*).ti,ab. |
|  | (health utility\* or utility score\* or disutilit\*).ti,ab. |
|  | (hui or hui1 or hui2 or hui3).ti,ab. |
|  | health\* year\* equivalent\*.ti,ab. |
|  | (hye or hyes).ti,ab. |
|  | rosser.ti,ab. |
|  | (willingness to pay or time tradeoff or time trade off or tto or standard gamble\*).ti,ab. |
|  | (sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab. |
|  | (sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab. |
|  | (sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab. |
|  | (sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab. |
|  | (sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab. |
|  | or/1-21 |

* + 1. Health economic modelling (MOD) search terms

**Medline search terms**

|  |  |
| --- | --- |
|  | exp models, economic/ |
|  | \*models, theoretical/ |
|  | \*models, organizational/ |
|  | markov chains/ |
|  | monte carlo method/ |
|  | exp decision theory/ |
|  | (markov\* or monte carlo).ti,ab. |
|  | econom\* model\*.ti,ab. |
|  | (decision\* adj2 (tree\* or analy\* or model\*)).ti,ab. |
|  | or/1-9 |

**Embase search terms**

|  |  |
| --- | --- |
|  | statistical model/ |
|  | exp economic aspect/ |
|  | 1 and 2 |
|  | \*theoretical model/ |
|  | \*nonbiological model/ |
|  | stochastic model/ |
|  | decision theory/ |
|  | decision tree/ |
|  | monte carlo method/ |
|  | (markov\* or monte carlo).ti,ab. |
|  | econom\* model\*.ti,ab. |
|  | (decision\* adj2 (tree\* or analy\* or model\*)).ti,ab. |
|  | or/3-12 |

* + 1. **Observational studies (OBS) search terms**

**Medline search terms**

|  |  |
| --- | --- |
|  | epidemiologic studies/ |
|  | exp case control studies/ |
|  | exp cohort studies/ |
|  | cross-sectional studies/ |
|  | case control.ti,ab. |
|  | (cohort adj (study or studies or analys\*)).ti,ab. |
|  | ((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic\*) adj (study or studies)).ti,ab. |
|  | ((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys\* or cohort\*)).ti,ab. |
|  | or/1-8 |

**Embase search terms**

|  |  |
| --- | --- |
|  | clinical study/ |
|  | exp case control study/ |
|  | family study/ |
|  | longitudinal study/ |
|  | retrospective study/ |
|  | prospective study/ |
|  | cross-sectional study/ |
|  | cohort analysis/ |
|  | follow-up/ |
|  | cohort\*.ti,ab. |
|  | 9 and 10 |
|  | case control.ti,ab. |
|  | (cohort adj (study or studies or analys\*)).ti,ab. |
|  | ((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic\*) adj (study or studies)).ti,ab. |
|  | ((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys\* or cohort\*)).ti,ab. |
|  | or/1-8,11-15 |

* + 1. **Qualitative reviews (QUAL) search terms**

**Medline search terms**

|  |  |
| --- | --- |
|  | qualitative research/ or narration/ or exp interviews as topic/ or exp questionnaires/ or health care surveys/ |
|  | (qualitative or interview\* or focus group\* or theme\* or questionnaire\* or survey\*).ti,ab. |
|  | (metasynthes\* or meta-synthes\* or metasummar\* or meta-summar\* or metastud\* or meta-stud\* or metathem\* or meta-them\* or ethno\* or emic or etic or phenomenolog\* or grounded theory or constant compar\* or (thematic\* adj3 analys\*) or theoretical sampl\* or purposive sampl\* or hermeneutic\* or heidegger\* or husserl\* or colaizzi\* or van kaam\* or van manen\* or giorgi\* or glaser\* or strauss\* or ricoeur\* or spiegelberg\* or merleau\*).ti,ab. |
|  | or/1-3 |

**Embase search terms**

|  |  |
| --- | --- |
|  | health survey/ or exp questionnaire/ or exp interview/ or qualitative research/ or narrative/ |
|  | (qualitative or interview\* or focus group\* or theme\* or questionnaire\* or survey\*).ti,ab. |
|  | (metasynthes\* or meta-synthes\* or metasummar\* or meta-summar\* or metastud\* or meta-stud\* or metathem\* or meta-them\* or ethno\* or emic or etic or phenomenolog\* or grounded theory or constant compar\* or (thematic\* adj3 analys\*) or theoretical sampl\* or purposive sampl\* or hermeneutic\* or heidegger\* or husserl\* or colaizzi\* or van kaam\* or van manen\* or giorgi\* or glaser\* or strauss\* or ricoeur\* or spiegelberg\* or merleau\*).ti,ab. |
|  | or/1-3 |

**CINAHL search terms**

|  |  |
| --- | --- |
|  | (mh "qualitative studies+") |
|  | (mh "qualitative validity+") |
|  | (mh "interviews+") or (mh "focus groups") or (mh "surveys") or (mh "questionnaires+") |
|  | (qualitative or interview\* or focus group\* or theme\* or questionnaire\* or survey\*) |
|  | (metasynthes\* or meta-synthes\* or metasummar\* or meta-summar\* or metastud\* or meta-stud\* or metathem\* or meta-them\* or ethno\* or emic or etic or phenomenolog\* or grounded theory or constant compar\* or (thematic\* adj3 analys\*) or theoretical sampl\* or purposive sampl\* or hermeneutic\* or heidegger\* or husserl\* or colaizzi\* or van kaam\* or van manen\* or giorgi\* or glaser\* or strauss\* or ricoeur\* or spiegelberg\* or merleau\*) |
|  | S1 or s2 or S3 or S4 or S5 |

**PsycINFO search terms**

|  |  |
| --- | --- |
|  | (su.exact("qualitative research") or (su.exact("narratives") or su.exact("interviews")) or (su.exact("questionnaires") or su.exact.explode("surveys")) or (qualitative or interview\*) or (focus-group\* or theme\*) or (questionnaire\* or survey\*) or (metasynthes\* or meta-synthes\*) or (metasummar\* or meta-summar\*) or (metastud\* or meta-stud\*) or (metathem\* or meta-them\*) or ethno\* or (emic or etic) or (phenomenolog\* or "grounded theory") or (constant-compar\* or thematic\* near/3 analys\*) or (theoretical-sampl\* or purposive-sampl\*) or (hermeneutic\* or heidegger\*) or (husserl\* or colaizzi\*) or (van-kaam\* or van-manen\*) or (giorgi\* or glaser\*) or (strauss\* or ricoeur\*) or (spiegelberg\* or merleau\*)) |

* 1. Searches for specific questions
     1. Identification: risk tools

Searches for the following four questions were run as one search:

* What risk tool best identifies people with multimorbidity who are at risk of reduced life expectancy?
* What risk tool best identifies people with multimorbidity who are at risk of admission to a care facility?
* What risk tool best identifies people with multimorbidity who are at risk of reduced health-related quality of life?
* What risk tool best identifies people with multimorbidity who are at risk of unplanned hospital admission?

**Medline search terms**

|  |  |
| --- | --- |
|  | comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | chronic disease scor\*.ti,ab. |
|  | mortality risk\* ind\*.ti,ab. |
|  | ((charlson\* or elixhauser\* or comorbid\* or co-morbid\*) adj2 (index or indices)).ti,ab. |
|  | cumulative illness rating scale\*.ti,ab. |
|  | adjusted clinical group\*.ti,ab. |
|  | (risk\* adj2 (tool\* or index or indices or score\* or scale\* or predict\*)).ti,ab. |
|  | ((prognos\* or predict\*) adj2 (tool\* or index or indices or score\* or scale\*)).ti,ab. |
|  | or/12-13 |
|  | valid\*.ti,ab. |
|  | 14 and 15 |
|  | or/7-11,16 |
|  | 6 and 17 |
|  | (rxrisk\* or rx risk\*).ti,ab. |
|  | (medication\* adj3 burden\* ind\*).ti,ab. |
|  | burden of illness scor\*.ti,ab. |
|  | functional morbidity ind\*.ti,ab. |
|  | multidimension\* prognos\* ind\*.ti,ab. |
|  | silver code.ti,ab. |
|  | health intelligence system\*.ti,ab. |
|  | combined predict\* model\*.ti,ab. |
|  | hospital admission risk profile\*.ti,ab. |
|  | (predict\* emergency admission\* adj3 next year\*).ti,ab. |
|  | predictive risk stratification model\*.ti,ab. |
|  | (qadmission\* or q-admission\*).ti,ab. |
|  | (sparra or "scottish patients at risk of readmission and admission" or "scottish patients at risk of re-admission and admission").ti,ab. |
|  | sussex predictor of key event\*.ti,ab. |
|  | ("patients at risk" adj2 (re-hospitali#ation or rehospitali#ation)).ti,ab. |
|  | probability of repeated admission.ti,ab. |
|  | or/19-34 |
|  | 18 or 35 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 36 not 37 |
|  | Limit 38 to English language |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | chronic disease scor\*.ti,ab. |
|  | mortality risk\* ind\*.ti,ab. |
|  | ((charlson\* or elixhauser\* or comorbid\* or co-morbid\*) adj2 (index or indices)).ti,ab. |
|  | charlson comorbidity index/ or elixhauser comorbidity index/ |
|  | cumulative illness rating scale\*.ti,ab. |
|  | adjusted clinical group\*.ti,ab. |
|  | (risk\* adj2 (tool\* or index or indices or score\* or scale\* or predict\*)).ti,ab. |
|  | ((prognos\* or predict\*) adj2 (tool\* or index or indices or score\* or scale\*)).ti,ab. |
|  | 13 or 14 |
|  | valid\*.ti,ab. |
|  | 15 and 16 |
|  | or/7-12,17 |
|  | 6 and 18 |
|  | (rxrisk\* or rx risk\*).ti,ab. |
|  | (medication\* adj3 burden\* ind\*).ti,ab. |
|  | burden of illness scor\*.ti,ab. |
|  | functional morbidity ind\*.ti,ab. |
|  | multidimension\* prognos\* ind\*.ti,ab. |
|  | silver code.ti,ab. |
|  | health intelligence system\*.ti,ab. |
|  | combined predict\* model\*.ti,ab. |
|  | hospital admission risk profile\*.ti,ab. |
|  | (predict\* emergency admission\* adj3 next year\*).ti,ab. |
|  | predictive risk stratification model\*.ti,ab. |
|  | (qadmission\* or q-admission\*).ti,ab. |
|  | (sparra or "scottish patients at risk of readmission and admission" or "scottish patients at risk of re-admission and admission").ti,ab. |
|  | sussex predictor of key event\*.ti,ab. |
|  | ("patients at risk" adj2 (re-hospitali#ation or rehospitali#ation)).ti,ab. |
|  | probability of repeated admission.ti,ab. |
|  | or/19-35 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 36 not 37 |
|  | Limit 38 to English language |
|  | Date parameters: see Table 1 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | [mh ^comorbidity] |
|  | (comorbid\* or co-morbid\*):ti,ab |
|  | (multimorbid\* or multi-morbid\*):ti,ab |
|  | (multidisease\* or multi-disease\* or (multiple next (ill\* or disease\* or condition\* or syndrom\* or disorder\*))):ti,ab |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) near/3 (disease\* or ill\* or care or condition\* or disorder\* or health\* or medication\* or symptom\* or syndrom\*)):ti,ab |
|  | {or #1-#5} |
|  | chronic next disease next scor\*:ti,ab |
|  | mortality next risk\* next ind\*:ti,ab |
|  | ((charlson\* or elixhauser\* or comorbid\* or co-morbid\*) near/2 (index or indices)):ti,ab |
|  | cumulative next illness next rating next scale\*:ti,ab |
|  | adjusted next clinical next group\*:ti,ab |
|  | (risk\* near/2 (tool\* or index or indices or score\* or scale\* or predict\*)):ti,ab |
|  | ((prognos\* or predict\*) near/2 (tool\* or index or indices or score\* or scale\*)):ti,ab |
|  | {or #12-#13} |
|  | valid\*:ti,ab |
|  | #14 and #15 |
|  | #6 and #16 |
|  | {or #7-#11} |
|  | (rxrisk\* or rx next risk\*):ti,ab |
|  | (medication\* near/3 burden\* next ind\*):ti,ab |
|  | burden next of next illness next scor\*:ti,ab |
|  | functional next morbidity next ind\*:ti,ab |
|  | multidimension\* next prognos\* next ind\*:ti,ab |
|  | silver next code:ti,ab |
|  | health next intelligence next system\*:ti,ab |
|  | combined next predict\* next model\*:ti,ab |
|  | hospital next admission next risk next profile\*:ti,ab |
|  | (predict\* next emergency next admission\* near/4 year\*):ti,ab |
|  | predictive next risk next stratification next model\*:ti,ab |
|  | (qadmission\* or q next admission\*):ti,ab |
|  | (sparra or "scottish patients at risk of readmission and admission" or "scottish patients at risk of re-admission and admission"):ti,ab |
|  | sussex next predictor next of next key next event\*:ti,ab |
|  | ("patients at risk" near/2 (re-hospitalization or rehospitalization or re-hospitalisation or rehospitalisation)):ti,ab |
|  | probability of repeated admission:ti,ab |
|  | {or #17-#34} |
|  | Date parameters: see Table 1 |

* + 1. Identification: polypharmacy

Searches for the following four questions were run as one search:

* Is polypharmacy associated with a greater risk of admission to care facility amongst people with multimorbidity?
* Is polypharmacy associated with a greater risk of reductions in health-related quality of life amongst people with multimorbidity?
* Is polypharmacy associated with a greater risk of mortality amongst people with multimorbidity?
* Is polypharmacy associated with a greater risk of unplanned hospital admissions amongst people with multimorbidity?

**Medline search terms**

|  |  |
| --- | --- |
|  | polypharmacy/ |
|  | (hyperpolypharmacy or polypharmacy).ti,ab. |
|  | ((medicat\* or drug\* or prescri\*) adj2 (number\* or multiple or excessive)).ti,ab. |
|  | or/1-3 |
|  | (risk\* or predict\* or correlat\* or associat\* or prognos\*).ti. |
|  | (validat\* or rule\*).ti,ab. |
|  | (predict\* and (outcome\* or risk\* or model\*)).ti,ab. |
|  | ((history or variable\* or criteria or scor\* or characteristic\* or finding\* or factor\*) and (predict\* or model\* or decision\* or identif\* or prognos\*)).ti,ab. |
|  | decision\*.ti,ab. and Logistic models/ |
|  | logistic regression.ti,ab. |
|  | (decision\* and (model\* or clinical\*)).ti,ab. |
|  | (prognostic and (history or variable\* or criteria or scor\* or characteristic\* or finding\* or factor\* or model\*)).ti,ab. |
|  | (stratification or discrimination or discriminate or c statistic or "area under the curve" or auc or calibration or indices or algorithm or multivariable).ti,ab. |
|  | roc curve/ |
|  | exp risk/ |
|  | or/5-15 |
|  | 4 and 16 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 17 not 18 |
|  | Limit 19 to English language |
|  | Date parameters: 2000-04 Janaury 2016 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*polypharmacy/ |
|  | (hyperpolypharmacy or polypharmacy).ti,ab. |
|  | ((medicat\* or drug\* or prescri\*) adj2 (number\* or multiple or excessive)).ti,ab. |
|  | or/1-3 |
|  | (risk\* or predict\* or correlat\* or associat\* or prognos\*).ti. |
|  | (validat\* or rule\*).ti,ab. |
|  | (predict\* and (outcome\* or risk\* or model\*)).ti,ab. |
|  | ((history or variable\* or criteria or scor\* or characteristic\* or finding\* or factor\*) and (predict\* or model\* or decision\* or identif\* or prognos\*)).ti,ab. |
|  | decision\*.ti,ab. and Statistical model/ |
|  | (decision\* and (model\* or clinical\*)).ti,ab. |
|  | (prognostic and (history or variable\* or criteria or scor\* or characteristic\* or finding\* or factor\* or model\*)).ti,ab. |
|  | (stratification or discrimination or discriminate or c statistic or "area under the curve" or auc or calibration or indices or algorithm or multivariable).ti,ab. |
|  | receiver operating characteristic/ |
|  | exp \*risk/ |
|  | or/5-14 |
|  | 4 and 15 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 16 not 17 |
|  | Limit 18 to English language |
|  | Date parameters: 2000-04 Janaury 2016 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | [mh ^polypharmacy] |
|  | (hyperpolypharmacy or polypharmacy):ti,ab |
|  | ((medicat\* or drug\* or prescri\*) near/2 (number\* or multiple or excessive)):ti,ab |
|  | #1 or #2 or #3 |
|  | Date parameters: 2000-04 Janaury 2016 |

* + 1. Principles
* What principles are important for assessing, prioritising and managing care for people with multimorbidity?

