Table S1

Qualitative Search Strategy

Databases searched:

Database	# of Hits	Date of Last Search
Medline	638	17/06/2019
EMBASE	801	17/06/2019
CINAHL	1,718	17/06/2019
PsycINFO	144	17/06/2019
Web of Science	614	17/06/2019
ASSIA	625	17/06/2019
British Nursing Index	1312	17/06/2019
Sociological Abstracts	130	17/06/2019

Search strategy for each database:

OVID Medline <1995 to June Week 3 2019>

1. exp asthma/ or bronchial hyperreactivity/ or bronchial spasm/ or respiratory hypersensitivity/
2. diabetes mellitus/ or diabetes mellitus, type 2/
3. Chronic Disease/ or chronic disease management/ or Disease Management/ or chronic condition*/ or comprehensive care/ or chronic care.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
4. ("long term condition*" or "long-term condition*").mp. or LTC/ or "LTC management".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
5. primary health care.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
6. 1 or 2 or 3 or 4 or 5
7. Computer* template*.mp.
8. (Electronic adj2 (template* or pro forma or checklist* or questionnaire* or "smart form*" or "patient record system*")).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
9. (Computer-based adj2 (template* or pro forma or checklist* or questionnaire* or smart form*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
10. Review template*.mp.
11. Electronic template*.mp.
12. (electronic health record* or electronic medical record* or electronic patient record*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary

concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
13. pro forma/ or checklist*/ or questionnaire*/ or smart form*/ or clinical protocol*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
14. 7 or 8 or 9 or 10 or 11 or 12 or 13
15. view*/ or perspective*/ or experience*/ or patient experience*/ or perception*/ or attitude*/ or belief*/ or feeling*/ or opinion*/ or attitude* to health/ or health behavior*/ or nurse-patient relations/ or physician-patient relations.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
16. (Qualitative adj2 (analysis or data analysis or research or evaluation or review)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
17. (Ethnograph* or meta-ethnograph* or focus group* or interview* or "thematic analysis" or "thematic synthesis" or "narrative synthesis").mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
18. 15 or 16 or 17
19. 6 AND 14 AND 18
20. limit 19 to (english language and yr="1995 -Current")

EMBASE <1995-Current>

1. exp asthma/ or bronchial hyperreactivity/ or bronchial spasm/ or respiratory hypersensitivity/
2. diabetes mellitus/ or diabetes mellitus, type 2/
3. Chronic Disease/ or chronic disease management/ or Disease Management/ or chronic condition*/ or comprehensive care/ or chronic care.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
4. ("long term condition*" or "long-term condition*").mp. or LTC/ or "LTC management".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
5. primary health care.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
6. 1 or 2 or 3 or 4 or 5
7. computer* template*.mp.
8. (Electronic adj2 (template* or pro forma or checklist* or questionnaire* or "smart form*" or "patient record system*")).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word,

organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

9. (Computer-based adj2 (template* or pro forma or checklist* or questionnaire* or smart form*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
10. Review template*.mp.
11. Electronic template*.mp.
12. (electronic health record* or electronic medical record* or electronic patient record*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
13. pro forma/ or checklist*/ or questionnaire*/ or smart form*/ or clinical protocol*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
14. 7 or 8 or 9 or 10 or 11 or 12 or 13
15. view*/ or perspective*/ or experience*/ or patient experience*/ or perception*/ or attitude*/ or belief*/ or feeling*/ or opinion*/ or attitude* to health/ or health behavior*/ or nurse-patient relations/ or physician-patient relations.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
16. (Qualitative adj2 (analysis or data analysis or research or evaluation or review)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
17. (Ethnograph* or meta-ethnograph* or focus group* or interview* or "thematic analysis" or "thematic synthesis" or "narrative synthesis").mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
18. 15 or 16 or 17
19. 6 AND 14 AND 18
20. limit 19 to (english language and yr="1995 -Current")

CINAHL Plus via EBSCOhost <no date restrictions>

1. AB asthma AB
2. AB diabetes
3. AB (chronic disease or chronic disease management or disease management or chronic condition or chronic care)
4. AB (long term condition* or long-term condition* or LTC or LTC management)
5. AB primary health care
6. S1 or S2 OR S3 OR S4 OR S5
7. AB (template or "computer* template*" or "structured disease template" or "electronic template" or "review template" or “computer-based disease management template” or "data entry template" or "electronic health record" or "electronic patient record" or

“electronic medical record” or "pro forma" or "checklist" or "questionnaire" or "patient record" or "smart form")
8. TI (view* or perspective* or experience* or patient experience* or perception* or attitude* or belief* or feeling* or opinion* or attitude* to health or health behavior* or nurse-patient relations or physician-patient relations)
9. TI (Qualitative adj2 (analysis or data analysis or research or evaluation)
10. TI (Ethnograph* or meta-ethnograph* or focus group* or interview* or "thematic analysis" or "thematic synthesis" or "narrative synthesis”)
11. S8 OR S9 OR S10
12. S6 AND S7 AND S11 (Limiters - Publication Year: 1995-2019; Language: English)

PsycINFO <1995-Current>

1. exp asthma/ or bronchial hyperreactivity/ or bronchial spasm/ or respiratory hypersensitivity/
2. diabetes mellitus/ or diabetes mellitus, type 2/
3. Chronic Disease/ or chronic disease management/ or Disease Management/ or chronic condition*/ or comprehensive care/ or chronic care.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
4. ("long term condition*" or "long-term condition*").mp. or LTC/ or "LTC management".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
5. Primary health care.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
6. 1 or 2 or 3 or 4 or 5
7. Computer* template*.mp.
8. (Electronic adj2 (template* or pro forma or checklist* or questionnaire* or "smart form*" or "patient record system*")).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
9. (Computer-based adj2 (template* or pro forma or checklist* or questionnaire* or smart form*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
10. Review template*.mp.
11. Electronic template*.mp.
12. (electronic health record* or electronic medical record* or electronic patient record*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
13. pro forma/ or checklist*/ or questionnaire*/ or smart form*/ or clinical protocol*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept

word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
14. 7 or 8 or 9 or 10 or 11 or 12 or 13
15. view*/ or perspective*/ or experience*/ or patient experience*/ or perception*/ or attitude*/ or belief*/ or feeling*/ or opinion*/ or attitude* to health/ or health behavior*/ or nurse-patient relations/ or physician-patient relations.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
16. (Qualitative adj2 (analysis or data analysis or research or evaluation or review)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
17. (Ethnograph* or meta-ethnograph* or focus group* or interview* or "thematic analysis" or "thematic synthesis" or "narrative synthesis").mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
18. 15 or 16 or 17
19. 6 AND 14 AND 18
20. limit 19 to (English language and yr="1995 -Current")

Web of Science (Web of Science Core Collection) <1995-2019>

1. TS=(asthma* or bronch* hyperactivity or respiratory hypersensitivity or wheez* or bronchoconstrict* or bronchospas*) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years
2. TS=(chronic disease or "chronic disease management" or disease management or chronic condition or chronic care or "long term condition*" or "long-term condition*" or "comprehensive care" or LTC or LTC management or "primary health care") Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years
3. TS=(diabetes mellitus) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years
4. #3 OR #2 OR #1 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years
5. TI=("template*" or "computer* template*" or "structured disease template*" or "electronic template*" or "review template*" or "data entry template*" or "electronic health record*" or "electronic patient record*" or “electronic medical record*” "proforma" or "checklist*" or "questionnaire" or "patient record*" or "smart form*" or electronic adj2 (template* or proforma or checklist or questionnaire or "patient record system") or computer-based adj2 (template* or proforma or checklist or questionnaire)) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years
6. TI=("View*" or "Perspective*" or "Experience*" or "personal experience*" or "patient experience*" or "Perception*" or "Attitude*" or "Belief*" or "Feeling*" or "opinion*" or "health knowledge" or "health attitudes") Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years
7. TS=("Qualitative analysis" or "qualitative data analysis" or "qualitative evaluation" or "qualitative summary") Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years

8. TS=(“Ethnograph*” or “meta-ethnograph*” or “focus group*” or “interview*” or “thematic analysis” or “thematic synthesis” or “narrative synthesis”) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years
9. TS=((mixed-method* or multi-method* or mixed-design or multi-design or multiple-methods or multi-strategy or cross-design) NEAR/2 (synthesis or review)) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years
10. #9 OR #8 OR #7 OR #6Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years
11. (#10 AND #5 AND #4) AND LANGUAGE: (English) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1995-2019

