Tips and Strategies for Effective Literature Searching

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What I plan to talk about

- General hints for searching
- Power searching PubMed
  - Advanced Search
  - MeSH
- Introducing Embase
  - Special search interfaces
  - Emtree
- Getting full text of articles
- Managing references with Endnote and Zotero

General hints for searching

- Try putting quotes around exact phrases

Search **"peer education"**	830
Search **peer education**	21705

General hints for searching

- Most databases support a truncation function
  - Adolescen* = adolescent OR adolescents OR adolescence

General hints for searching

- Take a look at what fields are available

Can social network analysis help to include marginalised young women in structural support programmes in Botswana? A mixed methods study.

Loutfi D[1], Andersson N[2,3], Law S[4,5], Salsberg J[6], Haggerty J[2], Kgakole L[7], Cockcroft A[2,7].

Author information

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7 CIET Trust Botswana, PO Box 1240, Gaborone, Botswana.

Abstract

BACKGROUND: In Botswana, one fifth of the adult population is infected with HIV, with young women most at risk. Structural factors such as poverty, poor education, strong gender inequalities and gender violence render many young women unable to act on choices to protect themselves from HIV. A national trial is testing an intervention to assist young women to access government programs for returning to education, and improving livelihoods. Accessing marginalised young women (aged 16-29 and not in education, employment or training) through door-to-door recruitment has proved inefficient. We investigated social networks of young women to see if an approach based on an understanding of these networks could help with recruitment.

Using the PICO framework

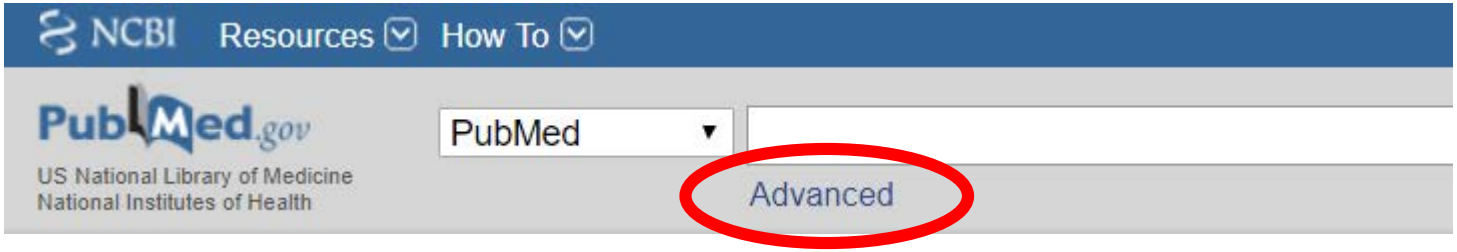
- PICO helps you structure an answerable question
  - **P**opulation
  - **I**ntervention
  - **C**omparison or control
  - **O**utcome
- Not all research topics neatly fit into PICO format, but it helps to think about each component concept of your topic before you come up with the keywords you plan to search

Using the PICO framework

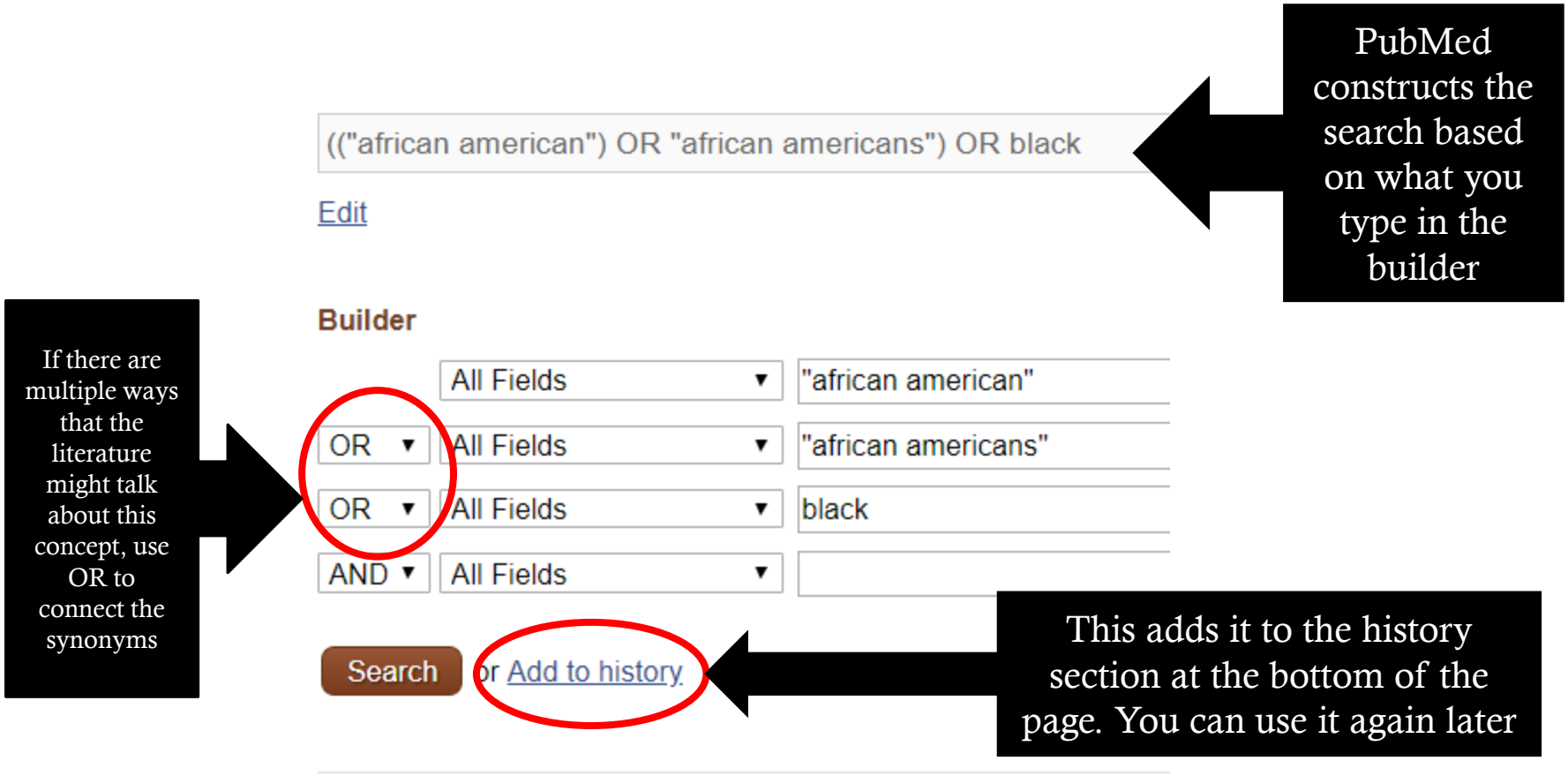
- Example
  - **P**opulation: HIV+ African Americans
  - **I**ntervention: counseling
  - **C**omparison or control:
  - **O**utcome: ART adherence