**Medline search terms**

|  |  |
| --- | --- |
|  | \*comorbidity/ |
|  | (multimorbid\* or multi-morbid\* or polymorbidity or polypathy or pluralpathology).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | (multifactorial disease\* or dual diagnosis).ti,ab. |
|  | ((coocur\* or co-ocur\* or cooccur\* or co-occur\* or coexist\* or co-exist\* or multipl\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | guidelines as topic/ or practice guidelines as topic/ |
|  | exp guideline/ |
|  | health planning guidelines/ |
|  | (guideline or practice guideline).pt. |
|  | guideline\*.ti. |
|  | or/7-11 |
|  | (implement\* or validation or impact or compliance or adherance).ti. |
|  | 12 not 13 |
|  | 6 and 14 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 15 not 16 |
|  | Limit 17 to English language |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*comorbidity/ |
|  | (multimorbid\* or multi-morbid\* or polymorbidity or polypathy or pluralpathology).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | (multifactorial disease\* or dual diagnosis).ti,ab. |
|  | ((coocur\* or co-ocur\* or cooccur\* or co-occur\* or coexist\* or co-exist\* or multipl\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | \*practice guideline/ |
|  | guideline\*.ti. |
|  | 7 or 8 |
|  | (implement\* or validation or impact or compliance or adherance).ti. |
|  | 9 not 10 |
|  | 6 and 11 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 12 not 13 |
|  | Limit 14 to English language |
|  | Date parameters: see Table 1 |

* + 1. Barriers
* What are barriers to healthcare professionals optimising care for people with multimorbidity?

**Medline search terms**

|  |  |
| --- | --- |
|  | comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 6 not 7 |
|  | Limit 8 to English language |
|  | attitude of health personnel/ |
|  | health priorities/ |
|  | exp consumer participation/ |
|  | patient care planning/ |
|  | patient preference/ |
|  | exp professional-patient relations/ |
|  | "continuity of patient care"/ or patient handoff/ |
|  | ((health professional or health personnel or physician\* or consultant\* or nurse\* or doctor\* or health care assistant\* or healthcare assistant\*) adj4 (knowledge or preference\* or satisfaction or satisfied or satisfy or experience\* or facilitator or facilitation or facilitate or barrier\* or relation\* or attitude\*)).ti,ab. |
|  | ((consumer\* or client\* or resident\* or patient\* or people or person or spouse\* or wife or wives or husband\* or carer\* or caregiver\* or care giver\* or significant other\* or family or families or individual\*) adj4 (preference\* or satisfaction or satisfied or satisfy or experience\* or facilitator or facilitation or facilitate or barrier\* or relation\* or attitude\* or wish\* or choice\*)).ti,ab. |
|  | (priorit\* adj2 set\*).ti,ab. |
|  | ((treat\* or care or health\*) adj4 (preference\* or experience\* or facilitator or facilitation or facilitate or barrier\*)).ti,ab. |
|  | ((medic\* or treat\* or care) adj3 (optimi\* or concord\* or priorit\* or continu\*)).ti,ab. |
|  | ((medic\* or treat\* or intervention\* or appointment\*) adj3 (stop\* or reduc\* or discontinu\* or withdraw\* or withhold\* or access\*)).ti,ab. |
|  | or/10-22 |
|  | 9 and 23 |
|  | Study filters QUAL (A.3.8) |
|  | 24 and 25 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 6 not 7 |
|  | Limit 8 to English language |
|  | exp \*health personnel attitude/ |
|  | \*health care planning/ |
|  | \*patient care planning/ |
|  | exp \*patient attitude/ |
|  | \*doctor patient relation/ or \*nurse patient relationship/ |
|  | exp \*clinical handover/ |
|  | ((health professional or health personnel or physician\* or consultant\* or nurse\* or doctor\* or health care assistant\* or healthcare assistant\*) adj4 (knowledge or preference\* or satisfaction or satisfied or satisfy or experience\* or facilitator or facilitation or facilitate or barrier\* or relation\* or attitude\*)).ti,ab. |
|  | (priorit\* adj2 set\*).ti,ab. |
|  | ((treat\* or care or health\*) adj4 (preference\* or experience\* or facilitator or facilitation or facilitate or barrier\*)).ti,ab. |
|  | ((medic\* or treat\* or care) adj3 (optimi\* or concord\* or priorit\* or continu\*)).ti,ab. |
|  | ((medic\* or treat\* or intervention\* or appointment\*) adj3 (stop\* or reduc\* or discontinu\* or withdraw\* or withhold\* or access\*)).ti,ab. |
|  | or/10-20 |
|  | 9 and 21 |
|  | Study filters QUAL (A.3.8) |
|  | 22 and 23 |
|  | Date parameters: see Table 1 |

**CINAHL search terms**

|  |  |
| --- | --- |
|  | (mh "comorbidity") |
|  | comorbid\* or co-morbid\* |
|  | multimorbid\* or multi-morbid\* |
|  | (multidisease\* or multi-disease\* or (multiple n1 (ill\* or disease\* or condition\* or syndrom\* or disorder\*))) |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) n3 (disease\* or ill\* or care or condition\* or disorder\* or health\* or medication\* or symptom\* or syndrom\*)) |
|  | S1 or S2 or S3 or S4 or S5 |
|  | Excluded study designs and publication types [A.3.1] |
|  | S6 not S7 |
|  | Limit S8 to English language |
|  | (mh "attitude of health personnel+") or (mh "consumer participation") or (mh "patient care plans+") or (mh "professional-patient relations+") or (mh "continuity of patient care+") or (mh "hand off (patient safety)") |
|  | ((health professional or health personnel or physician\* or consultant\* or nurse\* or doctor\* or health care assistant\* or healthcare assistant\*) n4 (knowledge or preference\* or satisfaction or satisfied or satisfy or experience\* or facilitator or facilitation or facilitate or barrier\* or relation\* or attitude\*)) |
|  | ((consumer\* or client\* or resident\* or patient\* or people or person or spouse\* or wife or wives or husband\* or carer\* or caregiver\* or care giver\* or significant other\* or family or families or individual\*) n4 (preference\* or satisfaction or satisfied or satisfy or experience\* or facilitator or facilitation or facilitate or barrier\* or relation\* or attitude\* or wish\* or choice\*)) |
|  | priorit\* n2 set\* |
|  | ((treat\* or care or health\*) n4 (preference\* or experience\* or facilitator or facilitation or facilitate or barrier\*)) |
|  | ((medic\* or treat\* or care) n3 (optimi\* or concord\* or priorit\* or continu\*)) |
|  | ((medic\* or treat\* or intervention\* or appointment\*) n3 (stop\* or reduc\* or discontinu\* or withdraw\* or withhold\* or access\*)) |
|  | S10 or S11 or S12 or S13 or S14 or S15 or S16 |
|  | S9 and S17 |
|  | Study filters QUAL (A.3.8) |
|  | S18 and S19 |
|  | Date parameters: see Table 1 |

**PsycINFO search terms**

|  |  |
| --- | --- |
|  | (su.exact("comorbidity") or ti,ab(comorbid\* or co-morbid\* or multimorbid\* or multi-morbid\*) or ti,ab(multidisease\* or multi-disease\* or (multiple pre/1 (ill\* or disease\* or condition\* or syndrom\* or disorder\*))) or ti,ab((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) near/3 (disease\* or ill\* or care or condition\* or disorder\* or health\* or medication\* or symptom\* or syndrom\*))) |
|  | (su.exact.explode("health personnel attitudes") or su.exact("client participation") or su.exact.explode("treatment planning") or su.exact.explode("consumer attitudes") or su.exact("continuum of care") or su.exact("communication barriers") or su.exact("treatment barriers") or ti,ab(("health professional" or "health personnel" or physician\* or consultant\* or nurse\* or doctor\* or health-care-assistant\* or healthcare-assistant\*) near/4 (knowledge or preference\* or satisfaction or satisfied or satisfy or experience\* or facilitator or facilitation or facilitate or barrier\* or relation\* or attitude\*)) or ti,ab((consumer\* or client\* or resident\* or patient\* or people or person or spouse\* or wife or wives or husband\* or carer\* or caregiver\* or care-giver\* or significant-other\* or family or families or individual\*) near/4 (preference\* or satisfaction or satisfied or satisfy or experience\* or facilitator or facilitation or facilitate or barrier\* or relation\* or attitude\* or wish\* or choice\*)) or ti,ab(priorit\* near/2 set\*) or ti,ab((treat\* or care or health\*) near/4 (preference\* or experience\* or facilitator or facilitation or facilitate or barrier\*)) or ti,ab((medic\* or treat\* or care) near/3 (optimi\* or concord\* or priorit\* or continu\*)) or ((medic\* or treat\* or intervention\* or appointment\*) near/3 (stop\* or reduc\* or discontinu\* or withdraw\* or withhold\* or access\*))) |
|  | Study filters QUAL (A.3.8) |
|  | 1 and 2 and 3 |
|  | Limit 4 to English language |
|  | Date parameters: see Table 1 |

* + 1. Burden of treatment
* How can treatment burden be assessed?

**Medline search terms**

|  |  |
| --- | --- |
|  | ((treat\* or therap\*) adj2 burden\*).ti,ab. |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | ((treat\* or therap\*) adj2 burden\*).ti,ab. |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Date parameters: see Table 1 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | ((treat\* or therap\*) near/2 burden\*):ti,ab |
|  | Date parameters: see Table 1 |

**CINAHL search terms**

|  |  |
| --- | --- |
|  | treat\* n2 burden\* or therap\* n2 burden\* |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Date parameters: see Table 1 |

**PyscINFO search terms**

|  |  |
| --- | --- |
|  | ti,ab((treat\* or therap\*) near/2 burden\*) |
|  | Limit 1 to English language |
|  | Date parameters: see Table 1 |

* + 1. Stopping treatment: antihypertensives
* What are the effects of stopping common drug treatments (antihypertensives)?

