PIP Digest

CCRA ACRC
Canadian Cancer Research Alliance
Alliance canadienne pour la recherche sur le cancer

PIP PPP
Patient Involvement in Cancer Research Program
Programme de Participation des Patients à la recherche sur le cancer

RESEARCH STUDIES: Finding Relevant Research

This PIP Digest can help you identify published and in-progress research related to your cancer or that of loved ones. This list is not exhaustive but covers key search engines and information repositories for research papers and ongoing studies.

Key Concepts

- Sources to identify scientific journal articles
- Sources of identify research projects
- Evaluating evidence/CRAAP Test

Related PIP Digests

- Research Studies: Understanding Research Articles
- Research Studies: Assessing Evidence
- Cancer Research: Research Quality

Sources for Identifying Published Research

The free search engine PubMed (https://pubmed.ncbi.nlm.nih.gov/) is the interface for the Medical Literature Analysis and Retrieval System Online (MEDLINE), a bibliographic database of life-sciences and biomedical information. It includes bibliographic information for articles from academic journals covering medicine, nursing, pharmacy, dentistry, veterinary medicine, and health care, as well as biology, biochemistry, and fields like molecular evolution.

MEDLINE is compiled by the U.S. National Library of Medicine. All journal articles are indexed via Medical Subject Headings (MeSH), a comprehensive taxonomic system whose search terms can supplement your own. MEDLINE's Advanced Search function enables you to select multiple parameters for inclusion or exclusion and combine them with MeSH terms and other search criteria. It's worth accessing the PubMed User Guide at https://pubmed.ncbi.nlm.nih.gov/help/ to get a fulsome understanding of how this search engine works.

PubMed Clinical Queries (https://www.ncbi.nlm.nih.gov/pubmed/clinical/) allows you to search for clinical research articles according to three distinct categories: clinical studies, systematic reviews, and medical genetics. For **clinical studies**, you have the option of filtering by Etiology, Diagnosis, Therapy, Prognosis, or Clinical Prediction Guidelines and

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using a narrow or broad filter option (this is defined by the search criteria underlying this function). **Systematic reviews**, which are articles that synthesize empirical evidence according to pre-determined criteria, can also be identified. The third option, **Medical Genetics**, allows you to filter the publications by a series of additional categories (Diagnosis, Differential Diagnosis, Clinical Description, Management, Genetic Counseling, Molecular Genetics, Genetic Tests). This link (https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/020_570.html) will provide more information on the details of PubMed Clinical Queries. Although this feature is designed for clinicians and clinician-scientists, it is also useful for patient research advocates.

While not all articles that will be identified are freely available for full download, most have abstracts that provide a useful summary.

Open access (OA) refers to freely available, digital, online information. Open access (OA) journal articles are offered free of charge and often have less restrictive copyright and licensing barriers than traditionally published works. Costs of making the research public is assumed by the publishers themselves or in some cases, the research funders, academic institutions or authors. This is different to the traditional subscription-based model.

The focus of the "open access movement" is on truly open, public access to research - work often funded with taxpayer dollars - for the benefit of all users. While OA is a newer form of scholarly publishing, many OA journals comply with well-established peer-review processes and maintain high publishing standards.

"...open access is not just beneficial to academia. If your local elected officials have access to studies about how things worked or did not work in another city, they can make more informed policy decisions. If your healthcare provider can freely read the latest medical research, they can provide you with more up-to-date medical advice and treatments. Really, everyone benefits from open access policies."

From: https://opensource.com/resources/what-open-access

 Europe PMC

Europe PubMed Central (Europe PMC) (https://europepmc.org/) is an open-access repository of millions of biomedical research works, including abstracts, full articles, patents, and preprints as well as clinical guidelines from England's National Health Service. It is supported by over 30 European research funders.

Although this service overlaps with PubMed, Europe PMC includes an estimated five million additional abstracts. You may find information here not available in PubMed. While the advanced search interface is less flexible than PubMed's, it is still a good way to start identifying relevant research.

The Grant Finder (under the Tools menu) allows users to search for information on grants awarded by the Europe PMC funders, more than 10,000 of which contain the keyword "cancer." The European Bioinformatics Institute (https://www.ebi.ac.uk/) offers detailed tutorials on using the many components of Europe PMC.

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Google Scholar

If you have experience searching Google, Google Scholar will feel familiar. It searches journal articles, books, patents as well as "grey literature" like conference proceedings, government documents, slide decks, reports, pamphlets, and other resources.

