

# **A Jumpstarter on How to Search PubMed and PubMed Central (PMC) for Research on Alzheimer's Disease**

# What is PubMed?

## PubMed

- One among numerous databases of peer-reviewed, evidence-based research and expert opinion
- Maintained by the National Library of Medicine
- Located at <http://www.ncbi.nlm.nih.gov/pubmed>
- Free
- Contains over 63,000 indexed citations on Alzheimer's disease
- Most with abstracts

# What is PubMed Central ([PMC](#))?

## PubMed Central (PMC)

- Maintained by the National Library of Medicine (NLM)
- Full-text articles and research that must meet scientific and technical standards
- Free
- Sub-set of PubMed (11,500 major articles on Alzheimer's with full-text)
- Final versions of NIH-funded articles as mandated by legislation
- Final versions of articles from publishers available through open access
- Provides [Journals](#) in 3 categories
  1. complete contents of selected titles and issues
  2. back issues (prior to the late 1990s)
  3. complete issues and volumes for recent issues but not for early years

# Why search PubMed or PMC for Alzheimer's research?

## To find:

- background on topics, terms, and concepts
- standards of care, interventions, and programs
- guidelines and practice recommendations
- evidence-based research for presentations, article writing, grant work, college & university course work
- statistical data
- experts in a field
- bibliographies/reading lists
- verification of citations
- and for keeping up-to-date on current research

# What is MeSH and why is it useful?

## MeSH

- **Medical Subject Headings** is an online database used by the National Library of Medicine to assign search words and terms to scientific papers
- helps identify research studies faster
- contains major terms called “headings” and narrower terms called “subheadings” to better define your search
- can do even more for you!

- MeSH provides “scope notes” (definitions) for hard-to-understand medical and scientific terms, like “epidemiology” or “meta-analysis”
- MeSH maps to related term(s) automatically to help you run a better search.

e.g.

- “treatment” is mapped to “therapy” and “therapeutics”
- “dementia” is mapped to “alzheimer disease”
- “training” is mapped to “education”

# Search these bold-faced terms for Alzheimer's disease

- **alzheimer disease [mh]** (as a MeSH heading)
- **alzheimer disease [majr]** (for major studies)
- **carrillo [au]** (to search by author)

If using **[mh]** sends back too few results, try searching without it.

Example:

alzheimer disease [mh] AND caregivers [mh]

alzheimer disease [mh] AND caregivers

# Use these terms when they fit your topic

[MeSH](#) contains these terms that can be useful for finding Alzheimer's research

- intervention studies
- standards of care
- quality of life
- practice guidelines
- randomized controlled trial
- clinical trials, phase III
- longitudinal studies
- review
- statistics
- caregivers
- ...and many terms related to long term care

MeSH does not contain the terms below, so enclose them in parentheses, quotation marks, or in combination with OR

- cognitive decline
- care
- outcomes
- (staffing OR personnel)
- (intervention OR strategy OR strategies)
- (program OR demonstration)
- (benefit OR efficacy OR effectiveness)
- (support OR outreach)



## Use these terms to find “best practices”

- standards
- guidelines
- protocols
- “standards of care”
- “consensus statement”
- “gold standard”
- “process improvement”
- Benchmarking [mh]

*Development of a Best Practices Search Filter in PubMed.* IN:  
Manitoba Libraries, 1.1, pg. 24 .

<http://www.mla.mb.ca/content/manitoba-libraries-11>

## Use these terms to find “systematic reviews”

- systematic reviews are evolving rapidly as people attempt to find evidence for complex research.
- instead of the traditional search (“systematic review” OR “meta analysis” and the indexing term “review”) use this filter to pick up new variations for greater precision.
- there are over 75 terms for “review” in the filter.
- open the link; copy and paste the filter into the PubMed search box in Advanced search.
- <http://pearlharvestingsearchthesaurus.wikispaces.com/Research+Synthesis+Terms>

Robert Sandieson, Western University, Ontario, Canada, 2015

## Find systematic reviews in [PubMed Health](#)

- PubMed Health is another service that incorporates:
  - abstracts and full-texts
  - reviews that cover the “effects of” treatments
  - plain language summaries
  - consumer information based on systematic reviews
- Use this filter to construct your search: **pmh\_sr[sb]**
- Examples:
  - dementia AND pmh\_sr[sb]**
  - dementia AND "staff training" AND pmh\_sr[sb]**
- Find more information [here](#).

## Try the [Yale MeSH Analyzer](#)

- a web-based tool to refine the results of searches\*
- each PubMed entry has a **PMID (PubMed Identifier)** / ID number
- example: PMID: 26398086
- the analyzer can compare PMIDs side-by-side, displaying, among other things, the publication dates and the MeSH headings across all the PMIDs (therefore the citations) being analyzed
- it is most helpful for comprehensive database searches and systematic reviews