ASSIA via ProQuest <1987 to Current>

1. noft(asthma* or bronch* hyperactivity or respiratory hypersensitivity or wheez* or bronchoconstrict* or bronchospas*) OR noft(diabetes) OR noft(chronic disease or "chronic disease management" or disease management or chronic condition or chronic care or "long term condition*" or "long-term condition*" or "comprehensive care" or LTC or LTC management or "primary health care")
2. ab("template*" or "computer* template*" or "structured disease template*" or "electronic template*" or "review template*" or "data entry template*" or "electronic health record*" or "electronic patient record*" or “electronic medical record*” "proforma" or "checklist*" or "questionnaire" or "patient record*" or "smart form*" or electronic adj2 (template* or proforma or checklist or questionnaire or "patient record system") or computer-based adj2 (template* or proforma or checklist or questionnaire))
3. ti("View*" OR "Perspective*" OR "Experience*" OR "personal experience*" OR "patient experience*" OR "Perception*" OR "Attitude*" OR "Belief*" OR "Feeling*" OR "opinion*" OR "health knowledge" OR "health attitudes")
4. noft("Qualitative analysis" or "qualitative data analysis" or "qualitative evaluation" or "qualitative summary")
5. noft(mixed-method* or multi-method* or mixed-design or multi-design or multiple-methods or multi-strategy or cross-design NEAR/2 (synthesis or review))
6. ti("Ethnograph*" OR "meta-ethnograph*" OR "focus group*" OR "interview*" OR "thematic analysis" OR "thematic synthesis" OR "narrative synthesis")
7. S3 OR S4 OR S5 OR S6
8. S1 AND S2 AND S7 AND (la.exact("ENG") AND pd(19950101-20191231))

British Nursing Index via ProQuest <1995-Current>

1. ((ab(asthma* OR bronch* hyperactivity OR respiratory hypersensitivity OR wheez* OR bronchoconstrict* OR bronchospas*) OR ab(diabetes) OR ab(chronic disease OR "chronic disease management" OR disease management OR chronic condition OR chronic care OR "long term condition*" OR "long-term condition*" OR "comprehensive care" OR LTC OR LTC management OR "primary health care"))
2. ab("template*" OR "computer* template*" OR "structured disease template*" OR "electronic template*" OR "review template*" OR "data entry template*" OR "electronic health record*" OR "electronic patient record*" OR "electronic medical record*" "proforma" OR "checklist*" OR "questionnaire" OR "patient record*" OR "smart form*" OR electronic NEAR/2 (template* OR proforma OR checklist OR questionnaire OR "patient record system") OR computer-based NEAR/2 (template* OR proforma OR checklist OR questionnaire))

3. (ab("Qualitative analysis" OR "qualitative data analysis" OR "qualitative evaluation" OR "qualitative summary") OR ab(mixed-method* OR multi-method* OR mixed-design OR multi-design OR multiple-methods OR multi-strategy OR cross-design NEAR/2 (synthesis OR review))
4. ti("View*" OR "Perspective*" OR "Experience*" OR "personal experience*" OR "patient experience*" OR "Perception*" OR "Attitude*" OR "Belief*" OR "Feeling*" OR "opinion*" OR "health knowledge" OR "health attitudes")
5. ti("Ethnograph*" OR "meta-ethnograph*" OR "focus group*" OR "interview*" OR "thematic analysis" OR "thematic synthesis" OR "narrative synthesis")))
6. S3 OR S4 OR S5
7. S1 AND S2 AND S6
8. AND (la.exact("ENG") AND pd(19950101-20191231))

Sociological Abstracts via ProQuest <1995-Current>

1. ab(asthma* OR bronch* hyperactivity OR respiratory hypersensitivity OR wheez* OR bronchoconstrict* OR bronchospas* OR diabetes OR chronic disease OR "chronic disease management" OR disease management OR chronic condition OR chronic care OR "long term condition*" OR "long-term condition*" OR "comprehensive care" OR LTC OR "LTC management" OR "primary health care")
2. ab("template*" OR "computer* template*" OR "structured disease template*" OR "electronic template*" OR "review template*" OR "data entry template*" OR "electronic health record*" OR "electronic patient record*" OR "electronic medical record*" "proforma" OR "checklist*" OR "questionnaire" OR "patient record*" OR "smart form*" OR electronic NEAR/2 (template* OR proforma OR checklist OR questionnaire OR "patient record system") OR computer-based NEAR/2 (template* OR proforma OR checklist OR questionnaire))
3. ab("View*" OR "Perspective*" OR "Experience*" OR "personal experience*" OR "patient experience*" OR "Perception*" OR "Attitude*" OR "Belief*" OR "Feeling*" OR "opinion*" OR "health knowledge" OR "health attitudes") OR ab(Qualitative analysis " OR " qualitative data analysis " OR " qualitative evaluation " OR " qualitative summary " OR mixed-method* OR multi-method* OR mixed-design OR multi-design OR multiple-methods OR multi-strategy OR cross-design NEAR/2 (synthesis OR review)")
4. S1 AND S2 AND S3
5. AND (la.exact("ENG") AND pd(19950101-20191231))

Quantitative Search Strategy

Databases Searched

Database	# of Hits	Date of Last Search
MEDLINE	1733	15/06/2019
Embase	2905	15/06/2019
British Nursing Index	2120	15/06/2019
CENTRAL	192	15/06/2019
CINAHL	3048	15/06/2019
PsycINFO	196	17/06/2019
Web of Science	676	17/06/2019

Search Strategy for each database:

OVID MEDLINE <1995 to June Week 3 2019>

1. exp asthma/
2. (bronch* hyperactivity or respiratory hypersensitivity or asthmatic or wheez* bronchoconstrict* or bronchospas* or chronic disease* or long-term condition* or chronic condition* or LTC).mp. [mp=title, abstract, heading word, keyword]
3. (disease management or chronic disease management or disease review or comprehensive care or chronic care or primary care or tertiary care).af. [af= ALL FIELDS]
4. 1 or 2 or 3
5. exp template/
6. (review template* or structured disease template* or data entry template* or standardized template* or electronic medical record).mp. [mp=title, abstract, heading word, keyword]
7. (computer template* or computer-based disease management template or computerized patient record* or computer-based adj2 (template* OR pro forma* OR checklist* OR questionnaire*) or computerized patient record*).mp. [mp=title, abstract, heading word, keyword]
8. (smart form or pro forma or checklist or questionnaire or record or electronic adj2 (template* OR pro forma* OR checklist* OR questionnaire* OR patient record system*)).mp. [mp=title, abstract, heading word, keyword]
9. 5 or 6 or 7 or 8
10. 4 AND 9

Embase <1995-2019>

1. exp. asthma/
2. bronch* hyperactivity or respiratory hypersensitivity or asthmatic or wheez* or bronchoconstrict* or bronchospas* or chronic disease* or long-term condition* or chronic condition* or LTC.mp. [mp=title, abstract, heading word, keyword]
3. exp disease management/ or exp chronic disease management/ disease review or comprehensive care or chronic care.mp. [mp=title, abstract, heading word, keyword]
4. 1 or 2 or 3
5. exp template/
6. (review template or structured disease template* or data entry template* or standardized template* or electronic medical record).mp. [mp=title, abstract, heading word, keyword]

7. (computer template* or computer-based disease management template or computer-based adj2 (template* or proforma or checklist or questionnaire) or computerized patient record).mp. [mp=title, abstract, heading word, keyword]
8. (smart form or proforma or checklist or electronic adj2 (template* or proforma or checklist or questionnaire or patient record system)).mp. [mp=title, abstract, heading word, keyword]
9. 5 or 6 or 7 or 8
10. 4 AND 9

British Nursing Index <1995-2019>

1. mainsubject(asthma OR bronch* hyperactivity OR respiratory hypersensitivity OR bronchoconstrict* OR bronchospas* OR wheez* OR asthmatic OR chronic disease* OR long-term condition* OR chronic condition* or LTC)
2. mainsubject(disease management OR chronic disease management OR disease review OR comprehensive care OR chronic care)
3. (template* OR review template* OR structured disease template* OR standardized template* OR computer template* OR computer-based disease management template OR data entry template* OR computerized patient record OR smart form OR proforma OR checklist OR electronic adj2 (template* OR proforma OR checklist OR questionnaire OR medical record OR patient record system) OR computer-based adj2 (template* OR proforma OR checklist OR questionnaire))
4. 1 AND 2 AND 3

