PRODUCT REVIEW / CRITIQUE

Quetzal®

Product: Quetzal® Biomedical Search Engine—Basic, Professional, and Advanced versions.

Purpose: Web-based search engine designed to access the contents of PubMed and other health information sources with improved relevance.

URL: https://www.quetzal-search.info/.

Intended audience: Students, healthcare professionals, and biomedical researchers; target users vary depending on version.

Bottom line: The search results from the free version of Quetzal® Basic offer improved relevance over the results from similar searches in PubMed, but most of the helpful filtering and advanced features are only available through the subscription versions: Professional and Advanced. These features and the improved linguistic recognition of the search algorithm could make the cost worthwhile for researchers in areas of genetics and some of the bench science fields who are frustrated with the limitations of traditional search interfaces. The meta-search function retrieving results from more sources and the innovative filtering options of the subscription versions are unlikely to offset the expense for more experienced searchers who have the skills to optimize the functions and performance of existing database interfaces.

Review

Purpose

Clinical users of PubMed frequently comment that with either too few or too many results, they often get frustrated searching the literature. Quetzal® (v5.0.1, Quertle, Henderson, NV, http://www.quertle.com/) is a relative newcomer to the world of biomedical evidence search interfaces and aims to ease the searching woes of biomedical and health sciences professionals.

Product description

The search interface comes in various iterations: Basic (free), Professional ($9.90USD/month or $99USD/year), and Advanced ($99USD/month or $990USD/year). Registration of a personal account is required for all levels and users must log in to search. This review mainly covers the Basic version and refers to the functions of the subscription versions as appropriate. Quetzal® accesses the content of MEDLINE/PubMed licensed from the National Library of Medicine. In addition, results from other sources of biomedical and health services evidence, including patents, guidelines, grants, and TOXLINE entries, are retrieved through the subscription versions. Quetzal® searches the content with a patent pending search algorithm, Quantum Logic Linguistic™. Named after a colourful bird from South America to whom the Mayan and Aztec people attributed the delivery of wisdom, the goal of this product is to increase the relevance of the results and rank them more effectively for the user.

Intended audience and access

Quetzal® is designed for students, professionals, and researchers in health sciences and biomedicine. The versions are directed to various needs; Basic may suit infrequent searchers and junior learners, whereas clinical staff would be best served by the Professional level. Advanced is designed for the most sophisticated users who would want the breadth of coverage and features. For details on included features and functions see Figure 1.

The examples and demonstrations imply bench sciences as the target users; genetics, chemistry, and biochemistry are heavily featured and the developers come from molecular biology and toxicology backgrounds. Though the description claims the Advanced option is appropriate for information professionals, the benefits may not be as meaningful for expert searchers, as noted below.

Subscription prices are only provided for individuals, though an option for institutional licensing is available, with very general pricing parameters described on the website. Affiliation is confirmed via IP address, so access would be restricted to on-site only. This type of institutional access ignores the fact that affiliated users are likely to be working from home or off-site laboratories and research centres. There is no indication of remote authentication for institutional subscriptions.

Features

As noted in Figure 1, features and functions depend on version; the free Basic version has few search functions other than the underlying search algorithm and the Power Term™ that allows prefiltering of results by topic domain or class. The display includes two options for sorting (by relevance or date). An interesting feature is the Broader or Focused Results tabs (Figure 2), though it is unclear how these are determined.

The Professional and Advanced versions include features for limiting results, exporting citations, and saving searches, as well as a Journal Club option that allows private conversations (with encryption). Some of the subscription features that would be especially helpful for reducing nonrelevant results are the negative statement and key concept filters, access to and searching within (Advanced only) the full text of documents, and the ability to connect the citations to an institution's library subscriptions.

Platform and compatibility

Quetzal® is a web-based search interface that does not require any downloads. Quertle also has a licensable application program interface (API) and will consider partnerships to embed the API search functions. The Professional and

Fig. 1 Quetzal® features and version comparison.

Version Comparison		Quetzal® Basic	Quetzal® Professional	Quetzal® Advanced
Content Sources	PubMed	✓	✓	✓
	NIH Grant Applications	×	✓	✓
	TOXLINE(RISKLINE & NTIS)	×	✓	✓
	Biomedical News	×	✓	✓
	PubMed Central Full-text	×	×	✓
	US Patents (Grants & Applications)	×	×	✓
	AHRQ Treatment Protocols	×	×	✓
	Full-text Search	×	×	✓
Search Technology	Quantum Logic Linguistic™ technology	✓	✓	✓
	Relevant results, not long lists you have to struggle through	✓	✓	✓
	Power Term™ category queries	✓	✓	✓
	Affiliation Searching	×	✓	✓
Filtering	Publication Date	✓	✓	✓
	Publication Type	✓	✓	✓
	Also Containing	×	✓	✓
	Not Containing	×	✓	✓
	Key Concepts	×	✓	✓
	Negative Statement - Show Only - Exclude	×	×	✓
Sharing & Communication	Direct link to your library subscriptions (when available)	×	✓	✓
	Direct access to PDFs for most open access articles	×	✓	✓
	Direct access to PDFs for patents	×	×	✓
	Save searches	×	✓	✓
	Automatic email alerts	×	✓	✓
	Journal Clubs (Private Discussions)	×	✓	✓
	Export Results - Reference manager - Spreadsheet	×	✓	✓
Security	Secure SSL Interface	×	✓	✓
	Encryption of - Search History - Personal Notes - Journal Clubs	—	✓	✓
Cost (Individual Users)	Free Access	✓	-	-
	Ad free	×	✓	✓
	Monthly Subscription	-	$9.90	$99