**Medline search terms**

|  |  |
| --- | --- |
|  | exp hypertension/ |
|  | hypertens\*.ti,ab. |
|  | ((elevat\* or high or increas\*) adj3 blood adj pressur\*).ti,ab. |
|  | or/1-3 |
|  | exp \*thiazides/ |
|  | (thiazide\* or bendrofluazide or bendroflumethazide or aprinox or neo-naclex or chlorthalidone or chlortalidone or hygroton or cyclopenthiazide or navidrex or indapamide or natrilix or metolazone or xipamide or diurexan or hydrochlorthiazide or hydrochlorothiazide or neo-naclex-k).ti,ab. |
|  | exp \*calcium channel blockers/ |
|  | (calcium adj3 (block\* or inhibit\* or antagonist\*)).ti,ab. |
|  | (diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or verapamil or zolvera or cordilox or securon or univer or verapress or vertab).ti,ab. |
|  | (amlodipine or amlostin or istin or exforge or felodipine or plendil or lacidipine or motens or lercanidipine or zanidip or nicardipine or cardene or nifedipine or adalat or nimodipine or nimotop or coracten or adipine or fortipine or tensipine or valni or nifedipress).ti,ab. |
|  | exp \*adrenergic beta-antagonists/ |
|  | (propranolol or angilol or inderal-la or half-inderal or inderal or bedranol or syprol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardicor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or viskaldix or timolol or betim).ti,ab. |
|  | ((beta or b) adj3 (block\* or antagonist\*)).ti,ab. |
|  | exp \*angiotensin ii type 1 receptor blockers/ or \*angiotensin ii type 2 receptor blockers/ |
|  | ((angiotensin adj3 (receptor\* adj2 (antagonist\* or blocker\*))) or arb or arbs).ti,ab. |
|  | (candesartan or amias or eprosartan or teveten or irbesartan or aprovel or coaprovel or losartan or cozaar or cozaar-comp or olmesartan or olmetec or sevikar or telmisartan or micardis or valsartan or diovan or co-diovan or azilsartan or edarbi).ti,ab. |
|  | exp \*angiotensin-converting enzyme inhibitors/ |
|  | ((ace or acei or ((angiotensin adj converting adj2 enzyme\*) or ace or kininase)) adj2 (inhibit\* or antagonist\*)).ti,ab. |
|  | (captopril or ecopace or kaplon or capoten or co-zidocapt or capto-co or capozide or cilazapril or vascace or enalapril or ednyt or innovace or innozide or fosinopril or imidapril or tanatril or lisinopril or zestril or carace or zestoretic or moexipril or perdix or perindopril or coversyl or quinapril or quinil or accupro or accuretic or ramipril or tritace or triapin or trandolapril or gopten or tarka).ti,ab. |
|  | \*antihypertensive agents/ |
|  | (antihypertens\* adj2 (drug\* or agent\* or treat\* or therap\* or intervention\*)).ti,ab. |
|  | or/5-21 |
|  | 4 and 22 |
|  | (deprescri\* or de-prescri\*).ti,ab. |
|  | (stop adj3 (criteria or criterion or rule or standard or benchmark or bench mark or decision\* or take or taking)).ti,ab. |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down").ti. |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) adj2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)).ti,ab. |
|  | polypharmacy/ |
|  | polypharmacy.ti,ab. |
|  | \*medication adherence/ |
|  | \*patient compliance/ |
|  | \*treatment refusal/ |
|  | (adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\*).ti. |
|  | ((adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\* or persist\*) adj2 (patient\* or participant\* or dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)).ti,ab. |
|  | or/24-34 |
|  | 23 and 35 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 36 not 37 |
|  | Limit 38 to English language |
|  | Study filters RCT (A.3.2) or SR (A.3.3) or OBS (A.3.7) |
|  | 39 and 40 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | exp \*hypertension/ |
|  | hypertens\*.ti,ab. |
|  | ((elevat\* or high or increas\*) adj3 blood adj pressur\*).ti,ab. |
|  | or/1-3 |
|  | exp \*thiazide diuretic agent/ |
|  | (thiazide\* or bendrofluazide or bendroflumethazide or aprinox or neo-naclex or chlorthalidone or chlortalidone or hygroton or cyclopenthiazide or navidrex or indapamide or natrilix or metolazone or xipamide or diurexan or hydrochlorthiazide or hydrochlorothiazide or neo-naclex-k).ti,ab. |
|  | exp \*calcium channel blocking agent/ |
|  | (calcium adj3 (block\* or inhibit\* or antagonist\*)).ti,ab. |
|  | (diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or verapamil or zolvera or cordilox or securon or univer or verapress or vertab).ti,ab. |
|  | (amlodipine or amlostin or istin or exforge or felodipine or plendil or lacidipine or motens or lercanidipine or zanidip or nicardipine or cardene or nifedipine or adalat or nimodipine or nimotop or coracten or adipine or fortipine or tensipine or valni or nifedipress).ti,ab. |
|  | exp \*beta adrenergic receptor blocking agent/ |
|  | (propranolol or angilol or inderal-la or half-inderal or inderal or bedranol or syprol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardicor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or viskaldix or timolol or betim).ti,ab. |
|  | ((beta or b) adj3 (block\* or antagonist\*)).ti,ab. |
|  | exp \*angiotensin receptor antagonist/ |
|  | ((angiotensin adj3 (receptor\* adj2 (antagonist\* or blocker\*))) or arb or arbs).ti,ab. |
|  | (candesartan or amias or eprosartan or teveten or irbesartan or aprovel or coaprovel or losartan or cozaar or cozaar-comp or olmesartan or olmetec or sevikar or telmisartan or micardis or valsartan or diovan or co-diovan or azilsartan or edarbi).ti,ab. |
|  | exp \*dipeptidyl carboxypeptidase inhibitor/ |
|  | ((ace or acei or ((angiotensin adj converting adj2 enzyme\*) or ace or kininase)) adj2 (inhibit\* or antagonist\*)).ti,ab. |
|  | (captopril or ecopace or kaplon or capoten or co-zidocapt or capto-co or capozide or cilazapril or vascace or enalapril or ednyt or innovace or innozide or fosinopril or imidapril or tanatril or lisinopril or zestril or carace or zestoretic or moexipril or perdix or perindopril or coversyl or quinapril or quinil or accupro or accuretic or ramipril or tritace or triapin or trandolapril or gopten or tarka).ti,ab. |
|  | \*antihypertensive agent/ |
|  | (antihypertens\* adj2 (drug\* or agent\* or treat\* or therap\* or intervention\*)).ti,ab. |
|  | or/5-21 |
|  | 4 and 22 |
|  | (deprescri\* or de-prescri\*).ti,ab. |
|  | (stop adj3 (criteria or criterion or rule or standard or benchmark or bench mark or decision\* or take or taking)).ti,ab. |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down").ti. |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) adj2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)).ti,ab. |
|  | \*polypharmacy/ |
|  | polypharmacy.ti,ab. |
|  | \*patient compliance/ or \*medication compliance/ |
|  | \*treatment refusal/ |
|  | (adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\*).ti. |
|  | ((adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\* or persist\*) adj2 (patient\* or participant\* or dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)).ti,ab. |
|  | or/24-33 |
|  | 23 and 34 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 35 not 36 |
|  | Limit 37 to English language |
|  | Study filters RCT (A.3.2) or SR (A.3.3) or OBS (A.3.7) |
|  | 38 and 39 |
|  | Date parameters: see Table 1 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | [mh hypertension] |
|  | hypertens\*:ti,ab |
|  | ((elevat\* or high or increas\*) near/3 blood next pressur\*):ti,ab |
|  | #1 or #2 or #3 |
|  | [mh thiazides] |
|  | (thiazide\* or bendrofluazide or bendroflumethazide or aprinox or neo-naclex or chlorthalidone or chlortalidone or hygroton or cyclopenthiazide or navidrex or indapamide or natrilix or metolazone or xipamide or diurexan or hydrochlorthiazide or hydrochlorothiazide or neo-naclex-k):ti,ab |
|  | [mh "calcium channel blockers"] |
|  | (calcium near/3 (block\* or inhibit\* or antagonist\*)):ti,ab |
|  | (diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or verapamil or zolvera or cordilox or securon or univer or verapress or vertab):ti,ab |
|  | (amlodipine or amlostin or istin or exforge or felodipine or plendil or lacidipine or motens or lercanidipine or zanidip or nicardipine or cardene or nifedipine or adalat or nimodipine or nimotop or coracten or adipine or fortipine or tensipine or valni or nifedipress):ti,ab |
|  | [mh "adrenergic beta-antagonists"] |
|  | (propranolol or angilol or inderal-la or half-inderal or inderal or bedranol or syprol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardicor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or viskaldix or timolol or betim):ti,ab |
|  | ((beta or b) near/3 (block\* or antagonist\*)):ti,ab |
|  | [mh "angiotensin ii type 1 receptor blockers"] |
|  | [mh "angiotensin ii type 2 receptor blockers"] |
|  | ((angiotensin near/3 (receptor\* near/2 (antagonist\* or blocker\*))) or arb or arbs):ti,ab |
|  | (candesartan or amias or eprosartan or teveten or irbesartan or aprovel or coaprovel or losartan or cozaar or cozaar-comp or olmesartan or olmetec or sevikar or telmisartan or micardis or valsartan or diovan or co-diovan or azilsartan or edarbi):ti,ab |
|  | [mh "angiotensin-converting enzyme inhibitors"] |
|  | ((ace or acei or ((angiotensin next converting near/2 enzyme\*) or ace or kininase)) near/2 (inhibit\* or antagonist\*)):ti,ab |
|  | (captopril or ecopace or kaplon or capoten or co-zidocapt or capto-co or capozide or cilazapril or vascace or enalapril or ednyt or innovace or innozide or fosinopril or imidapril or tanatril or lisinopril or zestril or carace or zestoretic or moexipril or perdix or perindopril or coversyl or quinapril or quinil or accupro or accuretic or ramipril or tritace or triapin or trandolapril or gopten or tarka):ti,ab |
|  | [mh "antihypertensive agents"] |
|  | (antihypertens\* near/2 (drug\* or agent\* or treat\* or therap\* or intervention\*)):ti,ab |
|  | {or #5-#22} |
|  | (deprescri\* or de-prescri\*):ti,ab |
|  | (stop near/3 (criteria or criterion or rule or standard or benchmark or bench mark or decision\* or take or taking)):ti,ab |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down") .ti |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) near/2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)):ti,ab |
|  | [mh ^polypharmacy] |
|  | polypharmacy:ti,ab |
|  | [mh ^"medication adherence"] |
|  | [mh ^"treatment refusal"] |
|  | (adheren\* or nonadheren\* or non-adheren\* or non next adheren\* or complian\* or noncomplian\* or non-complian\* or non next complian\*):ti |
|  | ((adheren\* or nonadheren\* or non-adheren\* or non next adheren\* or complian\* or noncomplian\* or non-complian\* or non next complian\* or persist\*) near/2 (patient\* or participant\* or dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)):ti,ab |
|  | {or #24-#33} |
|  | [mh "adrenergic alpha-antagonists"] |
|  | (doxazosin or cardura or indoramin or baratol or prazosin or hypovase or terazosin or hytrin):ti,ab |
|  | #23 or #35 or #36 |
|  | #4 and #37 |
|  | #38 and #34 |
|  | Date parameters: see Table 1 |

* + 1. Stopping treatment: bisphosphonates
* What are the effects of stopping common drug treatments (drugs for osteoporosis)?

**Medline search terms**

|  |  |
| --- | --- |
|  | diphosphonates/ |
|  | alendronate/ |
|  | etidronic acid/ |
|  | clodronic acid/ |
|  | bone density conservation agents/ |
|  | raloxifene/ |
|  | teriparatide/ |
|  | (bisphosphonate\* or diphosphonate\*).ti,ab. |
|  | (alendronate or alendronic or fosamax or fosavance or etidronate or didronel or etidronic or risedronate or risedronic or actonel or ibandronate or ibandronic or bondronat or bonviva).ti,ab. |
|  | (clodronate or clodronic or bonefos or clasteon or loron or zoledronate or zoledronic or aclasta or zometa or pamidronate or aredia or denosumab or prolia or xgeva).ti,ab. |
|  | (raloxifene or evista or strontium ranelate or protelos or teriparatide or forsteo or forteo).ti,ab. |
|  | or/1-11 |
|  | (deprescri\* or de-prescri\*).ti,ab. |
|  | (stop\* adj3 (criteria or criterion or rule\* or standard\* or benchmark\* or bench mark\* or decision\* or take or taking)).ti,ab. |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down").ti. |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) adj2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\* or group\* or arm\*)).ti,ab. |
|  | polypharmacy/ |
|  | polypharmacy.ti,ab. |
|  | or/13-18 |
|  | 12 and 19 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 20 not 21 |
|  | Limit 22 to English language |
|  | Study filters RCT (A.3.2) or SR (A.3.3) or OBS (A.3.7) |
|  | 23 and 24 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*bisphosphonic acid derivative/ or \*alendronic acid/ or \*alendronic acid plus alfacalcidol/ or \*alendronic acid plus colecalciferol/ or \*etidronic acid/ or \*ibandronic acid/ or \*risedronic acid/ |
|  | \*clodronic acid/ or \*pamidronic acid/ or \*zoledronic acid/ |
|  | \*raloxifene/ |
|  | \*strontium ranelate/ |
|  | \*"parathyroid hormone[1-34]"/ |
|  | \*bone density conservation agent/ |
|  | \*denosumab/ |
|  | (bisphosphonate\* or diphosphonate\*).ti,ab. |
|  | (alendronate or alendronic or fosamax or fosavance or etidronate or didronel or etidronic or risedronate or risedronic or actonel or ibandronate or ibandronic or bondronat or bonviva).ti,ab. |
|  | (clodronate or clodronic or bonefos or clasteon or loron or zoledronate or zoledronic or aclasta or zometa or pamidronate or aredia or denosumab or prolia or xgeva).ti,ab. |
|  | (raloxifene or evista or strontium ranelate or protelos or teriparatide or forsteo or forteo).ti,ab. |
|  | or/1-11 |
|  | (deprescri\* or de-prescri\*).ti,ab. |
|  | (stop\* adj3 (criteria or criterion or rule\* or standard\* or benchmark\* or bench mark\* or decision\* or take or taking)).ti,ab. |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down").ti. |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) adj2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\* or group\* or arm\*)).ti,ab. |
|  | \*polypharmacy/ |
|  | polypharmacy.ti,ab. |
|  | or/13-18 |
|  | 12 and 19 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 20 not 21 |
|  | Limit 22 to English language |
|  | Study filters RCT (A.3.2) or SR (A.3.3) or OBS (A.3.7) |
|  | 23 and 24 |
|  | Date parameters: see Table 1 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | [mh ^diphosphonates] |
|  | [mh ^alendronate] |
|  | [mh ^"etidronic acid"] |
|  | [mh ^"clodronic acid"] |
|  | [mh ^"bone density conservation agents"] |
|  | [mh ^raloxifene] |
|  | [mh ^teriparatide] |
|  | (bisphosphonate\* or diphosphonate\*):ti,ab |
|  | (alendronate or alendronic or fosamax or fosavance or etidronate or didronel or etidronic or risedronate or risedronic or actonel or ibandronate or ibandronic or bondronat or bonviva):ti,ab |
|  | (clodronate or clodronic or bonefos or clasteon or loron or zoledronate or zoledronic or aclasta or zometa or pamidronate or aredia or denosumab or prolia or xgeva):ti,ab |
|  | (raloxifene or evista or strontium ranelate or protelos or teriparatide or forsteo or forteo):ti,ab |
|  | {or #1-#11} |
|  | (deprescri\* or de-prescri\*):ti,ab |
|  | (stop\* near/3 (criteria or criterion or rule\* or standard\* or benchmark\* or bench next mark\* or decision\* or take or taking)):ti,ab |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down"):ti |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) near/2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\* or group\* or arm\*)):ti,ab |
|  | [mh ^polypharmacy] |
|  | polypharmacy:ti,ab |
|  | {or #13-#18} |
|  | #12 and #19 |
|  | Date parameters: see Table 1 |

* + 1. Stopping treatment: statins
* What are the effects of stopping common drug treatments (statins)?

**Medline search terms**

|  |  |
| --- | --- |
|  | \*hydroxymethylglutaryl-coa reductase inhibitors/ |
|  | statin\*.ti,ab. |
|  | ((hydroxymethylglutaryl-coa or hmg-coa) adj3 (reductase or inhibitors)).ti,ab. |
|  | exp \*simvastatin/ |
|  | (simvastatin\* or zocor).ti,ab. |
|  | (atorvastatin\* or lipitor).ti,ab. |
|  | (rosuvastatin\* or crestor).ti,ab. |
|  | exp \*pravastatin/ |
|  | (pravastatin\* or lipostat).ti,ab. |
|  | (fluvastatin\* or lescol).ti,ab. |
|  | or/1-10 |
|  | (deprescri\* or de-prescri\*).ti,ab. |
|  | (stop adj3 (criteria or criterion or rule or standard or benchmark or bench mark or decision\* or take or taking)).ti,ab. |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down").ti. |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) adj2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)).ti,ab. |
|  | polypharmacy/ |
|  | polypharmacy.ti,ab. |
|  | or/12-17 |
|  | \*medication adherence/ |
|  | \*patient compliance/ |
|  | \*treatment refusal/ |
|  | (adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\*).ti. |
|  | ((adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\* or persist\*) adj2 (patient\* or participant\* or dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)).ti,ab. |
|  | or/19-23 |
|  | 18 or 24 |
|  | 11 and 25 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 26 not 27 |
|  | Limit 28 to English language |
|  | Study filters RCT (A.3.2) or SR (A.3.3) or OBS (A.3.7) |
|  | 29 and 30 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*hydroxymethylglutaryl-coa reductase inhibitor/ |
|  | ((hydroxymethylglutaryl-coa or hmg-coa) adj3 (reductase or inhibitors)).ti,ab. |
|  | statin\*.ti,ab. |
|  | exp \*simvastatin/ |
|  | (simvastatin\* or zocor).ti,ab. |
|  | (atorvastatin\* or lipitor).ti,ab. |
|  | (rosuvastatin\* or crestor).ti,ab. |
|  | exp \*pravastatin/ |
|  | (pravastatin\* or lipostat).ti,ab. |
|  | (fluvastatin\* or lescol).ti,ab. |
|  | exp \*atorvastatin/ or exp \*rosuvastatin/ |
|  | or/1-11 |
|  | (deprescri\* or de-prescri\*).ti,ab. |
|  | (stop adj3 (criteria or criterion or rule or standard or benchmark or bench mark or decision\* or take or taking)).ti,ab. |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down").ti. |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) adj2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)).ti,ab. |
|  | \*polypharmacy/ |
|  | polypharmacy.ti,ab. |
|  | or/13-18 |
|  | \*patient compliance/ or \*medication compliance/ |
|  | \*treatment refusal/ |
|  | (adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\*).ti. |
|  | ((adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\* or persist\*) adj2 (patient\* or participant\* or dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)).ti,ab. |
|  | or/20-23 |
|  | 19 or 24 |
|  | 12 and 25 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 26 not 27 |
|  | Limit 28 to English language |
|  | Study filters RCT (A.3.2) or SR (A.3.3) or OBS (A.3.7) |
|  | 29 and 30 |
|  | Date parameters: see Table 1 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | [mh ^"hydroxymethylglutaryl-coa reductase inhibitors"] |
|  | ((hydroxymethylglutaryl-coa or hmg-coa) near/3 (reductase or inhibitors)):ti,ab |
|  | statin\*:ti,ab |
|  | [mh ^simvastatin] |
|  | (simvastatin\* or zocor):ti,ab |
|  | (atorvastatin\* or lipitor):ti,ab |
|  | (rosuvastatin\* or crestor):ti,ab |
|  | [mh ^pravastatin] |
|  | (pravastatin\* or lipostat):ti,ab |
|  | (fluvastatin\* or lescol):ti,ab |
|  | {or #1-#10} |
|  | (deprescri\* or de-prescri\*):ti,ab |
|  | (stop near/3 (criteria or criterion or rule or standard or benchmark or bench mark or decision\* or take or taking)):ti,ab |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down"):ti |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) near/2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)):ti,ab |
|  | [mh ^polypharmacy] |
|  | polypharmacy:ti,ab |
|  | {or #12-#17} |
|  | [mh ^"medication adherence"] |
|  | [mh ^"patient compliance"] |
|  | [mh ^"treatment refusal"] |
|  | (adheren\* or nonadheren\* or non-adheren\* or non next adheren\* or complian\* or noncomplian\* or non-complian\* or non next complian\*):ti |
|  | ((adheren\* or nonadheren\* or non-adheren\* or non next adheren\* or complian\* or noncomplian\* or non-complian\* or non next complian\* or persist\*) near/2 (patient\* or participant\* or dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*)):ti,ab |
|  | {or #19-#23} |
|  | #18 or #24 |
|  | #11 and #25 |
|  | Date parameters: see Table 1 |

* + 1. Frailty assessment
* What is the most accurate tool for assessing frailty?