CENTRAL <Jan 1995 and Jul 2019>

1. (asthma or respiratory hypersensitivity or asthmatic or wheez* or chronic disease* long-term condition* or chronic condition* or LTC) ti,ab,kw (title abstract keyword)
2. (disease management or chronic disease management oror disease review or comprehensive care or chronic care or management tools) ALL TEXT
3. template* or review template* or structured disease template* or data entry template* or standardized template* or computer template* or computer-based disease management template* or computerized patient record or smart form or proforma or questionnaire or electronic adj2 (template or checklist or proforma or questionnaire or medical record or patient record system) or computer-based adj2 (template or checklist or proforma or questionnaire or patient record system) ti,ab,kw (title abstract keyword)
4. 1 and 2 and 3

CINAHL <no date restrictions>

1. MW Asthma
2. MW bronch* hyperactivity
3. MW respiratory hypersensitivity
4. MW asthmatic
5. MW wheez*
6. MW bronchoconstrict*
7. MW bronchospas*
8. MW chronic disease*
9. MW long-term condition*
10. MW chronic condition*
11. MW LTC
12. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11
13. MW disease management
14. MW chronic disease management

15. MW disease review
16. MW comprehensive care
17. MW chronic care
18. MW management tools
19. 13 or 14 or 15 or 16 or 17 or 18
20. TX template*
21. TX review template*
22. TX structured disease template*
23. TX computer template*
24. TX standardized template*
25. TX data entry template*
26. TX electronic medical record
27. TX computer-based disease management template
28. TX computerized patient record
29. TX electronic adj2 (template or pro forma or checklist or questionnaire or health record or patient record system)
30. TX computer-based adj2 (template* or pro forma or checklist or questionnaire)
31. TX smart form
32. TX checklist
33. TX pro forma
34. TX questionnaire
35. 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
36. 12 AND 19 AND 35

PsycINFO <no date restrictions>

1. exp asthma/
2. bronchial hyperactivity or bronchus hyperactivity or respiratory hypersensitivity or asthmatic or wheez* or bronchocontrist* or bronchospas* or chronic disease* or long-term condition* or chronic condition* or LTC ti. [ti=title]
3. exp disease management/ or chronic disease management or disease review or comprehensive care or chronic care.af. [af=ALL FIELDS]
4. 1 or 2 or 3
5. (template* or review template* or structured disease template* or data entry template* or standardized template* or electronic medical record).af. [af= ALL FIELDS]
6. (computer template* or computer-based disease management template or computer-based adj2 (template* or proforma or checklist or questionnaire) or computerized patient record).af. [af= ALL FIELDS]
7. (smart form or proforma or checklist or electronic adj2 (template* or proforma or checklist or questionnaire or patient record system)).af. [af= ALL FIELDS]
8. 5 or 6 or 7
9. randomized controlled trial* or RCT or randomiz* or randomized clinical trial or clinical trial* or trial* af. [af= ALL FIELDS]
10. 4 AND 8 AND 9

Web of Science <1995-2019>

1. TS=(asthma or bronch* hyperactivity or respiratory hypersensitivity or asthmatic or wheez* or bronchoconstrict* or bronchospas* or chronic disease* or long-term condition* or chronic condition* or LTC) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED*; *DocType= All document types; Language=English;*
2. TS=(disease management or chronic disease management or disease review or comprehensive care or chronic care) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-*

S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED; DocType= All document types; Language=English;

3. TI=(template* or review template* or structured disease template* or data entry template* or standardized template or electronic medical record or computer template* or computer-based disease management template or structured disease template* or data entry template* or electronic health record or computerized patient record or smart form or proforma or checklist or electronic adj2 (template* or proforma or checklist or questionnaire or patient record system) or computer-based adj2 (template* or proforma or checklist or questionnaire)) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED; DocType=All document types; Language=English*
4. 1 AND 2 AND 3

Table S2

Characteristics of Included Qualitative Studies								
Study	**Setting/ Country**	**Long-term Condition**	**Research Aim**	**Research Design & Template Design**	**Participants**	**Methods**	**Key Findings**	**Interpretation**
Blakeman et al. (2011)	Primary care trust (n=3) General Practices United Kingdom	Long-term conditions (LTC)	Explore the use of computer based templates and their relevance to self-management dialogue within consultations.	Qualitative mixed methods Existing template design	Observations of general practice consultations (n=86). Interviews with HCPs (n=17) (11 GPs, 4 practice nurses; 1 nurse; practitioner; 1 assistant health Practitioner). Interviews with LTC patients (n=12).	Observations of video-recorded consultations conducted. Semi-structured interviews with HCPs investigating their roles in the management of patients with LTCs. Interviews with patients exploring experiences of living with a LTC, including the role of consultations with HCPs. Constant comparative analysis utilised.	Self-management topics were introduced in 57/86 (66%) of consultations relating to LTCs. Little evidence that the structure of either routine or disease-management review appointments supported expansion of self-management dialogue. The use of the QOF (Quality and Outcomes Framework) templates during consultations shaped and reinforced the difficulties in supporting self-management. Use of QOF templates was reported by professionals as influencing the delivery of care. Although, some HCPs referred to the templates as providing consistency of care, they were perceived as reducing the patient's contribution to the encounter. Efforts to minimise responsibility for the QOF agenda process were utilised by HCPs. Evidence that templates reinforced a checklist approach to consultations which created difficulties in discussing self-management. HCPs felt that working through a list of self-management topics contributed to a sense of bombardment. The use of the QOF templates reinforced self-management topics being introduced as discrete behaviours to be addressed. However, there was little evidence that such an approach led to dialogue around self-management topics. Rather, this had the potential to make patients answerable for their actions, resulting in a shift away from these topics. QOF disease-management templates inhibited ideal patient-centred notions of care.	▪ Templates can influence the delivery of care. ▪ Can provide consistency of care. ▪ Reinforces a checklist approach, which creates difficulties in discussing self-management. ▪ Templates may inhibit patient-centred care.
*Bolger-Harris et al. (2008)	General Practices (n=not reported) Australia	Diabetes, ischaemic heart disease, depression and osteoarthritis reported	Evaluate GP use of computer based templates for General Practice Management Plans (GPMPs) and Team Care Arrangements (TCAs).	Qualitative interview Existing template design	GPs (n=31). Community health service (CHS) staff (n=15).	Semi-structured interviews were conducted with GPs (n=31) to investigate the use of templates and GPs attitudes to using them.	Templates were used for a range of chronic conditions including diabetes, ischaemic heart disease, depression and osteoarthritis. The source of templates used varied greatly and included those supplied in the GPs' medical software, those developed by general practices, and those developed by GPs themselves and/or others from their practice. The advantages the GPs offered for using templates was that they were quick, provided prompts, provided a checklist, they were comprehensive, ensured guidelines were adhered to, and that their use meant the GP was less likely to have his or her claims for payment rejected by Medicare. The ability to modify templates to meet the GPs' own perceived needs seemed to contribute to their usefulness. The templates developed by the general practices were regarded favourably by GPs, especially the disease specific templates. GP suggested improvements to templates included availability of templates that cater for patients with multiple chronic diseases and improved	▪ Templates viewed by GPs as quick, providing prompts and a checklist, being comprehensive and ensuring guidelines were adhered to. ▪ Templates developed by general practices viewed favourably. ▪ Improvements included templates that cater for multiple chronic diseases; and being compatible with software. ▪ The majority of GPs who did not the use templates