Advanced versions can export results using the RIS standardized file format for citations and the page may be harvested by Zotero's direct export.The system will work with library link resolvers for institutional subscriptions.

Comparison with similar products

The most obvious comparator products would be other MEDLINE search interfaces, particularly PubMed and OVID MEDLINE. Quetzal® results for test searches

Fig. 2. Search and results display: Focused and Broader tabs.

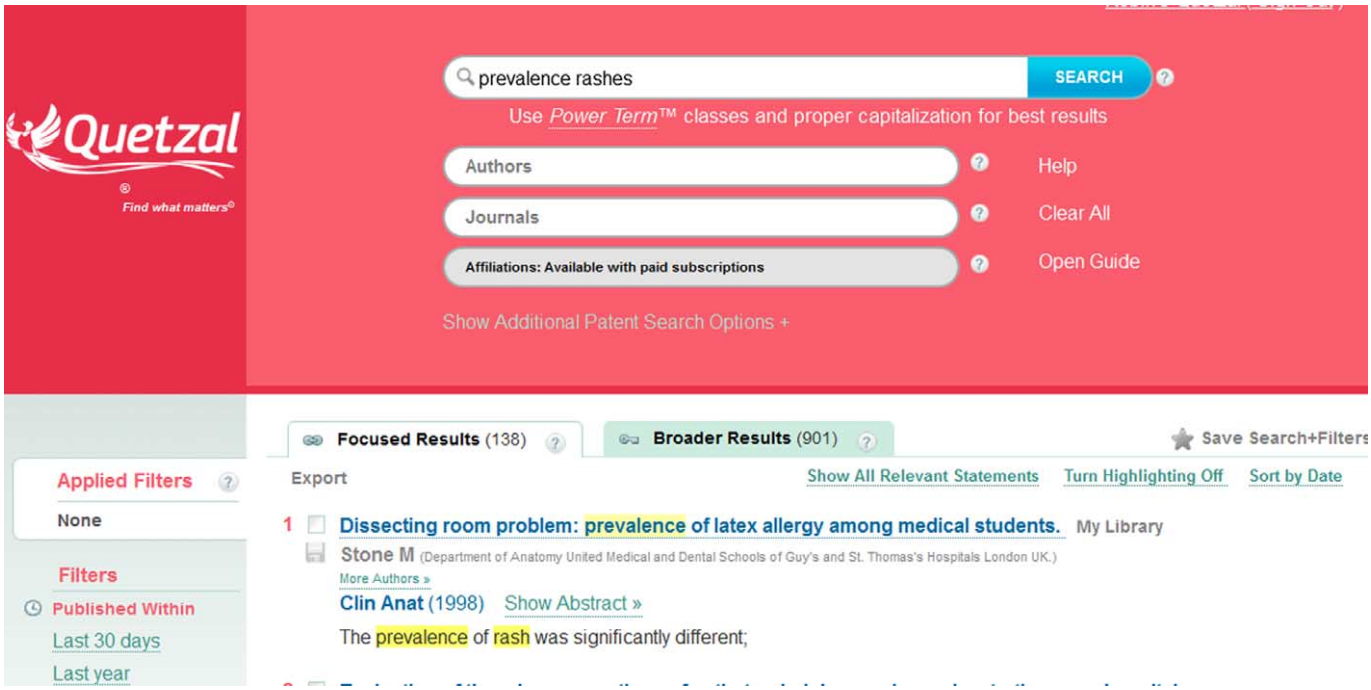
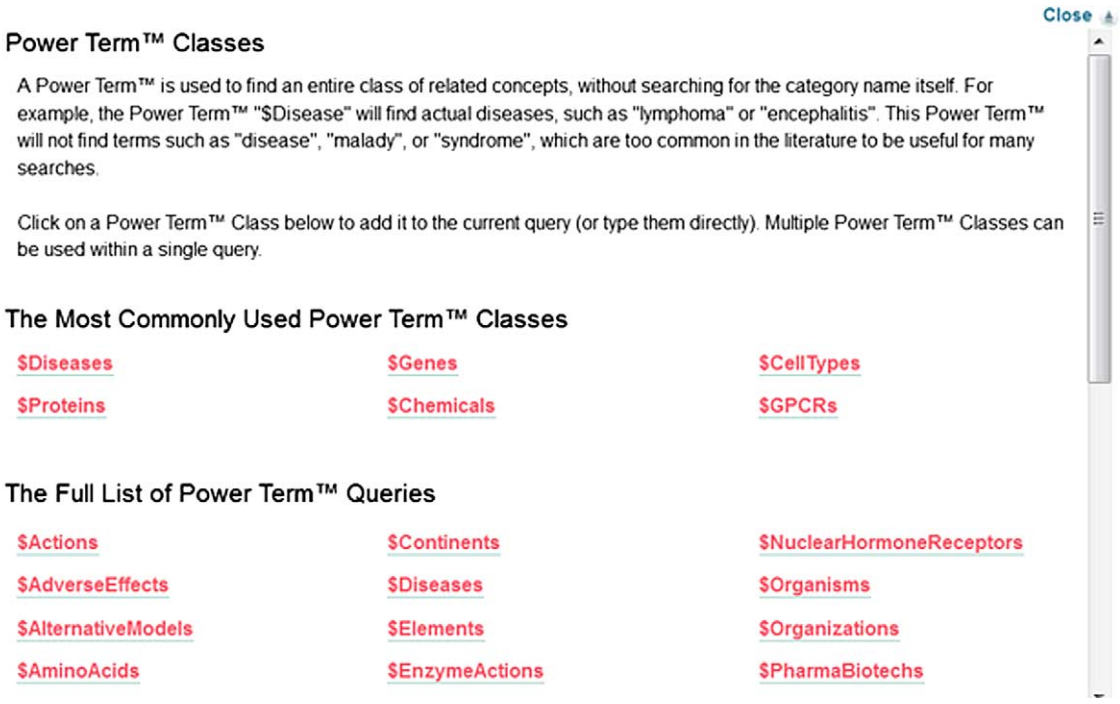


