SA28

Agile review of the literature using a structured, non-systematic approach: example application for a genomic diversity question

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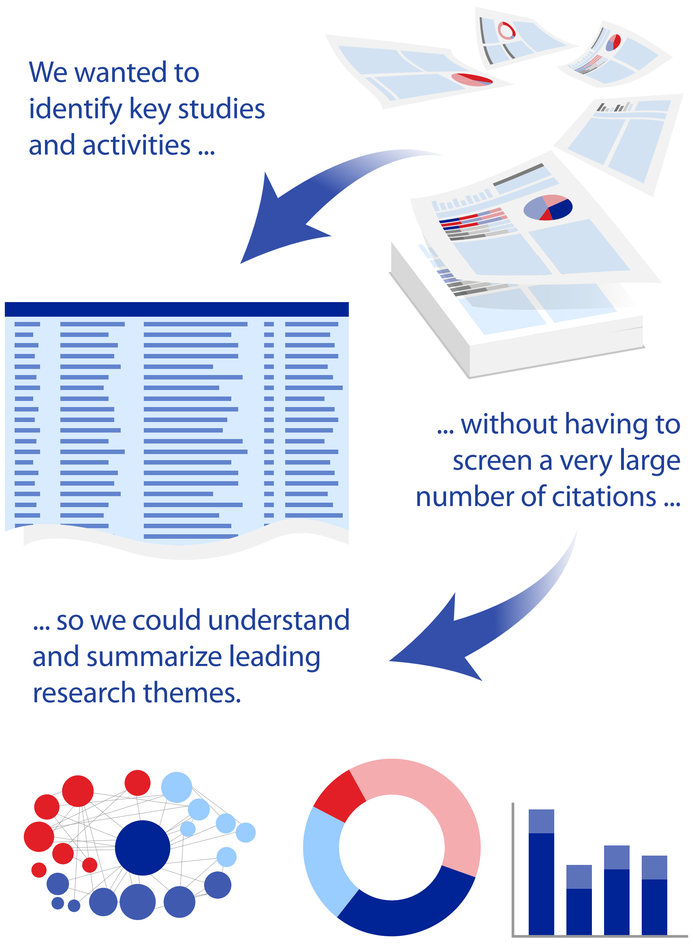
Introduction

- When asking broad research questions that cover a large evidence base, with differences in keywords and terminology between studies, a systematic literature review (SLR) can take more time and resources than are available.
- There is little guidance on semi-reproducible, non-systematic alternatives and no guidance, to our knowledge, on supplementing targeted Population, Intervention, Comparison, Outcomes and Study-based searches with artificial intelligence (AI)-driven searching.

Objectives

- We wanted a methodology that would help us to identify key studies without having to screen a large number of citations and without already knowing the areas of focus in the research area (**Figure 1**).

Figure 1. Aims of our agile methodology.