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							compatibility with all available GP software. 4/5 of the GPs interviewed who were non-users, were not aware that templates were available. Other reasons for non-use included that they were too busy, they were unsure of the process or they believed the items were too 'business focused' and took away from 'real doctoring'.	were unaware of their existence.
Checkland et al. (2007)	General Practices (n=2) United Kingdom	LTCs	Explore practices working in the context of the new General Medical Services contract, focusing on the effects of its demands for complete and precise data collection.	Ethnographic study including semi-structured interviews and observations Existing template design	Semi-structured interviews (n=37) with: Doctors, nurses, healthcare assistants, managers, data-entry clerks, receptionists.	Audio-recorded semi-structured interviews and observations. Observations undertaken in clinics, patient consultations, office and reception areas and practice meetings. Analysed using collaborative thematic analysis.	Electronic templates and QOF targets have led to a change in focus from the individual patient and their real problems to prioritisation of recording narrow biological parameters due to biological information being easier to record on a computer. Systems that use QOF targets reduce patient choice in terms of when and if they choose to visit their GP practice. The use of electronic templates contributed to ensuring changes to organisational structure and processes were embedded and would be continued in the future. Some nurses voiced concern about the relevance of the data collected using QOF templates whereas GPs showed little concern and suggested they were able to continue to maintain their individual patient-focused model of care using the new electronic recording system.	▪ Templates contributed to ensuring changes in organisational structure and process embedding. ▪ Templates led to a change in focus from the patient to biological information that was easier to record on the computer. ▪ Differences in nurses and GPs views of template use.
Chew-Graham et al. (2013)	General Practices (n=6) United Kingdom	Diabetes, asthma, COPD, Chronic heart Disease (CHD), Hypertension	Explore the ways in which QOF shapes routine review consultations, and highlight the tensions exposed between patient-centred consulting and QOF-informed LTC management.	Longitudinal qualitative study Existing template design	Patients (n=34) with asthma, COPD, diabetes, or chronic heart disease. HCPs (n=10) including 5 GPs and 5 Practice Nurses.	Audio-recorded patient-practitioner consultations and interviews with patients, GPs and practice nurses using Tape-assisted recall (TAR). Data were anonymised and transcribed. 88 transcripts were analysed (18 cases with a complete set of recordings (consultation, patient baseline interview, patient follow-up interview, HCP interview) and 16 cases with a partial set of recordings). Analysis was inductive with a constant comparative approach, combining cross-case and within-case analysis.	Use of QOF templates focused the review on the biomedical agenda where HCPs are the experts. Templates were found to shape patient expectations of future care and socialize patients into becoming "passive subjects of surveillance'". Meeting QOF template targets took precedence over providing holistic patient-centred care. Patients were found to leave disease reviews with their biomedical, informational, and emotional needs not being met. Patients viewed review consultations as insignificant and irrelevant to the daily management of their LTC and future healthcare needs.	▪ Templates focused reviews on biochemical agendas. ▪ Templates shaped patient expectations of future care. ▪ Meeting template targets took precedence over patient-centred care and patient's emotional needs were not met. ▪ Patients viewed reviews as irrelevant to their daily LTC management
Mann et al. (2018)	General Practices (n=33)	LTCs	Evaluate the effect on patient-centredness of a novel computer	Qualitative process evaluation of an RCT	Patients (n=16). HCPs (n=23).	Observations of intervention practice reviews (n=28) recorded. Interviews and focus	Computer template use causes loss of eye contact and disrupted dialogue. There was disrupted communication in template intervention practices, as the template was unfamiliar thus needed careful attention. The template's first question	▪ The templates opening question established the patient's agenda.

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Study	**Setting/ Country**	**Long-term Condition**	**Research Aim**	**Research Design & Template Design**	**Participants**	**Methods**	**Key Findings**	**Interpretation**
	United Kingdom		template used in multimorbidity reviews.	Research designed template subsequently embedded in practice		groups with patients and clinicians were conducted and thematically analysed.	*'What is the most important health problem that you would like us to work on over the next few months?'* successfully elicited wide-ranging health concerns and established the patient's agenda. Patients welcomed the more holistic, comprehensive reviews, which included biopsychosocial issues. Most clinicians valued identifying patients' agendas, but some felt that it diverted attention from care of LTCs. When developing management plans, goal setting was GP-lead rather than collaborative.	▪ Patients welcomed the holistic reviews. ▪ Communication was disrupted when using templates.
Rhodes et al. (2006)	General Practices (n=9) United Kingdom	Type 2 diabetes	Examine the use of a rigid agenda using a computerized checklist and consider how far this suppresses the patient's agenda.	Exploratory qualitative study Existing template design	Patients with diabetes (n=25).	Interviews were conducted with patients prior to their next consultation, which were audiotaped and transcribed. The patients' next consultations were video recorded. Thematic analysis of data from pre-consultation interviews was utilised. Conversation analysis of the video-recorded review consultations was conducted.	Templates may privilege biomedical data over more personal information. Narrow attention to a checklist was viewed as being counteractive to the achievement of patient-centered medicine. Although the use of templates ensure the medical team's objectives for the consultation are met, they also result in a predetermined review agenda that gives patients little opportunity to raise their own concerns, failing to address the patient's agenda. Nurses spent much of their time gazing at the computer screen or at papers on their desk. Questions were dictated by the checklist rather than following the natural flow of conversation. Questions were asked out of context. Nurses cut patients' answers short to ask the next question. Once data had been obtained and entered into the computer, nurses would immediately move on to the next checklist item. Deviation or digression from the checklist agenda was discouraged.	▪ Templates override the patients' agenda. ▪ Templates can inhibit patient-centred care. ▪ Using a template can shape a review, and limit the natural conversation flow.
**Rhodes et al. (2008)	General Practices (n=9) United Kingdom	Type 2 diabetes	Investigate the ways in which nurses shift gaze/body orientation between screens and patients.	Conversation analysis of consultations Existing template design	Patients with diabetes (n=18).	Consultations between the nurse and patient were video-recorded. Selected extracts were transcribed. Shifts in gaze and body orientation were also noted. Conversation analysis was utilised.	Templates encouraged a bureaucratic style to the extent that there was often little opportunity for any patient-initiated agenda. Nurse's ability to shift gaze and bodily orientation between screen and patient enables to signal engagement or disengagement from the patient or the topic being discussed. The way in which the technology is used gives shape and character to the consultation. Overreliance on a checklist agenda can leave little room for patients' concerns or alternative agenda to be discussed.	▪ Templates override and leave little room for the patients' agenda. ▪ Using a template can shape a review.
***Steyn et al. (2013)	Community health centres (CHC) (n=18) South Africa	Hypertension & diabetes	To examine the impact of implementing a structured record with national guidelines to primary care for assessing and treating	Open, cluster RCT Research designed template with intention to embed in practice	General practitioners and nurses (n=10).	CHCs were randomly allocated to intervention or control. The intervention received an education package and outreach visit including a review of guidelines, training for the use of a structured diabetes and hypertension clinical record (SR). Two	Staff members were willing to incorporate the SR despite doctors' not perceiving the SR to be particularly useful, and having preference for their own clinical notes on the patients. Staff saw the SR as a research tool and felt that it did not change their management or treatment of their patients. They felt that the information in the SR confirmed the treatment protocols that they had been following in the past. Excessive workload undermined their ability to complete the data required on the SR. Nurses and doctors reported that many	▪ Staff willing to use and see the benefit of the structured clinical record. ▪ Staff felt it did not change their management or treatment of the patients. ▪ Workload inhibited the ability to complete required data, and some