Power searching in PubMed

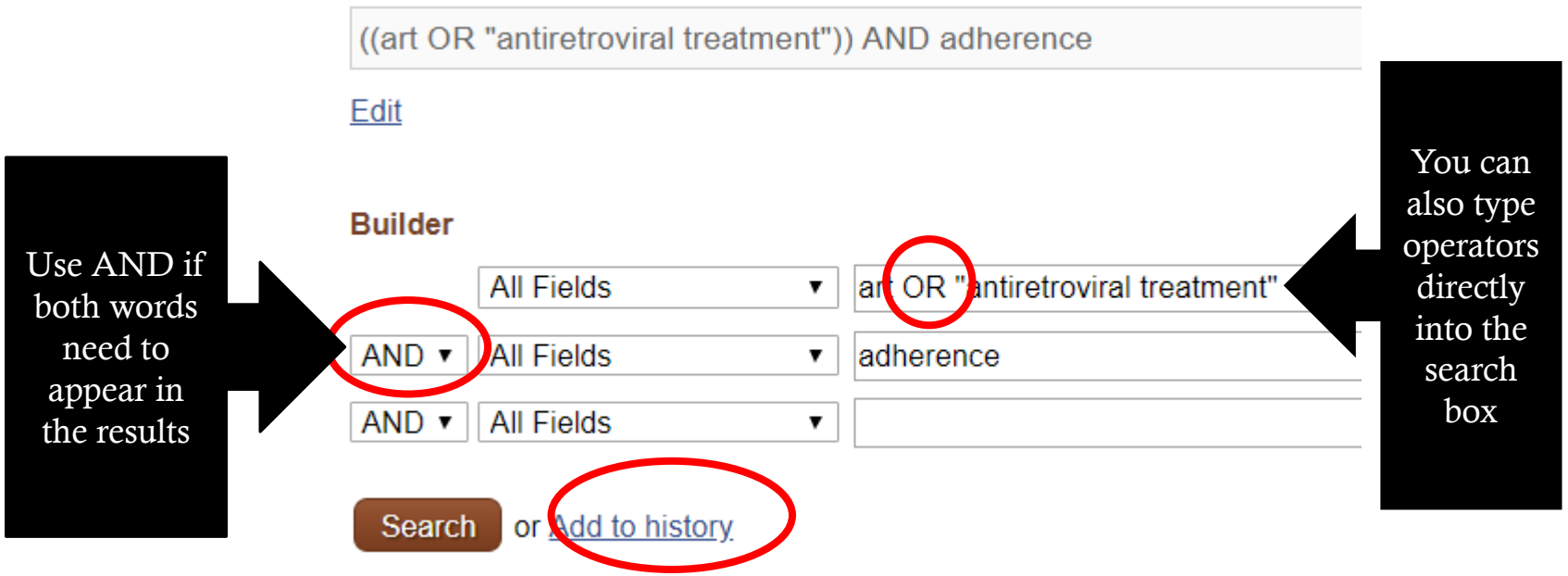
- The Advanced search screen



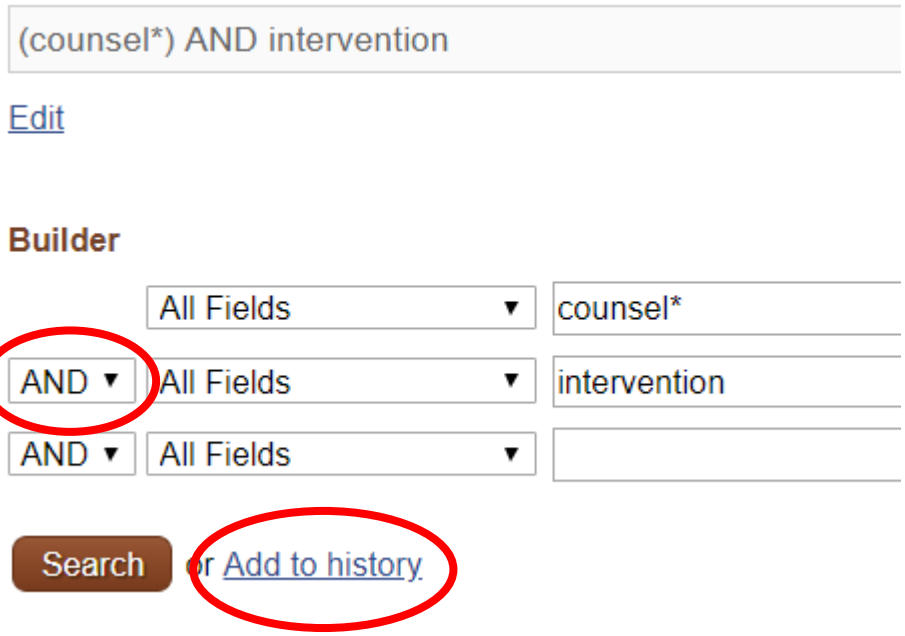
Power searching in PubMed



Power searching in PubMed



Power searching in PubMed



Power searching in PubMed

Download history

Add to builder	Query	Items found
Add	Search **(counsel*) AND intervention**	63420
Add	Search **((art OR "antiretroviral treatment")) AND adherence**	4119
Add	Search **(("african american") OR "african americans") OR black**	221442

Clicking "Add" puts the searches back into the builder

Power searching in PubMed

((((counsel*) AND intervention)) AND (((art OR "antiretroviral treatment")) AND adherence)) AND ((("african american") OR "african americans") OR black)

Edit Clear

Builder

	All Fields	(counsel*) AND intervention	Show index list
AND	All Fields	((art OR "antiretroviral treatment")) AND adherence	Show index list
AND	All Fields	(("african american") OR "african americans") OR black	Show index list
AND	All Fields		Show index list

Search or Add to history

History Download history Clear history

Search	Add to builder	Query	Items found	Time
#17	Add	Search **(counsel*) AND intervention**	63420	20:23:47
#16	Add	Search **((art OR "antiretroviral treatment")) AND adherence**	4119	20:20:52
#14	Add	Search **(("african american") OR "african americans") OR black**	221442	20:19:12

Power searching in PubMed

- Why use the Advanced search screen?
  - Easy way to access fields
  - When you build your search one piece at a time, it's easy to go back and edit only a part of the search instead of having to dig through a long search string

Power searching in PubMed

- Why did we get this result?

Multidisciplinary Point-of-Care Testing in South African Primary Health Care Clinics Accelerates HIV ART Initiation but Does Not Alter Retention in Care.

Stevens WS[1], Gous NM, MacLeod WB, Long LC, Variava E, Martinson NA, Sanne I, Osih R, Scott LE.

Author information

Abstract

BACKGROUND: Lack of accessible laboratory infrastructure limits HIV antiretroviral therapy (ART) initiation, monitoring, and retention in many resource-limited settings. Point-of-care testing (POCT) is advocated as a mechanism to overcome these limitations. We executed a pragmatic, prospective, randomized, controlled trial comparing the impact of POCT vs. standard of care (SOC) on treatment initiation and retention in care.

METHODS: Selected POC technologies were embedded at 3 primary health clinics in South Africa. Confirmed HIV-positive participants were randomized to either SOC or POC: SOC participants were venesected and specimens referred to the laboratory with patient follow-up as per algorithm (~3 visits); POC participants had phlebotomy and POCT immediately on-site using Pima CD4 to assess ART eligibility followed by hematology, chemistry, and tuberculosis screening with the goal of receiving same-day adherence counseling and treatment initiation. Participant outcomes measured at recruitment 6 and 12 months after initiation.

RESULTS: Four hundred thirty-two of 717 treatment eligible participants enrolled between May 2012 and September 2013: 198 (56.7%) SOC; 234 (63.6%) POC. Mean age was 37.4 years; 60.5% were female. Significantly more participants were initiated using POC [adjusted prevalence ratio (aPR) 0.83; 95% confidence interval (CI): 0.74 to 0.93; $P < 0.0001$], the median time to initiation was 1 day for POC and 26.5 days for SOC. The proportion of patients in care and on ART was similar for both arms at 6 months (47 vs. 50%) (aPR 0.96; 95% CI: 0.79 to 1.16) and 12 months (32 vs. 32%) (aPR 1.05; 95% CI: 0.80 to 1.38), with similar mortality rates. Loss to follow-up at 12 months was higher for POC (36% vs. 51%) (aPR 0.82; 95% CI: 0.65 to 1.04).

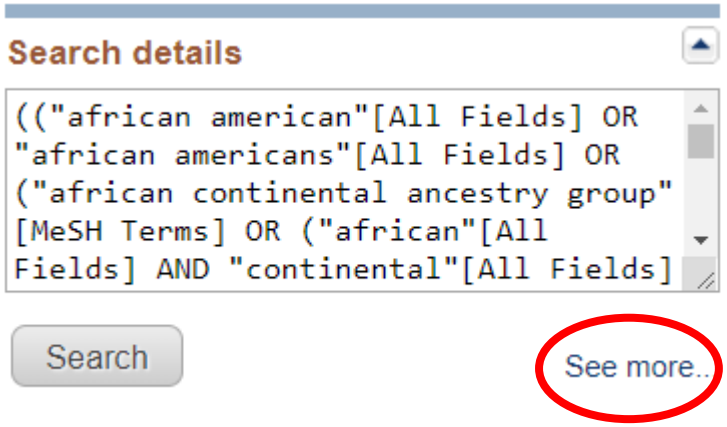
CONCLUSIONS: Adoption of POCT accelerated ART initiation but once on treatment, there was unexpectedly higher loss to follow-up on POC and no improvement in outcomes at 12 months over SOC.

PMID: 28542080 DOI: 10.1097/QAI.0000000000001456

[Indexed for MEDLINE]

Power searching in PubMed

- When you don't specify a field to search, PubMed does Automatic Term Mapping
- You can see this on the search results page (unless the results are sorted by Best Match)



Power searching in PubMed

- If you are getting weird results, it may be because PubMed is mapping your keywords to a MeSH term
- In this case, notice it mapped to “African Continental Ancestry Group”

Translations:	
black	"african continental ancestry group"[MeSH Terms] OR ("african"[All Fields] AND "continental"[All Fields] AND "ancestry"[All Fields] AND "group"[All Fields]) OR "african continental ancestry group"[All Fields] OR "black"[All Fields] OR "african americans"[MeSH Terms] OR ("african"[All Fields] AND "americans"[All Fields]) OR "african americans"[All Fields]
art	"art"[MeSH Terms] OR "art"[All Fields]
intervention	"methods"[MeSH Terms] OR "methods"[All Fields] OR "intervention"[All Fields]

MeSH

- MeSH is Medical Subject Headings, a thesaurus and taxonomy used to index MEDLINE records
  - PubMed has all of MEDLINE in it and some extra records as well, so not everything in PubMed has MeSH terms assigned
- Looks like this on a PubMed record
- Words after a forward slash / are subheadings
- Terms with an asterisk * are Major Topic
  - More on those soon!