While wide-ranging in its references and results, Google does not provide details on what content is from "scholarly sources." Nor does it supply information about when materials are updated. In addition, it may return several versions of the same article in a single query. Nonetheless, if you are mindful of its limitations, it can be a useful addition to locating relevant research.

DOAJ DIRECTORY OF OPEN ACCESS JOURNALS

The Directory of Open Access Journals (DOAJ) contains over four million articles from over 12,000 open-access journals covering all areas of science, technology, medicine, social science and humanities. Journals included in this repository are assessed using a quality-control process.

Although DOAJ does not have all the functionalities of PubMed, it offers more journals in multiple languages and **all** articles are available in full. Its advanced search function (see quick tip below) helps identify cancer-related research. This is an excellent resource for full-text articles.

Sources for Identifying Research Projects

Canadian Research Information System

The Canadian Research Information System (CRIS) contains data on projects funded by several Canadian research funding agencies. It includes some prominent cancer research funders: the Canadian Cancer Society, the Canadian Institutes of Health Research, the Cancer Research Society, and The Terry Fox Research Institute. It allows you to narrow your search to specific keywords, organizations, time periods, and researchers. Additional information on how to use CRIS is available at: https://webapps.cihr-irsc.gc.ca/cris/help_how_to_e?p_version=CRIS.

ICRP International Cancer Research Partnership

The International Cancer Research Partnership (ICRP) is an active network of more than 25 cancer research funding partners that represent over 130 funding organizations. It maintains a vast repository of information on research projects (including those funded by many Canadian cancer research funders) and features a comprehensive search

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feature. The database also includes all cancer projects funded by the U.S. National Institutes of Health, the world's largest funder of cancer research. See: https://www.icrpartnership.org/

A Caution: Predatory Journals

The open-access movement has had many benefits, especially in making research articles more available to the general public. But this same movement has been exploited by for-profit organizations that have created pseudoscientific journals and use aggressive tactics to encourage researchers to submit their work. These organizations offer little of either scientific scrutiny or basic editing, often containing spelling and grammatical errors as well as poorly-credentialed advisory board members — factors you should view as major red flags. They are often not included in bibliographic references and publishers and journals may vanish without warning.

Many initiatives now help researchers and members of the public identify discreditable journals and publishers, including, https://thinkchecksubmit.org/, and https://publicationethics.org/. If you are concerned about a specific journal, contact a university-based librarian. Academic librarians are highly knowledgeable and often serve as a valuable resource on this issue.

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When in Doubt, Use the CRAAP Test

Developed by a California librarian, the CRAAP Test is a valuable way to evaluate journal articles and sources found online.[1] CRAAP is an acronym for five important evaluation criteria:

- **C**urrency or timeliness: Is the information up-to-date or out-of-date? Has it been revised?
- **R**elevance: Who is the intended audience for the information? Does it relate to your needs and interests?
- **A**uthority: Who published the work? Who edited it? And what are the authors' credentials?
- **A**ccuracy: Is the information reliable, truthful, and correct? Is the information well supported by evidence? Has it been reviewed or refereed?
- **P**urpose: Why does the report exist? Are the authors' intentions clear? Does the information appear impartial and objective, or does it show signs of bias or compromised motivations?

Check out these instructional videos for more tips on using the resources described in this PIP Digest:

- USC Libraries. *PubMed Advanced Search.* (YouTube) Apr 22, 2020 [4:30 minutes]
  https://www.youtube.com/watch?v=zQENSjzpjdM
- Charles "T" Jones Leadership Library. *Google Scholar Tutorial Part 1*. (YouTube) June 17, 2016 [8:08 minutes].
  https://www.youtube.com/watch?v=yDbghsm_d6Q
- MMULibraryServices. *Directory of Open Access Journals (DOAJ).* (YouTube) February 3, 2016 [3:26 minutes]
  https://www.youtube.com/watch?v=ndvLm9MIfKA
- John Bond. *What is Predatory Publishing?* (YouTube) November 21, 2016 [3:32 minutes]
  https://www.youtube.com/watch?time_continue=13&v=H_V7OFUj6CA
- University of South Australia. *Study Help: Evaluating Information.* (YouTube) October 22, 2017 [3:17 minutes]
  https://www.youtube.com/watch?v=2U3dkTLjuvE

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[1] See https://library.csuchico.edu/help/source-or-information-good.