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Study	**Setting/ Country**	**Long-term Condition**	**Research Aim**	**Research Design & Template Design**	**Participants**	**Methods**	**Key Findings**	**Interpretation**
			hypertension and diabetes.			further visits were conducted at 2 weeks and 2 months. 491 patient records were analysed in the intervention group and 475 in the control. In-depth interviews were conducted (n=10) with doctors and nurses.	folders had no SR in them and often, if present, they were only partially completed. Perceived benefits of using the SR for the staff included the usefulness of having all the relevant information in one easily accessible document. Nurses in particular felt that the patients learned more about their chronic conditions as they were receiving more health education from the staff. Some doctors admitted that the SR did prompt them to screen for complications more frequently and to follow patients up more regularly.	were only partially completed. ▪ The clinical record facilitated patient education and prompting of staff.
Swinglehurst et al. (2012)	General Practices (n=2) United Kingdom	Chronic disease	Investigate how electronic templates shape, enable, and constrain consultations about chronic diseases.	Ethnographic observation of nurse-led consultations Existing template design	Patients (n=36) attending nurse-led chronic disease management consultations.	Chronic disease management consultations were observed (n=24), 12 were video-recorded, which captured the computer display. Conversation and discourse analysis was used, with attention to the sociotechnical theory.	Electronic templates are an essential part of the review as they shape the entire process, how it is carried out and what practices are performed during the review. Templates prioritise the data needs of the institution over the individual needs of the patient. Some clinicians were able to maintain a patient-centred approach to care by continuing to engage with the patient's narrative while using an electronic template e.g. by adapting their practice and using the template flexibly. Although templates are intended to ensure quality care is provided they also contribute to bureaucratisation of care, where patients are forced into an institutional framework and aspects of quality care that do not fit or are not the main focus of the template are not given precedence.	▪ Templates shape the review process. ▪ Templates can prioritise data needs of the institution over the patient. ▪ Can be used flexibly to ensure patient-centered care.
****Tai et al. (1999)	General Practices (n=6) United Kingdom	Asthma & diabetes	Test the feasibility of developing computerised templates in general practice based on standard guidelines for asthma and diabetes.	Mixed methods qualitative and quantitative pilot-RCT Research designed template subsequently embedded in practice	Qualitative interviews (n=19) with GPs (n=9) and nurses (n=6) from diabetes intervention practices, and GPs (n=2) and nurses (n=2) from asthma intervention practices.	Qualitative semi-structured interviews and quantitative evaluation of patient records 6 months after template installation. Interviews were audiotaped and transcribed to determine themes. No statistical testing was conducted due to small numbers of practices involved.	Practice nurses were more likely than GPs to use the templates which might suggest they are in a better position to provide structured care, therefore this should be a consideration when developing computer decision support programmes in general practice. Clinicians would be more likely to use computerised templates in general practice if they were actively involved in their development and they were customised for the specific practice they were being used in. Clinicians were enthusiastic about use of electronic templates but limitations included inflexibility of the technology and the length of templates. Practice nurses preferred the use of templates for carrying out routine reviews of health conditions.	▪ Nurses should be involved in template development. ▪ Clinicians more likely to use if involved in development. ▪ Templates can be inflexible and lengthy.
Turner et al. (2019)	General Practice (n=1) United Kingdom	Stroke	Test the feasibility and acceptability of a post-stroke checklist for primary care stroke reviews.	Qualitative focus groups and a single-centre non-RCT feasibility study.	Focus groups (n=3) with HCPs (n=19) (10 specialists and 9 generalists). Focus groups (n=2) with stroke survivors (n=12).	Focus groups were audio-recorded. Recordings were transcribed verbatim. Thematic analysis was completed by a single researcher using a data-driven approach.	The concept of a checklist was perceived to be valuable by both participant groups. HCPs thought it was useful to structure consultations, standardise stroke reviews and avoid post-stroke complications from being missed. Some HCPs viewed checklists as "tick-box exercises" that prevented patient-centred care. Stroke survivors and carers felt the checklist would promote proactive and stroke-specific follow-up. HCPs emphasised the importance of short checklists and the need for	▪ Templates useful to structure consultations. ▪ Can provide consistency of care. ▪ Reinforces a checklist approach. ▪ Templates may inhibit patient-centred care.

Characteristics of Included Qualitative Studies

Study	Setting/ Country	Long-term Condition	Research Aim	Research Design & Template Design	Participants	Methods	Key Findings	Interpretation
				Research designed template with intention to embed in practice			a pathway to address problems identified. Both participant groups agreed that a checklist consultation needed to be completed by someone clinically qualified. HCPs main concerns were the length of the checklist and time constraints for completing the checklist. In the context of multimorbidity, there were concerns about condition specific checklists creating additional workload.	▪ Concerns over template length and time to complete.
Wilson (2019)	General Practices (n=201) United Kingdom	COPD	Examine the role of the general practice nurse in the diagnosis and management of nutritional care of people living with COPD	Mixed methods qualitative and quantitative exploration Existing template design	Quantitative survey with lead nurse responsible for COPD care (n=201), qualitative follow-up interviews (n=8).	Nurses who completed the survey volunteered to participate in follow-up interviews. Interviews were audio-recorded, transcribed verbatim, and analysed using thematic analysis.	Financial drivers (QOF) at general practices were embedded into practice templates. This drove questioning and 'ticking boxes'. The template provided consistency of care and this was helpful for staff who worked across localities. Staff used different computers and systems, but the templates followed a national standard. The templates can act as a source of frustration as they inhibit patient-centered care. The template is time consuming and does not allow time for exploring wider issues with a patient.	▪ Templates are driven by financial incentives. ▪ Templates can produce consistency of care. ▪ Templates may inhibit patient-centred care.

*Bolger-Harris et al. (2008): Data related to TCA template use will not be extracted or included in the analysis, since these types of templates are not relevant to the aims and objectives of this systematic review.
**Rhodes et al. (2008): The data discussed in this study was collected in a previous study by Rhodes et al (2006), therefore for the purposes of the current review the findings from both studies will be combined and synthesised together as one study.
***Steyn et al. (2013): Identified in the quantitative search and contains data relevant to both quantitative and qualitative synthesis.
****Tai et al. (1999): Identified in both the quantitative and qualitative searches and contains data relevant to both quantitative and qualitative synthesis.

Table S3

Characteristics of Included Quantitative Studies								
Study	**Setting/ Country**	**Long-term Condition**	**Research Aim**	**Research Design & Template Design**	**Participants**	**Methods**	**Key Findings**	**Interpretation**
Beck et al. (2012)	Children's Hospital Medical Centre (n=1) United States	Asthma	Determine effect of an electronic asthma inpatient history and physical (H&P) template on documented history and improvements in care plans.	Non-RCT Research designed template with intention to embed in practice	Pre-implementation patient records (n=304) Post-implementation patient records (n=242)	Before-after comparison of history and care plan documentation following implementation of a new history and physical (H&P) template.	A median of 87% uptake in template occurred 2 weeks after implementation. Documentation of severity classification (71% vs 44%; p<0.0001), complete utilization history (73% vs 12%; p<0.0001), and a complete environmental history (e.g. mold) (66% vs 2%; p<0.0001) was significantly higher post-implementation. Children were significantly more likely to receive a social work referral, subspecialty consultation, or change in medication regimen (63% vs 49%; p=0.0006) post-implementation. Any change in care plan was significantly more likely post-implementation (67% vs 49%; p<0.0001). The median documentation rate for severity classification increased from 50% to 73%, previous steroid use from 36% to 80%, and cockroach exposure from 9% to 67% post-implementation.	▪ Template uptake was rapid and high. ▪ The template facilitated more complete documentation.
Co et al. (2010)	Paediatric primary care practices (n=12) United States	Attention deficit hyperactivity disorder (ADHD)	Assess the effect of electronic health record (EHR) decision support on physician management and documentation of care for children with ADHD.	Cluster-RCT Research designed template subsequently embedded in practice	Patient EHRs in intervention practices (n=206) Patient EHRs in control practices (n=206)	A cluster-RCT of EHR-based decision support compared the proportion of patients who had an ADHD visit among the control and intervention patients, as well as the quality of documentation among the control and intervention practices.	ADHD template was used by 14 physicians (33% of eligible) with a median use of 2 per physician (range 1– 6) in the intervention group. Intervention physicians with ADHD decision support used the ADHD documentation template for 32% (29 of 90) of the non-well-child visits. No well-child visits were documented with the ADHD template in addition to a well-child template. In the intervention group, notes in which the template was used were more likely to document any assessment of symptoms (100% vs 61.3%), treatment effectiveness (96.6% vs 54.8%), and treatment adverse effects (96.6% vs 40.3%; p<0.001 for each). Patients with physicians in the intervention group were more likely to have an ADHD visit (odds ratio: 1.9 [95% confidence interval: 1.1–3.4]) compared with controls. Physicians who had access to the ADHD reminder and template were more satisfied with the EHR helping them manage ADHD compared with the physicians in the control group (4.3 vs 3.3; p<0.01).	▪ The template was used at around one-third of visits. ▪ Use of the template was associated with improved documentation (symptoms, treatment effectiveness, and treatment adverse effects).
Daniels et al. (2005)	Community Health Centres (n=17) United States	Asthma	Assess effectiveness of an intervention designed to increase compliance with national asthma care guidelines in	RCT Research designed template subsequently embedded in practice	Community Health Centres (n=8 intervention sites; n=9 control sites) Community health centre staff (physicians, nurse	Three-component intervention: resources (asthma kits e.g. peak flow meter, educational materials); staff training; tools or templates. Control group only received national asthma	Due to the small number of health centres as the unit of analysis (n=17), statistical significance (p<0.01) was only achieved for two items: documenting interval symptom histories and documentation of peak flow measurements on each clinic visit. Documentation of counselling patients on maintenance and rescue plans increased by 19% in intervention sites, but only 3% in control sites. Prescribing	• Template use associated with significantly improved documentation for some measures. • Template use also associated with increased prescribing.

