THE UNIVERSITY OF NEW SOUTH WALES

CENTRE FOR CLINICAL GOVERNANCE RESEARCH

Protocol for the **R**apid **A**ssessment, **C**onceptualisation and TImely, **C**oncise **A**nalysis of the **L**iterature [PRACTICAL]

The Centre for Clinical Governance Research in Health literature analysis protocol

The Centre for Clinical Governance Research in Health undertakes strategic research, evaluations and research-based projects of national and international standing with a core interest to investigate health sector issues of policy, culture, systems, governance and leadership.

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http://clingov.med.unsw.edu.au

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1. INTRODUCTION

This protocol outlines the methods used by the Centre for Clinical Governance Research (CCGR) to identify, review and synthesise evidence related topics it researches, such as patient safety and clinical governance. Although the purpose, scope or size of literature reviews may differ, the fundamental principle of following a reproducible pathway remains the same, if the aim of producing an unbiased, systematic review is to be achieved.

The protocol for the rapid assessment, conceptualization, and timely concise analysis of the literature [PRACTICAL],[a] outlines the way in which this process is undertaken. Both the protocol and the specific details of our review process have emerged from CCGR's research in the fields of clinical governance, patient safety, interprofessionalism, and accreditation. As part of that research, and in order to make the Centre's work more accessible to clinicians and the general public, CCGR regularly produces literature reviews on key topics such as clinical governance, knowledge management, and the accreditation of health services, as well as conducting reviews on larger studies of issues such as incident reporting and safety improvement programs.[b]

2. BACKGROUND

Most literature reviews follow one of two paths.[1] The major difference occurs in the objective of the review, which in turn directs both the process and the method of analysis. Reviews are generally divided into two broad categories: systematic and targeted. The use of targeted reviews (sometimes known as narrative, subjective, idiosyncratic or unsystematic reviews)[2] is widespread, and many of what are traditionally understood to be literature reviews are of this type. They usually involve a small, subjective selection of the literature for review, and are largely used to provide background or to support the pre-existing hypothesis or argument of the author. While they can be useful, and meet the objectives set for them, they cannot be assumed to be either unbiased or comprehensive, the essential determining factors for a systematic review. It must be remembered, however, that narrative reviews should still follow a methodical path, and that just as in a systematic review, a record should be made of the steps and findings along the way. The purpose of this document is to outline such a path for the researchers and students of CCGR.

Two factors have contributed to the demand for systematic reviews. The first is the introduction of evidence based practice,[3] that is, "*the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients*".[4: 71] The second is the rapid growth in the amount of research evidence being published, too much, it is argued, for the average clinician to synthesise on his

[a] Jeffrey Braithwaite had the idea of labelling the Centre's mode for reviewing literature 'PRACTICAL'. This monograph was written by Joanne Travaglia, Jeffrey Braithwaite and Deborah Debono

[b] Monographs and links to current publications can be found at: http://clingov.med.unsw.edu.au

or her own.[5] Systematic reviews are now regularly published in international peer reviewed journals, as well as through organisations such as the Cochrane (medicine, health) and Campbell Collaboratives (education, crime, justice and social welfare), Joanna Briggs Institute (nursing, midwifery, medicine and allied health) and the Evidence for Policy and Practice Information and Co-ordinating Centre (social science and public policy).

The difference between narrative and systematic reviews is described by Cook, Mulrow and Haynes (1997). Narrative reviews, they argue, are often broad in scope, usually with an unspecified, and biased, source, search, selection and appraisal methods. Inferences may be evidence based, but are not necessarily so. The results of such reviews are usually a qualitative summary. Systematic reviews, in comparison, are more focused on a specific (often clinical) question. They have comprehensive sources (that is they seek to identify all published and unpublished studies relevant to a particular topic), explicit search strategies and criterion based selection which is applied uniformly. The appraisal process is rigorous and critical, it usually involves evidence based inferences, and the results presented as quantitative summaries of the literature. Where that summary includes a statistical synthesis, the systematic review is termed a meta-analysis.[6]