Fig. 3. Power Term™ description and commonly used Classes.



appear to have increased relevance compared with the same search in PubMed, but at the cost of transparency. As noted, the free version of Quetzal® lacks many of the functions that are expected of citation databases. No expert user would choose the limited function of the free Quetzal Basic when similar search results could be achieved by applying one's skills to the search functions in traditional databases. The meta-search function of the

Fig. 4. Results display: Highlighting.

MAIN OUTCOME MEASURES Use of *CAMs* for *VMS* and other menopausal symptoms (eg, arthralgia, depression and sleep disturbance), assessed using the Menopause-Specific Quality of Life questionnaire.

Matched in Text: evening primrose oil, treatment.

paid versions resembles that of the Turning Research into Practice (TRIP) database. TRIP recently reversed the decision to require users to login to access the search and filter functions based on user feedback since searchers, especially clinicians, strongly resist additional barriers to access. Quetzal® may receive similar push-back on this feature. In other ways, the filter by evidence type and coverage of guidelines and grey literature sources resembles TRIP.

Strengths

1. Integrated meta-search and filter options facilitates the identification of grey literature sources and other types of evidence.
2. The additional sources and search functions in the subscription versions appear to add useful types of evidence and ways to filter the results.
3. The capture of chemistry and genetic acronyms is improved, including traditional "stop words" such as NO (nitrous oxide).
4. The recognition of verbs in search strings improves relevance of results for background questions such as "sugar causes what?".
5. The use of Power Terms™ such as $Diseases or $Genes helps retrieve particular classes of evidence. Other examples can be found in Figure 3.
6. Developers appear responsive to user feedback and have made continuous improvements since releasing the search interface.
7. The context in which search terms appear in retrieved citations is highlighted (Figure 4).

Weaknesses

1. A login is required.
2. The display does not include month of publication.
3. Very few essential features are available in the free basic version, including: linkout function, exporting and saving options, advanced searching and most filtering functions, and access to full-text articles (not even open access or Pubmed Central articles).
4. The Advanced version is expensive ($990 USD/year for individuals) and is the only version to include all evidence sources and the more innovative Negative Statement filter option as well as other advanced features.
5. The recommended search approach is neither a natural language strategy, such as that used by Google, nor one based on Boolean operators (AND, OR), so users would need to get accustomed to a different search strategy that includes the Power Term™ syntax and strings of terms with no operators between them.
6. There is a lack of transparency regarding how the results are retrieved and ranked.

Conclusions

Although the relevance and filtering of the Quetzal® search results show promise, the restriction of these features to the fee-based versions makes a final appraisal challenging and ultimately limits access. Institutions or individuals in the current resource environment are unlikely to pay for another interface to search freely available health information. Organizations with information specialists to deliver training or conduct searches on existing databases would see even less added value from the investment. However, this product may be the perfect solution for a research institute without access to expert searchers and with limited time for training. The features and functions of the Professional and especially the Advanced versions may be ideal for cancer or genetics researchers needing highly relevant returns with low tolerance for the risk of missing important papers.

Robin M.N. Parker
Evidence Synthesis and Information Services Librarian
W.K. Kellogg Health Sciences Library
Dalhousie University
Sir Charles Tupper Medical Building
5850 College St.
PO Box 15000
Halifax, Nova Scotia B3H 4R2, Canada
Email: robin.parker@dal.ca