**Medline search terms**

|  |  |
| --- | --- |
|  | (abbreviat\* adj1 (comprehensive geriatric assessment or cga)).ti,ab. |
|  | (ves13 or ves 13 or vulnerable elders survey\*).ti,ab. |
|  | groningen frailty ind\*.ti,ab. |
|  | (geriatric 8 or geriatric8 or (g8 adj4 (risk\* or tool\* or ind\* or scor\* or assess\* or scale\* or question\*))).ti,ab. |
|  | tilburg frailt\* ind\*.ti,ab. |
|  | (prisma 7 or prisma7).ti,ab. |
|  | edmonton frail\* scale\*.ti,ab. |
|  | (frail\* adj3 (assess\* or tool\* or scor\* or index or indices or indicat\* or scale\* or question\* or survey\*)).ti,ab. |
|  | (((gait or walk\*) adj speed\*) or (grip adj2 strength\*)).ti,ab. |
|  | ("timed up and go test" or tugt).ti,ab. |
|  | (or/9-10) and frail\*.ti,ab. |
|  | or/1-8,11 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 12 not 13 |
|  | Limit 14 to English language |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | (abbreviat\* adj1 (comprehensive geriatric assessment or cga)).ti,ab. |
|  | (ves13 or ves 13 or vulnerable elders survey\*).ti,ab. |
|  | groningen frailty ind\*.ti,ab. |
|  | (geriatric 8 or geriatric8 or (g8 adj4 (risk\* or tool\* or ind\* or scor\* or assess\* or scale\* or question\*))).ti,ab. |
|  | tilburg frail\* ind\*.ti,ab. |
|  | (prisma 7 or prisma7).ti,ab. |
|  | edmonton frail\* scale\*.ti,ab. |
|  | (frail\* adj3 (assess\* or tool\* or scor\* or index or indices or indicat\* or scale\* or question\* or survey\*)).ti,ab. |
|  | (((gait or walk\*) adj speed\*) or (grip adj2 strength\*)).ti,ab. |
|  | ("timed up and go test" or tugt).ti,ab. |
|  | (or/9-10) and frail\*.ti,ab. |
|  | or/1-8,11 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 12 not 13 |
|  | Limit 14 to English language |
|  | Date parameters: see Table 1 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | (abbreviat\* near/1 ("comprehensive geriatric assessment" or cga)):ti,ab |
|  | (ves13 or ves 13 or vulnerable next elders next survey\*):ti,ab |
|  | groningen next frailty next ind\*:ti,ab |
|  | ("geriatric 8" or geriatric8 or (g8 near/4 (risk\* or tool\* or ind\* or scor\* or assess\* or scale\* or question\*))):ti,ab |
|  | tilburg next frail\* next ind\*:ti,ab |
|  | ("prisma 7" or prisma7):ti,ab |
|  | edmonton next frail\* next scale\*:ti,ab |
|  | (frail\* near/3 (assess\* or tool\* or scor\* or index or indices or indicat\* or scale\* or question\* or survey\*)):ti,ab |
|  | (((gait or walk\*) next speed\*) or (grip near/2 strength\*)):ti,ab |
|  | ("timed up and go test" or tugt):ti,ab |
|  | #9 or #10 |
|  | frail\*:ti,ab |
|  | #11 and #12 |
|  | {or #1-#8, #13} |
|  | Date parameters: see Table 1 |

* + 1. Models of care
* What models of care improve outcomes in patients with multimorbidity?

The searches from a relevant Cochrane review3 were updated as follows:

**Medline search terms**

|  |  |
| --- | --- |
|  | comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | or/1-4 |
|  | chronic disease/ |
|  | (chronic\* adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or syndrom\* or symptom\*)).ti,ab. |
|  | or/6-7 |
|  | 5 or 8 |
|  | exp diabetes mellitus/ or diabet\*.ti,ab. |
|  | exp hypertension/ or (hypertens\* or "high blood pressure?").ti,ab. |
|  | exp heart diseases/ or (((heart or cardiac or cardiovascular or coronary) adj (disease? or disorder? or failure)) or arrythmia?).ti,ab. |
|  | exp cerebrovascular disorders/ or ((cerebrovascular or vascular or carotoid\* or arter\*) adj (disorder? or disease?)).ti,ab. |
|  | exp asthma/ or asthma\*.ti,ab. |
|  | exp pulmonary disease chronic obstructive/ or (copd or (pulmonary adj2 (disease? or disorder?))).ti,ab. |
|  | exp hyperlipidemia/ or (hyperlipidem\* or hypercholesterolemia\* or hypertriglyceridemia\*).ti,ab. |
|  | exp thyroid diseases/ or ((thyroid adj (disease? or disorder)) or hyperthyroid\* or hypothyroid\*).ti,ab. |
|  | exp arthritis rheumatoid/ or rheumatoid arthritis.ti,ab. |
|  | exp mental disorders/ or (((mental or anxiety or mood or psychological or sleep) adj (disease? or disorder?)) or ((substance or drug or marijuana or cocaine or amphetamine) adj2 abuse) or depression or schizophren\* or psychos\* or "substance abuse" or addiction?).ti,ab. |
|  | exp epilepsy/ or (epileps\* or seizure?).ti,ab. |
|  | exp hiv infections/ or (hiv or acquired immune\* deficiency syndrome? or (aids adj (associated or related or arteritis))).ti,ab. |
|  | exp neoplasms/ or (neoplasm? or cancer?).ti,ab. |
|  | exp kidney diseases/ or (kidney adj (disease? or disorder?)).ti,ab. |
|  | exp liver diseases/ or (liver adj (disease? or disorder?)).ti,ab. |
|  | exp osteoporosis/ or osteoporosis.ti,ab. |
|  | or/10-25 |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | chronic\*.ti,ab,hw. |
|  | 27 or 28 |
|  | 26 and 29 |
|  | exp \*education, continuing/ |
|  | (education\* adj2 (program\* or intervention? or meeting? or session? or strateg\* or workshop? or visit?)).tw. |
|  | (behavio?r\* adj2 intervention?).tw. |
|  | \*pamphlets/ |
|  | (leaflet? or booklet? or poster or posters).tw. |
|  | ((written or printed or oral) adj information).tw. |
|  | (information\* adj2 campaign).tw. |
|  | (education\* adj1 (method? or material?)).tw. |
|  | \*advance directives/ |
|  | outreach.tw. |
|  | ((opinion or education\* or influential) adj1 leader?).tw. |
|  | facilitator?.tw. |
|  | academic detailing.tw. |
|  | consensus conference?.tw. |
|  | \*guideline adherence/ |
|  | practice guideline?.tw. |
|  | (guideline? adj2 (introduc\* or issu\* or impact or effect? or disseminat\* or distribut\*)).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 training program\*).tw. |
|  | \*reminder systems/ |
|  | reminder?.tw. |
|  | (recall adj2 system\*).tw. |
|  | (prompter? or prompting).tw. |
|  | algorithm?.tw. |
|  | \*feedback/ or feedback.tw. |
|  | chart review\*.tw. |
|  | ((effect? or impact or records or chart?) adj2 audit).tw. |
|  | compliance.tw. |
|  | marketing.tw. |
|  | or/31-58 |
|  | exp \*reimbursement mechanisms/ |
|  | fee for service.tw. |
|  | \*capitation fee/ |
|  | \*"deductibles and coinsurance"/ |
|  | cost shar\*.tw. |
|  | (copayment? or co payment?).tw. |
|  | (prepay\* or prepaid or prospective payment?).tw. |
|  | \*hospital charges/ |
|  | formular?.tw. |
|  | fundhold?.tw. |
|  | \*medicaid/ |
|  | \*medicare/ |
|  | blue cross.tw. |
|  | or/60-72 |
|  | \*nurse clinicians/ |
|  | \*nurse midwives/ |
|  | \*nurse practitioners/ |
|  | (nurse adj (rehabilitator? or clinician? or practitioner? or midwi\*)).tw. |
|  | \*pharmacists/ |
|  | clinical pharmacist?.tw. |
|  | paramedic?.tw. |
|  | \*patient care team/ |
|  | exp \*patient care planning/ |
|  | (team? adj2 (care or treatment or assessment or consultation)).tw. |
|  | (integrat\* adj2 (care or service?)).tw. |
|  | (care adj2 (coordinat\* or program\* or continuity)).tw. |
|  | (case adj1 management).tw. |
|  | exp \*ambulatory care facilities/ |
|  | \*ambulatory care/ |
|  | or/74-88 |
|  | \*home care services/ |
|  | \*hospices/ |
|  | \*nursing homes/ |
|  | \*office visits/ |
|  | \*house calls/ |
|  | \*day care/ |
|  | \*aftercare/ |
|  | \*community health nursing/ |
|  | (chang\* adj1 location?).tw. |
|  | domiciliary.tw. |
|  | (home adj1 treat\*).tw. |
|  | day surgery.tw. |
|  | \*medical records/ |
|  | \*medical records systems, computerized/ |
|  | (information adj2 (management or system?)).tw. |
|  | \*peer review/ |
|  | \*utilization review/ |
|  | exp \*health services misuse/ |
|  | or/90-107 |
|  | \*physician's practice patterns/ |
|  | quality assurance.tw. |
|  | \*process assessment/ [health care] |
|  | \*program evaluation/ |
|  | \*length of stay/ |
|  | (early adj1 discharg\*).tw. |
|  | discharge planning.tw. |
|  | offset.tw. |
|  | triage.tw. |
|  | exp \*"referral and consultation"/ and "consultation"/ |
|  | \*drug therapy, computer assisted/ |
|  | near patient testing.tw. |
|  | \*medical history taking/ |
|  | \*telephone/ |
|  | (physician patient adj (interaction? or relationship?)).tw. |
|  | \*health maintenance organizations/ |
|  | managed care.tw. |
|  | (hospital? adj1 merg\*).tw. |
|  | or/109-126 |
|  | ((standard or usual or routine or regular or traditional or conventional or pattern) adj2 care).tw. |
|  | (program\* adj2 (reduc\* or increas\* or decreas\* or chang\* or improv\* or modify\* or monitor\* or care)).tw. |
|  | (program\* adj1 (health or care or intervention?)).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 treatment program\*).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 care program\*).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 screening program\*).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 prevent\* program\*).tw. |
|  | (computer\* adj2 (dosage or dosing or diagnosis or therapy or decision?)).tw. |
|  | ((introduc\* or impact or effect? or implement\* or computer\*) adj2 protocol?).tw. |
|  | ((effect or impact or introduc\*) adj2 (legislation or regulations or policy)).tw. |
|  | or/128-137 |
|  | or/59,73,89,108,127,138 |
|  | 9 or 30 |
|  | 139 and 140 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 141 not 142 |
|  | Limit 143 to English language |
|  | Study filters RCT (A.3.2) |
|  | (control\* adj2 (trial? or study or studies)).ti,ab. |
|  | double-blind method/ or random allocation/ or single-blind method/ |
|  | ((double or single or triple or treble) adj2 blind\*).ti,ab. |
|  | (quasi-experiment\* or quasiexperiment\*).ti,ab. |
|  | interrupt\* time series.ti,ab. |
|  | or/146-150 |
|  | 145 or 151 |
|  | 144 and 152 |
|  | Date parameters: 2011-04 January 2016 |