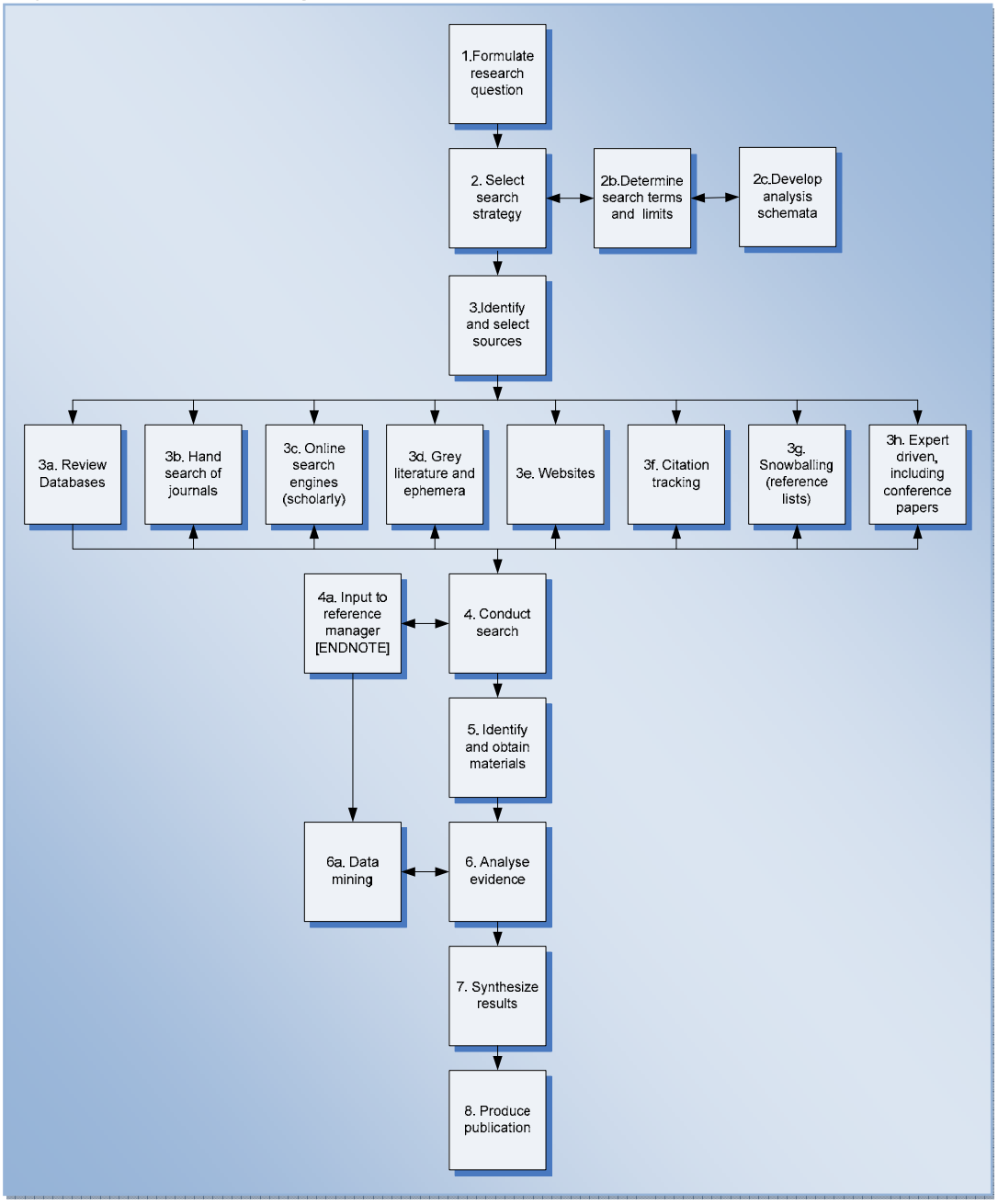
Systematic reviews of clinical evidence generally include primary studies. These are categorised according to the level of evidence (LOE). The LOE range, according to the Oxford Centre for Evidence Based Medicine (see Appendix A), from level 1 (randomised control trials - RCTs) to level 5 (expert opinion). Medical reviews, such as those produced by Cochrane, predominately incorporate level 1 evidence of interventions. If no level 1 evidence is available, reviewers may work their way down the scale, although the strength of the argument for (or against) a particular intervention weakens as the LOE increases. Reviewers then search for potential biases and sources of heterogeneity between studies.

Systematic reviews of non-randomised control trials are not only possible, but common, in particular where evidence has emerged from quantitative rather than qualitative studies.[7] The inclusion of qualitative studies in systematic reviews is based on a set of criteria which do not rely on either randomised control trials or numerical findings. The inclusion criteria for qualitative studies will include questions such as: *Does the research illuminate the subjective meaning, actions and context of those being researched? Is there evidence of the adaptation and responsiveness of the research design to the circumstances and issues of real-life social settings met during the course of the study? Does the sample produce the type of knowledge necessary to understand the structures and processes within which individuals or situations are located? Is the description provided detailed enough to allow the researcher or reader to interpret the meaning and context of what is being researched? How are different sources of knowledge about the same issue compared and contrasted? How does the research move from a description of the data, through quotation or examples, to an analysis and interpretation of the meaning and significance of it? What claims are being made for the generalisability of the findings to either or other bodies of knowledge or to other populations or groups?*[8]

3. METHOD

The PRACTICAL protocol outlines the method used in CCGR for reviewing evidence on a range of issues relating to health services provision and planning, including clinical governance, patient safety, interprofessionalism, teamwork, and social networks, amongst many other topics. As the Centre is not generally involved in the assessment of clinical evidence, the protocol is broad enough to cover both quantitative and qualitative studies. The protocol proceeds through eight stages, outlined in Figure 1, below.

