

Comprehensive Search Builder v1.1 User Guide

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Questions, suggestions, and support requests should be directed to:

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Description

The Comprehensive Search Builder is intended to accelerate the development and translation of searches for several major health sciences literature databases. Provided a list of user-defined keywords and optional controlled vocabulary terms, it automatically generates search strings using appropriate Boolean operators and search engine-specific syntax. To maximize ease of use and portability, the tool is built entirely using functions native to Microsoft Excel.

Instructions

The steps below assume a perfectly linear search development process, though the tool is designed with more realistic workflows — including testing, iteration, and review by other parties — in mind. Search strings are generated in real time with changes to keyword and controlled vocabulary term lists, and sheet protection settings permit basic Excel functionality (e.g., column sorting and row insertion) wherever possible to allow maximum flexibility for advanced users.

To build a new search:

1. Navigate to the sheet titled 'Keywords'.
2. Enter a keyword in the first row of the column labeled 'Term'. Keywords can consist of multiple words separated by spaces and/or hyphens, and may include the * truncation operator.
3. In the column labeled 'Concept', assign the term to a numbered group. These may correspond to the components of academic or clinical question frameworks like PICO (Population, Intervention/Exposure, Comparison, Outcome). If this column is left blank, the term will not be included in the search.
4. To enclose a term or phrase in quotes, type or select 'Yes' from the dropdown menu in the column labeled 'Quotes?' If this value is blank or 'No' entered, quotes will not be applied.

5. To search for the term only in a specific field (e.g., title) or set of fields (e.g., title, abstract, and author-defined keywords), select the corresponding option in the column labeled 'Field(s)'. If this value is blank, no field tag will be applied.
6. Optionally, use the column labeled 'Use Term?' for testing and/or documentation purposes. If the value is blank or set to 'Yes', the term will be included in both output sheets. If 'Maybe', the term will be only be included in the second sheet. 'No' will exclude a term from both.
7. To add additional terms, step down one row and repeat steps 2–7.
8. When all desired keyword terms have been entered and configured, navigate to the sheet titled 'Controlled Vocabulary'.
9. Enter a known controlled vocabulary (e.g., MeSH or Emtree) term in first row of the column labeled 'Term'.
10. In the column labeled 'Concept', assign the term to a numbered group. These are the same as the groups assigned in step 3 — a MeSH term assigned to (e.g.) concept 1 will be grouped with keywords assigned to concept 1 in the output searches. If this column is left blank, the term will not be included in the search.
11. In the column labeled 'Database', indicate the database in which the term applies. If a term applies in multiple databases, treat each instance as a separate term. Databases that do not implement a controlled vocabulary are not selectable on this sheet.
12. In the column labeled 'Mapping', indicate special conditions for the term. If this value is blank or 'Explode', the term will be set to automatically explode if possible. 'No explode' prevents inclusion of subordinate terms in the relevant vocabulary's hierarchy. 'Supplementary concept', supported only by PubMed and Ovid MEDLINE, allows the use of MeSH supplementary terms.
13. Optionally, use the column labeled 'Use Term?' for testing and/or documentation purposes. If the value is blank or set to 'Yes', the term will be included in both output sheets. If 'Maybe', the term will be only be included in the second sheet. 'No' will exclude a term from both.
14. To add additional terms, step down one row and repeat steps 9–13.
15. When all desired controlled vocabulary terms have been entered and configured, navigate to either of the sheets titled 'Searches'. The first includes only terms with 'Use Term?' values of 'Yes' (or blank); the second include terms with values of 'Yes' and 'Maybe' (or blank).
16. In the first row of the column labeled 'Database', select from the dropdown a database for which searches should be generated.
17. To add additional database outputs, step down one row and repeat step 16.
18. Copy completed searches from the rightmost cell of the appropriate row and paste into the corresponding database's search bar. Alternatively, copy individual search concepts' strings from the corresponding columns and use tem separately.

To transfer contents (e.g., search concepts) from other Comprehensive Search Builder files:

1. From another Comprehensive Search Builder file, copy columns A–D (for 'Keywords' sheet) or columns A–E (for 'Controlled Vocabulary') sheet of the rows with content to be transferred.
2. Into the destination file, paste the copied cells in the topmost blank row of the appropriate sheet. For best results, paste as values (right click and hit 'V' or select 'Values' under 'Paste Options').

Technical Notes

- This tool currently supports only first-order nesting — concepts are automatically joined with AND operators, but cannot contain them. It is possible to work around this by entering sub-concepts (e.g., ("Spanish" AND "influenza") as part of a concept centering the 1918–1920 flu pandemic) as terms in the 'Keywords' sheet with no quotes or field codes. These will be propagated through to the final search strategies, but will require manual application of field codes (if required) for each target database.
- Excel automatically adds a carriage return to strings copied to the clipboard. In some databases, this can make pasted searches appear blank, though functionality should not be affected. Using 'advanced' search interfaces where possible will keep searches visible. Alternatively, simply hit backspace once after pasting.
- Although default zoom settings and column widths are intended to keep things visible on most screens, adjustments may be necessary. In fact, they're encouraged — the output sheets' protection settings allow unused columns to be hidden for better space efficiency. Column headers are also furnished with dropdown menus to allow reordering if necessary.
- Formulas that implement database-specific syntax refer to a hidden sheet titled 'Backend - Syntax Table'. Support for additional databases can be accomplished by adding one row each to the table it contains and updating three data validation rules which reference it absolutely (one each in the 'Database' columns of the 'Controlled Vocabulary' and 'Searches' sheets). All other references are relative and will update automatically.