

2016

Systematic reviews: Evidence-based searching to improve recall and precision

Susan A. Fowler

Washington University School of Medicine in St. Louis

Michelle M. Doering

Washington University School of Medicine

Angela C. Hardi

Washington University School of Medicine in St. Louis

Laura E. Simon

Washington University School of Medicine in St. Louis

Lauren H. Yaeger

Washington University School of Medicine in St. Louis

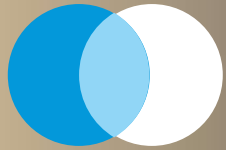
Follow this and additional works at: http://digitalcommons.wustl.edu/becker_pubs

Recommended Citation

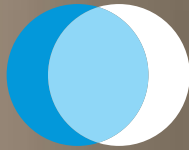
Fowler, Susan A.; Doering, Michelle M.; Hardi, Angela C.; Simon, Laura E.; and Yaeger, Lauren H., "Systematic reviews: Evidence-based searching to improve recall and precision." 2016 Medical Library Association Annual Meeting and Exhibition, Toronto, ON, Canada. 2016. Paper 56.

http://digitalcommons.wustl.edu/becker_pubs/56

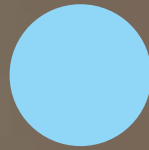
This Presentation Paper is brought to you for free and open access by the Becker Medical Library at Digital Commons@Becker. It has been accepted for inclusion in Becker Library Publications and Presentations by an authorized administrator of Digital Commons@Becker. For more information, please contact engeszer@wustl.edu.



● Relevant Documents



● Retrieved Relevant Documents



● Retrieved Documents



SYSTEMATIC REVIEWS:

Evidence-Based Searching to Improve Recall and Precision

Susan Fowler, Michelle Doering, Angela Hardi, Laura Simon, Lauren Yaeger
Becker Medical Library, Washington University School of Medicine in St. Louis



The authors have no financial disclosures that would be a potential conflict of interest with this presentation.



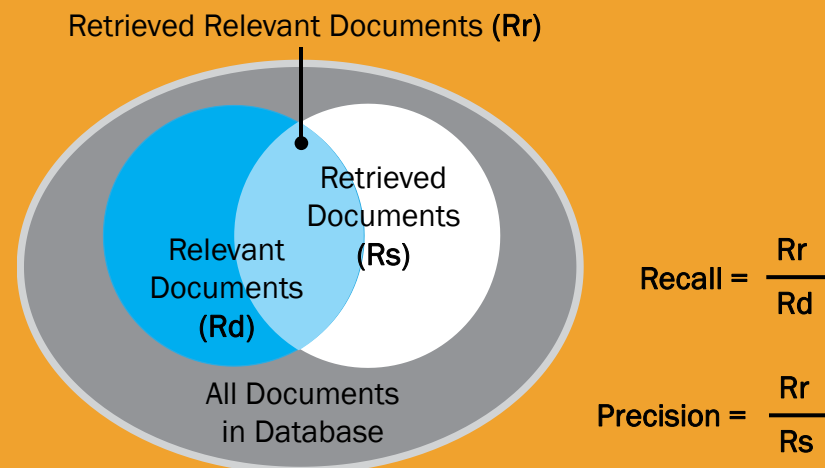
I'm going to have to science the s#*@ out of this.

Recall:

The number of relevant documents a search retrieves out of all the relevant documents available in a database.

Precision:

Proportion of documents retrieved by a given search query that is relevant to the search question.



Step 1

Create smaller database for hand review

All articles from the top five oncology journals 2012-2014*
=5,521 Total

Step 2

Identify relevant documents (Rd) about breast cancer
=647 Total

*As ranked by InCites Journal Citation Reports

Step 3

Test each search strategy

Simplified Search Examples

MeSH:

exp Breast Neoplasms/

Proximity:

breast* adj8 cancer*

Phrase:

"breast cancer"

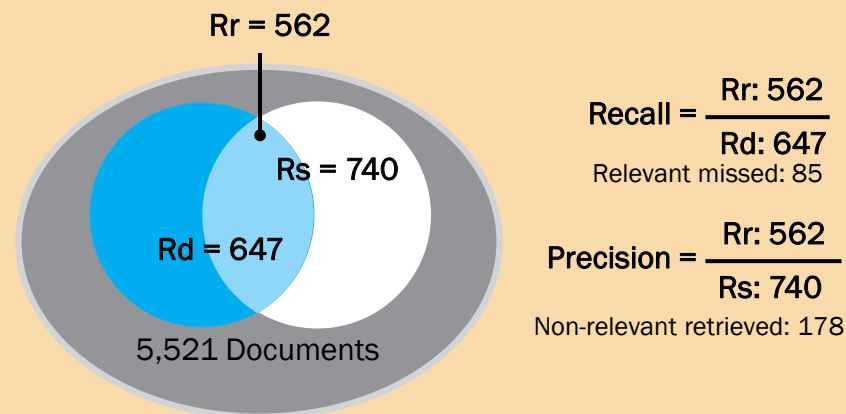
AND:

breast* AND cancer*

Step 4

Calculate effectiveness

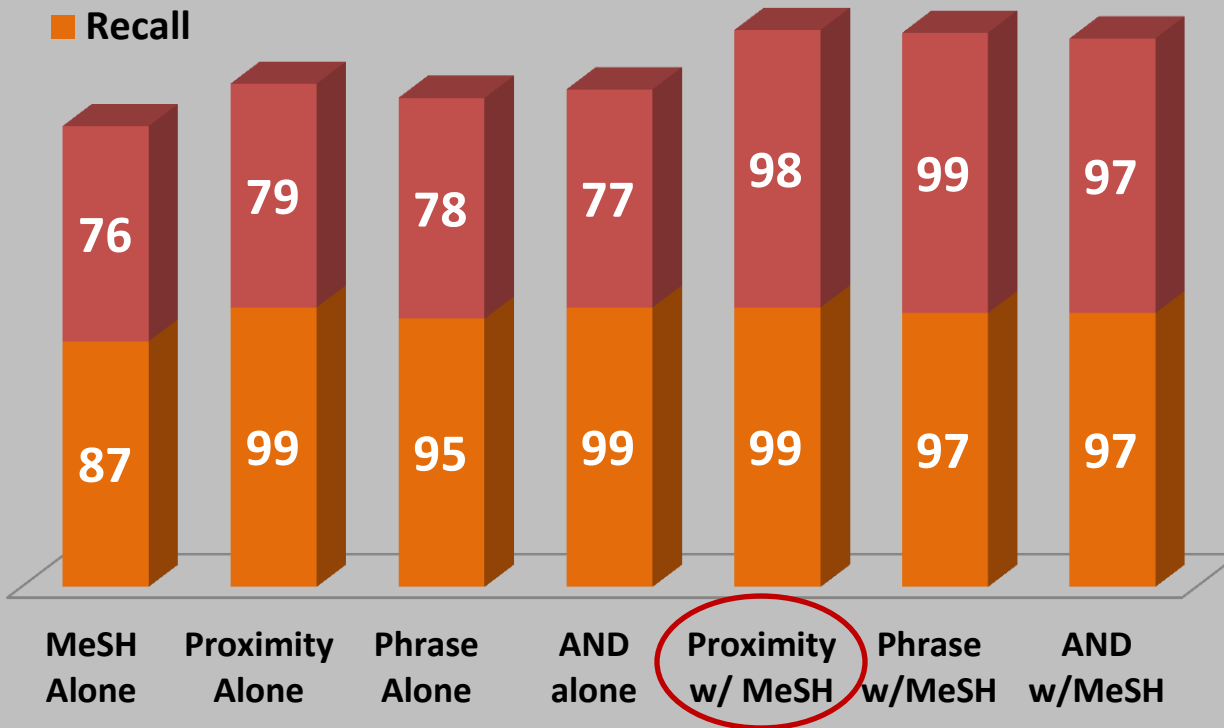
Search Results for MeSH



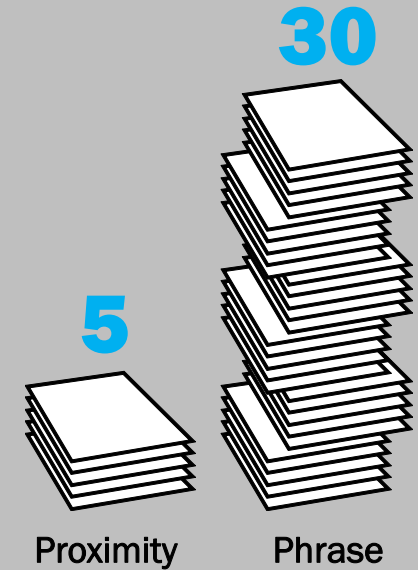
RESULTS

Search Method Effectiveness

■ Precision
■ Recall



Average number of missed relevant citations.



DISCUSSION

Small Pool Size

5,521

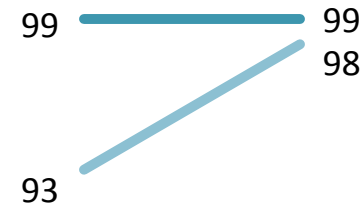
Documents in Journal Set 2012-2014

3,128,246

Documents in Medline 2012-2014

Bias

— Recall — Precision



Pre-study Post Study



NASA/Pat Rawlings, SAIC