Figure 1: The PRACTICAL process for literature review



Step 1: Formation of research question

Research questions are driven by the research topic, the context, the purpose of the review, and at times, the funding body. The key issue to note is that the more precise and clearly defined the research question, the greater the possibility of answering it effectively. The clear definition of the research question and delineation of the boundaries of interrogation prior to commencing the literature search is essential for a timely and efficient literature review. Part of this process of formulation should be a consideration of the ultimate audience for the review (examiners, clinicians, editors?) and how that might shape both the process and the content.

Step 2: Selection of search strategy

The search strategy will set the parameters of the review, that is, how systematic it is to be, what the focus and inclusion criteria are, and what mode(s) of analysis are to be undertaken. As well as systematic and narrative reviews of the evidence on a specific topic, other types of literature reviews are conducted. These can include amongst others: context reviews (where a particular issue is located within the larger field, for example, the use of root cause analyses can be located within a bigger field of human error analysis techniques); historical reviews (where an idea is traced out over time, a strategy often used in concept analyses); reviews of theoretical positions (how a particular issue is considered and understood from different theoretical perspectives and or disciplines); integrative reviews (which synthesise what is known about an issue at a particular point in time); and methodological reviews (which compare methods across studies).[9] Scoping reviews are a rapid assessment of the current literature, and while they are generally non systematic they can be very useful to students and researchers as a starting point to identify more specific areas of interest or as a starting point for a full systematic review. A PRACTICAL-RAPID review may be conducted to provide a expeditious review of the literature. While still systematic, selected steps of the PRACTICAL review may be modified according to the purpose of the review. Examples of PRACTICAL-RAPID reviews include Travaglia and Braithwaite's (2007) CCGR monograph reviewing the literature on the privatisation and corporatisation of hospitals[10] and Greenfield, Travaglia, Pawsey and Braithwaite's (2007) CCGR monograph reviewing the health sector accreditation research literature on intra-rater and inter-rater reliability in health care accreditation.[11]

The selection of the search strategy, along with the research question, is entirely dependent on the aim and purpose of the review. For most students, a comprehensive, methodically documented search will be enough, however, for researchers wishing to delineate the limits of knowledge in a field, a systematic review is the gold standard. Examples of systematic literature reviews include Greenfield and Braithwaite's (2008) systematic review of the literature on health sector accreditation research[12] and Mathers et al's (2008) systematic review of the

literature on global epidemiology of injecting drug use and HIV among people who inject drugs.[13]

Step 2a: Determine search terms and limits

The exact terms to be searched need to be determined. It is important to keep a clear record of the terms and variations as they are generated. Search terms must be closely linked to the research question, but not so narrow as to exclude relevant information. They may vary across or even within disciplines. Tools that can be employed to generate search terms include:

- Brainstorming or mind-mapping can be used to generate and classify ideas for search terms
- Medical Subject Headings (MeSH®)
- Keywords used to describe relevant articles or books (often used in databases)
- Search terms used in existing systematic and Cochrane reviews
- Advice from colleagues and experts in the research area.

At this point any ambiguities in the terminology should be noted in a short paragraph. Interprofessional for example, can be written as inter professional, interprofessional or inter-professional and these small differences might affect what the search reveals. Differences in nomenclature can result from historical accidents or from differences in disciplines, for example what some researchers or practitioners denote as interprofessional, others call multidisciplinary or interdisciplinary, or even interagency. Even when a term means the same or similar things, they will appear in different ways in different databases. *Medical errors*, for example, is the MeSH term in Medline (the medical database), whereas in CINAHL (the nursing and allied health database) the term *health care errors* is used as the standard term.

It is important to keep a record of search terms used. An example from a CCGR review of the literature on clinical governance used a number of terms presented in Table 1, below. The $ sign allows Medline to search for all endings of a term so, for example searching for the term 'report$' instructs Medline to look for report, reports, reporting, reporter etc. Not all databases use the same designator for multiple endings (CINAHL, for example, uses an asterisk rather than the dollar sign). The symbol is not important, but indicating that you searched for multiple search terms is.