Publication types, MeSH terms, Substance

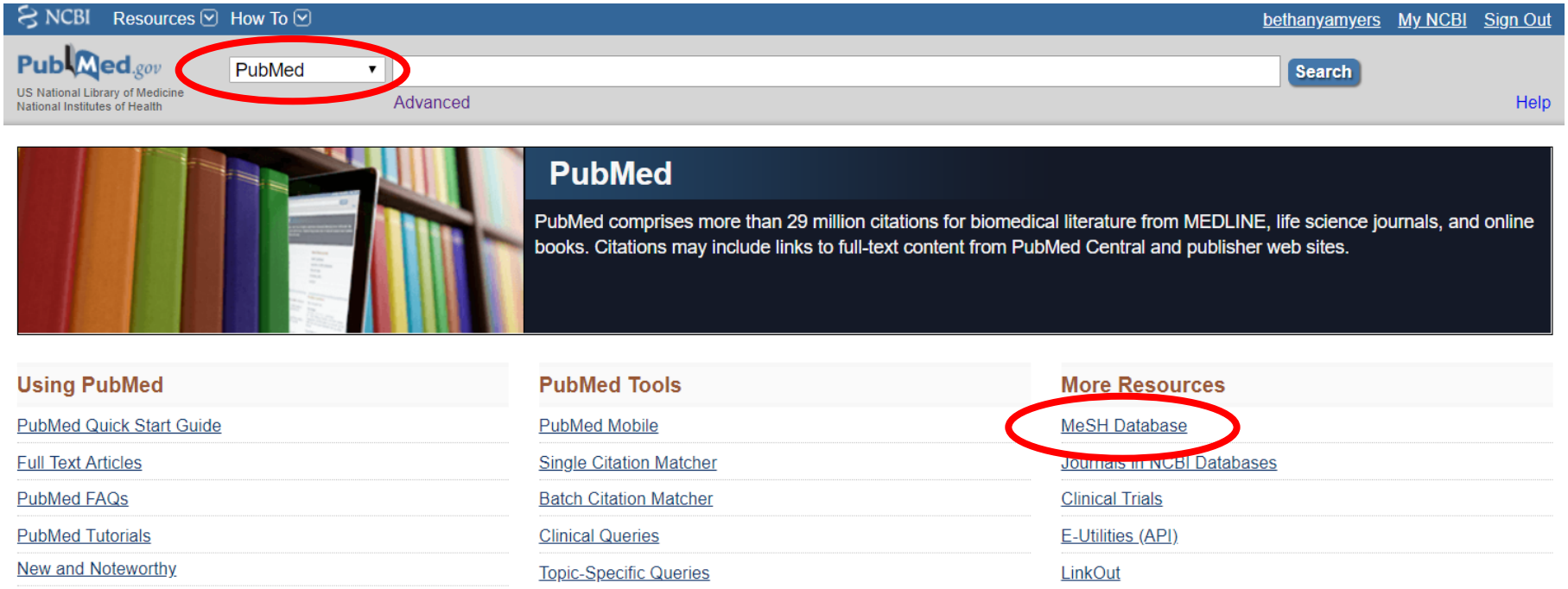
Publication types
Review
Systematic Review

MeSH terms
African Americans/psychology*
Anti-HIV Agents/administration & dosage
Anti-HIV Agents/therapeutic use*
Antiretroviral Therapy, Highly Active
Attitude to Health
Culture
HIV Infections/drug therapy*
HIV Infections/ethnology
HIV Infections/psychology
Humans
Medication Adherence/ethnology*
Medication Adherence/psychology
Racism

Substance
Anti-HIV Agents

MeSH

- To look up a MeSH term, use the MeSH database



MeSH

Full

African Continental Ancestry Group

Individuals whose ancestral origins are in the continent of Africa.
Year introduced: 2004

MeSH heading and definition

PubMed search builder options

Subheadings:

- analysis
- blood
- classification
- diagnosis
- education
- epidemiology
- ethnology
- etiology
- genetics
- history
- legislation and jurisprudence
- metabolism
- mortality
- organization and administration
- physiology
- psychology
- statistics and numerical data

Check these subheadings to limit to only certain aspects of these topics

- Restrict to MeSH Major Topic.
- Do not include MeSH terms found below this term in the MeSH hierarchy.

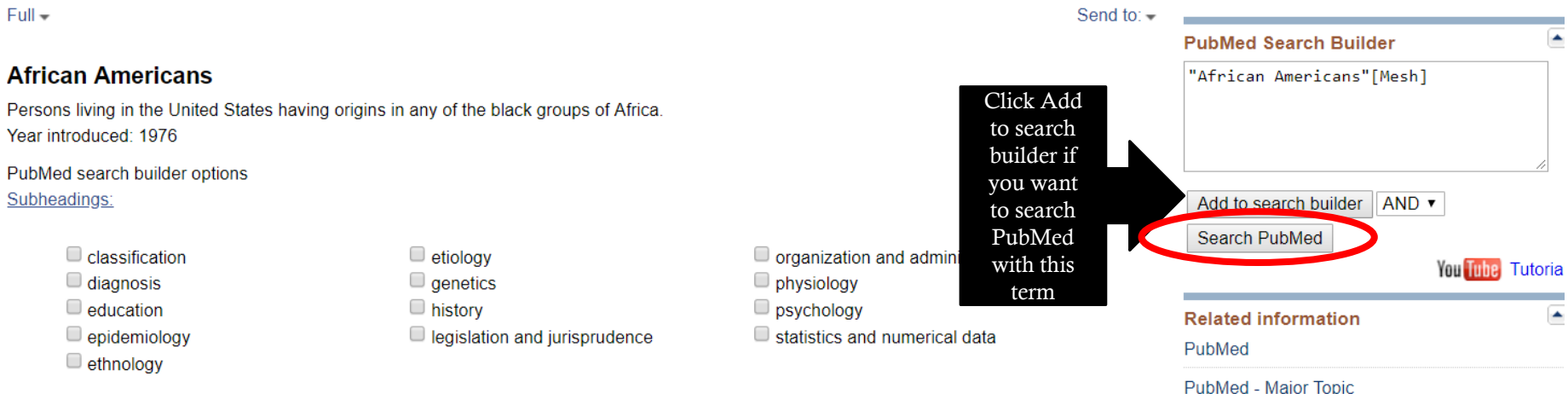
Tree Number(s): M01.686.508.100
MeSH Unique ID: D044383
Entry Terms:

- Negroid Race
- Negroid Races
- Race, Negroid
- Races, Negroid
- Blacks
- Negroes
- Negro

Check the taxonomic tree to make sure you're in the right place: can go broader or narrower

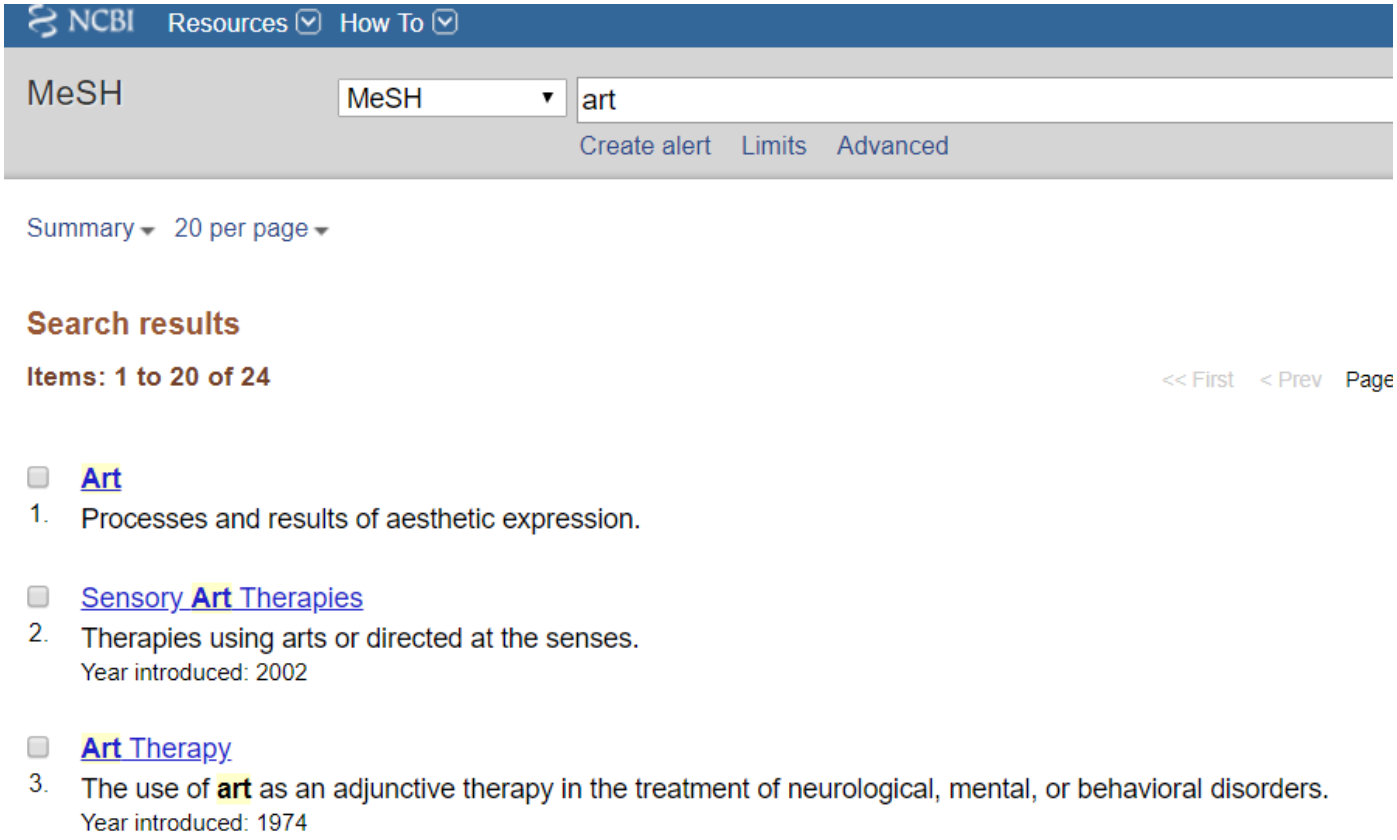
All MeSH Categories
Persons Category
Persons
Population Groups
Continental Population Groups
African Continental Ancestry Group
African Americans