Characteristics of Included Quantitative Studies								
Study	**Setting/ Country**	**Long-term Condition**	**Research Aim**	**Research Design & Template Design**	**Participants**	**Methods**	**Key Findings**	**Interpretation**
			primary care health centres serving high-disparity patient populations.		practitioners, medical assistants, n = 66)	guidelines. Chart reviews performed to determine compliance with national guidelines for asthma care.	of steroid or other anti-inflammatory inhalers increased by 19% in intervention sites, but only by 9% in control sites.	
Davis et al. (2010)	Centre for Family Medicine (n=1) United States	Asthma	Establish effect of electronic medical record (EMR) templates on documentation of asthma severity classification and treatment.	Non-RCT Research designed template subsequently embedded in practice	Patient charts (n=180)	Retrospective patient chart reviews. Participating residents attended updated asthma guideline and EMR template lecture. Template reminders were posted in patient care areas. Following the intervention, a final chart review was performed.	Comparing the pre- and post-intervention reviews of the charts, documentation of severity classification of asthma significantly increased (p=0.0013) from 24% (n=43) to 44% (n=79). A significant increase in the secondary measure – inhaled corticosteroid use – from 39.4% (n=71) to 51.1% (n=92) was also reported (p=0.0170). The use of the EMR templates increased from 13% use in the pre-intervention stage to 37% in the post-intervention stage (p<0.0001).	• Template use associated with significantly increased documentation. • Asthma education and template reminders improved template uptake.
Hogan et al. (2018)	Paediatric hospital (n=1) United States	Asthma	Assess whether a quality improvement intervention could improve asthma guideline compliance.	Non-RCT Research designed template subsequently embedded in practice	Pre-intervention patient charts (n=240) Post-intervention patient charts (n=252)	An intervention including technological aids (including a new EMR), incentives and visual aids was implemented. Pre-intervention screening of 240 charts was completed followed by a post-intervention of 252 charts.	Pre- and post-intervention charts were compared for differences in documentation and correct controller discharge. Pre-intervention charts recorded 60% of patients discharged on the correct controller medication increasing to 80% post-intervention (p=0.02). 43% of pre-intervention charts documented asthma control severity increasing to 83% and later 98% post-intervention. The proportion of patients discharged on any medication was not significant. A significant increase in the use of standardized templates was reported from 40% to 60% (p<0.001). Those using the technological aids post-intervention were significantly more likely to discharge a patient on the correct controller medication (24% vs. 77%, p=0.02). Documentation of all 6 National Heart, Lung and Blood Institute's National Asthma Education and Prevention Program (NAEPP) control questions significantly increased from 8% to 91% post-intervention (p<0.001).	• Template use significantly increased after the implementation of technological and visual aids, and incentives. • Template use associated with significantly increased documentation, including asthma control questions.
Kidd (2016)	Paediatric clinic (n=1) United States	Asthma	Develop and implement an evidence-based asthma electronic health record (her) template in a paediatric office to assess for improved provider	Non-RCT Research designed template with intention to embed in practice	Paediatricians (n=4) Patient charts (n=50)	Retrospective analysis of 50 randomly selected patient charts pre- and post-intervention. A quality improvement intervention using an EHR template for paediatric asthma visits was implemented involving training on	Changes in the documentation of several asthma care measures were examined. The only documented measure that did not significantly increase following the implementation of the EHR template was prescribed controller medication (p=0.258) however it did demonstrate clinical significance, rising from 58% to 100% improvement post-intervention. All other measures were found to be significant (p<0.05). The documentation of an asthma action plan increased from 10% to 74% (p=0.001), spirometry use from 4% to 32% (p=0.011), asthma education from 60% to	• Template use associated with significantly increased documentation, including asthma action plans.

Characteristics of Included Quantitative Studies								
Study	**Setting/ Country**	**Long-term Condition**	**Research Aim**	**Research Design & Template Design**	**Participants**	**Methods**	**Key Findings**	**Interpretation**
			compliance with NAEPP guidelines.			NAEPP care guidelines, the use of asthma action plans, symptom control tool, spirometry training and the use of office handouts and education videos.	98% (p=0.000), follow-up appointment adherence from 60% to 98% (p=0.000) and asthma severity categorized from 32% to 100% (p=0.011).	
Kleczka et al. (2018)	Health Centre (n=1) Kenya	Hypertension; diabetes; chronic respiratory diseases (CRD)	Examine the effect of using rubber stamp templates on clinical documentation in paper-based charts.	Non-RCT Research designed template subsequently embedded in practice	Non-physician clinicians (n=not reported)	Analysis of 70 patient charts pre- and post-intervention. Comparison of documentation of general data; patient assessment; testing and management; and control criteria.	Post-intervention there was a 21% improvement in documentation scores for hypertension, 24% for diabetes, and 17% for CRD. Differences were statistically significant (p<0.001). A comparison of documentation with and without templates found significant (p<0.001) differences in documentation scores. On average the difference was 47% in hypertension, 43% in diabetes and 27% in CRD.	• Template use associated with significantly improved documentation.
Mahomed et al. (2015)	Primary health care clinics (n=30) South Africa	Hypertension & diabetes	Assess whether the implementation of a structured clinical record could improve compliance with guidelines for chronic disease management.	Non-RCT Research designed template with intention to embed in practice	Primary health care clinics (n=30) (n=20 intervention sites; n=10 control)	Intervention group staff were trained on the Primary Care 101 guidelines and the use of a structured clinical record, which was implemented 1 month after baseline. 19 records from each facility were analysed for compliance at baseline, 3 months, and 6 months post-intervention.	In the Dr Kenneth Kaunda district, there was a statistically significant increase in clinical records achieving compliance for both diabetes (56%-73%) and hypertension (61%-90%) at 3-months post-intervention at intervention sites (p<0.05). At 6-months, hypertension that saw an increase of 90%-96% at the intervention sites and 96-100% at the control sites from 3 to 6 months post-intervention that achieved benchmark. The use of clinical records however decreased for diabetes, from 90%-89% for intervention sites and from 96%-88% at control sites. In the West Rand Health district, a statistically significant increase in the percentage of clinical records achieving compliance was reported for both hypertension (22%-88%) and diabetes (20%-88%) at 3-months post intervention (p<0.01). An increase in percentage of clinical records achieving compliance was reported for hypertension 6-months post intervention (90-96%), however there was a decline in the percentage of clinical records achieving compliance for hypertension (88%-71%) and diabetes (88%-84%) from 3 to 6 months. In Bushbuckridge sub-district, there was a statistically significant increase in the percentage of clinical records achieving compliance at 6-months for both hypertension (3%-91%) and diabetes (3%-91%) and at the control sites (4%-84% for both conditions (p<0.01).	▪ Template use associated with an increase in quality of documentation.
Mendu et al. (2014)	Primary care clinic (n=1)	Chronic kidney disease (CKD)	Evaluate a new CKD checklist (a tool outlining	Non-RCT	Primary care providers (PCP) (n=13) assigned to	Educational materials relating to CKD management and the	Compared to the control group, patients seen in the intervention group were reported to have higher rates of adherence to annual testing of albuminuria, CBC, iron	▪ Template use significantly improved adherence to guidelines.

