Undertaking a Systematic Review

- Creating a systematic review follows a **strict protocol**

- Medical researchers formulate a **search strategy** as a component of the protocol that defines:

1. What will be included in the review, and what won't be *(i.e. **relevance criteria)***

2. What sources will be used *(i.e. **databases** that will be searched)*

3. What queries will be issued to each source *(i.e. **queries** issued to the database)*

Retrieval

- It is becoming increasingly difficult to find relevant studies [37]
    - PubMed (one of the most popular medical databases) now contains **approximately 26 million studies**
- It is not uncommon for queries to retrieve millions of studies, where only a small number are relevant
    - Shemilt et al. [72] found one study in particular that **retrieved 1.8 million studies where 4,000 were included** in the review
    - Not all included study citations **retrieved by Boolean query**
        - Personal knowledge, References of References, Contacts

[37] Sarvnaz Karimi, Stefan Pohl, Falk Scholer, Lawrence Cavedon, and Justin Zobel. Boolean versus ranked querying for biomedical systematic reviews. BMC Medical Informatics and Decision Making, 10(1):1, 2010

[72] Ian Shemilt, Antonia Simon, Gareth J Hollands, Theresa M Marteau, David Ogilvie, Alison O'Mara-Eves, Michael P Kelly, and James Thomas. Pinpointing needles in giant haystacks: use of text mining to reduce impractical screening workload in extremely large scoping reviews. Research Synthesis Methods, 5(1):31–49, 2014.