A broken system â?? why literature searching needs a FAIR revolution

Description

Tweet

Gusenbauer, Michael, and Neal R. Haddaway. â??Which Academic Search Systems Are Suitable for Systematic Reviews or Meta-Analyses? Evaluating Retrieval Qualities of Google Scholar, PubMed, and 26 Other Resourcesâ??. Research Synthesis Methods,2019.

Haddaway, Neal, and Michael Gusenbauer. 2020. â??A Broken System â?? Why Literature Searching Needs a FAIR Revolutionâ??. LSE (blog). 3 February 2020.

â??â?¦*searches on Google Scholar are neither reproducible, nor transparent. Repeated searches often retrieve different results and users cannot specify detailed search queries, leaving it to the system to interpret what the user wants.*

However, systematic reviews in particular need to use rigorous, scientific methods in their quest for research evidence. Searches for articles must be as objective, reproducible and transparent as possible. With systems like Google Scholar, searches are not reproducible â?? a central tenet of the scientific method.

Specifically, we believe there is a very real need to drastically overhaul how we discover research, driven by the same ethos as in the Open Science movement. The FAIR data principles offer an excellent set of criteria that search system providers can adapt to make their search systems more adequate for scientific search, not just for systematic searching, but also in day-to-day research discovery:

- **F*indable***: *Databases should be transparent in how search queries are interpreted and in the way they select and rank relevant records. With this transparency researchers should be able choose fit-for-purpose databases clearly based on their merits.*
- ***Accessible***: *Databases should be free-to-use for research discovery (detailed analysis or visualisation could require payment). This way researchers can access all knowledge available via search.*
- ***Interoperable***: *Search results should be readily exportable in bulk for integration into evidence synthesis and citation network analysis (similar to the concept of â??research weavingâ?? proposed by Shinichi Nakagawa and colleagues). Standardised export formats help analysis across databases.*
- ***Reusable***: *Citation information (including abstracts) should not be restricted by copyright to permit reuse/publication of summaries/text analysis etc.*

Category

1. Blog
2. Journal article

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