MeSH


Full
Send to:
African Americans
Persons living in the United States having origins in any of the black groups of Africa.
Year introduced: 1976
PubMed search builder options
Subheadings:
classification
diagnosis
education
epidemiology
ethnology
etiology
genetics
history
legislation and jurisprudence
organization and admini
physiology
psychology
statistics and numerical data
Click Add to search builder if you want to search PubMed with this term
PubMed Search Builder
"African Americans"[Mesh]
Add to search builder
AND
Search PubMed
Tutoria
Related information
PubMed
PubMed - Major Topic

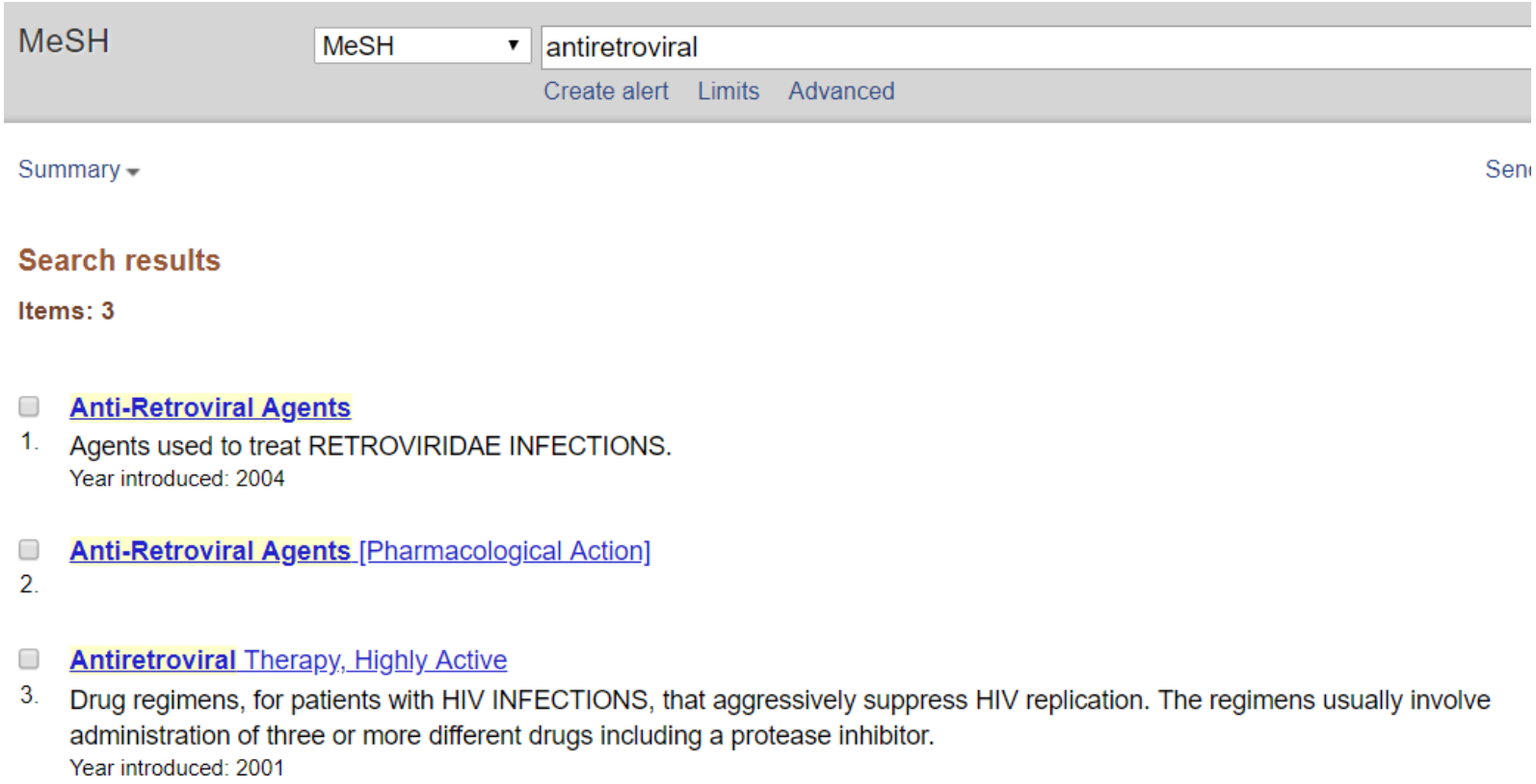
MeSH

- The Automatic Term Mapping also mapped our original search to the MeSH term “Art” which is not helpful



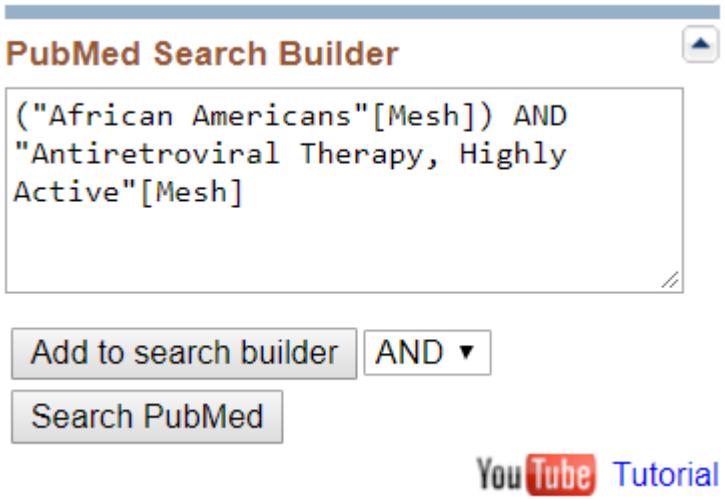
MeSH

- But there may be a more relevant term for us



MeSH

- We can add this to the builder along with the African American term
- Then we can click Search PubMed to see the results in PubMed



MeSH

- If you click on any result in PubMed and scroll below the abstract, you can click on the + to open the section with MeSH terms and confirm that both “African Americans” and “Antiretroviral Therapy, Highly Active” appear there

The impact of African Americans' beliefs about HIV medical care on treatment adherence: a systematic review and recommendations for interventions.

Gaston GB[1], Alleyne-Green B.

Author information

Abstract

Disparities in access to and retention of regular HIV medical treatment persist among African Americans living with HIV. Many scholars believe that the mistrust of health care held by many African Americans stems from a legacy of abuse, from medical experimentation on slaves to the unethical practices with patients in the Tuskegee Syphilis study. We performed a systematic appraisal of the literature, using several key terms, in order to understand how attitudes about HIV-related health care influence African Americans' engagement in care. We examined peer-reviewed studies published during the period January 2001 through May 2012. An initial search generated 326 studies. Sixteen descriptive studies met our inclusion criteria. Experiences of racism, conspiracy beliefs and the quality of provider relationships appeared to impact engagement. Providers should openly investigate personal beliefs that adversely affect their treatment decisions, listen to patient narratives, and share treatment decisions in order to create a transparent environment.

PMID: 23010941 DOI: 10.1007/s10461-012-0323-x

[Indexed for MEDLINE]

Publication types, MeSH terms, Substance

MeSH

- Notice they do both appear on this record
- Also notice how some of these MeSH terms are marked with an asterisk *
- Those are the Major Topics of the article

Publication types, MeSH terms, Substance

Publication types

Review
Systematic Review

MeSH terms

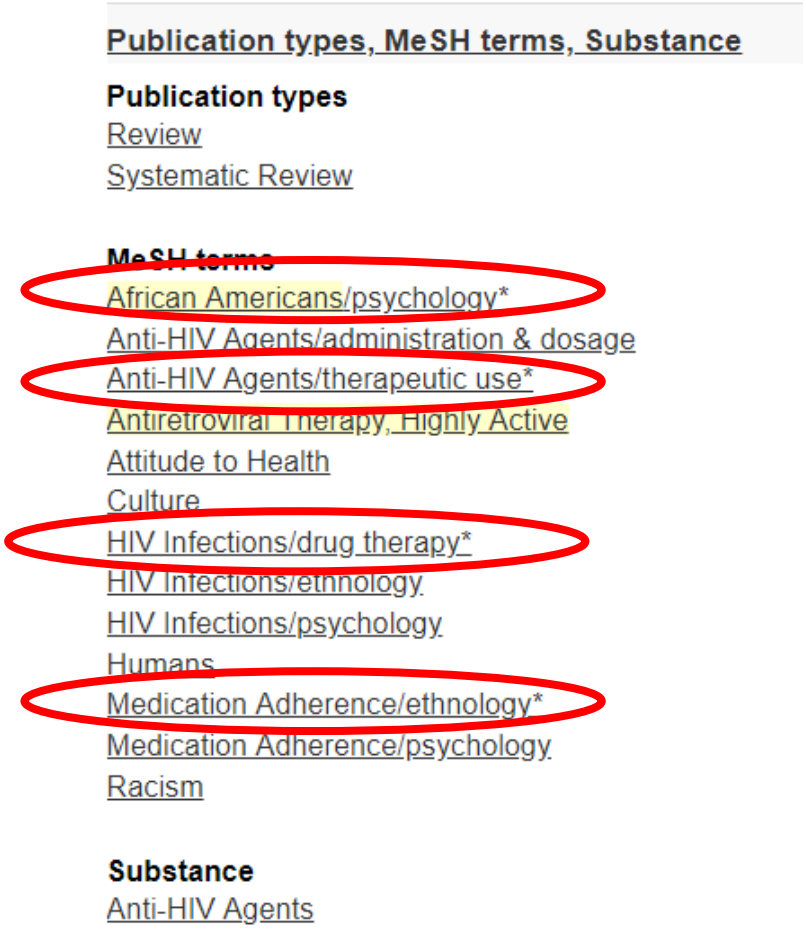
African Americans/psychology*
Anti-HIV Agents/administration & dosage
Anti-HIV Agents/therapeutic use*
Antiretroviral Therapy, Highly Active
Attitude to Health
Culture
HIV Infections/drug therapy*
HIV Infections/ethnology
HIV Infections/psychology
Humans
Medication Adherence/ethnology*
Medication Adherence/psychology
Racism