**Embase search terms**

|  |  |
| --- | --- |
|  | comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | or/1-4 |
|  | chronic disease/ |
|  | (chronic\* adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or syndrom\* or symptom\*)).ti,ab. |
|  | or/6-7 |
|  | 5 or 8 |
|  | exp diabetes mellitus/ or diabet\*.ti,ab. |
|  | exp hypertension/ or (hypertens\* or "high blood pressure?").ti,ab. |
|  | exp heart disease/ or exp myocardial disease/ or (((heart or cardiac or cardiovascular or coronary) adj (disease? or disorder? or failure)) or arrythmia?).ti,ab. |
|  | cerebrovascular disease/ or carotid artery disease/ or ((cerebrovascular or vascular or carotoid\* or arter\*) adj (disorder? or disease?)).ti,ab. |
|  | exp asthma/ or asthma\*.ti,ab. |
|  | chronic obstructive lung disease/ or (copd or ((pulmonary or lung?) adj2 (disease? or disorder?))).ti,ab. |
|  | exp hyperlipidemia/ or exp hypercholesterolemia/ or (hyperlipidem\* or hypercholesterolemia\* or hypertriglyceridemia\*).ti,ab. |
|  | exp thyroid diseases/ or ((thyroid adj (disease? or disorder)) or hyperthyroid\* or hypothyroid\*).ti,ab. |
|  | exp rheumatoid arthritis/ or rheumatoid arthritis.ti,ab. |
|  | exp mental disease/ or (((mental or anxiety or mood or psychological or sleep) adj (disease? or disorder?)) or ((substance or drug or marijuana or cocaine or amphetamine) adj2 abuse) or depression or schizophren\* or psychos\* or "substance abuse" or addiction?).ti,ab. |
|  | exp epilepsy/ or (epileps\* or seizure?).ti,ab. |
|  | human immunodeficiency virus/ or (hiv or acquired immune\* deficiency syndrome? or (aids adj (associated or related or arteritis)) or human immunodeficiency).ti,ab. |
|  | exp neoplasm/ or (neoplasm? or cancer?).ti,ab. |
|  | exp kidney disease/ or ((kidney? or renal) adj (disease? or disorder? or failure)).ti,ab. |
|  | exp liver disease/ or (liver adj (disease? or disorder?)).ti,ab. |
|  | exp osteoporosis/ or osteoporosis.ti,ab. |
|  | or/10-25 |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | chronic\*.ti,ab,hw. |
|  | 27 or 28 |
|  | 26 and 29 |
|  | exp primary health care/ or exp primary medical care/ |
|  | (primary adj2 (care? or medical\* or health\* or clinic\* or practitioner? or doctor?)).ti,ab. |
|  | general practitioner/ |
|  | (((family or general or generalist? or communit\*) adj2 (physician? or doctor? or practitioner? or practice)) or GP).ti,ab. |
|  | general practice/ |
|  | exp community care/ |
|  | (communit\* adj2 (health or healthcare or service? or clinic\* or setting? or centre? or center?)).ti,ab. |
|  | or/31-37 |
|  | (education\* adj2 (program\* or intervention? or meeting? or session? or strateg\* or workshop? or visit?)).tw. |
|  | (behavio?r\* adj2 intervention?).tw. |
|  | (leaflet? or booklet? or poster or posters).tw. |
|  | ((written or printed or oral) adj information).tw. |
|  | (information\* adj2 campaign).tw. |
|  | (education\* adj1 (method? or material?)).tw. |
|  | outreach.tw. |
|  | ((opinion or education\* or influential) adj1 leader?).tw. |
|  | facilitator?.tw. |
|  | academic detailing.tw. |
|  | consensus conference?.tw. |
|  | practice guideline?.tw. |
|  | (guideline? adj2 (introduc\* or issu\* or impact or effect? or disseminat\* or distribut\*)).tw. |
|  | ((introduc\* or impact or effect? or implement\* or computer\* or compli\*) adj2 protocol?).tw. |
|  | ((introduc\* or impact or effect? or implement\* or computer\* or compli\*) adj2 algorithm?).tw. |
|  | clinical pathway?.tw. |
|  | critical pathway?.tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 training program\*).tw. |
|  | reminder?.tw. |
|  | (recall adj2 system\*).tw. |
|  | (prompter? or prompting).tw. |
|  | advance directive?.tw. |
|  | \*feedback/ or feedback.tw. |
|  | chart review\*.tw. |
|  | ((effect? or impact or records or chart?) adj2 audit).tw. |
|  | compliance.tw. |
|  | marketing.tw. |
|  | ((cost or clinical or medical) adj information).tw. |
|  | \*medical education/ |
|  | \*medical audit/ |
|  | continuing education/ |
|  | postgraduate education/ |
|  | or/39-70 |
|  | fee for service.tw. |
|  | cost shar\*.tw. |
|  | (copayment? or co payment?).tw. |
|  | (prepay\* or prepaid or prospective payment?).tw. |
|  | formular?.tw. |
|  | fundhold?.tw. |
|  | blue cross.tw. |
|  | voucher?.tw. |
|  | (free adj2 care).tw. |
|  | exp \*health insurance/ |
|  | \*health care costs/ |
|  | \*health care financing/ |
|  | \*medical fee/ |
|  | \*prospective payment/ |
|  | or/72-85 |
|  | (nurse adj (rehabilitator? or clinician? or practitioner? or midwi\*)).tw. |
|  | ((nurse or midwi\* or practitioner) adj managed).tw. |
|  | clinical pharmacist?.tw. |
|  | paramedic?.tw. |
|  | exp \*paramedical personnel/ |
|  | \*general practitioner/ |
|  | \*physician/ |
|  | (team? adj2 (care or treatment or assessment or consultation)).tw. |
|  | (integrat\* adj2 (care or service?)).tw. |
|  | (care adj2 (coordinat\* or program\* or continuity)).tw. |
|  | (case adj1 management).tw. |
|  | \*patient care/ |
|  | (chang\* adj1 location?).tw. |
|  | domiciliary.tw. |
|  | (home adj1 (treat\* or visit?)).tw. |
|  | day surgery.tw. |
|  | exp \*primary health care/ |
|  | \*ambulatory surgery/ |
|  | \*nursing home/ |
|  | \*day hospital/ |
|  | \*outpatient care/ |
|  | \*terminal care/ |
|  | \*group practice/ |
|  | \*general practice/ |
|  | \*rural health care/ |
|  | \*community mental health center/ |
|  | information system/ |
|  | \*medical record/ |
|  | (information adj2 (management or system?)).tw. |
|  | \*peer review/ |
|  | \*professional standards review organization/ |
|  | exp \*clinical practice/ |
|  | quality assurance.tw. |
|  | exp \*health care delivery/ |
|  | \*health care quality/ |
|  | \*professional practice/ |
|  | (early adj1 discharg\*).tw. |
|  | discharge planning.tw. |
|  | offset.tw. |
|  | triage.tw. |
|  | near patient testing.tw. |
|  | \*patient referral/ |
|  | (physician patient adj (interaction? or relationship?)).tw. |
|  | managed care.tw. |
|  | \*health care organization/ |
|  | \*health maintenance organization/ |
|  | \*health care system/ |
|  | \*health care access/ |
|  | (hospital? adj1 merg\*).tw. |
|  | (computer\* adj2 (dosage or dosing or diagnosis therapy or decision?)).tw. |
|  | (computer\* adj2 (diagnosis or therapy)).tw. |
|  | gatekeep\*.tw. |
|  | or/87-138 |
|  | ((standard or usual or routine or regular or traditional or conventional or pattern) adj2 care).tw. |
|  | (program\* adj2 (reduc\* or increas\* or decreas\* or chang\* or improv\* or modify\* or monitor\* or care)).tw. |
|  | (program\* adj1 (health or care or intervention?)).tw. |
|  | ((effect or impact or introduc\*) adj2 (legislation or regulations or policy)).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 treatment program\*).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 care program\*).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 screening program\*).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 prevent\* program\*).tw. |
|  | or/140-147 |
|  | 71 or 86 or 139 or 148 |
|  | 9 or 30 |
|  | 150 and 38 and 149 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 151 not 152 |
|  | Limit 153 to English language |
|  | Study filters RCT (A.3.2) |
|  | (control\* adj2 (trial? or study or studies)).ti,ab. |
|  | ((double or single or triple or treble) adj2 blind\*).ti,ab. |
|  | (quasi-experiment\* or quasiexperiment\*).ti,ab. |
|  | interrupt\* time series.ti,ab. |
|  | intervent\*.ti,ab,pt. or evaluat\*.ti,hw. or impact\*.ti. |
|  | or/156-160 |
|  | 155 or 161 |
|  | 154 and 162 |
|  | Date parameters: 2011-04 January 2016 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | [mh ^comorbidity] |
|  | (comorbid\* or co-morbid\* or multimorbid\* or multi-morbid\* or multidisease or multidiseases or multi-disease or multi-diseases):ti |
|  | [mh ^"chronic disease"] |
|  | (#1 or #2 or (#2 and #3)) |
|  | [mh "diabetes mellitus"] |
|  | diabet\*:ti,ab |
|  | [mh hypertension] |
|  | (hypertens\* or "high blood pressure"):ti,ab |
|  | [mh "heart diseases"] |
|  | [mh "cerebrovascular disorders"] |
|  | (cerebrovascular disorder\* or cerebrovascular disease\* or vascular disorder\* or vascular disease\* or carotoid\* disorder\* or carotoid disease\* or arter\* disorder\* or arter\* disease\*):ti |
|  | [mh asthma] |
|  | asthma\*:ti |
|  | [mh "pulmonary disease, chronic obstructive"] |
|  | (copd or pulmonary disease\* or pulmonary disorder\*):ti |
|  | [mh hyperlipidemias] |
|  | (hyperlipidem\* or hypercholesterolemia\* or hypertriglyceridemia\*):ti |
|  | [mh "thyroid diseases"] |
|  | (thyroid disease\* or thyroid disorder\*):ti |
|  | [mh "mental disorders"] |
|  | ((mental or anxiety or mood or psychological or sleep) near/2 (disease\* or disorder\*)):ti |
|  | ((substance or drug or marijuana or cocaine or amphetamine) near/2 abuse):ti |
|  | (depression or schizophren\* or psychos\* or "substance abuse" or addiction or addictions):ti |
|  | [mh epilepsy] |
|  | (epileps\* or seizure or seizures):ti |
|  | [mh "hiv infections"] |
|  | (hiv or acquired immune\* deficiency syndrome\*):ti |
|  | [mh neoplasms] |
|  | (neoplasm or cancer):ti |
|  | [mh "kidney diseases"] |
|  | (kidney disease\* or kidney disorder\*):ti |
|  | [mh "liver diseases"] |
|  | (liver disease\* or liver disorder\*):ti |
|  | [mh osteoporosis] |
|  | osteoporosis:ti |
|  | (#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 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35) |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\*) near/2 (disease or diseases or ill\* or care or condition or conditions or disorder\* or health\* or medication\* or symptom\* or syndrom\*)):ti,ab |
|  | (#36 and #37) |
|  | (#4 or #38) |
|  | Date parameters: 2011-04 January 2016 |

**AMED search terms**

|  |  |
| --- | --- |
|  | comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | or/1-4 |
|  | chronic disease/ |
|  | (chronic\* adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or syndrom\* or symptom\*)).ti,ab. |
|  | or/6-7 |
|  | 5 or 8 |
|  | exp diabetes mellitus/ or diabet\*.ti,ab. |
|  | exp hypertension/ or (hypertens\* or "high blood pressure?").ti,ab. |
|  | exp heart diseases/ or (((heart or cardiac or cardiovascular or coronary) adj (disease? or disorder? or failure)) or arrythmia?).ti,ab. |
|  | exp cerebrovascular disorders/ or ((cerebrovascular or vascular or carotoid\* or arter\*) adj (disorder? or disease?)).ti,ab. |
|  | exp asthma/ or asthma\*.ti,ab. |
|  | exp pulmonary disease chronic obstructive/ or (copd or (pulmonary adj2 (disease? or disorder?))).ti,ab. |
|  | exp hyperlipidemia/ or (hyperlipidem\* or hypercholesterolemia\* or hypertriglyceridemia\*).ti,ab. |
|  | exp thyroid diseases/ or ((thyroid adj (disease? or disorder)) or hyperthyroid\* or hypothyroid\*).ti,ab. |
|  | exp arthritis rheumatoid/ or rheumatoid arthritis.ti,ab. |
|  | exp mental disorders/ or (((mental or anxiety or mood or psychological or sleep) adj (disease? or disorder?)) or ((substance or drug or marijuana or cocaine or amphetamine) adj2 abuse) or depression or schizophren\* or psychos\* or "substance abuse" or addiction?).ti,ab. |
|  | exp epilepsy/ or (epileps\* or seizure?).ti,ab. |
|  | exp hiv infections/ or (hiv or acquired immune\* deficiency syndrome? or (aids adj (associated or related or arteritis))).ti,ab. |
|  | exp neoplasms/ or (neoplasm? or cancer?).ti,ab. |
|  | exp kidney diseases/ or (kidney adj (disease? or disorder?)).ti,ab. |
|  | exp liver diseases/ or (liver adj (disease? or disorder?)).ti,ab. |
|  | exp osteoporosis/ or osteoporosis.ti,ab. |
|  | or/10-25 |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | chronic\*.ti,ab,hw. |
|  | 27 or 28 |
|  | 26 and 29 |
|  | exp education/ |
|  | (education\* adj2 (program\* or intervention? or meeting? or session? or strateg\* or workshop? or visit?)).tw. |
|  | (behavio?r\* adj2 intervention?).tw. |
|  | (leaflet? or booklet? or poster or posters).tw. |
|  | ((written or printed or oral) adj information).tw. |
|  | (information\* adj2 campaign).tw. |
|  | (education\* adj1 (method? or material?)).tw. |
|  | advance directives/ |
|  | outreach.tw. |
|  | ((opinion or education\* or influential) adj1 leader?).tw. |
|  | facilitator?.tw. |
|  | academic detailing.tw. |
|  | consensus conference?.tw. |
|  | practice guideline?.tw. |
|  | (guideline? adj2 (introduc\* or issu\* or impact or effect? or disseminat\* or distribut\*)).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 training program\*).tw. |
|  | reminder?.tw. |
|  | (recall adj2 system\*).tw. |
|  | (prompter? or prompting).tw. |
|  | algorithm?.tw. |
|  | \*feedback/ or feedback.tw. |
|  | chart review\*.tw. |
|  | ((effect? or impact or records or chart?) adj2 audit).tw. |
|  | compliance.tw. |
|  | marketing.tw. |
|  | or/31-55 |
|  | fee for service.tw. |
|  | cost shar\*.tw. |
|  | (copayment? or co payment?).tw. |
|  | (prepay\* or prepaid or prospective payment?).tw. |
|  | formular?.tw. |
|  | fundhold?.tw. |
|  | insurance health/ |
|  | medicare/ |
|  | blue cross.tw. |
|  | or/57-65 |
|  | (nurse adj (rehabilitator? or clinician? or practitioner? or midwi\*)).tw. |
|  | clinical pharmacist?.tw. |
|  | paramedic?.tw. |
|  | exp patient care management/ |
|  | (team? adj2 (care or treatment or assessment or consultation)).tw. |
|  | (integrat\* adj2 (care or service?)).tw. |
|  | (care adj2 (coordinat\* or program\* or continuity)).tw. |
|  | (case adj1 management).tw. |
|  | exp ambulatory care facilities/ |
|  | ambulatory care/ |
|  | or/67-76 |
|  | home care services/ |
|  | hospices/ |
|  | nursing homes/ |
|  | day care/ |
|  | community health nursing/ |
|  | (chang\* adj1 location?).tw. |
|  | domiciliary.tw. |
|  | (home adj1 treat\*).tw. |
|  | day surgery.tw. |
|  | medical records/ |
|  | (information adj2 (management or system?)).tw. |
|  | peer review/ |
|  | or/78-89 |
|  | professional practice/ |
|  | quality assurance.tw. |
|  | program evaluation/ |
|  | length of stay/ |
|  | (early adj1 discharg\*).tw. |
|  | discharge planning.tw. |
|  | offset.tw. |
|  | triage.tw. |
|  | "referral and consultation"/ |
|  | near patient testing.tw. |
|  | medical history taking/ |
|  | telephone/ |
|  | (physician patient adj (interaction? or relationship?)).tw. |
|  | health maintenance organizations/ |
|  | managed care.tw. |
|  | (hospital? adj1 merg\*).tw. |
|  | or/91-106 |
|  | ((standard or usual or routine or regular or traditional or conventional or pattern) adj2 care).tw. |
|  | (program\* adj2 (reduc\* or increas\* or decreas\* or chang\* or improv\* or modify\* or monitor\* or care)).tw. |
|  | (program\* adj1 (health or care or intervention?)).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 treatment program\*).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 care program\*).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 screening program\*).tw. |
|  | ((effect? or impact or evaluat\* or introduc\* or compar\*) adj2 prevent\* program\*).tw. |
|  | (computer\* adj2 (dosage or dosing or diagnosis or therapy or decision?)).tw. |
|  | ((introduc\* or impact or effect? or implement\* or computer\*) adj2 protocol?).tw. |
|  | ((effect or impact or introduc\*) adj2 (legislation or regulations or policy)).tw. |
|  | or/108-117 |
|  | or/56,66,77,90,107,118 |
|  | 9 or 30 |
|  | animals/ not humans/ |
|  | 120 not 121 |
|  | randomized controlled trial.pt. |
|  | controlled clinical trial.pt. |
|  | random\*.ti,ab. |
|  | (control\* adj2 (trial? or study or studies)).ti,ab. |
|  | double-blind method/ or random allocation/ or single-blind method/ |
|  | ((double or single or triple or treble) adj2 blind\*).ti,ab. |
|  | (quasi-experiment\* or quasiexperiment\*).ti,ab. |
|  | interrupt\* time series.ti,ab. |
|  | or/123-130 |
|  | 122 and 131 |
|  | Limit 133 to English language |
|  | Date parameters: 2011-04 January 2016 |