Table 1: List of search terms for review of clinical governance

Search terms
1. Clinical governance
2. Corporate governance
3. Governance
4. Governing body or governing board
5. Ethics committee$
6. Qualified privilege
7. Accountability
8. Quality assurance

Search terms
9. Clinical audit or nursing audit or medical audit
10. Clinical standard$ or practice standard$
11. Clinical indicator$
12. Clinical effectiveness
13. Evidence based practice
14. Accreditation
15. Clinical risk management or risk management
16. Safety management
17. Patient complaint$ or consumer complaint$ or patient satisfaction or consumer satisfaction
18. Incident report$ or adverse event$ report$ or mandatory reporting or voluntary reporting
19. Critical incident or sentinel event
20. Open disclosure or truth disclosure
21. Knowledge management
22. Patient information
23. Patient or informed consent
24. Public interest
25. Education, continuing or continuing professional education
26. Credentialing
27. Professional or clinical competence
28. Consumer participation

It is also necessary at this point to determine the limits of the search. These generally include the time frame for studies to be included (all records, or only those, for example for the last five or 10 years), whether studies specific to humans are isolated and what capacity the team has to review studies in languages other than English.

Step 2b: Develop schemata for analysis

Although it may not be possible to determine all aspects of the analysis schemata, outlining it is an important step in determining both the search strategy and the search terms. The purpose of the schemata is to determine exactly what aspects of the studies to be considered, from the principal review question, through to the types (primary studies, other research reports, commentaries, previous systematic reviews, policy or other documents) and levels of evidence to be included (from level 1 to level 5), to the method of analysis and presentation of results.

In reviews with *a priori* methodologies, the methods for review are made explicit in a protocol before it starts. A protocol helps reviewers to describe and explain their methods for answering the review question in an explicit and approachable way. The protocol includes the review question, the underlying assumptions and conceptual framework and the methods to be undertaken in the review. As the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) guideline state: *The* [research or review] *question is likely to include implicit assumptions about the topic and this and any underlying conceptual framework (or logic model) that will be used to interpret and understand the research evidence in the review should be made explicit.*[14] For most basic reviews, a protocol is not required. However, a systematic record of process and findings at each stage of the review is.

Step 3: Identification and selection of resources

Selection of resources will be determined by the purpose and scope of the review. A thorough search of databases is now standard procedure, but how many, which databases, and whether any additional search strategies (hand-searches, online searches, citation tracking) are used, will depend on the question, time available and the purpose of the review. In a full systematic review, all of the following strategies can be used. The identified literature included in the analysis will depend on the level of evidence sought.

Step 3a. Databases

Searching library databases enables quick identification of relevant research and associated commentaries, opinion pieces and trade journal articles. The databases searched will be determined by the research question and the fields/disciplines in which that research is located. The most commonly searched databases in literature reviews at CCGR include Medline, CINAHL, Embase, PsychInfo, International Bibliography of the Social Sciences and Social Work Abstracts. The Cochrane (medicine) and Campbell (social welfare) Collaboratives are key sources for systematic reviews of interventions. As many articles on related topics appear in numerous data bases, removal of duplicate articles from reference managers is necessary.

Step 3b. Hand-search of journals

Although database searches are comprehensive, they are not exhaustive. At times, either because the topic under consideration is so narrow, or at times so large, a hand-search of journals is required. A hand-search entails the reviewers reading through the contents of journals in order to ensure that no important studies or articles have been omitted from the database search results. This process can also be useful to check that search terms are exhaustive or to pick up secondary trends in the literature which might ultimately inform the review. Most online journals have a function which allows readers to search the identified article's references, as well as to identify articles which cite the original article.

Step 3c. Online search engines

Online search engines facilitate a broad search for literature across disciplines. Scopus, ISI Web of Science and Sirius are academic search engines which provide links to citing articles as well as the original study. Google Scholar provides a similar function. These searches can be useful in picking up conference papers and other material which may not appear in databases or journals.

Step 3d. Grey literature and ephemera

Grey literature (that is documents which are not independently published or peer reviewed) and ephemera (documents which are produced in an ad hoc manner) are not generally utilised in systematic reviews of primary evidence, but can be useful

sources of information. Common examples are industry or annual reports, monographs from research centres or specialist publications.

Step 3e. Websites

Examination of websites provides information in two ways. First, major bodies such as the World Health Organisation, the Organisation for Economic Cooperation and Development, King's Fund (UK), Institute of Medicine (USA), Rand Corporation and Commonwealth Fund commission and publish research reports on a large range of health related topics. Secondly, websites of health services, including the UK National Health Service, the Clinical Excellence Commission, NSW Health and Health Canada list publications, protocols, guidelines, annual reports and documents such as annual reports of medical errors.

Step 3f. Citation tracking

As discussed, many databases and journals now allow for the tracking of citations. This allows reviewers to identify articles that have referenced a study such as a seminal study. This can provide further information on a particular topic, or it can help reviewers to identify a stream of work undertaken by an individual researcher, research team or research body.

Step 3g. Snowballing

Snowballing is a non-systematic process of following through any references in previously identified literature which could lead to additional information. It has been largely superseded by search engines and citation tracking, but may be useful as a way of following through individual research listed in non-electronic books and journals.