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Study	**Setting/ Country**	**Long-term Condition**	**Research Aim**	**Research Design & Template Design**	**Participants**	**Methods**	**Key Findings**	**Interpretation**
	United States		management guidelines for CKD) to determine whether implementation in an academic primary care clinic would improve adherence to guidelines.	Research designed template with intention to embed in practice	the intervention group (n=4) or the control group (n=9) Intervention patients (n=105), control patients (n=263)	use of the checklist were distributed to all 13 PCPs during a lecture. CKD checklists were added to the existing EMR template for use by the intervention PCPs, who received email reminders. 368 patient charts were analysed (n=105 intervention; n=263 control) during 1-year.	studies, phosphate, parathyroid hormone (PTH), more frequent use of an ACE-I or ARB, higher rates of achievement of hemoglobin A1c<7%, higher rates of vaccination for influenza and pneumococcus, and higher rates of documentation of NSAID avoidance ($p<0.05$). The three measures that did not demonstrate a statistically significant difference in adherence between the intervention and control groups were LDL cholesterol ≤100 mg/dl ($p=0.49$), annual calcium obtained ($p=0.10$) and BP≤140/90 mmHg ($p>0.99$). Of the non-CKD related control guidelines, only tetanus demonstrated a statistically significant difference in adherence in the control group (48.6% vs. 69.2%; $p<0.001$), with no significant difference in documentation for colonoscopy ($p=0.24$), mammography ($p=0.14$), Papanicolaou smear ($p=0.07$) and abdominal ultrasonography ($p=0.34$).	
Roshanov et al. (2012)	Ambulatory care clinic (n=1) Canada	Diabetes	Investigate the impact of a diabetes specific chronic disease management system (CDMS) on recording clinical information for guideline adherent diabetes care.	Non-RCT Research designed template with intention to embed in practice	10 patient charts from 3 diabetes specialists Total patient charts (n=31)	A retrospective chart review was conducted for patients seeking a CDMS-assessment for the first time at the clinic between January and April 2011.	The CDMS chart outperformed the usual care notes. Only 10.1% (95% CI, 7.7% to 12.3%) of the clinically important data were missing from the CDMS chart compared to 25.8% (95% CI, 20.5% to 31.1%) from the clinical note prepared at the time ($p<0.001$), and 26.3% (95% CI, 19.5% to 33.0%) from the clinical note prepared before the CDMS was implemented ($p<0.001$).	▪ CDMS charts captured important information more often than usual care notes.
Shapiro et al. (2011)	Community health centres (n=2) United States	Asthma	Investigate the effectiveness of an asthma toolbox intervention in improving the documentation of asthma indicators aligned with NAEPP guidelines.	Non-RCT Research designed template with intention to embed in practice	Community health centre (CHC) patients using paper records (n=600) Mobile medical program serving family homeless shelters using an electronic health record (EHR) (n=646)	1246 patient records were included in the analysis (n=600 from the CHC; n=646 mobile clinic EHRs). Data was collected 1-year prior to toolbox implementation (baseline), 1-year following (post-1), and the year after following the revision of the NAEPP guidelines (post-2).	Both sites reported a significant increase in the proportion of patients with documented asthma severity and/or control, ED visits, hospitalizations and all three measures at any of their visits from pre-toolbox to post-1 stage ($p<0.001$). Specifically, asthma severity and/or control increased from 25.5% to 77.5% at the CHC and 11.7% to 85.1% at the mobile clinic; documentation of ED visits increased from 26% to 88% at the CHC and 27.4% to 90% at the mobile clinic; documentation of hospitalizations increased from 51% to 88% at the CHC and 41.1% to 89.2% at the mobile clinic; all three measures together improved from 6.5% to 76% at the CHC and from 5.6% to 82.3% at the mobile clinic. Between the post-1 and post-2 stage, only asthma severity and/or control saw a significant increase at the CHC (77.5% to 86%; $p<0.05$) – all other measures either did not increase a significant amount (severity and/or control at mobile clinic and all three measures at both sites) or	• Template use associated with significant improvements in documentation.

Characteristics of Included Quantitative Studies								
Study	**Setting/ Country**	**Long-term Condition**	**Research Aim**	**Research Design & Template Design**	**Participants**	**Methods**	**Key Findings**	**Interpretation**
							decreased between follow-up stages (ED visits and hospitalizations at both sites). Regarding a patient's final visit to the site, all measures were found to have significantly increased between the pre-toolbox and post-1 stage at both sites ($p<0.001$). Documentation of all measures, except for severity and/or control and all three measures at the CHC decreased between the post-1 and post-2 stage. The treatment measure could not be reliably assessed due to a low rate of severity classification pre-toolbox, although between post-1 and post-2, patients with documented prescribed controller medications increased from 95.7% to 96.2% at the CHC ($p>0.05$) and from 81.3% to 97.3% at the mobile clinic ($p<0.001$).	
*Steyn et al. (2013)	Community health centres (n=18) South Africa	Hypertension & diabetes	Examine the impact of implementing a structured record with national guidelines in primary care for assessing/treating hypertension and diabetes.	Cluster-RCT Research designed template with intention to embed in practice	General practitioners and nurses (n=10) Intervention patient records (n=491) Control patient records (n=475)	491 patient records analysed in the intervention group (207 diabetic; 429 hypertensive), and 475 patient records analysed in the control group (200 diabetic; 408 hypertensive patients). The intervention arm received education and an outreach visit, and training for a structured diabetes and hypertension clinical record (SR). The control arm proceeded with usual care.	No significant differences were reported between control and intervention groups for patient's mean glycated haemoglobin level at baseline and follow-up. Both groups demonstrated poor baseline glycaemic control (62.6% for intervention and 63.1% for control) that did not significantly improve at follow-up. For hypertensive patients, no significant difference in BP control was reported between groups at baseline and follow-up. Regarding process measures (documentation of examinations for complications including retinopathy, nephropathy, foot problems), no significant differences in the documentation of these measures were reported across study arms. Poor uptake of the intervention was reported (only 58% of diabetes and 47% of hypertensive patients had SR in patient folder) which may be attributed to the lack of effectiveness of the intervention.	▪ Poor uptake of the intervention. ▪ No impact on health outcomes. ▪ No impact on documentation.
Sykes et al. (2012)	Community healthcare (n=not reported) United Kingdom	COPD	Evaluate the acceptability of a COPD CDMS for HCPs, and assess benefit to patient care.	Non-RCT Existing template design	HCPs from integrated COPD multidisciplinary team (n=42)	HCP questionnaire at 3-months and 7-months post-CDMS implementation.	Of the 35 HCPs who filled out the questionnaire at 3 months post-implementation, 94% (n=33) reported using the COPD CDMS, with 17 (52%) HCPs using it multiple times per day. The primary reasons for using the CDMS was access to information pertinent for patient care (n=25, 89%), increasing information sharing across teams (n=25, 89%), and perceived improvements in patient care (n=19, 58%) and patient experience (n=10, 35%). 18 (55%) HCPs rated the system as very or extremely useful. Of the 28 HCPs who completed the 7-month questionnaire, 89% were using the COPD CDMS, noting the primary reasons for using were	▪ Use of the template was accepted by HCPs, maintained without drop-off.

Characteristics of Included Quantitative Studies								
Study	**Setting/ Country**	**Long-term Condition**	**Research Aim**	**Research Design & Template Design**	**Participants**	**Methods**	**Key Findings**	**Interpretation**
							that they found it very or extremely useful (52%), and there were increases in the number of users who believe it improves patient experience (45%) and care (67%).	
**Tai et al. (1999)	General Practices (n=6) United Kingdom	Asthma & diabetes	Test the feasibility of developing computerised templates in general practice based on standard guidelines for asthma and diabetes care.	Mixed method qualitative and quantitative pilot-RCT Research designed template subsequently embedded in practice	Intervention practices (n=3) Control practices (n=3) Patient questionnaires (n=279 asthma; n=167 diabetes)	No statistical testing was conducted on data relating to the frequency of the use of the study templates because of the small number of practices involved.	A total of 279 patients with asthma and 167 with diabetes returned questionnaires and allowed researchers permission to access their computerised patient records. None of the study templates were frequently used in the year before or after installation. The diabetes template was used more often in two of the three intervention practices during the year after installation. No changes in the use of asthma template were observed.	▪ Poor uptake of the intervention. ▪ Use of templates varied across practices.