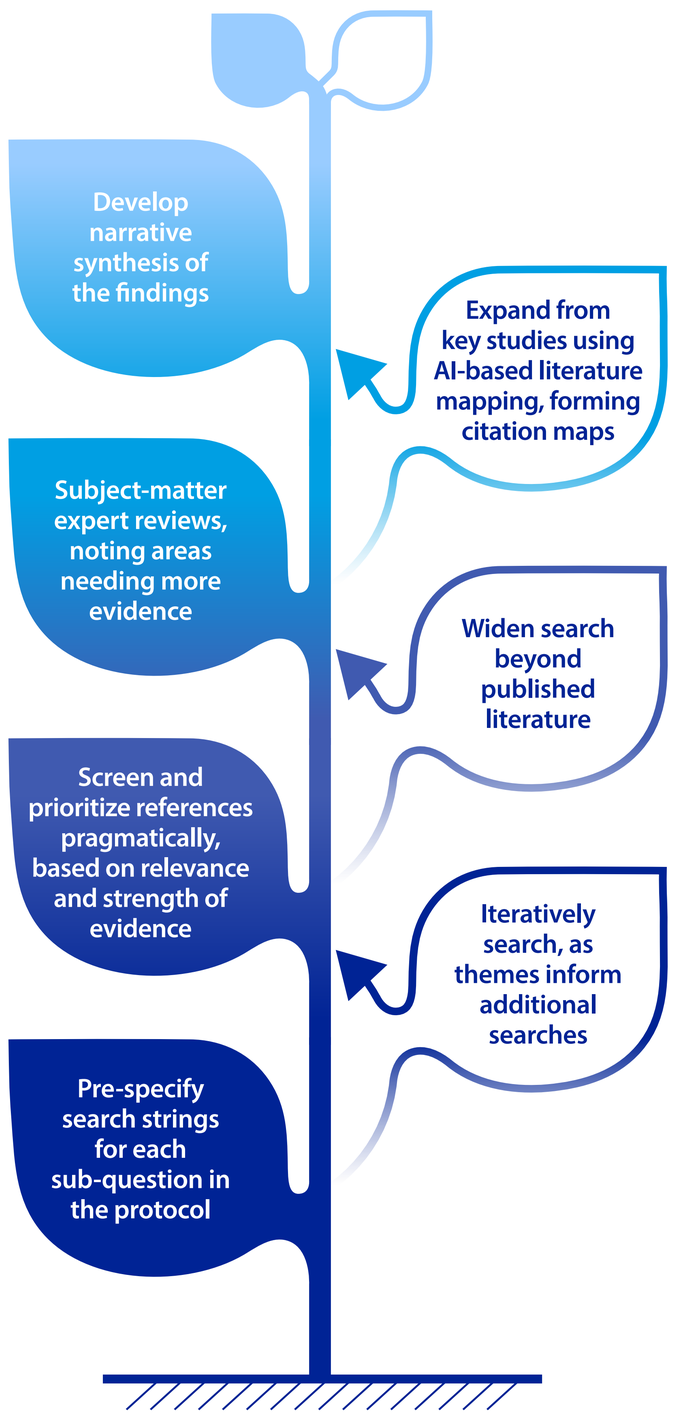


- We were willing to lose some sensitivity – we did not have to identify all relevant studies. We wanted a methodology somewhere between one that was fully reproducible and one that was fully pragmatic.
- We formalized an agile literature review methodology as an alternative to an SLR and applied this to the complex evidence landscape for how diversity is defined in genomics research.

Methods

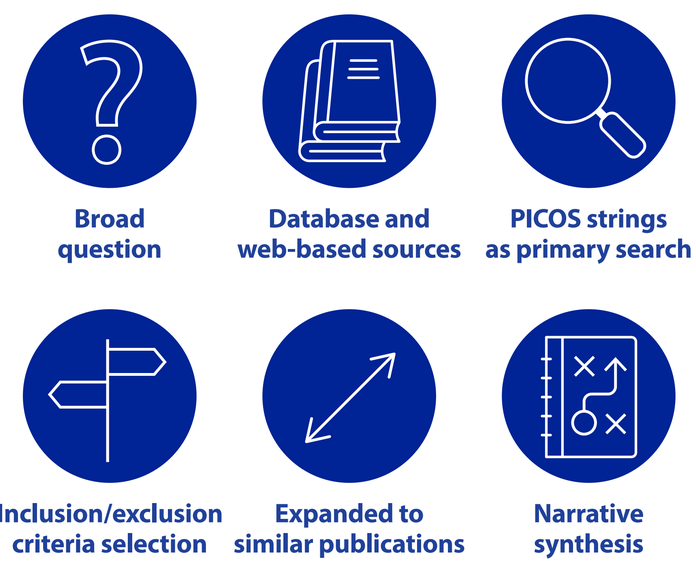
- We followed an iterative process (**Figure 2**), with semi-reproducible methodology (**Figure 3**).

Figure 2. Process.



AI, artificial intelligence.

Figure 3. Key features.

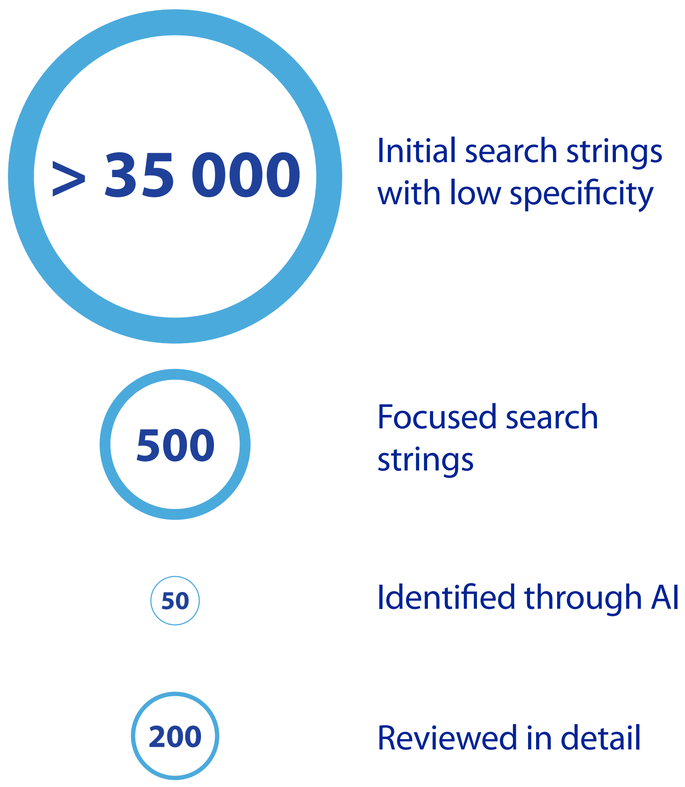


PICOS, Population, Intervention, Comparison, Outcomes and Study.

Results

- Our initial search strings identified references with low specificity; agile reviewing led to approximately 200 references being reviewed in detail (**Figure 4**).
- The combination of PubMed and Google searches and AI-based mapping had greater sensitivity and specificity than any of these techniques alone.
- Citation mapping was able to deepen evidence on particular subjects by providing example case studies; however, it was less useful for uncovering new topics and, if used alone, it would not have covered the breadth of studies.

Figure 4. Results summary showing the number of references identified or reviewed.



AI, artificial intelligence.

Conclusions

- Agile literature reviewing efficiently orientated us around a complex evidence landscape.
- We prioritized understanding the breadth of information but maintained an element of reproducibility from the initial search terms.
- Findings from our agile approach could help to design SLRs into specific themes.

Disclosures

Polly Field, Anne-Marie C Couto, Helen Schofield and Christian Eichinger are paid employees of Oxford PharmaGenesis Ltd.

Polly Field owns shares in Oxford PharmaGenesis Ltd.

Maxine Mackintosh is a paid employee of Genomics England.

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