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| Systematic Review\* Automation Tool Journal Club  (\*and other synthesis types, too!) | |
| Date: | 19 November 2021 |
| Present: | University of Queensland: Harry Scells + Guido Zuccon + Shuai Wang – presenting  Bond University: Anna Mae Scott, Justin Clark, Connor Forbes  Heart Foundation: Stacey Matthews  Monash: Anneliese Arno  Macquarie University: Didi Surian,  University of Adelaide: Tim Barker, Jennifer Stone, Skye Newton, Hayley Hill  (Apologies to anyone missed!) |
| Tool reviewed: | Searchrefiner  (+ a new tool for coming up with search terms: keyword suggestion tool  + Query lens tool: picks the best query (search strings) to use) |
| Reference: | Harrisen Scells and Guido Zuccon. 2018. Searchrefiner: A Query Visualisation and Understanding Tool for Systematic Reviews. In *Proceedings of the 27th ACM International Conference on Information and Knowledge Management* (*CIKM '18*). Association for Computing Machinery, New York, NY, USA, 1939–1942. DOI:https://doi.org/10.1145/3269206.3269215  (main citation)  Hang Li, Harrisen Scells, Guido Zuccon “Systematic Review Automation Tools for End-to-End Query Formulation” (SIGIR 2020, Proceedings): <https://dl.acm.org/doi/10.1145/3397271.3401402>  (citations for additional tools appearing in searchrefiner)  (NB: searchrefiner was part of Harry’s PhD work.) |
| Cost? | Free |
| Online or desktop? | Online  URL: <https://ielab-sysrev2.uqcloud.net/account/login>  (requires setup of a login) |
| Tool used for the following review stage(s): | Search strategy design |
| Tool description from the SR Toolbox: | N/A (not listed in SR Toolbox) |
| Reason for reviewing the tool: | The larger the number of search results, the greater the screening workload and the longer the review will take to complete. Searchrefiner visually presents the impact of adding or removing terms from the search strategy, on the total number of search results that need to be screened. |
| How the tool works: | Identify the Pubmed IDs (PMIDs) for known relevant (includable) studies (‘seed PMIDs’) and a preliminary search strategy in Medline.  Copy/paste the preliminary search strategy into the Search Query box, and the PMIDs into the “SEED PMIDs” box. Click visualise. Based on the visualisation, you can edit the search strategy (e.g. remove poorly performing terms – ones that pick up few of the seed articles but contribute a lot to screen load). Visualise again, to see the impact on the number of references returned by the search. |
| How the tool was tested: | See discussion points below |
| Test results: | See discussion points below |
| Discussion points: | **General discussion:**   * Harry demonstrated how the Searchrefiner works + Guido talked about the vision for the future (see note re ARC grant below) * Keyword suggestion tool: still being tested – the tool suggests terms to add to the search strategy * Query lens tool picks the best query (search string) for you to use – e.g. can decrease your search results from 17k results to 13k results (demo’d) * Harry used 20 seed articles for testing search strategies – what if you don’t have 20, can you use less? Yes, but the fewer there are seed studies, the more variance in the queries you get * Essentially “the more seed studies, the ‘tighter’ the result” * Caveat: so far the tests have been on retrospective studies (i.e. already done so we know the ‘correct’ answer) * Guido’s team received an ARC Discovery Project grant for AI-driven efficient query formulation for better systematic reviews and as part of that will be looking to partner on user testing of the AI-stream methods work * MeSH terms change annually, so there is some maintenance going forward |