Step 3h. Expert driven

The opinion of individual or groups of experts can be sought. Experts can be consulted about their knowledge of key studies in the field, and as to whether they have any unpublished or in-progress studies.

Step 4: Conduct search

Once the terms, parameters and sources of the search have been established, the next step is to undertake the search process in the most methodical manner possible. This means, in essence, recording every step of the process. For databases, this includes noting the date(s) on which the search was conducted, as well as the databases and findings of those searches. Using CCGR clinical governance search as an example, Table 2 below shows each individual search terms, the databases searched and the total number of articles identified.

Table 2: List of search terms for review of clinical governance

SEARCH TERM	CINAHL	Medline	Total	Total minus duplicates
1. Accountability	2974	6036	9010	8747
2. Clinical governance	563	565	1128	1078
3. Corporate governance	6	39	45	42
4. Governance	2053	2209	4262	3847
5. Governing body or board	994	5410	6404	6244
6. Ethics committee$	686	5951	6637	6346
7. Qualified privilege	4	7	11	11
8. Quality assurance	30847	147271	178118	171770
9. Clinical audit or nursing audit or medical audit	1519	12496	14015	12833
10. Clinical standard$ or practice standard$	348	861	1209	1105
11. Clinical indicator$	2553	835	3388	3123
12. Clinical effectiveness	149	3200	3349	3298
13. Evidence based practice	10280	1573	11853	11193
14. Accreditation	6104	11422	17526	16322
15. Clinical risk management or risk management	4675	79911	84586	81531
16. Safety management	1118	5683	6801	6587
17. Critical incident or sentinel event	1034	1090	2124	1897
18. Incident report$ or adverse event$ report$ or mandatory reporting or voluntary reporting	3493	2604	6097	5390
19. Open disclosure or truth disclosure	2019	8778	10797	9824
20. Knowledge management	286	235	521	511
21. Patient consent or informed consent	5048	26120	31168	27717
22. Patient information	7236	2371	9607	9051
23. Public interest	193	755	948	893
24. Education, continuing or continuing professional education	10486	39620	50106	43196
25. Professional or clinical competence	12175	44051	56226	52507
26. Credentialing	16719	33101	49820	47206
27. Patient complaint$ or consumer complaint$ or patient satisfaction or consumer satisfaction	12848	41267	54115	50628
28. Consumer participation	3654	19813	23467	22196

Step 4a: Input to reference manager

Identified references (including abstracts and keywords) are downloaded into a reference manager. Endnote is the reference manager used at CCGR. This process allows the researcher to keep a full record of findings, and to use the abstracts as a data source for content analysis. Records should be kept of any additional references which were identified through steps 3b to 3h.

Step 5: Identify and obtain materials

Once all the references have been identified, materials are obtained and reviewed. Not all references identified will need to be obtained, only those which meet the inclusion criteria set in the schemata. For example, a review which is only considering level one evidence (randomised control trials for a quantitative study), would exclude all other studies using different methodologies.

Step 6: Analyse evidence

The level and type of analysis will depend on the type of evidence gathered, and the scope and the objective of the review. Predefined themes generally guide the categorisation of content of literature when performing a thematic content analysis, while quantitative meta-analysis is the schemata used for randomized controlled trial data evaluation. Methodology and/or outcomes may provide alternative analysis schemata. Mixed method reviews (that include both quantitative and qualitative method studies) will require targeted sub-reviews for each type of study.

At this point the reviewer is answering the primary research question: for example, ‘what evidence exists to show that establishing clinical governance units reduces the rate of errors in health services?’ would require the reviewer to examine the available literature which examines the development of clinical governance units, identify any relevant studies that consider errors in the light of the creation of these units, review the research methodology and level of evidence provided (for example a case study of one institution or a randomised control trial of one service with a clinical governance unit, and one without) and research methods used (focus groups, interviews, or surveys on clinicians’ perspective or whether error rates have decreased or data on the number of incidents reported pre and post the introduction of the unit) and findings of those studies.

At least two independent reviewers are generally used to analyse the evidence and their findings are blinded from each until completed. At that point, discussion of similarities or differences can be undertaken, but these must be noted as part of the review processes. This step is intended to reduce the amount of subjective bias in the analysis of evidence, but will generally be omitted if an individual is undertaking a review for their own thesis, for example.

Step 6a: Data mining of content

CCGR often uses a secondary method of analysis to provide triangulation with reviewer analysis of evidence. This step involves the data mining of either reference abstracts (as downloaded from the reference manager) or full copies of study reports. This process allows the reviewers to compare their findings with an automated, and therefore objective, assessment of the data.

