An Ecosystem of Open Source Tools for Evidence Synthesis in R

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Abstract

Evidence sythesis

Evidence synthesis (e.g., systematic review, systematic maps, meta-analysis) is rapidly becoming a mainstream set of scientific methods with particular relevance for policy and decision makers. Estimates from 2014 suggest that on MEDLINE alone there were 8000 systematic reviews indexed annually, this represented a three-fold increase over the previous decade at the time ([**doi.org/10.1371/journal.pmed.1002028?**]).

Objectives - introduce ecosystem of evidence synthesis packages and to highlight benefit of meta-package of packages in R for evidence synthesis (namely, rmetaverse)

- Host suite of packages for FOSS evidence synthesis conduct

- Focus on gap filling for needs-based tool design

- Compartmentalise tasks - costs are lower, more choices, costs of package breaking lower, risks of lost effort lower

- Interoperability for transparency, Open data, removing lock-in

Early history of evidence synthesis packages in R

- Matt's work on dependencies and earliest packages
- Build on CJ Lortie's work

Beyond meta-analysis

- metagear

- revtools

- litsearchr

Community of practice

- ESH
- ESMARConf

User Interfaces and R (how it works)

Why meta-packages are useful (pipeline)

Examples of non-synthesis packages relevant to synthesis

rmetaverse history (started on CRAN, required package developer buy-in)

BUT rapid development of field means GitHub versions are more up-to-date and comprehensive

SO our approach is GitHub collections (somewhat more like a task view but for a pipeline of packages)

Current assessment (lucid chart)

Future vision for rmetaverse

- How it would work

- How we can use it to fill gaps

- Interoperability - important section

- Policies etc.

References