**CINAHL search terms**

|  |  |
| --- | --- |
|  | (mh "comorbidity") |
|  | ti ( multimorbid\* or multi-morbid\* or comorbid\* or co-morbid\* or multidisease? or multi-disease? ) or ab ( multimorbid\* or multi-morbid\* or comorbid\* or co-morbid\* or multidisease? or multi-disease? ) or ti (multiple n2 ill\* or multiple n2 disease? or multiple n2 condition? or multiple n2 syndrom\* or multiple n2 disorder?) or ab (multiple n2 ill\* or multiple n2 disease? or multiple n2 condition? or multiple n2 syndrom\* or multiple n2 disorder?) or ti ( coocur\* n3 disease? or coocur\* n3 ill\* or coocur\* n3 care or coocur\* n3 condition? or coocur\* n3 disorder\* or coocur\* n3 health\* or coocur\* n3 medication\* or coocur\* n3 symptom\* or coocur\* n3 syndrom\* or coexist\* n3 disease? or coexist\* n3 ill\* or coexist\* n3 condition? or coexist\* n3 disorder\* or coexist\* n3 symptom\* or coexist\* n3 syndrom\* or multipl\* n3 disease? or multipl\* n3 ill\* or multipl\* n3 condition? or multipl\* n3 disorder\* or multipl\* n3 medication\* or multipl\* n3 symptom\* or multipl\* n3syndrom\* or co-exist\* n3 disease? or co-exist\* n3 ill\* or co-exist\* n3 condition? or co-exist\* n3 disorder\* or co-exist\* n3 health\* co-exist\* n3 symptom\* or co-exist\* n3 syndrom\* or co-ocur\* n3 disease? or co-ocur\* n3 ill\* or co-ocur\* n3 condition? or co-ocur\* n3 disorder\* or co-ocur\* n3 health\* or co-ocur\* n3 symptom\* or co-ocur\* n3 syndrom\* ) or ab ( coocur\* n3 disease? or coocur\* n3 ill\* or coocur\* n3 care or coocur\* n3 condition? or coocur\* n3 disorder\* or coocur\* n3 health\* or coocur\* n3 medication\* or coocur\* n3 symptom\* or coocur\* n3 syndrom\* or coexist\* n3 disease? or coexist\* n3 ill\* or coexist\* n3 condition? or coexist\* n3 disorder\* or coexist\* n3 symptom\* or coexist\* n3 syndrom\* or multipl\* n3 disease? or multipl\* n3 ill\* or multipl\* n3 condition? or multipl\* n3 disorder\* or multipl\* n3 medication\* or multipl\* n3 symptom\* or multipl\* n3syndrom\* or co-exist\* n3 disease? or co-exist\* n3 ill\* or co-exist\* n3 condition? or co-exist\* n3 disorder\* or co-exist\* n3 health\* co-exist\* n3 symptom\* or co-exist\* n3 syndrom\* or co-ocur\* n3 disease? or co-ocur\* n3 ill\* or co-ocur\* n3 condition? or co-ocur\* n3 disorder\* or co-ocur\* n3 health\* or co-ocur\* n3 symptom\* or co-ocur\* n3 syndrom\* ) |
|  | S1 or S2 |
|  | (mh "chronic disease") |
|  | ti ( chronic\* w3 disease? or chronic\* w3 ill\* or chronic\* w3 care or chronic\* w3 condition? or chronic\* w3 disorder\* or chronic\* w3 health\* or chronic\* w3 medication\* or chronic\* w3 syndrom\* or chronic\* w3 symptom\* ) or ab ( chronic\* w3 disease? or chronic\* w3 ill\* or chronic\* w3 care or chronic\* w3 condition? or chronic\* w3 disorder\* or chronic\* w3 health\* or chronic\* w3 medication\* or chronic\* w3 syndrom\* or chronic\* w3 symptom\* ) |
|  | S4 or S5 |
|  | (mh "diabetes mellitus+") or (mm "hypertension+") or (mm "cerebrovascular disorders+") |
|  | (mm "cardiovascular diseases+") |
|  | (mm "lung diseases, obstructive+") or (mm "pulmonary disease, chronic obstructive+") or (mm "asthma+") |
|  | (mm "thyroid diseases+") or (mm "arthritis+") or (mm "epilepsy+") |
|  | (mh "mental disorders, chronic") or (mm "mental disorders+") or (mm "human immunodeficiency virus+") |
|  | (mm "liver diseases+") or (mm "neoplasms+") or (mm "osteoporosis+") |
|  | (mm "kidney diseases+") |
|  | ( mw ( disease or diseases ) ) or mw syndrome? or mw chronic |
|  | ti diabet\* or asthma\* or chronic or disease |
|  | S7 or S8 or S9 or S10 or S11 or S12 or S13 or S14 or S15 |
|  | ti ( coocurr\* or coexist\* or co-ocurr\* or coexist\* or co-exist\*) or ab (coocurr\* or coexist\* or co-ocurr\* or coexist\* or co-exist\*) |
|  | S6 and S17 |
|  | S16 and S17 |
|  | ( ti ( multimorbid\* or multi-morbid\* )) or ( ab ( multimorbid\* or multi-morbid\* )) |
|  | (mh "quasi-experimental studies") |
|  | ti ( intervention\* or multiintervention\* or multi-intervention\* or postintervention\* or post-intervention\* or preintervention\* or pre-intervention\* ) or ab ( intervention\* or multiintervention\* or multi-intervention\* or postintervention\* or post-intervention\* or preintervention\* or pre-intervention\* ) |
|  | ti ( pre-test\* or pretest\* or posttest\* or post-test\* ) or ab ( pre-test\* or pretest\* or posttest\* or "post test\* ) or ti ( preimplement\*" or pre-implement\* ) or ab ( pre-implement\* or preimplement\* ) |
|  | mh experimental studies or community trials or community trials or pretest-posttest design + or quasi-experimental studies + pilot studies or policy studies + multicenter studies |
|  | ti ( (comparative n2 study) or (comparative n2 studies) or evaluation study or evaluation studies ) or ab ( (comparative n2 study) or (comparative n2 studies) or evaluation study or evaluation studies ) |
|  | mh "multiple time series" or mh "time series" |
|  | ti pre w7 post or ab pre w7 post |
|  | ti ( ( quasi-experiment\* or quasiexperiment\* or quasi-random\* or quasirandom\* or quasi control\* or quasicontrol\* or quasi\* w3 method\* or quasi\* w3 study or quasi\* w3 studies or quasi\* w3 trial or quasi\* w3 design\* or experimental w3 method\* or experimental w3 study or experimental w3 studies or experimental w3 trial or experimental w3 design\* ) ) or ab ( ( quasi-experiment\* or quasiexperiment\* or quasi-random\* or quasirandom\* or quasi control\* or quasicontrol\* or quasi\* w3 method\* or quasi\* w3 study or quasi\* w3 studies or quasi\* w3 trial or quasi\* w3 design\* or experimental w3 method\* or experimental w3 study or experimental w3 studies or experimental w3 trial or experimental w3 design\* ) ) |
|  | ti ( (time point\*) or (period\* n4 interrupted) or (period\* n4 multiple) or (period\* n4 time) or (period\* n4 various) or (period\* n4 varying) or (period\* n4 week\*) or (period\* n4 month\*) or (period\* n4 year\*) ) or ab ( (time point\*) or (period\* n4 interrupted) or (period\* n4 multiple) or (period\* n4 time) or (period\* n4 various) or (period\* n4 varying) or (period\* n4 week\*) or (period\* n4 month\*) or (period\* n4 year\*) ) |
|  | ( ab ( before\* n10 during or before n10 after ) ) or ( au ( before\* n10 during or before n10 after ) ) |
|  | ti time series or ab time series or ab "before-and-after" |
|  | (mh "pilot studies") or ti pilot |
|  | ti ( collaborativ\* or collaboration\* or tailored or personalised or personalized ) or ab ( collaborativ\* or collaboration\* or tailored or personalised or personalized ) |
|  | (intervention n6 clinician\*) or (intervention n6 community) or (intervention n6 complex) or (intervention n6 design\*) or (intervention n6 doctor\*) or (intervention n6 educational) or (intervention n6 family doctor\*) or (intervention n6 family physician\*) or (intervention n6 family practitioner\*) or (intervention n6 financial) or (intervention n6 gp) or (intervention n6 general practice\*) or (intervention n6 hospital\*) or (intervention n6 impact\*) or (intervention n6 improv\*) or (intervention n6 individualize\*) or (intervention n6 individualise\*) or (intervention n6 individualizing) or (intervention n6 individualising) or (intervention n6 interdisciplin\*) or (intervention n6 multicomponent) or (intervention n6 multi-component) or (intervention n6 multidisciplin\*) or (intervention n6 multi-disciplin\*) or (intervention n6 multifacet\*) or (intervention n6 multi-facet\*) or (intervention n6 multimodal\*) or (intervention n6 multi-modal\*) or (intervention n6 personalize\*) or(intervention n6 personalise\*) or (intervention n6 personalizing) or (intervention n6 personalising) or (intervention n6 pharmaci\*) or (intervention n6 pharmacist\*) or (intervention n6 pharmacy) or (intervention n6 physician\*) or (intervention n6 practitioner\*) or (intervention n6 prescrib\*) or (intervention n6 prescription\*) or (intervention n6 primary care) or (intervention n6 professional\*) or (intervention\* n6 provider\*) or (intervention\* n6 regulatory) or (intervention n6 regulatory) or (intervention n6 tailor\*) or (intervention n6 target\*) or (intervention n6 team\*) or (intervention n6 usual care) |
|  | ti ( demonstration project or demonstration projects or preimplement\* or pre-implement\* or post-implement\* or postimplement\* ) or ab ( demonstration project or demonstration projects or preimplement\* or pre-implement\* or post-implement\* or postimplement\* ) |
|  | ti ( pre-workshop or preworkshop or post-workshop or postworkshop or (before n3 workshop) or (after n3 workshop) ) or ab ( pre-workshop or preworkshop or post-workshop or postworkshop or (before n3 workshop) or (after n3 workshop) ) |
|  | ti ( trial or (study n3 aim) or "our study" ) or ab ( (study n3 aim) or "our study" ) |
|  | ti random\* or controlled |
|  | ( ti ( multicentre or multicenter or multi-centre or multi-center ) ) or ab random\* |
|  | ti ( (control w3 area) or (control w3 cohort\*) or (control w3 compar\*) or (control w3 condition) or (control w3 group\*) or (control w3 intervention\*) or (control w3 participant\*) or (control w3 study) ) or ab ( (control w3 area) or (control w3 cohort\*) or (control w3 compar\*) or (control w3 condition) or (control w3 group\*) or (control w3 intervention\*) or (control w3 participant\*) or (control w3 study) ) |
|  | ti ( (time points n3 over) or (time points n3 multiple) or (time points n3 three) or (time points n3 four) or (time points n3 five) or (time points n3 six) or (time points n3 seven) or (time points n3 eight) or (time points n3 nine) or (time points n3 ten) or (time points n3 eleven) or (time points n3 twelve) or (time points n3 month\*) or (time points n3 hour\*) or (time points n3 day\*) or (time points n3 "more than") ) or ab ( (time points n3 over) or (time points n3 multiple) or (time points n3 three) or (time points n3 four) or (time points n3 five) or (time points n3 six) or (time points n3 seven) or (time points n3 eight) or (time points n3 nine) or (time points n3 ten) or (time points n3 eleven) or (time points n3 twelve) or (time points n3 month\*) or (time points n3 hour\*) or (time points n3 day\*) or (time points n3 "more than") ) |
|  | S21 or S22 or S23 or S24 or S25 or S26 or S27 or S28 or S29 or S30 or S31 or S32 or S33 or S34 or S35 or S36 or S37 or S38 or S39 or S40 or S41 |
|  | ti ( (multicent\* n2 design\*) or (multicent\* n2 study) or (multicent\* n2 studies) or (multicent\* n2 trial\*) ) or ab ( (multicent\* n2 design\*) or (multicent\* n2 study) or (multicent\* n2 studies) or (multicent\* n2 trial\*) ) |
|  | (mm "clinical trials+") |
|  | ( ti ( “clinical study” or “clinical studies” ) ) or ( ab ( “clinical study” or “clinical studies” ) ) |
|  | ti random\* or ab random\* |
|  | ti ( “control\* n1 clinical” or “control\* n1 group\*” or “control\* n1 trial\*” or “control\* n1 study” or “control\* n1 studies” or “control\* n1 design\*” or “control\* n1 method\*” ) or ab ( “control\* n1 clinical” or “control\* n1 group\*” or “control\* n1 trial\*” or “control\* n1 study” or “control\* n1 studies” or “control\* n1 design\*” or “control\* n1 method\*” ) |
|  | ti controlled |
|  | S43 or S44 or S45 or S46 or S47 or S48 |
|  | (mh "family practice") or (family practice) or (general practice) or (family practitioner\*) or (general practitioner\*) or (family doctor\*) |
|  | (mh "physicians, family") or ti (family physician? or family doctor?) or ab (family doctor? or family physician?) |
|  | (mh "primary health care") or (mh "community health services+") or ( mw care or patient or community ) |
|  | S50 or S51 or S52 |
|  | S3 and S49 |
|  | S18 or S19 |
|  | S49 and S55 |
|  | S42 and S55 |
|  | S3 and S42 and S53 |
|  | S20 or S54 or S56 or S57 or S58 |
|  | Limit S59 to English language |
|  | Date parameters: 2011-04 January 2016 |

* + 1. Holistic assessment
* What is the clinical and cost effectiveness of holistic assessment in patients with multimorbidity?

The searches from a relevant Cochrane review1 were updated as follows:

**Medline search terms**

|  |  |
| --- | --- |
|  | geriatric assessment/ |
|  | health services for the aged/ |
|  | needs assessment/ |
|  | risk assessment/ |
|  | exp diagnostic services/ |
|  | "health services needs and demand"/ |
|  | exp health services/ |
|  | exp "delivery of health care"/ |
|  | exp "outcome and process assessment (health care)"/ |
|  | or/3-9 |
|  | geriatrics/ or exp \*aged/ |
|  | 10 and 11 |
|  | or/1-2,12 |
|  | ((geriatric or aged or elderly or old age) adj5 (assess\* or evaluation or consultation)).tw. |
|  | (gemu or gemus).tw. |
|  | 11 and (multidisciplinary adj5 assess\*).tw. |
|  | or/13-16 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 17 not 18 |
|  | Limit 19 to English language |
|  | Study filters RCT (A.3.2) |
|  | 20 and 21 |
|  | Date parameters: 2010-04 January 2016 |

**Embase search terms**

|  |  |
| --- | --- |
|  | geriatric assessment/ |
|  | exp geriatric care/ |
|  | geriatrics/ or exp \*aged/ |
|  | needs assessment/ |
|  | \*risk assessment/ |
|  | preventive health service/ |
|  | \*health services/ |
|  | \*health status/ |
|  | treatment outcome/ or \*outcome assessment/ |
|  | health care delivery/ or integrated health care system/ |
|  | \*patient care/ |
|  | or/4-11 |
|  | 3 and 12 |
|  | ((geriatric or aged or elderly or old age) adj5 (assess\* or evaluation or consultation)).tw. |
|  | (gemu or gemus).tw. |
|  | 3 and (multidisciplinary adj5 assess\*).tw. |
|  | or/1-2,13-16 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 17 not 18 |
|  | Limit 19 to English language |
|  | Study filters RCT (A.3.2) |
|  | 20 and 21 |
|  | Date parameters: 2010-04 January 2016 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | [mh ^"geriatric assessment"] |
|  | [mh ^"health services for the aged"] |
|  | [mh ^"needs assessment"] |
|  | [mh ^"risk assessment"] |
|  | [mh "diagnostic services"] |
|  | [mh ^"health services needs and demand"] |
|  | [mh "health services"] |
|  | [mh "delivery of health care"] |
|  | [mh "outcome and process assessment (health care)"] |
|  | {or #3-#9} |
|  | [mh ^geriatrics] |
|  | [mh aged] |
|  | #11 or #12 |
|  | #10 and #13 |
|  | ((geriatric or aged or elderly or old age) near/5 (assess\* or evaluation or consultation)):ti,ab |
|  | (gemu or gemus):ti,ab |
|  | (multidisciplinary near/5 assess\*):ti,ab |
|  | #13 and #17 |
|  | #1 or #2 or #14 or #15 or #16 or #18 |
|  | Date parameters: 2010-04 January 2016 |

* + 1. Expert patient programmes
* What is the clinical- and cost-effectiveness of self-management and expert patient programmes for people with multimorbidity?

