INPLASY

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Health Economic Evaluation Methodological Quality Assessment Tools: A protocol for a systematic review

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ADMINISTRATIVE INFORMATION

INTRODUCTION

Review question / Objective The aim of this systematic review is to find any existing methodological quality assessment checklists and tools for health economic evaluations.

Rationale The development of a new methodological quality assessment tool assumes that there is no adequate existing tool related to the area being discussed. Therefore, before developing a new tool and assessment items, it is important to understand what already exists in the literature. In 2012, the Agency for Healthcare Research and Quality (AHRQ) conducted a systematic literature review of quality assessment tools to evaluate best practices for conducting health economic evaluations and identified ten economic evaluation quality assessment tools published between 1992 and 2011.The purpose of our systematic review is to identify quality assessment tools published after 2011.

Condition being studied N/A.

METHODS

Search strategy A systematic search strategy will be designed in collaboration with a University of Alberta Health Sciences librarian experienced in systematic reviews. To identify published academic literature, we will conduct database searches (Ovid MEDLINE, EMBASE, EconLit, CINAHL, Web of Science) using a combination of relevant keywords and medical subject heading (MeSH) terms. We will then search the reference lists of the included studies. The literature searches will be restricted to English-language articles published from 2012 onward. A list of search terms that will be used to

inform the literature search is included in the appendix.

Participant or population N/A.

Intervention N/A.

Comparator N/A.

Study designs to be included Primary studies.

Eligibility criteria To be included in the review, individual studies must be full text, peer-reviewed primary studies that introduce original tools or checklists intended for use with economic evaluation assessment, new versions of checklists offering a different perspective than tools or checklists, and original checklists developed specifically for medical device economic evaluations will be eligible for inclusion. We will exclude studies that focus on frameworks and guidelines, previous versions of updated checklists, as well as those that adapt an original tool or checklist for purposes other than medical device economic evaluation, describe or validate a previously published checklist. Reviews (scoping, rapid, systematic, literature), editorials, commentary, conference abstracts, dissertations, and theses will also be excluded. Additionally, studies published in a language other than English will be excluded.

Information sources We will conduct database searches (Ovid MEDLINE, EMBASE, EconLit, CINAHL, Web of Science).

Main outcome(s) N/A.

Additional outcome(s) N/A.

Data management The results of the initial searches will be downloaded into the EndNote reference manager. Duplicate articles retrieved from multiple databases will be removed, and then the articles will be uploaded to Covidence. Covidence will be used to track the search results at the title and abstract review, article selection, and data extraction stages.
Two researchers will independently screen the titles and abstracts of all citations retrieved by the searches and assess the full text of each potentially relevant paper for inclusion. Discrepancies will be resolved by consensus, with a third reviewer providing arbitration as necessary. All potential eligible articles will be screened in full-text for final selection by two independent reviewers. Disagreements will be resolved by

consensus between reviewers, or if necessary, by a third reviewer.

Quality assessment / Risk of bias analysis Currently, there is no quality appraisal tool for checklists included in systematic reviews. The SR Toolbox is a website providing regular updates on the available quality appraisal tools for studies included in systematic reviews. If there is a quality appraisal tool available for checklists after the full text review stage, two researchers will independently assess the quality of each included paper, and discrepancies will be resolved by consensus or by consulting the third researcher.

Strategy of data synthesis Once an article is included, researchers will extract data into predeveloped data extraction forms. The following data will be extracted: a) Descriptive characteristics of the published checklists or tools (e.g. tool name, first author, year of publication, author affiliation, journal, number of items, item response options, intended use, target audience, the methods of development, funding source, any validation data) b) Only from methodological quality assessment tools, we will report each item and its
o appropriateness to assess the medical device economic evaluations
o content comparison using criteria from up-to-date economic evaluation guidelines as a reference point
o content review with respect to the seven medical device-specific features (insufficient evidence, learning curve effects, organizational impact, incremental innovation, dynamic pricing, diversity, and transferability of the results)
Results will be reported using a PRISMA 2020 flow diagram, and extracted data will be summarized in text and tables. Descriptive and outcome data will be summarized narratively and presented in tables.

Subgroup analysis N/A.

Sensitivity analysis N/A.

Language restriction Only papers published in English will be considered for inclusion.

Country(ies) involved Canada.

Other relevant information
Appendix: Systematic Review Search Strategy
Ovid MEDLINE(R) ALL
Query Results from 24 May 2023
1 Economics/ 27,505
2 Cost/ 51,405
3 exp Health Economics/ 1,686,780