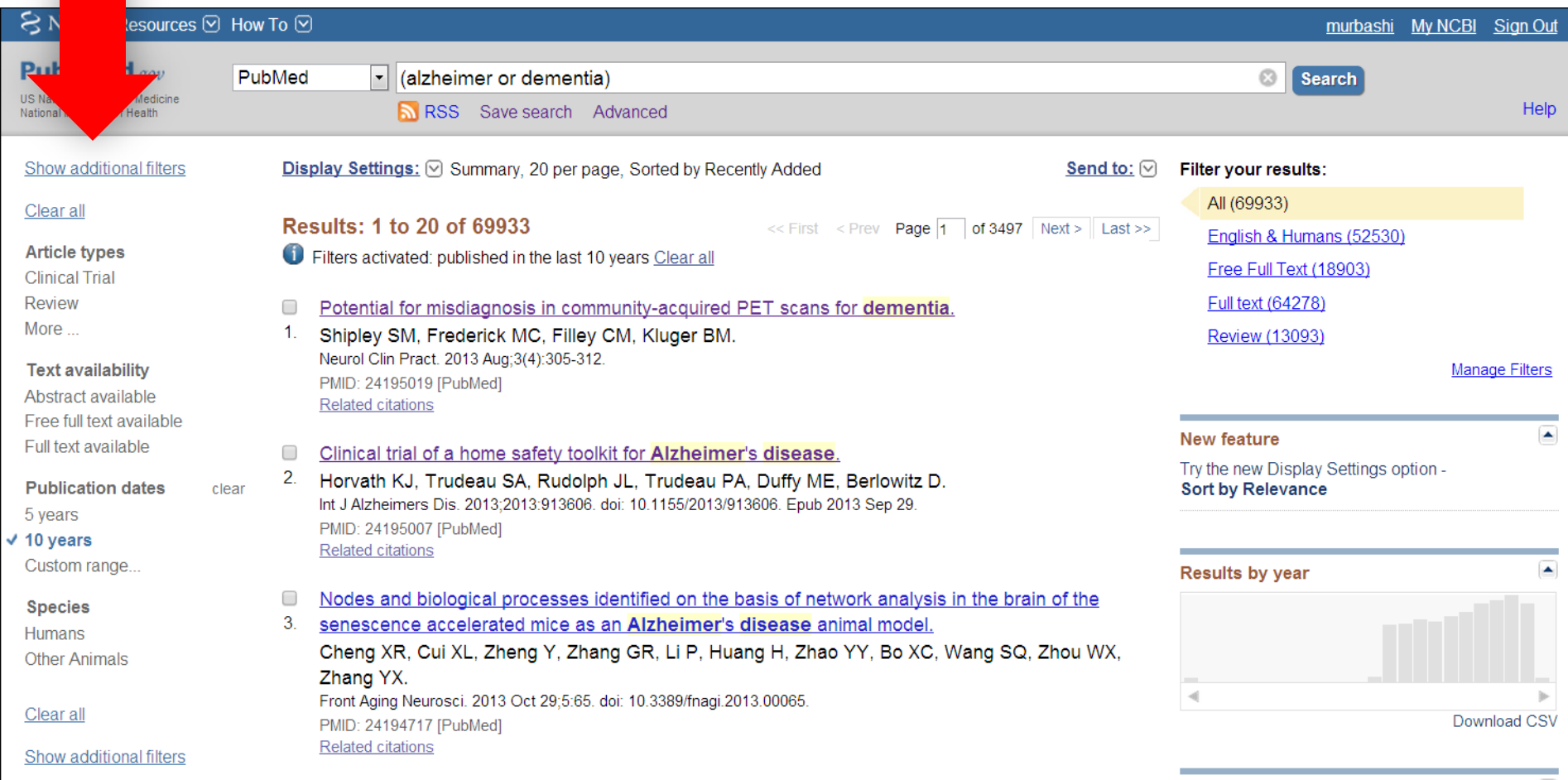
\*developed by Yale librarians,  
Lei Wang and Holly Grossetta Nardini

## Try [MeSH on Demand](#)

Use *MeSH on Demand* to find MeSH headings (terms) related to your topic.

- Open MeSh on Demand.
- Paste some text into the tool, such as an abstract or a paragraph that has words or terms you may want to search.
- Click the “Find MeSh Terms” button.
- The NLM Medical Text Indexer (MTI) will return a list of MeSH Terms relevant to your text.
- Continue your search using the Terms from the list or link to the Related Citations by their PMIDs.

# Use filters like “article types” and “publication dates” to limit your search for even better results



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[Potential for misdiagnosis in community-acquired PET scans for dementia.](#)

1. Shipley SM, Frederick MC, Filley CM, Kluger BM.  
Neurol Clin Pract. 2013 Aug;3(4):305-312.  
PMID: 24195019 [PubMed]  
[Related citations](#)

[Clinical trial of a home safety toolkit for Alzheimer's disease.](#)

2. Horvath KJ, Trudeau SA, Rudolph JL, Trudeau PA, Duffy ME, Berlowitz D.  
Int J Alzheimers Dis. 2013;2013:913606. doi: 10.1155/2013/913606. Epub 2013 Sep 29.  
PMID: 24195007 [PubMed]  
[Related citations](#)


[Nodes and biological processes identified on the basis of network analysis in the brain of the senescence accelerated mice as an Alzheimer's disease animal model.](#)

3. Cheng XR, Cui XL, Zheng Y, Zhang GR, Li P, Huang H, Zhao YY, Bo XC, Wang SQ, Zhou WX, Zhang YX.  
Front Aging Neurosci. 2013 Oct 29;5:65. doi: 10.3389/fnagi.2013.00065.  
PMID: 24194717 [PubMed]  
[Related citations](#)

[Manage Filters](#)

**New feature**  
Try the new Display Settings option - **Sort by Relevance**

**Results by year**



[Download CSV](#)

There are dozens of ways to run a search. Here are a few. Practice these and discover your own.

**Search using MeSH headings – [mh]**

alzheimer disease [mh] AND nursing homes [mh]

**Search with or without operators (AND, OR, NOT)**

“nursing homes staffing” can also be used for “nursing homes AND staffing”

**Search free text by inserting quotation marks**

(“nursing homes” OR “long term care” OR “skilled nursing facilities” OR “residential care facilities”)

**Use subheadings found in MeSH**

cholinesterase inhibitors/adverse effects  
alzheimer disease/etiology

## Search here and find out more

- [PubMed](#)
- [PMC](#)
- [MeSH](#)
- [PubMed Help](#)
- Bookmark these tools for easy access through the Virtual Library under [Search Databases](#)