Substance

Anti-HIV Agents

MeSH

- Out of 13 MeSH terms in this example, only 4 are Major
- You search only for Major Topics if you want your results to be more focused and relevant
- Remember that you will get fewer results by searching for a Major MeSH term



Publication types, MeSH terms, Substance

Publication types

Review

Systematic Review

MeSH terms

African Americans/psychology*

Anti-HIV Agents/administration & dosage

Anti-HIV Agents/therapeutic use*

Antiretroviral Therapy, Highly Active

Attitude to Health

Culture

HIV Infections/drug therapy*

HIV Infections/ethnology

HIV Infections/psychology

Humans

Medication Adherence/ethnology*

Medication Adherence/psychology

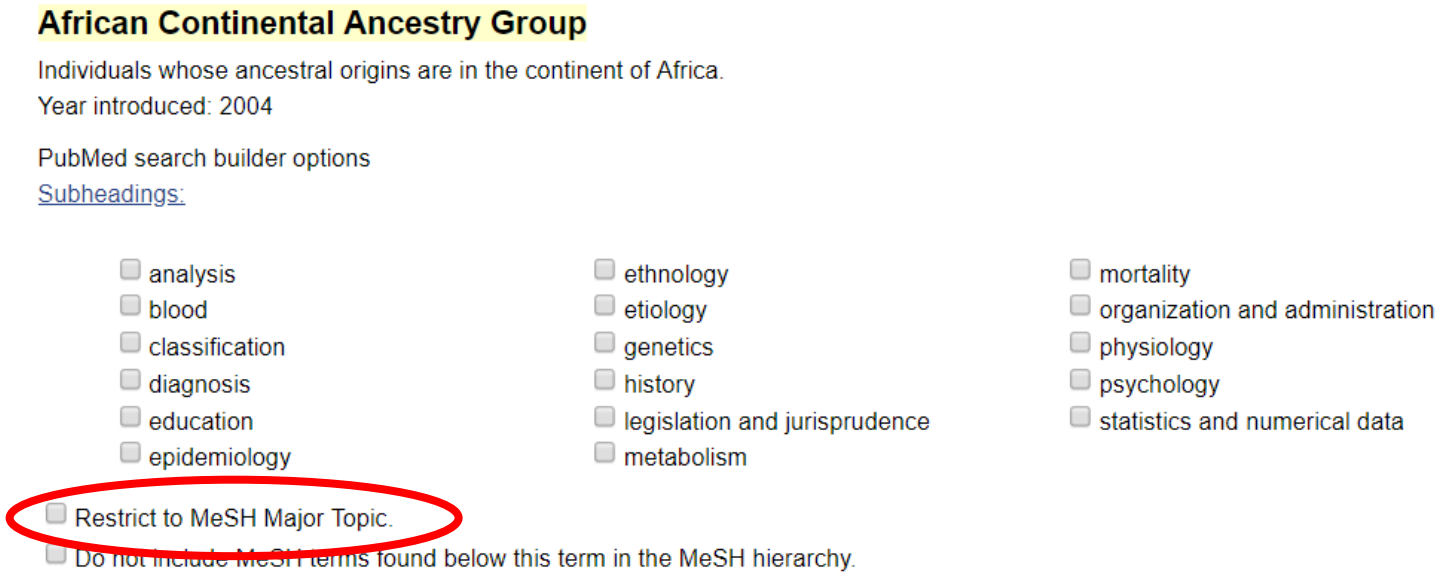
Racism

Substance

Anti-HIV Agents

MeSH

- To search for a MeSH term as a Major Topic, there's a checkbox on the MeSH record



African Continental Ancestry Group

Individuals whose ancestral origins are in the continent of Africa.
Year introduced: 2004

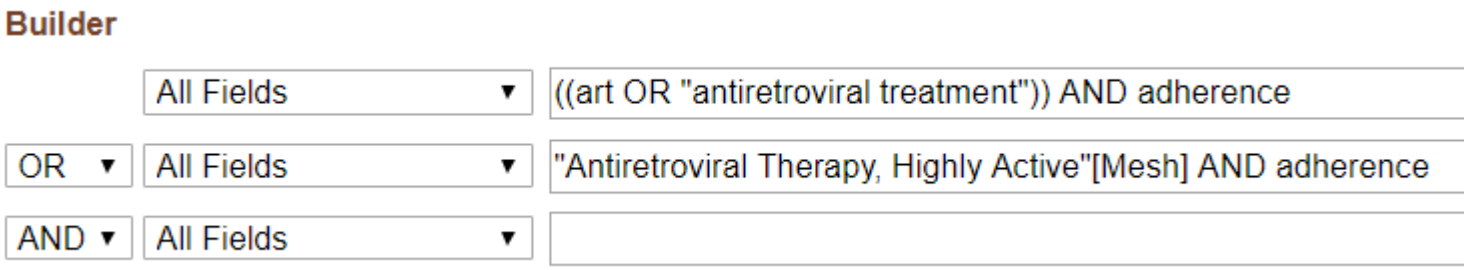
PubMed search builder options
Subheadings:

- analysis
- blood
- classification
- diagnosis
- education
- epidemiology
- ethnology
- etiology
- genetics
- history
- legislation and jurisprudence
- metabolism
- mortality
- organization and administration
- physiology
- psychology
- statistics and numerical data

Restrict to MeSH Major Topic.
Do not include MeSH terms found below this term in the MeSH hierarchy.

MeSH

- Remember that all your PubMed searches are temporarily saved in the Advanced search screen, so you can combine MeSH terms with your other searches



MeSH

- Why use MeSH terms at all?
  - To be quick
    - Get to the most relevant information by using a subheading with Major Topic
  - To be thorough
    - PubMed has many short, vague, or missing abstracts. MeSH indexing gives another source of searchable information about the content besides the publisher-provided title and abstract

Questions?

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- x42030

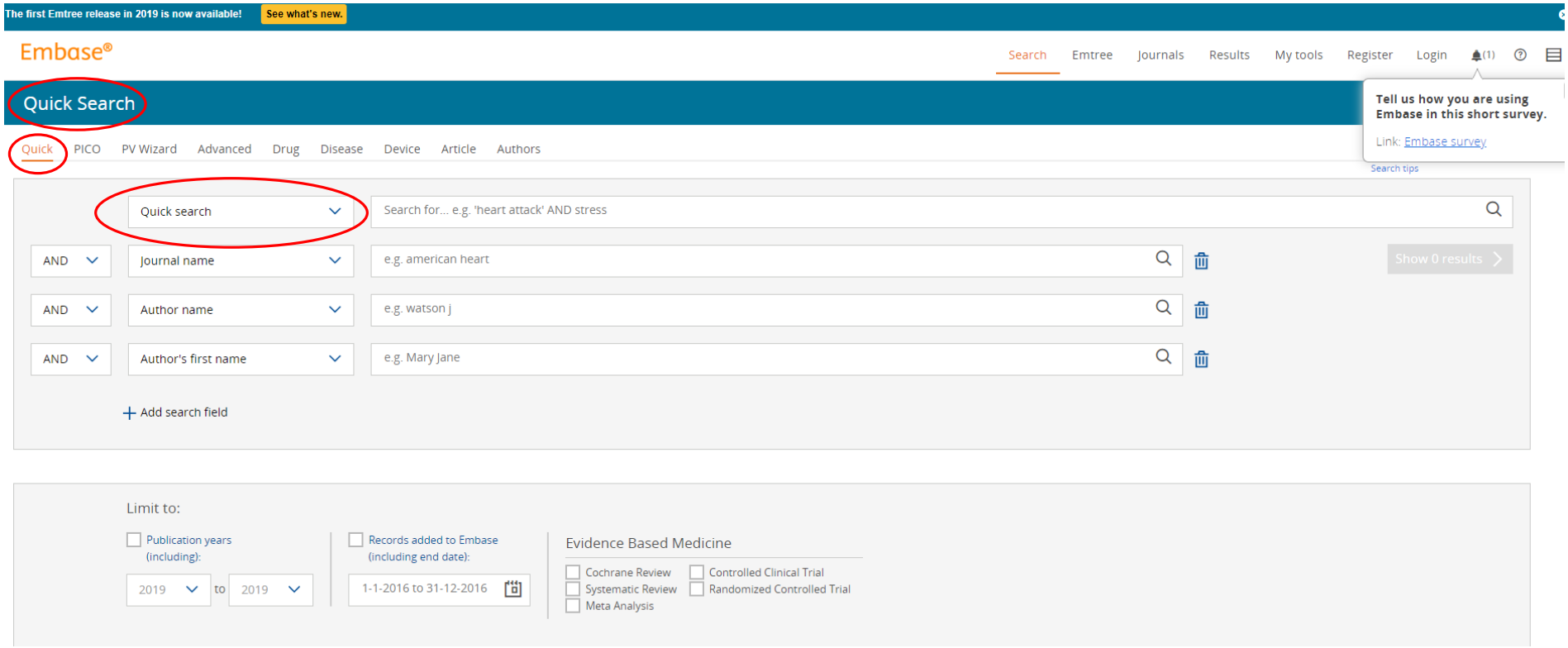
Introducing Embase

- Large database of biomedical literature similar to PubMed
- Embase vs. PubMed/MEDLINE
  - Embase claims to have 2700+ journals not indexed in MEDLINE
  - Stronger coverage outside North America
  - 1.75 million conference abstracts from 5500+ conferences