Step 7: Synthesise results

In synthesising the results reviewers are essentially comparing and contrasting the evidence they have found. This can be conducted across all studies identified and reviewed, or sub sets (as discussed above) can be compared either on the basis of methodology, level of evidence etc. Essentially this step answers the research question of what evidence does or does not exist to prove or disprove, confirm or disconfirm, the research question (eg clinical governance units have no effect on error rates, they have a positive effect on error rates, they have a negative effect on error rates, there is not conclusive evidence, or there is mixed evidence).

Step 8: Produce publication

The length and style of reports will depend on the audience identified in step one of this process, and the purpose of the review. There is a CCGCR template for creating a general (ie non-systemic) literature review. This template is provided in Appendix B. A checklist of the steps involved in a PRACTICAL review is provided in Appendix C.

4. CONCLUSION

This document provides a blueprint for literature reviews undertaken by researchers and students of CCGR. It is not intended to be prescriptive, but it does however set the framework for such reviews, while providing guidance for new researchers. This guidance can be summarised as: be methodical and meticulous in each step of the review, and record every step so as to be able to justify your findings.

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6. Appendices

Appendix A: Oxford Centre for Evidence-based Medicine levels of evidence (May 2001) (http://www.cebm.net/index.aspx?o=1025)

Level	Therapy/Prevention, Aetiology/Harm	Prognosis	Diagnosis	Differential diagnosis/symptom prevalence study	Economic and decision analyses
1a	SR (with homogeneity*) of RCTs	SR (with homogeneity*) of inception cohort studies; CDR† validated in different populations	SR (with homogeneity*) of Level 1 diagnostic studies; CDR† with 1b studies from different clinical centres	SR (with homogeneity*) of prospective cohort studies	SR (with homogeneity*) of Level 1 economic studies
1b	Individual RCT (with narrow Confidence Interval‡)	Individual inception cohort study with ≥ 80% follow-up; CDR† validated in a single population	Validating** cohort study with good††† reference standards; or CDR† tested within one clinical centre	Prospective cohort study with good follow-up****	Analysis based on clinically sensible costs or alternatives; systematic review(s) of the evidence; and including multi-way sensitivity analyses
1c	All or none§	All or none case-series	Absolute SpPins and SnNouts††	All or none case-series	Absolute better-value or worse-value analyses ††††
2a	SR (with homogeneity*) of cohort studies	SR (with homogeneity*) of either retrospective cohort studies or untreated control groups in RCTs	SR (with homogeneity*) of Level >2 diagnostic studies	SR (with homogeneity*) of 2b and better studies	SR (with homogeneity*) of Level >2 economic studies
2b	Individual cohort study (including low quality RCT; e.g., <80% follow-up)	Retrospective cohort study or follow-up of untreated control patients in an RCT; Derivation of CDR† or validated on split-sample§§§ only	Exploratory** cohort study with good†††reference standards; CDR† after derivation, or validated only on split-sample§§§ or databases	Retrospective cohort study, or poor follow-up	Analysis based on clinically sensible costs or alternatives; limited review(s) of the evidence, or single studies; and including multi-way sensitivity analyses
2c	"Outcomes" Research; Ecological studies	"Outcomes" Research		Ecological studies	Audit or outcomes research
3a	SR (with homogeneity*) of case-control studies		SR (with homogeneity*) of 3b and better studies	SR (with homogeneity*) of 3b and better studies	SR (with homogeneity*) of 3b and better studies
3b	Individual Case-Control Study		Non-consecutive study; or without consistently applied reference standards	Non-consecutive cohort study, or very limited population	Analysis based on limited alternatives or costs, poor quality estimates of data, but including sensitivity analyses incorporating clinically sensible variations.
4	Case-series (and poor quality cohort and case-control studies§§)	Case-series (and poor quality prognostic cohort studies***)	Case-control study, poor or non-independent reference standard	Case-series or superseded reference standards	Analysis with no sensitivity analysis
5	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on physiology, bench research or "first principles"	Expert opinion without explicit critical appraisal, or based on economic theory or "first principles"

Source: Phillips B, Ball C, Sackett D, Badenoch D, Straus S, Haynes B, Dawes M. 2007[15]

Appendix B: CCGCR template for PRACTICAL-RAPID reviews

THE UNIVERSITY OF NEW SOUTH WALES

ClinGov

CENTRE FOR CLINICAL GOVERNANCE RESEARCH IN HEALTH

[*Insert* TOPIC AREA]

A REVIEW OF THE LITERATURE

The Centre for Clinical Governance Research in Health undertakes strategic research, evaluations and research-based projects of national and international standing with a core interest to investigate health sector issues of policy, culture, systems, governance and leadership

[Insert Topic area]
A review of the literature

Duration of project
[Insert duration of the project]

Search period
[Insert the time the searched literature spans]

Key words searched
[Insert the key word (including variations) searched]

Databases searched
[Insert databases searched and if available the initial date of included literature]
For example:

- *Medline from 1950*
- *CINAHL from 1982*

Criteria applied
[Insert search terms used and criteria applied including limitations]

Contact details
[Insert name of first author and contact details]
Email:
Telephone:

Centre for Clinical Governance Research in Health
Faculty of Medicine
University of New South Wales
Sydney NSW 2052
Australia

1. INTRODUCTION

1.1 Background

[Insert the background here and a summary of what is achieved by the current review.]

