Searching Tip

Most EBM courses – undergraduate or postgraduate – will include a few sessions on searching the literature, and usually focus on PubMed and Cochrane. However, it is also helpful to teach one of the “meta-search” engines, particularly something based on Brian Haynes’ “4S” structure of studies, systematic reviews, synopses or systems (or his more recent “6S” structure!). One that does, and is free access, is the TRIP database. So we have included a detailed review of TRIP for teachers and clinicians who are looking for a broad range search engine.

- The Editors
* http://ebn.bmj.com/content/12/4/99.2.extract

The TRIP Database

Jon Brassey

Background

The TRIP Database was created in 1997 as a result of my work on answering clinical questions for the ATTRACT service. The aim of the ATTRACT service was to receive questions from primary care health professionals and rapidly answer them using the best available evidence. The high-quality evidence was spread across the internet and it took a relatively long time to go through all the evidence-based sites (such as Cochrane, SIGN and Bandolier). It made sense to create a tool that allowed ATTRACT to search all the resources in one go. To start, this consisted of an Excel spreadsheet with all the document titles and URLs for all the articles in the EBM sources. So, if we had a question on heart failure we would use Excel’s ‘Find’ function to look for relevant articles.

Shortly afterwards a colleague said he could make it searchable and available over the internet and within months Bandolier had mentioned it. The site grew rapidly from then with new features added making the content more searchable. However, the site continued to only include secondary research (e.g. systematic reviews, clinical guidelines) which caused some concern. TRIP had continued to grow with my work in clinical question answering. However, I had observed that secondary sources answered less than 25% of all the clinical questions. So, what did I want TRIP to become, a tool for secondary research only or a tool to help clinicians answer questions using the best available evidence? I decided that the latter option was appropriate and extra content was added including primary research and eTextbooks. Ultimately, we want to create a clinically useful tool and if there is no recent secondary research we try and serve up the next highest quality content. The aim, then as now, is to create a tool that allows clinicians to get answer to their questions using the best available evidence.

Over the years TRIP has changed dramatically with regard to functionality and content. TRIP has been searched over 55 million times and has a global user base and over 25,000 registered users. User surveys have indicated the potential impact of TRIP with estimates of helping over 20 million cases of patient care. As well as being freely available on the internet TRIP appears in a number of electronic medical records, clinical portal sites and a variety of other websites with an interest in evidence-based care. A major challenge for TRIP is to remain free and viable, something we are passionate about. The constant search for a viable business model, to ensure funds for wages development and hosting fees, can be a distraction at times.
The TRIP website
The homepage of the site is a simple page with a central search box (not dissimilar to Google) where users can add their search terms. The results page (shown below) is highly structured revealing the site’s depth.

The main results are shown in the central column of the site. The TRIP search algorithm uses three main components when deciding the order of results:

- The age of the article – the more recent the article the higher the score.

- The quality of the publication – a secondary review institution (e.g. Cochrane) will receive a higher score than a peer-reviewed journal (e.g. the BMJ). All publications have a score, the higher the quality the higher the score.

- Text score – slightly more complex but if the search terms appear in the title of the document it’ll score more highly than if it appears only in the body of the text. Also, if one document mentions the search term fifty times it’ll score more highly than if it’s mentioned just once.

All these components are combined and articles displayed, highest scored at the top.

In the right-hand column there is the ability for a user to select content from a particular publication type. For instance if a user only wants to see systematic reviews, they click the appropriate filter and only systematic reviews are displayed. This filtering area shows the depth of coverage of TRIP, including patient information, clinical images and videos. In addition, at the bottom is the ability to select content suitable for the developing world. This crowdsourcing initiative is of great personal interest and allows users of TRIP to identify content suitable for a resource-poor setting. Further information on this initiative can be seen via the TRIP Database blog.

If we move to the right-hand side of the screen there is a recent addition, the ‘Translate’ function. Currently limited to 6 languages, it allows for the results page (and subsequent articles viewed) to be translated, via Google Translate, into the relevant language. Beneath
than is a section of ‘Associated results’, content from third-party sites. From the screenshot
you can see that we include automatic searches of PubMed (via their clinical queries
interface7), clinical trials8, the BNF9, clinical calculators and others.

TRIP typically releases a major upgrade every year and released our latest upgrade around
4 months ago. We’re already planning on next upgrade with a large user survey and
discussions with various partners. This upgrade will be out around May 2012. The survey
results have been published on our blog10,11,12 which helps indicate where we will improve
TRIP further. In short, the main areas of improvement will be around:

- Full text – help users get access to full-text documents.
- Transparency – help users understand how the site works, what content is searched
  etc.
- Refine search – once a user has conducted a search how can TRIP help the user
  refine the search to give a more focussed set of results.
- Advanced search – improve the power and flexibility of this facility.
- Emails – registered users get a monthly email with new content that matches their
  clinical interests. Users want it to look nicer and also to appear more frequently.

Summary
TRIP is a powerful, widely used clinical resource. We’re very proud of it and the impact it
has had on global health. We’re committed to growing it and making it a more useful tool.
This growth is aided by our work on clinical question answering and a wonderfully loyal user
base that is always exceptionally helpful in letting us know how they think TRIP should be
improved. Our guiding ‘mantra’ is to create a tool that allows clinicians to answer their
questions using the best available evidence. This mantra hasn’t changed for over ten years
and I cannot see it ever changing.

Finally, one question I frequently get asked is what does TRIP stand for: the answer -
Turning Research Into Practice

References
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