



1 COVID-19 Evidence Request	On receipt via the COVID-19 EVIDENCE REQUEST FORM on https://hselibrary.ie , the nominated COVID-19 Evidence Co-ordinator [hereafter, Co-ordinator] allocates the request to at least 2 members of the Evidence Team. The members of the Evidence Team should work together to complete steps 2 – 28 below, alternating as appropriate.
2 Formulate Question	Agree a clear and focused question — preferably, with the requestor — using P I C O (T) or similar. If it is not possible to confirm and agree with the requestor, please state: “The following is our interpretation of the question as stated: ...”
3 Assign Risk Category	Confirm or assign one of the following COVID-19 patient risk categories: Mild symptoms: patient may be treated at home <input type="checkbox"/> More severe symptoms: patient requires hospitalization <input type="checkbox"/> Higher-risk hospitalized patient cohort <input type="checkbox"/> Other <input type="checkbox"/>
4 Assign Question Category	Assign a question category: Epidemiology <input type="checkbox"/> Treatment Benefits <input type="checkbox"/> Diagnosis <input type="checkbox"/> Treatment Harms [COMMON] <input type="checkbox"/> Prognosis <input type="checkbox"/> Treatment Harms [RARE] <input type="checkbox"/> Screening <input type="checkbox"/> Other <input type="checkbox"/>
5 Formulate Key Concepts	Divide the question into key concepts and decide which of the key concepts should be included in the literature search.
6 Search Point-of-Care	Conduct a background search of available point-of-care evidence synthesis tool(s): BMJ Best Practice; UpToDate. Note vocabulary and synonyms which may be applicable to the subsequent literature search.
7 Search CEBM COVID-19 Evidence Service and TRIP Database	Conduct a background search of the CEBM COVID-19 Evidence Service and TRIP Database . Note vocabulary and synonyms which may be applicable to the subsequent literature search.
8 Search Handbook of COVID-19 Prevention and Treatment	Conduct a background search of the Zhejiang University School of Medicine Handbook of COVID-19 Prevention and Treatment . Note vocabulary and synonyms which may be applicable to the subsequent literature search.
9 Open Log Document	Document the search strategy in a separate log document as you build the search strategy. Note in particular Emtree [Embase] and MeSH [Medline] index terms and synonyms. ¹
10 Identify Index Terms in Ovid Embase	Identify appropriate index terms in Ovid Embase ² and search for the exploded index terms.

¹ The following may be used as a simplified free-text search string for COVID-19 in combination with other search terms relevant to the question: (COVID-19 OR coronavirus OR “corona virus” OR “Wuhan virus” OR “2019-nCoV” OR “2019 nCoV” OR “SARS-CoV2”).

² Bramer: the coverage of Embase, which includes MEDLINE, is superior to MEDLINE. Both Embase and MEDLINE have their own thesauri with their own unique definitions and structure — but on account of the complexity of the Embase thesaurus [Emtree], which contains more specific index terms than the MEDLINE Medical Subject Headings [MeSH] thesaurus, translation from Emtree to MeSH is easier than from MeSH to Emtree. Bramer therefore recommends starting in Embase.



11 Identify Synonyms in Emtree	Identify appropriate synonyms for index terms in Emtree. Consult “USED FOR,” “BROADER TERM” and “NARROWER TERM” to identify relevant synonyms and search for synonyms as free-text keywords in title or abstract.
12 Add Variations	Add variations in search terms: eg truncation; spelling variants; abbreviations; opposites. ³
13 Conduct Base Search	Conduct a base search in Ovid Embase.
14 Optimise Search	Optimise the search. ⁴
15 Apply Study Design Filter(s)	Consult Appendix A: “Study Design Limits Corresponding to Different Question Types.” Apply study design filters as appropriate in order to identify the best available levels of evidence.
16 Apply Date Limit	Apply an appropriate date limit: for questions directly relating to the current COVID-19 pandemic without parallel in other respiratory syndromes such as SARS or MERS, apply a date limit of [November] 2019 – present.
17 Consult Trial Registers	When a relevant clinical trial is identified through searching Embase or, later, MEDLINE, a search of trial registers should be carried out to identify any related trials which have been completed but whose findings have not been published or made available. See https://www.covid19-trials.com/ .
18 Evaluate and Check for Errors	Evaluate the initial results and check for errors — ideally, by means of peer-review with another member of the Evidence Team.
19 Translate to Ebsco MEDLINE	Use your log document to translate your search strategy to Ebsco MEDLINE. ⁵

³ Bramer: do not truncate a word stem that is too short. Also, limitations of interfaces should be noted, especially in PubMed where the number of search term variations that can be retrieved by truncation is limited to 600. Both British and American English spelling variants should be searched as free-text keywords in title or abstract. When searching for abbreviations combine with an important word that is relevant to its meaning or use the Boolean “NOT” to exclude frequently observed, clearly irrelevant results. It is also important to search for the opposites of search terms to avoid bias.