For example:

In this review we present the results of a comprehensive/systematic/narrative review of the literature on *[insert topic]*. The literature was identified using *[insert a brief summary of the resources searched, the search methods used and the methods of analysis].* At the end of the review we provide abstracts and citations, arranged alphabetically by category and author, for the articles identified using the outlined search strategy. This document provides a review of the issues relating to *[insert topic].*

2. METHOD

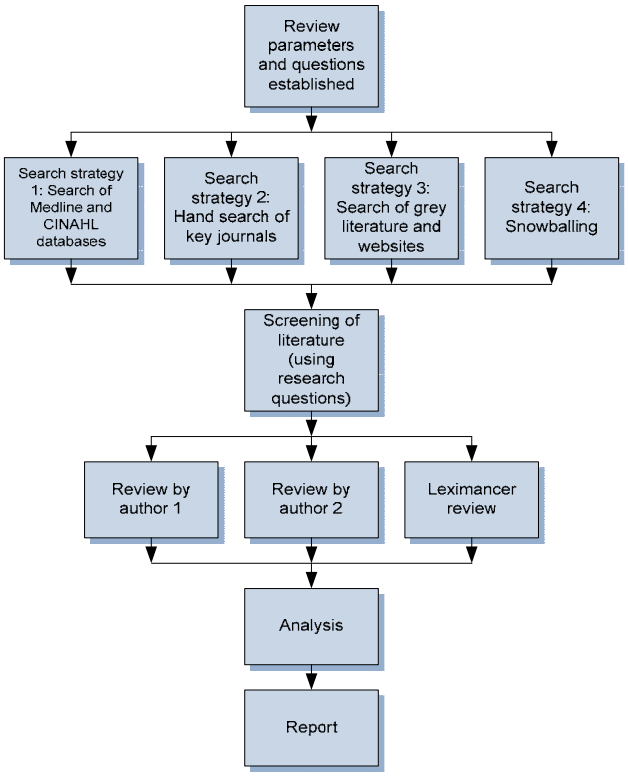
2.1 Overview of method and research question

[Insert a brief description of the method used. Note details of any issues with terminology. For example, note inconsistent hyphenation of words and variations in spelling.]

2.2 Review process

[Insert an outline of the review process implemented including the selected search strategy (parameters of the review, inclusion and exclusion criteria, search terms used, ambiguities in terminology, if any, and schemata for analysis), resources searched, selection criteria used for literature selection and methods of analysis.] A diagram may be useful to illustrate the review process. For example, see Figure 1 below.

Figure 1: Review process



2.3 Search strategies

[Insert a short description of the search terms and resources used to identify relevant literature. If more than one resource was used, subheadings should be used and a description of the resource searched summarised under each subheading.]

For example:

2.3a Search of databases

Library databases were systematically searched to find published literature relating to *[insert topic].* The databases searched were: *[insert database names].* The search terms used in this exploration of the literature databases are listed in Table 1. The search was conducted from *[insert dates].* The search was limited to *[insert limiters].*

2.3b Hand-search of journals

The following journals were hand-searched to identify literature that had not been captured in the database searches. The journals were selected because *[insert reason].*

2.3c Snowballing

A further *[insert number]* of references were identified using the snowballing technique.

2.4 Search Findings

[Insert a summary of the findings for each of the sources searched. The findings can be presented in a table, for example, see Tables 1 and 2. Outline the process for inputting references/abstracts/keywords into a reference manager.] The total number of references remaining after duplicates were removed was *[insert number of remaining references].*

Table 1: Search findings for selected databases

SEARCH TERMS	NUMBER OF REFERENCES			
	MEDLINE	EMBASE	CINAHL	TOTAL
1. AAAAA				
2. BBBBB				
3. CCCCC				
4. DDDDD				
5. EEEEE				
6. FFFFF				
7. GGGGG				
8. HHHHH				
Total				

Table 2: Search findings for other sources

OTHER SOURCES	NUMBER OF REFERENCES	
	DETAILS	TOTAL
Online search engines		
Web sites		
Snowballing		
Grey literature		
Hand-search of journals		
Citation tracking		

2.5 Analysis

[Insert subheadings of the types of analysis methods used. Under each subheading describe the analysis used.]