- http://www.embase.com
  - Need proxy or VPN to access from off-campus

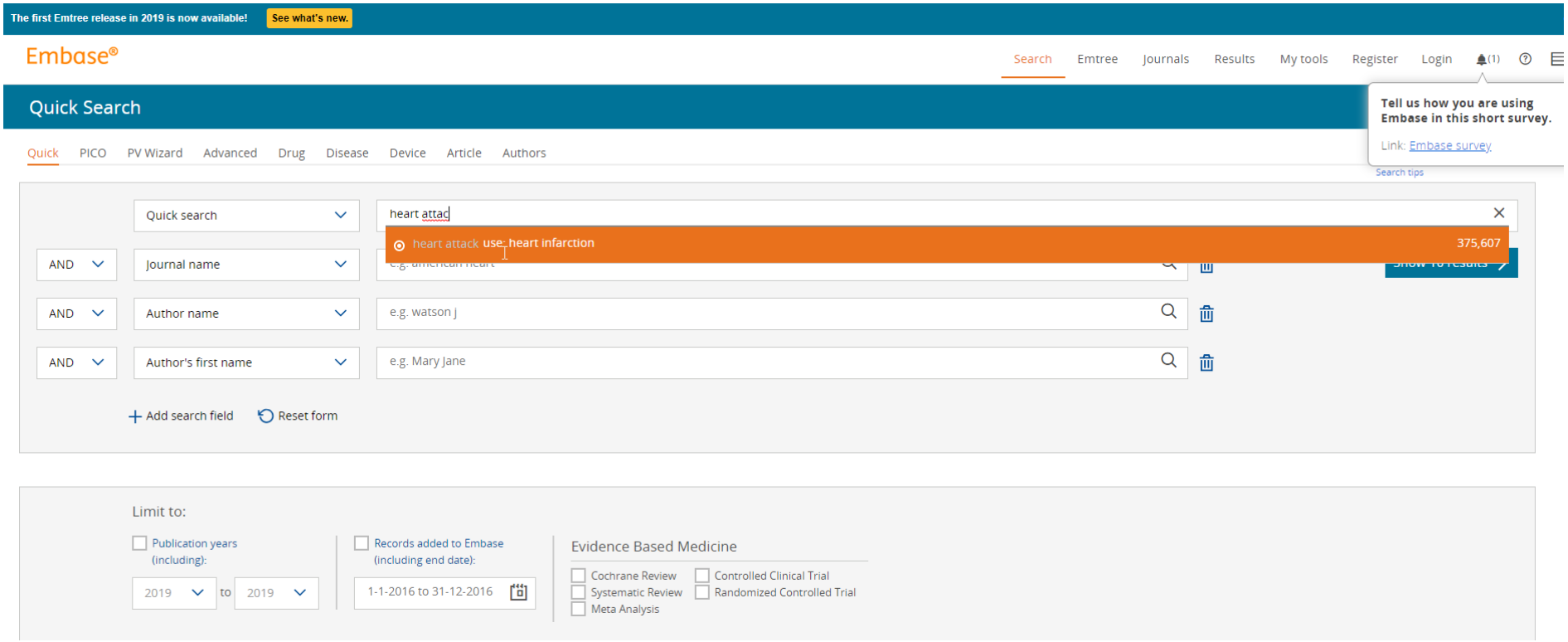
Introducing Embase

- The default search screen is called “Quick search”



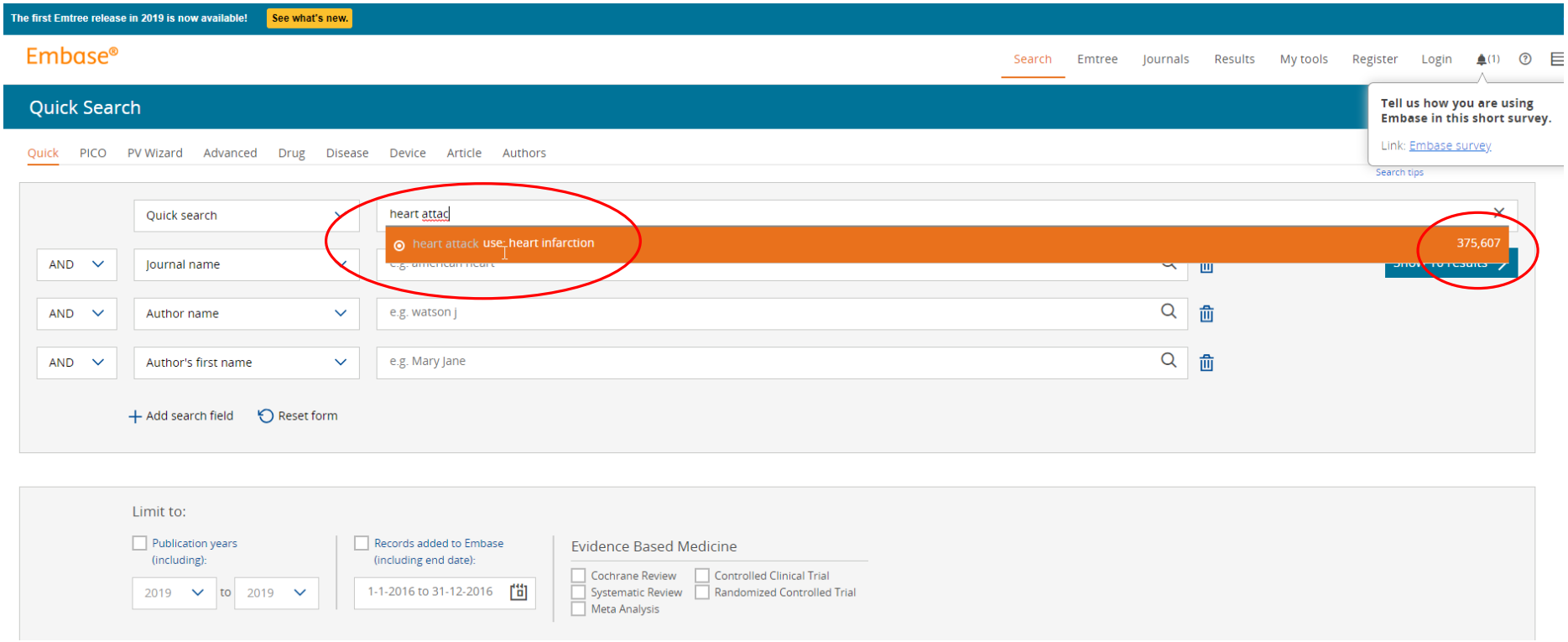
Introducing Embase

- As you start typing a search query, Embase will prompt you to use a controlled vocabulary term (more on that soon)