⁴ Bramer: in order to ensure that most or all potentially relevant articles are retrieved, firstly broaden the initial search strategy, increasing the sensitivity of the search. Identify additional search terms by scanning the top retrieved articles sorted by relevance and generating additional synonyms. Lastly, extra synonyms may be found in articles that have been assigned index terms but do not register synonyms in title or abstract. Searching for [index terms] NOT [free-text keywords] will identify missed free-text keywords in title or abstract. Searching for [free text keywords] NOT [index terms] will help identify missed index terms.

⁵ See note 1 above.



20	Translate to World Health Organization	Use a simplified query string to translate your search strategy to the World Health Organization: [QUERY STRING] site: https://who.int/ . ⁶
21	Translate to the European Centre for Disease Prevention and Control	Use a simplified query string to translate your search strategy to the European Centre for Disease Prevention and Control: [QUERY STRING] site: https://www.ecdc.europa.eu/en/ . ⁷
22	Translate to the Centres for Disease Control and Prevention	Use a simplified query string to translate your search strategy to the Centres for Disease Control and Prevention: [QUERY STRING] site: https://www.cdc.gov/ . ⁸
23	Translate to the Health Protection Surveillance Centre	Use a simplified query string to translate your search strategy to the Health Protection Surveillance Centre: [QUERY STRING] site: https://www.hpsc.ie/ . ⁹
24	Translate to Google Scholar, Google, Twitter and Other	Use a simplified query string to translate your search strategy to Google Scholar, [ALL] Google, Twitter and other relevant sources. ¹⁰ Use advanced search options and your best judgement to screen out material of poor or dubious poor quality.
25	Identify Best Evidence	Identify the best available evidence in consultation with your Evidence Team colleague(s).
26	Evidence Summary	Complete an EVIDENCE SUMMARY TEMPLATE. Include a summary of the best available evidence sources from the literature search above. Highlight relevant findings and/or conclusions or recommendations in online documentation or study abstracts. Include a short annotation of your PICO(T) and search strategy.
27	Abstract: 'IN A NUTSHELL'	Include a concise abstract of the most relevant findings and/or conclusions or recommendations from the evidence summary above: 'IN A NUTSHELL'.
28	Forward to COVID-19 Evidence Co-Ordinator	Forward the completed evidence summary to the Co-ordinator.
29	Convene Editorial Meeting	The Co-ordinator should convene a short editorial meeting to finalise the evidence summary in consultation with a clinical expert.
30	Publish and Disseminate Completed Document(s)	Publish completed document on http://hselibrary.ie/covid-19/ and disseminate via social media and other agreed channels.

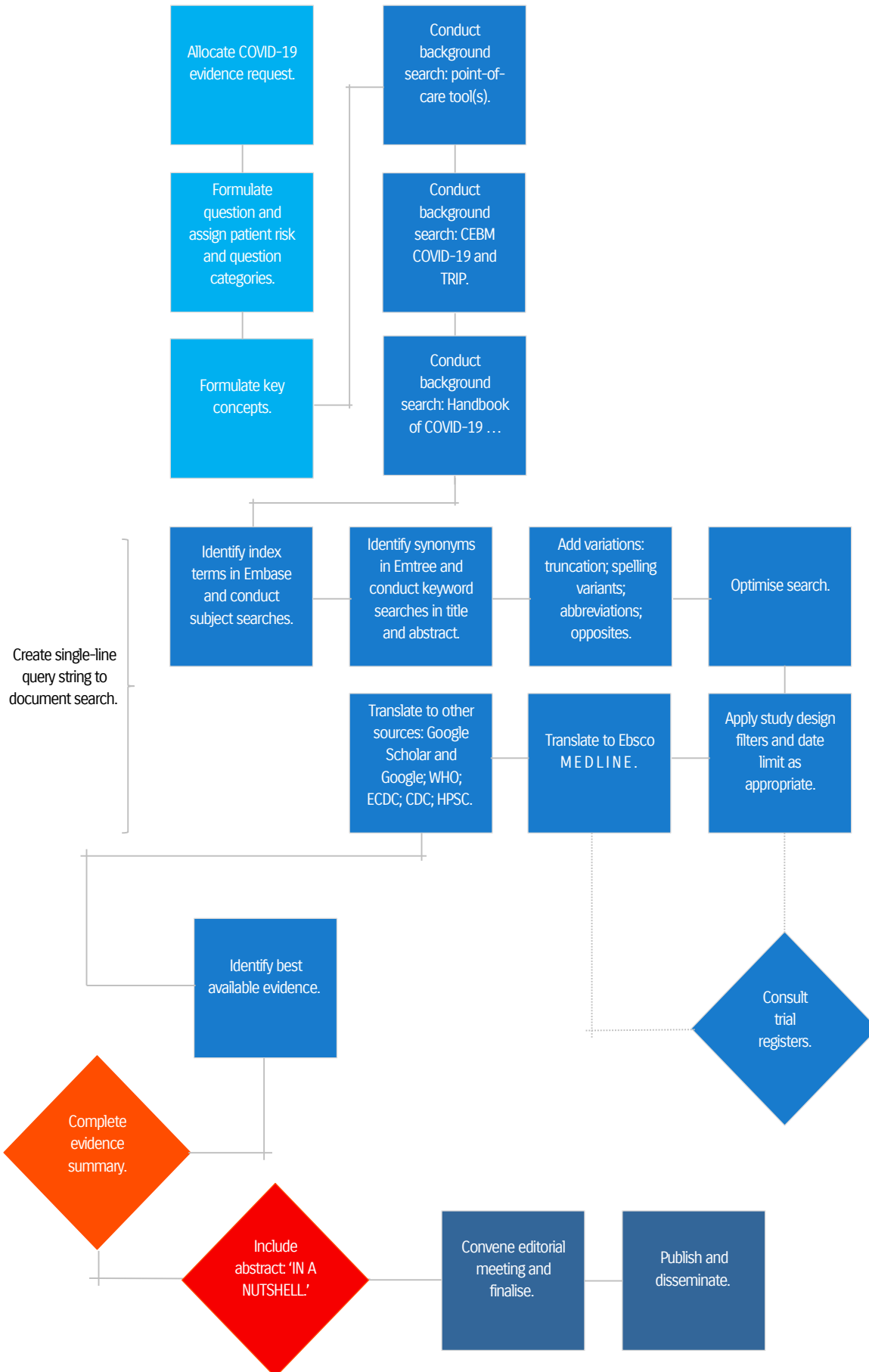
⁶ See note 1 above.