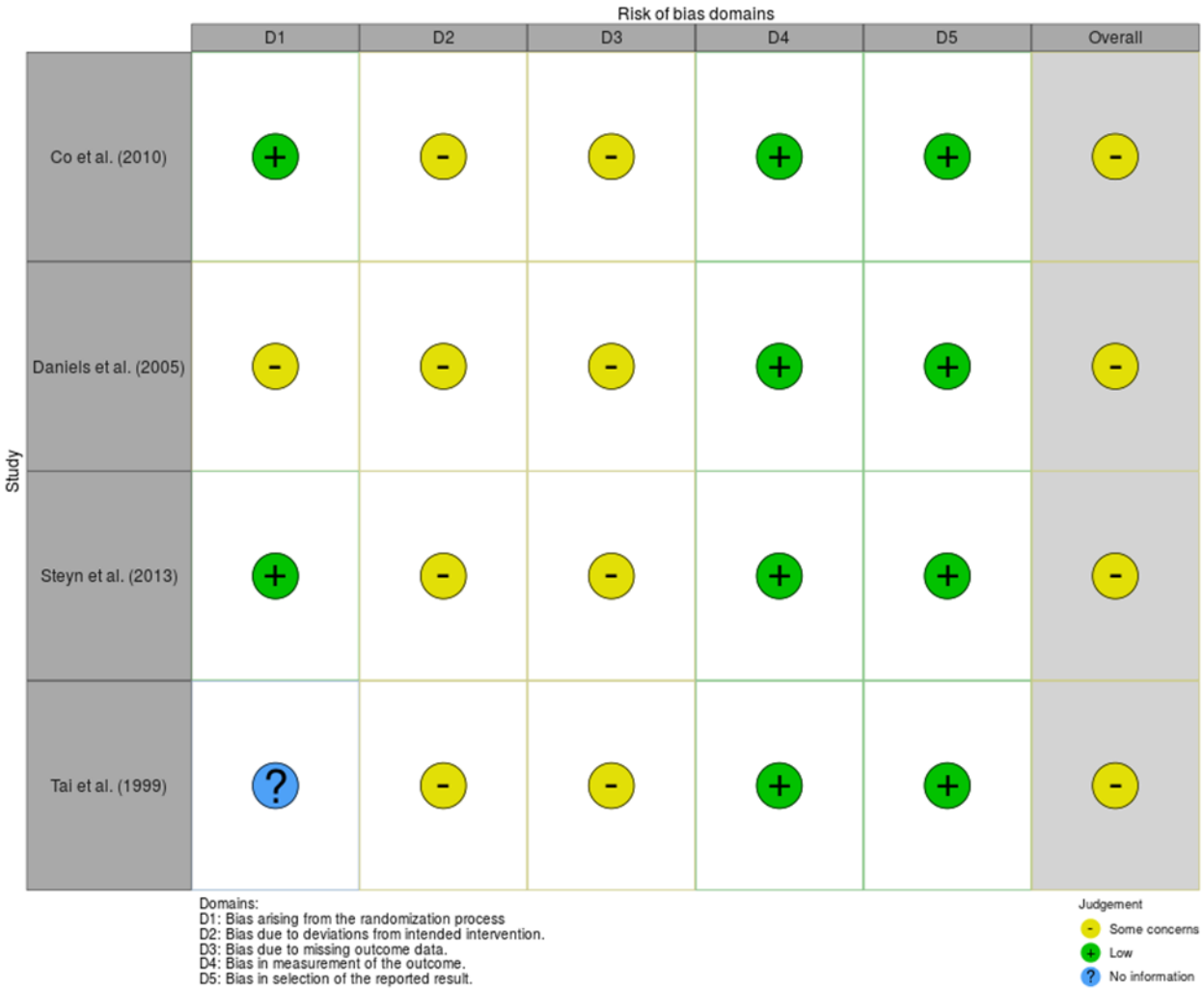
*Steyn et al. (2013): Identified in the quantitative search and contains data relevant to both quantitative and qualitative synthesis.
**Tai et al. (1999): Identified in both the quantitative and qualitative searches and contains data relevant to both quantitative and qualitative synthesis.

Table S4

The Critical Appraisal Skills Programme (CASP) checklist for each study included in the qualitative data extraction.

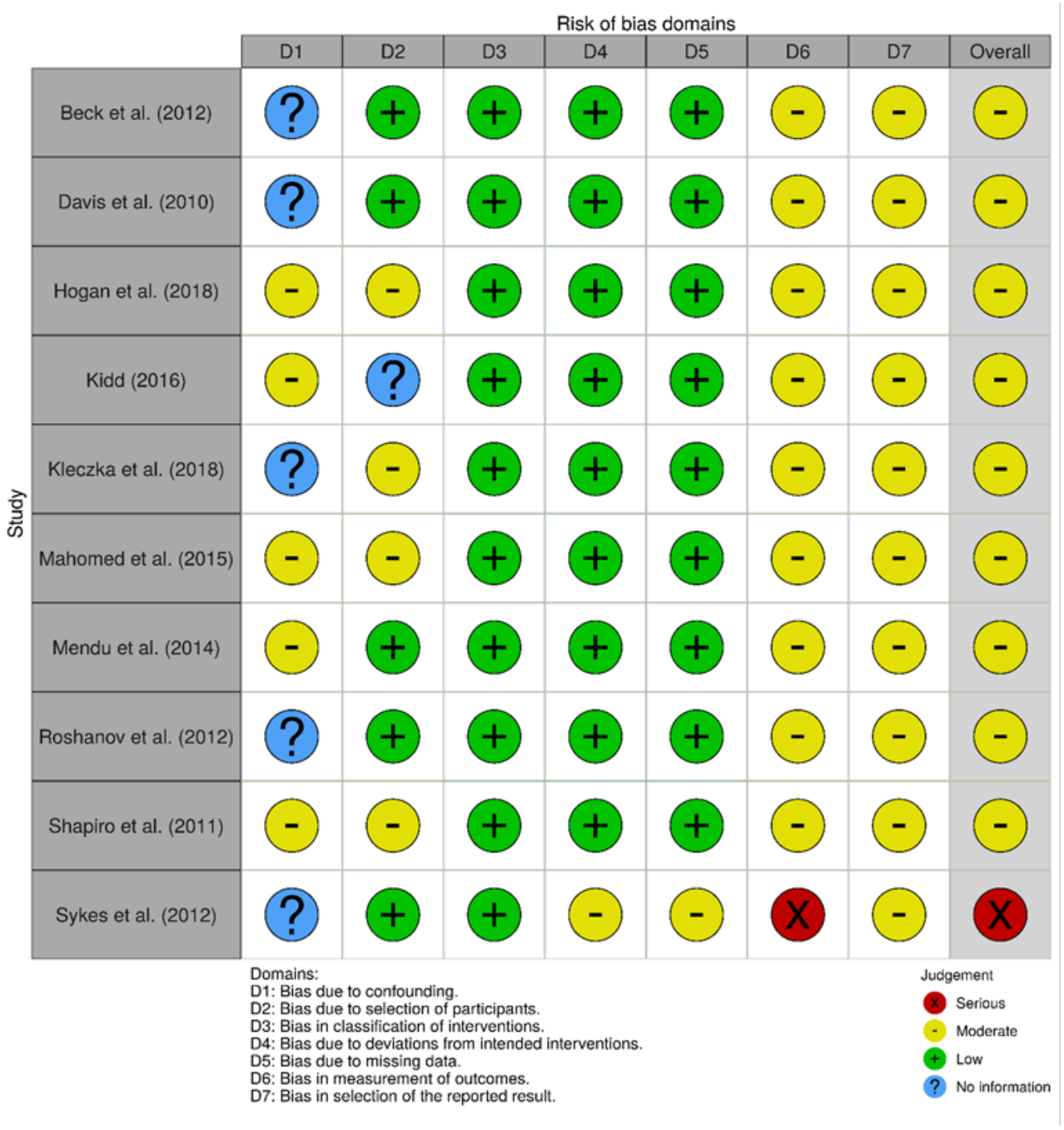
Author (Year)	Overall Quality Rating	Clear research aims?	Qualitative Methodology Appropriate?	Research Design	Recruitment Strategy	Data Collection	Participant-Researcher Relationship	Ethical Issue Consideration	Data Analysis	Clear Findings	Research Value
Blakeman et al. (2011)	9/10	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Can't Tell 0	Yes 1	Yes 1	Yes 1	Yes 1
Bolger-Harris et al. (2008)	6/10	Yes 1	Yes 1	Can't Tell 0	Yes 1	Yes 1	Can't Tell 0	Can't Tell 0	Can't Tell 0	Yes 1	Yes 1
Checkland et al. (2007)	8/10	Yes 1	Yes 1	Can't Tell 0	Yes 1	Yes 1	Yes 1	Yes 1	Can't Tell 0	Yes 1	Yes 1
Chew-Graham et al. (2013)	9/10	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Can't Tell 0	Yes 1	Yes 1	Yes 1	Yes 1
Mann et al. (2018)	10/10	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1
Rhodes et al. (2006)	9/10	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Can't Tell 0	Yes 1	Yes 1	Yes 1	Yes 1
Rhodes et al. (2008)	7/10	Yes 1	Yes 1	Yes 1	Can't Tell 0	Yes 1	Can't Tell 0	Yes 1	Yes 1	Yes 1	Can't Tell 0
*Steyn et al. (2013)	8/10	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Can't Tell 0	Yes 1	Yes 1	Yes 1	Can't Tell 0
Swinglehurst et al. (2012)	7/10	Yes 1	Yes 1	Can't Tell 0	Can't Tell 0	Yes 1	Can't Tell 0	Yes 1	Yes 1	Yes 1	Yes 1
*Tai et al. (1999)	7/10	Yes 1	Yes 1	Can't Tell 0	Yes 1	Yes 1	Can't Tell 0	Can't Tell 0	Yes 1	Yes 1	Yes 1
Turner et al. (2019)	9/10	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Can't Tell 0	Yes 1	Yes 1	Yes 1	Yes 1
Wilson (2019)	10/10	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1	Yes 1
*Contained relevant quantitative and qualitative findings, and as such has been assessed in both quantitative risk of bias summary and The Critical Appraisal Skills Programme (CASP) checklist.											

Figure S1



Risk of bias summary: author's judgement for each risk of bias item for each included randomised controlled trial study.

Figure S2



Risk of bias summary: author's judgement for each risk of bias item for each included non-randomised controlled trial study.