**Medline search terms**

|  |  |
| --- | --- |
|  | comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | patient education as topic/ |
|  | health education/ |
|  | (patient\* adj2 (educat\* or expert\*)).ti,ab. |
|  | (self adj3 (manage\* or care or motivat\*)).ti,ab. |
|  | exp self care/ |
|  | 10 or 11 |
|  | (program\* or educat\* or teach\* or train\* or support\* or instruct\* or coach\*).ti,ab. |
|  | 12 and 13 |
|  | or/7-9,14 |
|  | 6 and 15 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 16 not 17 |
|  | Limit 18 to English language |
|  | Study filters RCT (A.3.2) or SR (A.3.3) or OBS (A.3.7) |
|  | 19 and 20 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | \*health education/ or \*patient education/ |
|  | (patient\* adj2 (educat\* or expert\*)).ti,ab. |
|  | (self adj3 (manage\* or care or motivat\*)).ti,ab. |
|  | \*self care/ |
|  | or/9-10 |
|  | (program\* or educat\* or teach\* or train\* or support\* or instruct\* or coach\*).ti,ab. |
|  | 11 and 12 |
|  | or/7-8,13 |
|  | 6 and 14 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 15 not 16 |
|  | Limit 17 to English language |
|  | Study filters RCT (A.3.2) or SR (A.3.3) or OBS (A.3.7) |
|  | 18 and 19 |
|  | Date parameters: see Table 1 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | [mh ^comorbidity] |
|  | (comorbid\* or co-morbid\*):ti,ab |
|  | (multimorbid\* or multi-morbid\*):ti,ab |
|  | (multidisease\* or multi-disease\* or (multiple next (ill\* or disease\* or condition\* or syndrom\* or disorder\*))):ti,ab |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) near/3 (disease\* or ill\* or care or condition\* or disorder\* or health\* or medication\* or symptom\* or syndrom\*)):ti,ab |
|  | {or #1-#5} |
|  | [mh ^"patient education as topic"] |
|  | [mh ^"health education"] |
|  | (patient\* near/2 (educat\* or expert\*)):ti,ab |
|  | (self near/3 (manage\* or care or motivat\*)):ti,ab |
|  | [mh "self care"] |
|  | #10 or #11 |
|  | (program\* or educat\* or teach\* or train\* or support\* or instruct\* or coach\*):ti,ab |
|  | #12 and #13 |
|  | #7 or #8 or #9 or #14 |
|  | #6 and #15 |
|  | Date parameters: see Table 1 |

* + 1. Format of consultation
* What format of encounters with healthcare professionals improves outcomes for people with multimorbidity?

**Medline search terms**

|  |  |
| --- | --- |
|  | comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | \*patient care team/ |
|  | "appointments and schedules"/ |
|  | (telemed\* or telecare\*).ti,ab. |
|  | "delivery of health care, integrated"/ or exp telemedicine/ or exp patient-centered care/ |
|  | ((consultation\* or appointment\* or ((patient\* or health\* or communit\*) adj2 (encounter\* or visit\* or meeting\*)) or (review\* adj2 (plan\* or structur\*)) or ward round\*) adj4 (time\* or length\* or long\* or extend\* or extension\* or remote\* or virtual\* or email\* or telephon\* or book\* or choos\* or chose or choice\* or prefer\* or plan\* or discharge\* or multidisciplinary or multiprofession\* or ((multi or multiple) adj profession\*) or (patient\* adj (activat\* or centre\* or center\*)))).ti,ab. |
|  | or/7-11 |
|  | 6 and 12 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 13 not 14 |
|  | Limit 15 to English language |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | \*patient decision making/ |
|  | exp \*consultation/ |
|  | \*integrated health care system/ |
|  | exp \*telehealth/ |
|  | \*telecommunication/ |
|  | (telemed\* or telecare\*).ti,ab. |
|  | ((consultation\* or appointment\* or ((patient\* or health\* or communit\*) adj2 (encounter\* or visit\* or meeting\*)) or (review\* adj2 (plan\* or structur\*)) or ward round\*) adj4 (time\* or length\* or long\* or extend\* or extension\* or remote\* or virtual\* or email\* or telephon\* or book\* or choos\* or chose or choice\* or prefer\* or plan\* or discharge\* or multidisciplinary or multiprofession\* or ((multi or multiple) adj profession\*) or (patient\* adj (activat\* or centre\* or center\*)))).ti,ab. |
|  | or/7-13 |
|  | 6 and 14 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 15 not 16 |
|  | Limit 17 to English language |
|  | Date parameters: see Table 1 |

**Cochrane search terms**

|  |  |
| --- | --- |
|  | [mh ^comorbidity] |
|  | (comorbid\* or co-morbid\*):ti,ab |
|  | (multimorbid\* or multi-morbid\*):ti,ab |
|  | (multidisease\* or multi-disease\* or (multiple next (ill\* or disease\* or condition\* or syndrom\* or disorder\*))):ti,ab |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) near/3 (disease\* or ill\* or care or condition\* or disorder\* or health\* or medication\* or symptom\* or syndrom\*)):ti,ab |
|  | {or #1-#5} |
|  | [mh ^"patient care team"] |
|  | [mh ^"appointments and schedules"] |
|  | (telemed\* or telecare\*):ti,ab |
|  | [mh ^"delivery of health care, integrated"] |
|  | [mh telemedicine] |
|  | [mh "patient-centered care"] |
|  | ((consultation\* or appointment\* or ((patient\* or health\* or communit\*) near/2 (encounter\* or visit\* or meeting\*)) or (review\* near/2 (plan\* or structur\*)) or ward next round\*) near/4 (time\* or length\* or long\* or extend\* or extension\* or remote\* or virtual\* or email\* or telephon\* or book\* or choos\* or chose or choice\* or prefer\* or plan\* or discharge\* or multidisciplinary or multiprofession\* or ((multi or multiple) next profession\*) or (patient\* next (activat\* or centre\* or center\*)))):ti,ab |
|  | {or #7-#13} |
|  | #6 and #14 |
|  | Date parameters: see Table 1 |

* 1. Health economics search

A general economics search was run, as well as specific searches for additional economic studies on other questions. These searches used the same search terms as the corresponding clinical searches, with the addition of an economic filter rather than a study design filter.

* + 1. General multimorbidity economics

Economic searches were conducted in Medline, Embase, HEED, and NHS EED and HTA databases via the CRD interface.

**Medline search terms**

|  |  |
| --- | --- |
|  | \*comorbidity/ |
|  | (multimorbid\* or multi-morbid\* or polymorbidity or polypathy or pluralpathology).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | (multifactorial disease\* or dual diagnosis).ti,ab. |
|  | ((coocur\* or co-ocur\* or cooccur\* or co-occur\* or coexist\* or co-exist\* or multipl\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | \*multiple sclerosis/ |
|  | \*multiple myeloma/ |
|  | or/7-8 |
|  | 6 not 9 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 10 not 11 |
|  | Limit 12 to English language |
|  | Study filter HE (A.3.4) |
|  | 13 and 14 |
|  | Date parameters: 2013 – 04 January 2016 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*comorbidity/ |
|  | (multimorbid\* or multi-morbid\* or polymorbidity or polypathy or pluralpathology).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | (multifactorial disease\* or dual diagnosis).ti,ab. |
|  | ((coocur\* or co-ocur\* or cooccur\* or co-occur\* or coexist\* or co-exist\* or multipl\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | \*multiple sclerosis/ |
|  | \*multiple myeloma/ |
|  | or/7-8 |
|  | 6 not 9 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 10 not 11 |
|  | Limit 21 to English language |
|  | Study filter HE (A.3.4) |
|  | 13 and 14 |
|  | Date parameters: 2013 – 04 January 2016 |

**CRD search terms**

|  |  |
| --- | --- |
|  | MeSH descriptor comorbidity in NHSEED,HTA |
|  | (multimorbid\* or multi-morbid\* or polymorbidity or polypathy or pluralpathology) in NHSEED, HTA |
|  | ((multidisease\* or multi-disease\* or (multiple adj (ill\* or disease\* or condition\* or syndrom\* or disorder\*)))) in NHSEED, HTA |
|  | (multifactorial disease\* or dual diagnosis) in NHSEED, HTA |
|  | (((coocur\* or co-ocur\* or cooccur\* or co-occur\* or coexist\* or co-exist\* or multipl\*) adj3 (disease\* or ill\* or care or condition\* or disorder\* or health\* or medication\* or symptom\* or syndrom\*))) in NHSEED, HTA |
|  | #1 or #2 or #3 or #4 or #5 |
|  | Date parameters: Inception – 04 January 2016 |

**HEED search terms**

|  |  |
| --- | --- |
|  | ax=multimorbid\* or multi-morbid\* or polymorbidity or polypathy or pluralpathology |
|  | ax=multidisease\* or multi-disease\* |
|  | ax='multiple illnesses' within 3 |
|  | ax='multiple illness' |
|  | ax='multiple disease' within 3 |
|  | ax='multiple conditions' within 2 |
|  | ax='multiple disorders' within 3 |
|  | ax='mulpitple syndromes' within 3 |
|  | ax='multifactorial disease' |
|  | ax='dual diagnosis' |
|  | ax=coocur\* or co-ocur\* or cooccur\* or co-occur\* or coexist\* or co-exist\* |
|  | ax=disease\* or ill\* or care or condition\* or disorder\* or health\* or medication\* or symptom\* or syndrom\* |
|  | cs=11 and 12 |
|  | cs=1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 13 |
|  | Date parameters: Inception – 08 August 2014 |

* + 1. Models of care

This search used the same terms as the Cochrane review,3 with the addition of economic filters. Searches were conducted in Medline, Embase, HEED, and NHS EED and HTA databases via the CRD interface**.**

**Medline search terms**

|  |  |
| --- | --- |
|  | Interventions search terms [A.4.10, line 141] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: 2013 – 04 January 2016 |

**Embase search terms**

|  |  |
| --- | --- |
|  | Interventions search terms [A.4.10, line 151] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: 2013 – 04 Janaury 2016 |

**CRD search terms**

|  |  |
| --- | --- |
|  | MeSH descriptor comorbidity explode all trees in NHSEED,HTA |
|  | (comorbid\* or co-morbid\* or multimorbid\* or multi-morbid\* or multidisease or multidiseases or multi-disease or multi-diseases) in NHSEED, HTA |
|  | (((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\*) adj2 (disease or diseases or ill\* or care or condition or conditions or disorder\* or health\* or medication\* or symptom\* or syndrom\*))) in NHSEED, HTA |
|  | #1 or #2 or #3 |
|  | Date parameters: 1999 – 04 January 2016 |

**HEED search terms**

|  |  |
| --- | --- |
|  | ax=comorbid\* or co-morbid\* or multimorbid\* or multi-morbid\* or multidisease or multidiseases or multi-disease or multi-diseases |
|  | ax=coocur\* or co-ocur\* or cooccur\* or co-occur\* or coexist\* or co-exist\* |
|  | cs=1 or 2 |
|  | Date parameters: 1999 – 06 October 2014 |

* + 1. Holistic assessment

This search used the same terms as the Cochrane review,1 with the addition of economic filters. Searches were conducted in Medline, Embase, HEED, and NHS EED and HTA databases via the CRD interface.

**Medline search terms**

|  |  |
| --- | --- |
|  | CGA search terms [A.4.11, line 17] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: 2013 – 04 January 2016 |

**Embase search terms**

|  |  |
| --- | --- |
|  | CGA search terms [A.4.11, line 17] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: 2013 – 04 Janaury 2016 |

**CRD search terms**

|  |  |
| --- | --- |
|  | MeSH descriptor geriatric assessment in NHSEED,HTA |
|  | MeSH descriptor health services for the aged in NHSEED,HTA |
|  | MeSH descriptor needs assessment in NHSEED,HTA |
|  | MeSH descriptor risk assessment in NHSEED,HTA |
|  | MeSH descriptor health services needs and demand in NHSEED,HTA |
|  | MeSH descriptor health services in NHSEED,HTA |
|  | MeSH descriptor delivery of health care in NHSEED,HTA |
|  | MeSH descriptor diagnostic services in NHSEED,HTA |
|  | #3 or #4 or #5 or #6 or #7 or #8 |
|  | MeSH descriptor geriatrics in NHSEED,HTA |
|  | MeSH descriptor aged explode all trees in NHSEED,HTA |
|  | #10 or #11 |
|  | #9 and #12 |
|  | (((geriatric or aged or elderly or old age) adj5 (assess\* or evaluation or consultation))) in NHSEED, HTA |
|  | ((gemu or gemus)) in NHSEED, HTA |
|  | ((multidisciplinary adj5 assess\*)) in NHSEED, HTA |
|  | #12 and #16 |
|  | #1 or #2 or #13 or #14 or #15 or #17 |
|  | Date parameters: Inception – 04 January 2016 |

* + 1. Burden of treatment

Economic searches were conducted in Medline, Embase, and NHS EED and HTA databases via the CRD interface.