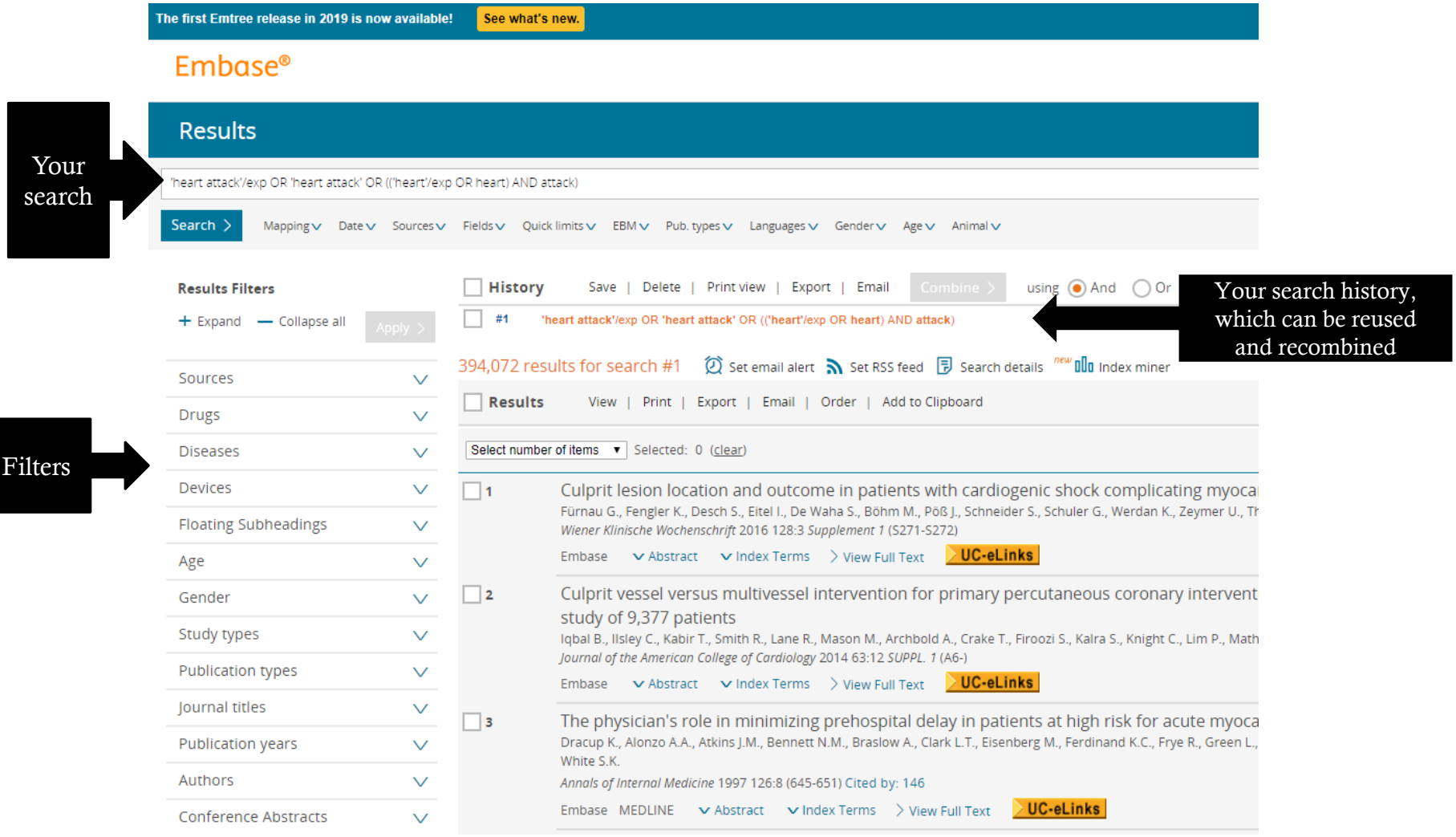


Introducing Embase

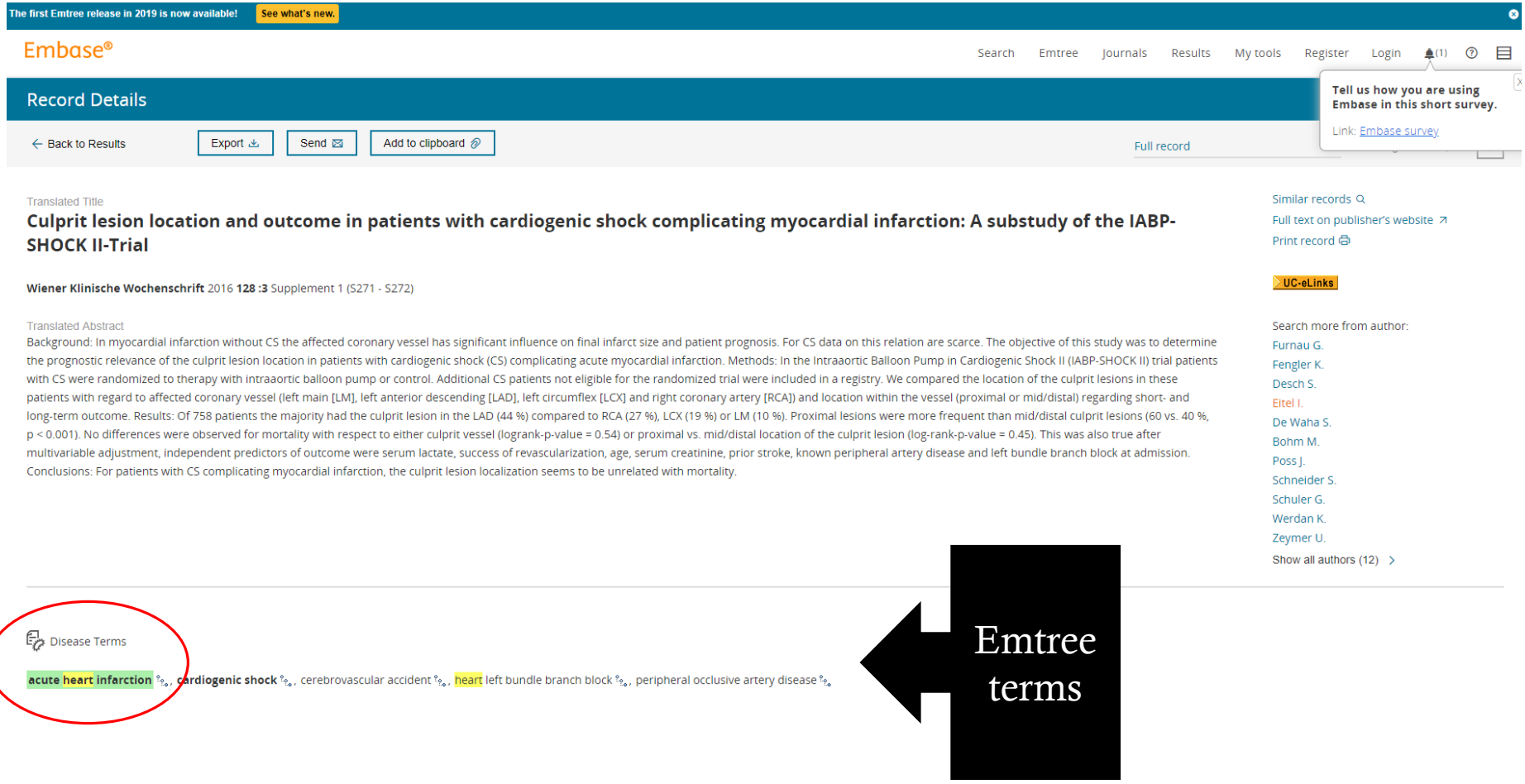
- As you start typing a search query, Embase will prompt you to use a controlled vocabulary term (more on that soon)
- It will also show you how many results you'll get for that query



Introducing Embase

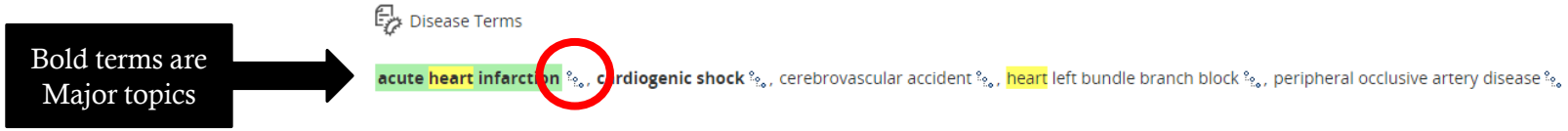


Introducing Embase

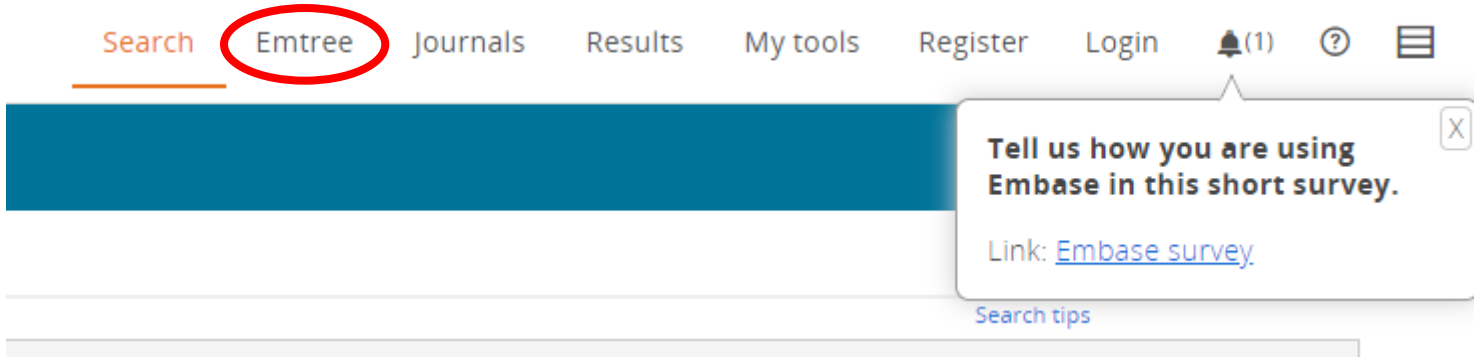


Emtree

- Emtree is Embase's version of MeSH
- Standardized subject headings
- From an Embase record you can click the tiny icon to go to that term's Emtree record