For example:

2.5.1 Triangulated reviewer analysis
The abstracts and citations were analysed and categorised by one of the authors using *[insert method].* This categorisation was validated through review by the second author. The categories identified in the literature using this process are presented in Table 3.

2.5.2 Content analysis
An analysis of the citations and abstracts using Leximancer, a computerised content analysis tool was conducted. A conceptual map was derived which summarises the key concepts in the literature.

3. FINDINGS AND DISCUSSION

[Insert discussion by theme or type of analysis]

[Insert subheadings of the types of analysis used]

For example:

3.1 Triangulated reviewer analysis
[Insert a discussion of the categories identified in the literature using the approach outlined in 2.5.1.] The categories identified in the literature using this process are presented in Table 3.

Table 3: Categories identified in the literature on *[insert topic]*

Category
AAAAAAAAA
BBBBBBBBB
CCCCCCCC
DDDDDDDD
EEEEEEEEE

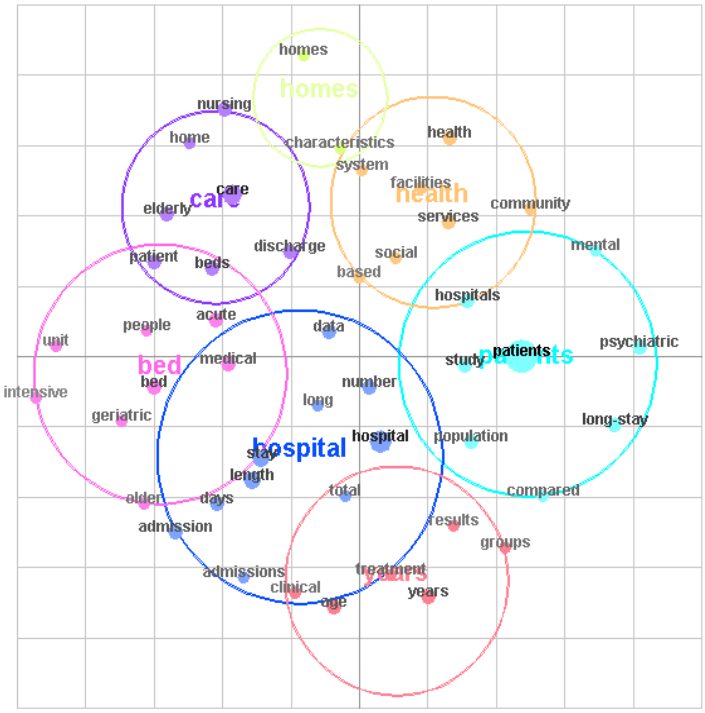
3.2 Content analysis
[Insert discussion of the main concepts and their relationship with each other identified in the literature through Leximancer analysis.]

For example:

The concept map of *[insert topic]* is presented in Figure 2. From the map we can identify *[insert number]* major themes in the literature on *[insert topic]. [Insert a description of any identified relationships between the themes. Insert discussion about other features of the literature identified by the concept map.]*

[Insert Leximancer analysis concept map]

Figure 2: Concept map of key concepts relating to *[insert topic]*



[Insert discussion about ranked concepts]

For example:

Table 4 below provides a ranked list of these concepts. The list provides insights into the relationships of concepts with each other, and the overall importance of concepts in the literature. *[Insert a description of what the table of ranked concepts is suggesting.]* The ranking of the key concepts is presented in Table 4, below. The citations and abstracts that were interrogated for this analysis are provided (see Section 5 following).

Table 4: Ranked map of key concepts relating to *[insert topic]*

Concept	Absolute Count	Relative Count
patients	1562	100%
hospital	624	39.9%

Concept	Absolute Count	Relative Count
care	573	36.6%
long-stay	315	20.1%
stay	312	19.9%
study	297	19%
length	281	17.9%
beds	275	17.6%
bed	262	16.7%
hospitals	242	15.4%
nursing	208	13.3%
years	206	13.1%

4. CONCLUSION

[Insert a brief summary of findings and implications of work. This section may include suggestions for future reviews.]

5. THE LITERATURE

[Insert the list of identified references and where possible abstracts, in alphabetical order.]

Appendix C: PRACTICAL CHECKLIST

Formulate Research Question ..... ☐

Select search strategy: Determine search terms and limits ..... ☐

Develop analysis schemata..... ☐

Identify and select sources: Databases ..... ☐

Hand-search journals ..... ☐

Online search engines ..... ☐

Grey literature and ephemera ..... ☐

Websites ..... ☐

Citation tracking ..... ☐

Snowballing reference lists ..... ☐

Expert driven including conference papers ..... ☐

Conduct search ..... ☐

Input reference manager [Endnote] ..... ☐

Identify and obtain materials ..... ☐

Data mining ..... ☐

Analyse evidence ..... ☐

Synthesize results ..... ☐

Produce publication ..... ☐