**Medline search terms**

|  |  |
| --- | --- |
|  | ((treat\* or therap\*) adj2 burden\*).ti,ab. |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | ((treat\* or therap\*) adj2 burden\*).ti,ab. |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: see Table 1 |

**CRD search terms**

|  |  |
| --- | --- |
|  | ((treat\* or therap\*) adj2 burden\*) in NHSEED, HTA |
|  | Date parameters: Inception – 04 January 2016 |

* + 1. Stopping treatment: antihypertensives

Economic searches were conducted in Medline, Embase , HEED, and NHS EED and HTA databases via the CRD interface**.**

**Medline search terms**

|  |  |
| --- | --- |
|  | Stopping antihypertensives search terms [A.4.6, line 36] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | Stopping antihypertensives search terms [A.4.6, line 35] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: see Table 1 |

**CRD search terms**

|  |  |
| --- | --- |
|  | MeSH descriptor thiazides explode all trees in NHSEED,HTA |
|  | ((thiazide\* or bendrofluazide or bendroflumethazide or aprinox or neo-naclex or chlorthalidone or hygroton or cyclopenthiazide or navidrex or indapamide or natrilix or metolazone or xipamide or diurexan)) in NHSEED, HTA |
|  | MeSH descriptor calcium channel blockers explode all trees in NHSEED,HTA |
|  | ((calcium adj3 (block\* or inhibit\* or antagonist\*))) in NHSEED, HTA |
|  | ((diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or verapamil or zolvera or cordilox or securon or univer or verapress or vertab)) in NHSEED, HTA |
|  | ((amlodipine or amlostin or istin or exforge or felodipine or plendil or lacidipine or motens or lercanidipine or zanidip or nicardipine or cardene or nifedipine or adalat or nimodipine or nimotop)) in NHSEED, HTA |
|  | MeSH descriptor adrenergic beta-antagonists explode all trees in NHSEED,HTA |
|  | ((propranolol or angilol or angilol or inderal-la or half-inderal or inderal or bedranol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardicor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or esmolol or brevibloc or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or sotalol or beta-cardone or sotacor or timolol or betim)) in NHSEED, HTA |
|  | (((beta or b) adj3 (block\* or antagonist\*))) in NHSEED, HTA |
|  | MeSH descriptor angiotensin receptor antagonists explode all trees in NHSEED,HTA |
|  | (((angiotensin adj3 (receptor\* adj2 (antagonist\* or blocker\*))) or arb or arbs)) in NHSEED, HTA |
|  | ((candesartan or amias or eprosartan or teveten or irbesartan or aprovel or coaprovel or losartan or cozaar or cozaar-comp or olmesartan or olmetec or sevikar or telmisartan or micardis or valsartan or diovan or co-diovan or azilsartan or edarbi)) in NHSEED, HTA |
|  | MeSH descriptor angiotensin-converting enzyme inhibitors explode all trees in NHSEED,HTA |
|  | (((ace or acei or ((angiotensin adj converting adj2 enzyme\*) or ace or kininase)) adj2 (inhibit\* or antagonist\*))) in NHSEED, HTA |
|  | ((captopril or ecopace or kaplon or capoten or co-zidocapt or capto-co or capozide or cilazapril or vascace or enalapril or ednyt or innovace or innozide or fosinopril or imidapril or tanatril or lisinopril or zestril or carace or zestoretic or moexipril or perdix or perindopril or coversyl or quinapril or quinil or accupro or accuretic or ramipril or tritace or triapin or trandolapril or gopten or tarka)) in NHSEED, HTA |
|  | MeSH descriptor antihypertensive agents explode all trees in NHSEED,HTA |
|  | ((antihypertens\* adj2 (drug\* or agent\* or treat\* or therap\* or intervention\*))) in NHSEED, HTA |
|  | MeSH descriptor adrenergic alpha-antagonists explode all trees in NHSEED,HTA |
|  | ((doxazosin or cardura or indoramin or doralese or prazosin or hypovase or terazosin or hytrin or phenoxybenzamine or phentolamine)) in NHSEED, HTA |
|  | #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 or #18 or #19 |
|  | ((deprescri\* or de-prescri\*)) in NHSEED, HTA |
|  | ((stop adj3 (criteria or criterion or rule or standard or benchmark or bench mark or decision\* or take or taking))) in NHSEED, HTA |
|  | ((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down")):ti in NHSEED, HTA |
|  | (((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) adj2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*))) in NHSEED, HTA |
|  | MeSH descriptor polypharmacy in NHSEED,HTA |
|  | (polypharmacy) in NHSEED, HTA |
|  | MeSH descriptor medication adherence in NHSEED,HTA |
|  | MeSH descriptor treatment refusal in NHSEED,HTA |
|  | ((adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\*)):ti in NHSEED, HTA |
|  | (((adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\* or persist\*) adj2 (patient\* or participant\* or dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*))) in NHSEED, HTA |
|  | #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 |
|  | #20 and #31 |
|  | Date parameters: Inception – 04 January 2016 |

**HEED search terms**

|  |  |
| --- | --- |
|  | ax=thiazide\* or bendrofluazide or aprinox or neo-naclex or chlorthalidone or hygroton or cyclopenthiazide or navidrex or indapamide or natrilix or metolazone or xipamide or diurexan |
|  | ax=calcium channel or diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or verapamil or zolvera or cordilox or securon or univer or verapress or vertab or amlodipine or amlostin or istin or exforge or felodipine or plendil or lacidipine or motens or lercanidipine or zanidip or nicardipine or cardene or nifedipine or adalat or nimodipine or nimotop |
|  | ax= beta blocker or beta blockers |
|  | ax=propranolol or angilol or angilol or inderal or bedranol or prograne or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardicor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or esmolol or brevibloc or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or sotalol or beta-cardone or sotacor or timolol or betim |
|  | ax=angiotensin receptor or arb or arbs or candesartan or amias or eprosartan or teveten or irbesartan or aprovel or coaprovel or losartan or cozaar or olmesartan or olmetec or sevikar or telmisartan or micardis or valsartan or diovan or azilsartan or edarbi |
|  | ax=ace or acei or captopril or ecopace or kaplon or capoten or co-zidocapt or capto-co or capozide or cilazapril or vascace or enalapril or ednyt or innovace or innozide or fosinopril or imidapril or tanatril or lisinopril or zestril or carace or zestoretic or moexipril or perdix or perindopril or coversyl or quinapril or quinil or accupro or accuretic or ramipril or tritace or triapin or trandolapril or gopten or tarka |
|  | ax=antihypertens\* |
|  | ax= alpha blocker or alpha blockers or doxazosin or cardura or indoramin or doralese or prazosin or hypovase or terazosin or hytrin or phenoxybenzamine or phentolamine |
|  | cs=1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 |
|  | ax=polypharmacy |
|  | ax=deprescri\* or de-prescri\* |
|  | ax=discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or step down or stop\* or cease\* or taper\* |
|  | ax=adheren\* or nonadheren\* or non-adheren\* or complian\* or noncomplian\* or non-complian\* |
|  | cs=10 or 11 or 12 or 13 |
|  | cs=9 and 14 |
|  | Date parameters: Inception – 03 December 2014 |

* + 1. Stopping treatment: bisphosphonates

Economic searches were conducted in Medline, Embase, and NHS EED and HTA databases via the CRD interface.

**Medline search terms**

|  |  |
| --- | --- |
|  | Stopping bisphosphonates search terms [A.4.7, line 20] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: 1999 – 04 January 2016 |

**Embase search terms**

|  |  |
| --- | --- |
|  | Stopping bisphosphonates search terms [A.4.7, line 20] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: 1999 – 04 January 2016 |

**CRD search terms**

|  |  |
| --- | --- |
|  | MeSH descriptor diphosphonates in NHSEED,HTA |
|  | MeSH descriptor alendronate in NHSEED,HTA |
|  | MeSH descriptor etidronic acid in NHSEED,HTA |
|  | MeSH descriptor bone density conservation agents in NHSEED,HTA |
|  | MeSH descriptor raloxifene in NHSEED,HTA |
|  | MeSH descriptor teriparatide in NHSEED,HTA |
|  | ((bisphosphonate\* or diphosphonate\*)) in NHSEED, HTA |
|  | ((alendronate or alendronic or fosamax or fosavance or etidronate or didronel or etidronic or risedronate or risedronic or actonel or ibandronate or ibandronic or bondronat or bonviva)) in NHSEED, HTA |
|  | ((raloxifene or evista or strontium ranelate or protelos or teriparatide or forsteo or forteo)) in NHSEED, HTA |
|  | MeSH descriptor clodronic acid in NHSEED,HTA |
|  | ((clodronate or clodronic or bonefos or clasteon or loron or zoledronate or zoledronic or aclasta or zometa or pamidronate or aredia or denosumab or prolia or xgeva)) in NHSEED, HTA |
|  | #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 |
|  | ((deprescri\* or de-prescri\*)) in NHSEED, HTA |
|  | ((stop\* adj3 (criteria or criterion or rule\* or standard\* or benchmark\* or bench mark\* or decision\* or take or taking))) in NHSEED, HTA |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) in NHSEED, HTA |
|  | MeSH descriptor polypharmacy in NHSEED,HTA |
|  | (polypharmacy) in NHSEED, HTA |
|  | #13 or #14 or #15 or #16 or #17 |
|  | #12 and #18 |
|  | Date parameters: 1999 – 04 January 2016 |

* + 1. Stopping treatment: statins

Economic searches were conducted in Medline, Embase , HEED, and NHS EED and HTA databases via the CRD interface**.**

**Medline search terms**

|  |  |
| --- | --- |
|  | Stopping statins search terms [A.4.8, line 26] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | Stopping statins search terms [A.4.8, line 26] |
|  | Excluded study designs and publication types [A.3.1] |
|  | 1 not 2 |
|  | Limit 3 to English language |
|  | Study filter HE (A.3.4) |
|  | 4 and 5 |
|  | Date parameters: see Table 1 |

**CRD search terms**

|  |  |
| --- | --- |
|  | MeSH descriptor hydroxymethylglutaryl-coa reductase inhibitors in NHSEED,HTA |
|  | (statin\*) in NHSEED, HTA |
|  | ((((hydroxymethylglutaryl-coa or hmg-coa) adj3 (reductase or inhibitors)))) in NHSEED, HTA |
|  | MeSH descriptor simvastatin in NHSEED,HTA |
|  | (simvastatin\* or zocor) in NHSEED, HTA |
|  | (atorvastatin\* or lipitor) in NHSEED, HTA |
|  | (rosuvastatin\* or crestor) in NHSEED, HTA |
|  | MeSH descriptor pravastatin in NHSEED,HTA |
|  | (pravastatin\* or lipostat) in NHSEED, HTA |
|  | (fluvastatin\* or lescol) in NHSEED, HTA |
|  | #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 |
|  | (deprescri\* or de-prescri\*) in NHSEED, HTA |
|  | (stop adj3 (criteria or criterion or rule or standard or benchmark or bench mark or decision\* or take or taking)) in NHSEED, HTA |
|  | (discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down"):ti in NHSEED, HTA |
|  | (((discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or "step down" or stop\* or cease\* or taper\*) adj2 (dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*))) in NHSEED, HTA |
|  | MeSH descriptor polypharmacy in NHSEED,HTA |
|  | (polypharmacy) in NHSEED, HTA |
|  | MeSH descriptor medication adherence in NHSEED,HTA |
|  | MeSH descriptor patient compliance in NHSEED,HTA |
|  | MeSH descriptor treatment refusal in NHSEED,HTA |
|  | ((adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\*)):ti in NHSEED, HTA |
|  | (((adheren\* or nonadheren\* or non-adheren\* or non adheren\* or complian\* or noncomplian\* or non-complian\* or non complian\* or persist\*) adj2 (patient\* or participant\* or dose\* or drug\* or treatment\* or therap\* or medicat\* or intervention\*))) in NHSEED, HTA |
|  | #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 |
|  | #11 and #23 |
|  | Date parameters: Inception – 04 Janaury 2016 |

**HEED search terms**

|  |  |
| --- | --- |
|  | ax=statin\* or hydroxymethylglutaryl-coa or hmg-coa |
|  | ax=simvastatin\* or zocor or atorvastatin\* or lipitor or rosuvastatin\* or crestor or pravastatin\* or lipostat or fluvastatin\* or lescol |
|  | cs=1 or 2 |
|  | ax=polypharmacy |
|  | ax=deprescri\* or de-prescri\* |
|  | ax=discontinu\* or withdraw\* or cessat\* or down-titrat\* or step-down or step down or stop\* or cease\* or taper\* |
|  | ax=adheren\* or nonadheren\* or non-adheren\* or complian\* or noncomplian\* or non-complian\* |
|  | cs=4 or 5 or 6 or 7 |
|  | cs=3 and 8 |
|  | Date parameters: Inception – 14 November 2014 |

* + 1. EQ5D

QoL searches were conducted in Medline and Embase only. A truncated version of the full QoL filter was used, to look for the EQ5D utility score alone.

**Medline search terms**

|  |  |
| --- | --- |
|  | comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | (euroqol\* or eq5d\* or eq 5\*).ti,ab. |
|  | 6 and 7 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 8 not 9 |
|  | Limit 10 to English language |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | \*comorbidity/ |
|  | (comorbid\* or co-morbid\*).ti,ab. |
|  | (multimorbid\* or multi-morbid\*).ti,ab. |
|  | (multidisease? or multi-disease? or (multiple adj (ill\* or disease? or condition? or syndrom\* or disorder?))).ti,ab. |
|  | ((coocur\* or co-ocur\* or coexist\* or co-exist\* or multipl\* or concord\* or discord\*) adj3 (disease? or ill\* or care or condition? or disorder\* or health\* or medication\* or symptom\* or syndrom\*)).ti,ab. |
|  | or/1-5 |
|  | (euroqol\* or eq5d\* or eq 5\*).ti,ab. |
|  | 6 and 7 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 8 not 9 |
|  | Limit 10 to English language |
|  | Date parameters: see Table 1 |

* + 1. Quality of life (QOL) in care homes

QoL searches were conducted in Medline and Embase only.

**Medline search terms**

|  |  |
| --- | --- |
|  | exp aged/ |
|  | (elder\* or old\* or aged or geriatric\* or senior\* or pensioner\*).ti,ab. |
|  | or/1-2 |
|  | residential facilities/ or homes for the aged/ or exp nursing homes/ |
|  | ((care or residential or nursing or respite) adj (home\* or facilit\*)).ti,ab. |
|  | 4 or 5 |
|  | 3 and 6 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 7 not 8 |
|  | Limit 9 to English language |
|  | Study filter QOL (A.3.5) |
|  | 10 and 11 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | exp aged/ |
|  | (elder\* or old\* or aged or geriatric\* or senior\* or pensioner\*).ti,ab. |
|  | or/1-2 |
|  | assisted living facility/ or nursing home/ or residential home/ |
|  | home for the aged/ |
|  | ((care or residential or nursing or respite) adj (home\* or facilit\*)).ti,ab. |
|  | or/4-6 |
|  | 3 and 7 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 8 not 9 |
|  | Limit 10 to English language |
|  | Study filter QOL (A.3.5) |
|  | 11 and 12 |
|  | Date parameters: see Table 1 |

* + 1. Mortality in care homes

Searches were conducted in Medline and Embase only.

**Medline search terms**

|  |  |
| --- | --- |
|  | residential facilities/ or homes for the aged/ or exp nursing homes/ |
|  | ((care or residential or nursing or respite) adj (home\* or facilit\*)).ti,ab. |
|  | 1 or 2 |
|  | \*life expectancy/ |
|  | (mortality or survival or life expectanc\*).ti,ab. |
|  | or/4-6 |
|  | 3 and 7 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 7 not 8 |
|  | Limit 9 to English language |
|  | Study filter MOD (A.3.6) |
|  | exp regression analysis/ |
|  | regression analys\*.ti,ab. |
|  | ((hazard or risk) adj ratio\*).ti,ab. |
|  | relative risk.ti,ab. |
|  | or/12-15 |
|  | 11 or 16 |
|  | 10 and 17 |
|  | Date parameters: see Table 1 |

**Embase search terms**

|  |  |
| --- | --- |
|  | assisted living facility/ or nursing home/ or residential home/ |
|  | home for the aged/ |
|  | ((care or residential or nursing or respite) adj (home\* or facilit\*)).ti,ab. |
|  | or/1-3 |
|  | mortality/ or \*standardized mortality ratio/ |
|  | exp \*survival/ |
|  | (mortality or survival or life expectanc\*).ti,ab. |
|  | or/5-7 |
|  | 4 and 8 |
|  | Excluded study designs and publication types [A.3.1] |
|  | 9 not 10 |
|  | Limit 11 to English language |
|  | Study filter MOD (A.3.6) |
|  | exp regression analysis/ |
|  | hazard ratio/ |
|  | ((hazard or risk) adj ratio\*).ti,ab. |
|  | regression analys\*.ti,ab. |
|  | relative risk.ti,ab. |
|  | or/14-18 |
|  | 13 or 19 |
|  | 12 and 20 |
|  | Date parameters: see Table 1 |

* 1. References

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2 National Institute for Health and Care Excellence. Developing NICE guidelines: the manual. London. National Institute for Health and Care Excellence, 2014. Available from: <http://www.nice.org.uk/article/PMG20/chapter/1%20Introduction%20and%20overview>

3 Smith SM, Soubhi H, Fortin M, Hudon C, O'Dowd T. Interventions for improving outcomes in patients with multimorbidity in primary care and community settings. Cochrane Database of Systematic Reviews*.* 2012; Issue 4:CD006560. DOI:10.1002/14651858.CD006560.pub2