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Improving PubMed for the Novice at the Expense of the Expert: Surveying Librarians 3 Years Post-New PubMed

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BACKGROUND
In 2019 PubMed, the publicly accessible search interface for the MEDLINE database underwent a user interface update and overhaul. MEDLINE is the primary component of PubMed, a literature database developed and maintained by the NLM National Center for Biotechnology Information (NCBI)* (National Library of Medicine, 2022).

Following the update of PubMed (White, 2020), anecdotal discussions across medical library listservs, professional meetings, and additional informal communications indicated a degree of dissatisfaction with changes made to the PubMed interface as well as the back-end search customization mechanisms. Concerns include but are not limited to loss of precision searching options (Yicita et al., 2021), reliability of reproducible search results (Burns et al., 2021), increasing appearance of predatory titles within results (Manca et al., 2018), and valuing appearance over functionality (Frandsen et al., 2019).

AIM
This survey aimed to determine if, after 4 years, concerns continue to exist with this iteration of PubMed and to what extent. This survey provides insight of the views of health science librarians and other health science information professionals.

METHODS
Using a brief web-based survey, comprised of both closed-ended and open-ended questions, health science library professionals provided feedback on the new PubMed. Survey questions included multiple choice, Likert scale, as well as open response formats. Questions were worded in a neutral fashion to avoid any leading of the responses. Participants were given one week to respond to the survey. Responses were analyzed quantitatively and qualitatively through basic thematic analysis of open-ended answers.

RESULTS

**QUALITY/ACCURACY**

- 19%: MyNCBI
- 44%: Preferred Interface
- 27%: Pubmed
- 15%: Tools for Experienced
- 21%: Filters/Subsets
- 11%: Best Match
- 1%: Saving Searches

**JOURNALS**

- 50%: Very Satisfied/Satisfied
- 23%: Neither Satisfied/Nor Dissatisfied
- 17%: Dissatisfied/Unsure
- 24%: Unhappy/Disappointed
- 17%: Horrible/Agreeable
- 4%: Horrible/Satisfactory

**INDEXING**

- 47%: MyNCBI
- 44%: Preferred Interface
- 50%: Tools for Experienced
- 47%: Filters/Subsets
- 32%: Best Match
- 17%: Saving Searches

**SELECTED COMMENTS**

- "Current version of PubMed has been degraded. Need better limits for clinical. It’s more like Google now, and results not easily reproducible."
- "I used MyNCBI more after the PubMed change in 2019, especially for more difficult/complex searches."
- "I find it awful and clunky and inaccurate a lot of the times since it tries to think for me (and not well most of the time). I miss the older version when I could do long string searches which I can’t do now."
- "The automated indexing is not up to the standard expected of the NLM. Basic tagging of animal or human subjects, as well as age groups is non-existent to exceptionally poor. I understand that human indexing couldn’t keep up, but perhaps there is some middle ground?"

**BEST MATCH**

- 50%: MyNCBI
- 44%: Preferred Interface
- 5%: Tools for Experienced
- 15%: Filters/Subsets
- 11%: Saving Searches

**FILTERS/SUBSETS**

- 50%: Very Satisfied/Satisfied
- 23%: Neither Satisfied/Nor Dissatisfied
- 17%: Dissatisfied/Unsure
- 11%: Unhappy/Disappointed
- 4%: Horrible/Satisfactory

**SAVING SEARCHES**

- 50%: Very Satisfied/Satisfied
- 23%: Neither Satisfied/Nor Dissatisfied
- 17%: Dissatisfied/Unsure
- 11%: Unhappy/Disappointed
- 4%: Horrible/Satisfactory

**PREFERRED INTERFACE**

- 50%: MyNCBI
- 44%: Preferred Interface
- 5%: Tools for Experienced
- 15%: Filters/Subsets
- 11%: Saving Searches

**SELECTED COMMENTS CONTINUED…**

- "I think PubMed is a great resource, but is not really designed with advanced searchers in mind…"
- "I feel less confident about results than I used to…"
- "Indexing is MUCH worse. I have found several examples where the MeSH did not match the article at all. For example title might say "Failing cases of drug infections" and they apply MeSH as a MeSH. - Best match is a joke when the indexing is so poor now…"
- "Logging into MyNCBI is miserable in a hospital. Hospital IT security blocks Google login or half of their login mechanisms which is a real pain and NLM just doesn’t seem to care."
- "It’s unimaginable that filters and search history have been removed from this product. It makes my work harder and less efficient."
- "The issues with indexing scare me for the future. Automatic term mapping is not nearly as good as NLM thinks it is, and if indexing quality continues to drop, it’s going to impact patient care."

CONCLUSIONS
Based on this set of responses it is clear that PubMed continues to be a critical tool for health science library professionals. While remaining in heavy use there are growing concerns. These concerns, based on the feedback gathered here, most often center on the quality of indexing and loss of expert level tools and features. With regard to indexing, the primary point of concern appears to be focused on poor automated indexing and tagging. This may be related to decreased human oversight and over reliance on automation. There is also concern with the default “Best Match” display order and accuracy of returned results. It would behoove NLM to fully hear out these concerns and create options that benefit longtime expert users in lieu of streamlining functions for the novice user. Further research into these issues is warranted at a more detailed level. It would be advisable to adjust down to document specific indexing errors as well as gauge accuracy of search results based on existing filters, result ordering, and application of expert level search strategies.

REFERENCES


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