⁷ See note 1 above.

⁸ See note 1 above.

⁹ See note 1 above.

¹⁰ See note 1 above. Specifically re Twitter, use "COVID-19" + your search term(s) AND "coronavirus" + your search term(s).





APPENDIX A¹¹

STUDY DESIGN LIMITS CORRESPONDING TO DIFFERENT QUESTION TYPES

Question	STEP 1 [Level 1]	STEP 2 [Level 2]	STEP 3 [Level 3]	STEP 4 [Level 4]	STEP 5 [Level 5]
How common is the problem? [Epidemiology]	Local, current random sample survey or census	Systematic review of samples matching local circumstances	Local non-random sample	Case series	–
		Systematic Review	Cohort Study	Case Series	
Is the diagnostic or monitoring test accurate? [Diagnosis]	Systematic review of cross-sectional studies with consistently applied reference standard and blinding	Individual cross-sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards	Case-control studies	Mechanism-based reasoning
	Cross-Sectional Study	Cross-Sectional Study		Case-Control Study	
What will happen if we do nothing? [Prognosis]	Systematic Review Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of a randomized trial	Case series, case-control studies or historically controlled studies	–
	Inception Cohort Study	Inception Cohort Study	Cohort Study	Case Series	
Does the intervention help? [Treatment Benefits]	Systematic Review Systematic review of randomized trials or <i>n</i> -of-1 trial	Randomized trial or observational study with dramatic effect	Non-randomized cohort or follow-up study	Case series, case-control studies or historically controlled studies	Mechanism-based reasoning
	Systematic Review		Randomized Controlled Trial	Case-Control Study	
	Randomized Controlled Trial	Randomized Controlled Trial	Cohort Study	Case Series	
	Systematic Review		Follow-Up Study	Case-Control Study	

¹¹ Based on the University of Oxford Centre for Evidence-Based Medicine “Levels of Evidence.” See <https://www.cebm.net/2016/05/ocebml-levels-of-evidence/>. [Accessed 19 March 2020].



APPENDIX A (continued)

Question	STEP 1 [Level 1]	STEP 2 [Level 2]	STEP 3 [Level 3]	STEP 4 [Level 4]	STEP 5 [Level 5]
What are the <i>common</i> harms? [Treatment Harms]	Systematic review of randomized trials, systematic review of nested case-control studies, or <i>n</i> -of-1 trial with the patient in question	Randomized trial or observational study with dramatic effect	Non-randomized cohort or follow-up study	Case series, case-control studies or historically controlled studies	Mechanism-based reasoning
	Randomized Controlled Trial	Randomized Controlled Trial	Cohort Study	Case Series	
	Case-Control Study		Follow-Up Study	Case-Control Study	
	Systematic Review				
What are the <i>rare</i> harms? [Treatment Harms]	Systematic review of randomized trials or <i>n</i> -of-1 trial	Randomized trial or observational study with dramatic effect	Non-randomized cohort or follow-up study	Case series, case-control studies or historically controlled studies	Mechanism-based reasoning
	Randomized Controlled Trial	Randomized Controlled Trial	Cohort Study	Case Series	
	Systematic Review		Follow-Up Study	Case-Control Study	
Is an early detection test worthwhile? [Screening]	Systematic review of randomized trials	Randomized trial	Non-randomized cohort or follow-up study	Case series, case-control studies or historically controlled studies	Mechanism-based reasoning
	Randomized Controlled Trial	Randomized Controlled Trial	Cohort Study	Case Series	
	Systematic Review			Case-Control Study	