4 (economic* or cost or costs or costly or costing or price or prices or pricing or pharmacoeconomic* or pharmaco-economic* or expenditure or expenditures or expense or expenses or financial or finance or finances or financed).ti,kf. 281,308
5 (economic* or cost or costs or costly or costing or price or prices or pricing or pharmacoeconomic* or pharmaco-economic* or expenditure or expenditures or expense or expenses or financial or finance or finances or financed).ab. /freq=2 380,888
6 (cost* adj2 (effective* or utilit* or benefit* or minimi* or analy* or outcome or outcomes)).ab,kf. 209,321
7 checklist*.mp. 57,762
8 tool*.mp. 980,172
9 questionnaire*.mp. 950,486
10 CHEERS.mp. 515
11 QHES.mp. 108
12 PQAQ.mp. 8
13 instrument*.mp. 1,003,431
14 CHEC.mp. 193
15 data quality.mp. 11,075
16 methodological quality.mp. 22,595
17 reporting quality.mp. 2,148
18 assess* quality.mp. 6,083
19 assess* reporting quality.mp. 42
20 assess* data quality.mp. 289
21 assess* methodological quality.mp. 1,127
22 1 or 2 or 3 or 4 or 5 or 6 2,049,969
23 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 2,777,093
24 15 or 16 or 17 or 18 or 19 or 20 or 21 41,315
25 22 and 23 and 24 2,165
26 limit 25 to (english language and yr="2012 -Current") 1,609
EMBASE May 24, 2023
Query Results from 24 May 2023
1 Economics/ 244,415
2 Cost/ 62,490
3 exp Health Economics/ 1,023,971
4 (economic* or cost or costs or costly or costing or price or prices or pricing or pharmacoeconomic* or pharmaco-economic* or expenditure or expenditures or expense or expenses or financial or finance or finances or financed).ti,kf. 348,328
5 (economic* or cost or costs or costly or costing or price or prices or pricing or pharmacoeconomic* or pharmaco-economic* or expenditure or expenditures or expense or expenses or financial or finance or finances or financed).ab. /freq=2 530,922
6 (cost* adj2 (effective* or utilit* or benefit* or minimi* or analy* or outcome or outcomes)).ab,kf. 292,035
7 checklist*.mp. 84,916
8 tool*.mp. 1,334,514
9 questionnaire*.mp. 1,259,194

10 CHEERS.mp. 681
11 QHES.mp. 176
12 PQAQ.mp. 8
13 instrument*.mp. 694,237
14 CHEC.mp. 242
15 data quality.mp. 18,136
16 methodological quality.mp. 27,111
17 reporting quality.mp. 2,761
18 assess* quality.mp. 9,227
19 assess* reporting quality.mp. 51
20 assess* data quality.mp. 341
21 assess* methodological quality.mp. 1,442
22 1 or 2 or 3 or 4 or 5 or 6 1,589,023
23 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 3,114,349
24 15 or 16 or 17 or 18 or 19 or 20 or 21 56,306
25 22 and 23 and 24 1,904
26 limit 25 to (english language and yr="2012 -Current") 1,537
CINAHL EBSCOhost Research Databases May 25, 2023
Query Limiters/Expanders Results from 24 May 2023
1 economics in healthcare 68,832
2 cost 260,214
3 cost effectiveness or cost benefit 84,438
4 cost utility 7,416
5 checklist or check list or tool 442,320
6 CHEERS checklist 83
7 QHES 3
8 PQAQ 2
9 CHEC 68
10 Pediatric Quality Appraisal Questionnaire 47
11 Consolidated Health Economic Evaluation Reporting Standards 151
12 Consensus Health Economic Criteria 222
13 Quality of Health Economic Studies 18,780
14 (S1 OR S2 OR S3 OR S4) 286,030
15 S5 AND S14 22,400
16 (S5 AND S14) AND (S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13) 1,905
17 (S5 AND S14) AND (S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13)
Limiters - Published Date: 20120101-20231231 1,492
18 (S5 AND S14) AND (S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13)
Limiters - English Language; Published Date: 20120101-20231231 1,470
EconLit EBSCOhost Research Databases May 24, 2023
Query Limiters/Expanders Results from 24 May 2023
1 economics 1,356,130
2 cost 214,238
3 health economics 112,275
4 cost effectiveness or cost benefit 47,702
5 cost utility 13,122

6 checklist or check list or tool 37,832
7 CHEERS Checklist 12
8 QHES 7
9 PQAQ 0
10 CHEC 4
11 Pediatric Quality Appraisal Questionnaire 26
12 Consolidated Health Economic Evaluation Reporting Standards 17
13 Consensus Health Economic Criteria 45
14 Quality of Health Economic Studies 4,664
15 S1 OR S2 OR S3 OR S4 OR S5 1,413,316
16 (S1 OR S2 OR S3 OR S4 OR S5) AND (S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14) 4,704
17 ((S1 OR S2 OR S3 OR S4 OR S5) AND (S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14)) AND (S6 AND S16) 236
18 ((S1 OR S2 OR S3 OR S4 OR S5) AND (S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14)) AND (S6 AND S16) 222
19 ((S1 OR S2 OR S3 OR S4 OR S5) AND (S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14)) AND (S6 AND S16) Limiters - Published Date: 20120101-20231231 172
Web of Science Core Collection May 25, 2023
(((((((((((((((((ALL=("economics")) OR ALL=("cost")) OR ALL=("health economics")) OR ALL=("cost utility")) OR ALL=("cost effectiveness")) OR ALL=("cost benefit")) AND ALL=("checklist")) OR ALL=("tool")) OR ALL=("questionnaire")) AND ALL=(CHEERS)) OR ALL=("qhts")) OR ALL=(pmaq)) OR ALL=("check")) AND ALL=("data quality")) OR ALL=("methodological quality")) OR ALL=("reporting quality")) OR ALL=("assess* quality")) AND
ALL=("assess* reporting quality")) OR ALL=("assess* data quality")) OR ALL=("assess* methodological quality") | 1,137

Keywords Health economic evaluation; quality assessment; checklist; tool.

Dissemination plans The manuscript will be submitted to peer-reviewed journals, and the research can be presented at scientific conferences.

Contributions of each author
Author 1 - Ilke Akpinar - conceiving the review; designing the review; coordinating the review; data collection; data management; analysis of data; interpretation data; writing the protocol or review.
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