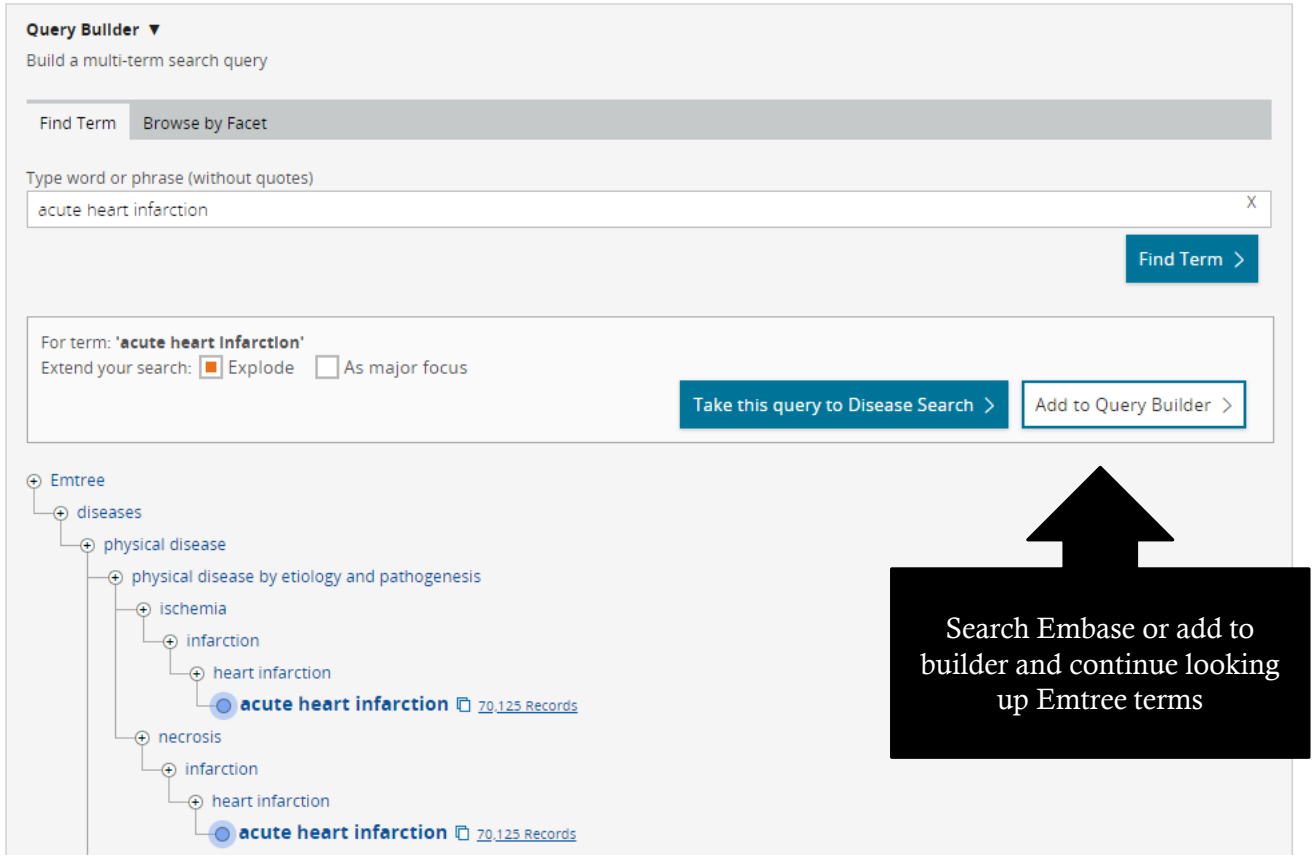


- Or click Emtree in the top right corner of the screen



Emtree

- Index term in taxonomic tree
  - Broader
  - Narrower
- Explode to include all narrower terms

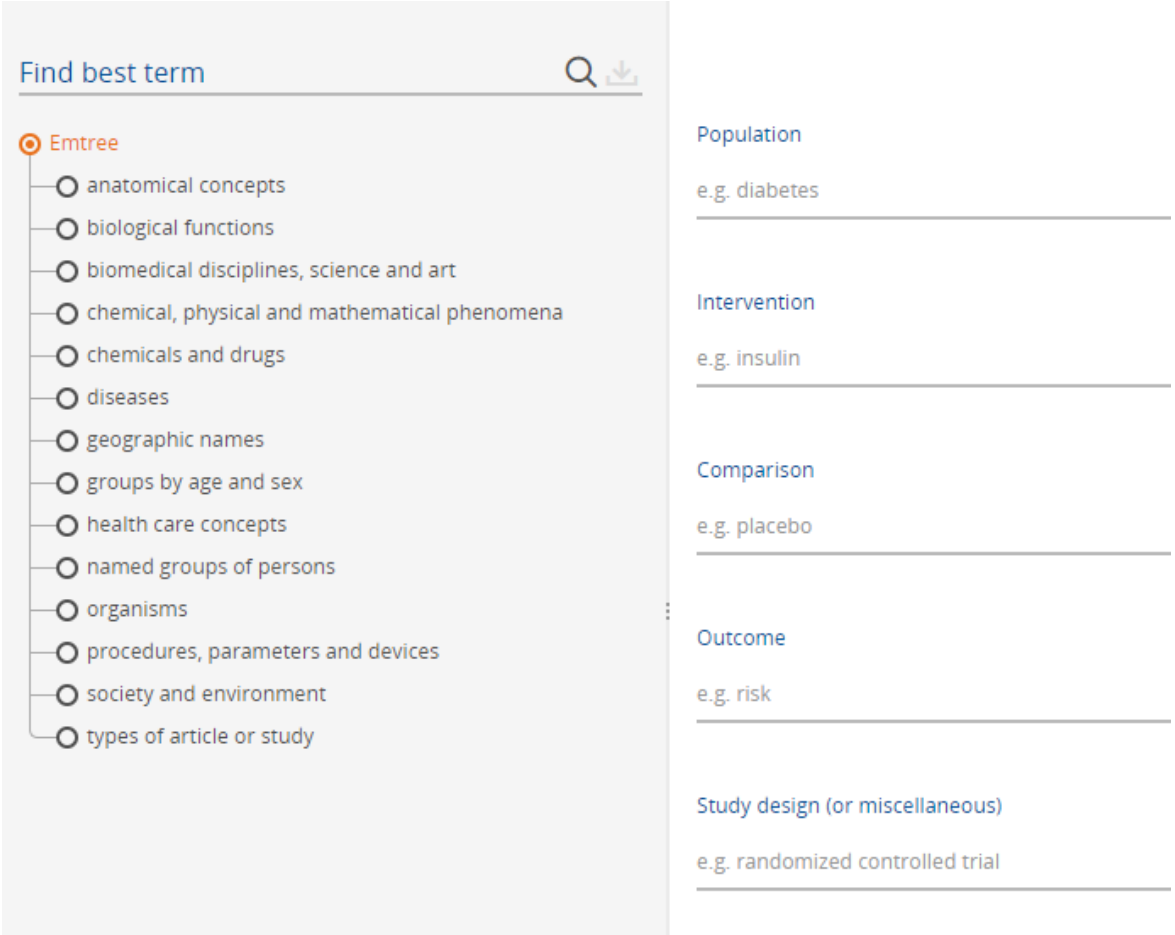


Embase's special search screens

- Embase has a number of search interfaces that are tailored towards particular types of searches

Embase's special search screens

- PICO search prompts you to format your question as PICO
- Search or browse Emtree terms, or start typing and accept the pop up suggestions



Embase's special search screens

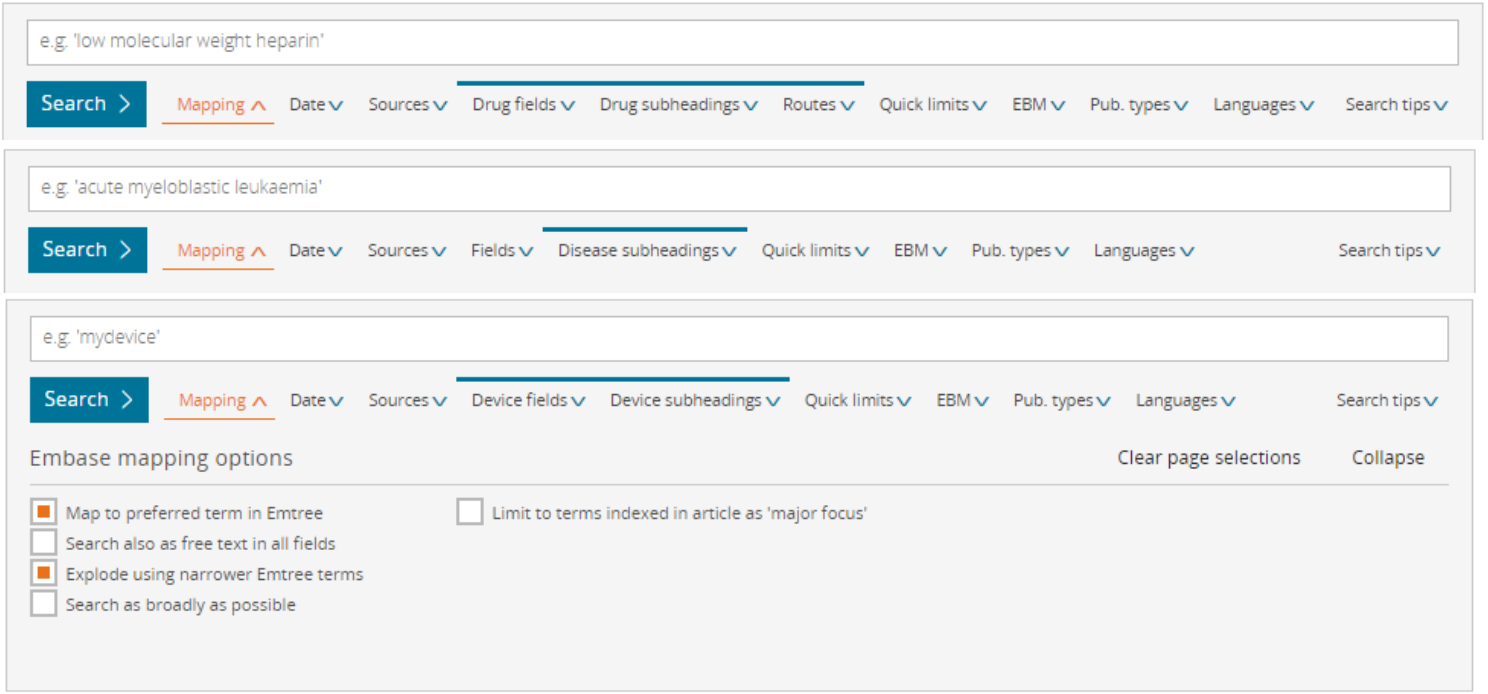
- PV Wizard for pharmacovigilance

Embase's special search screens

- Advanced
  - More control over fields
  - Options for Emtree
  - Search limits

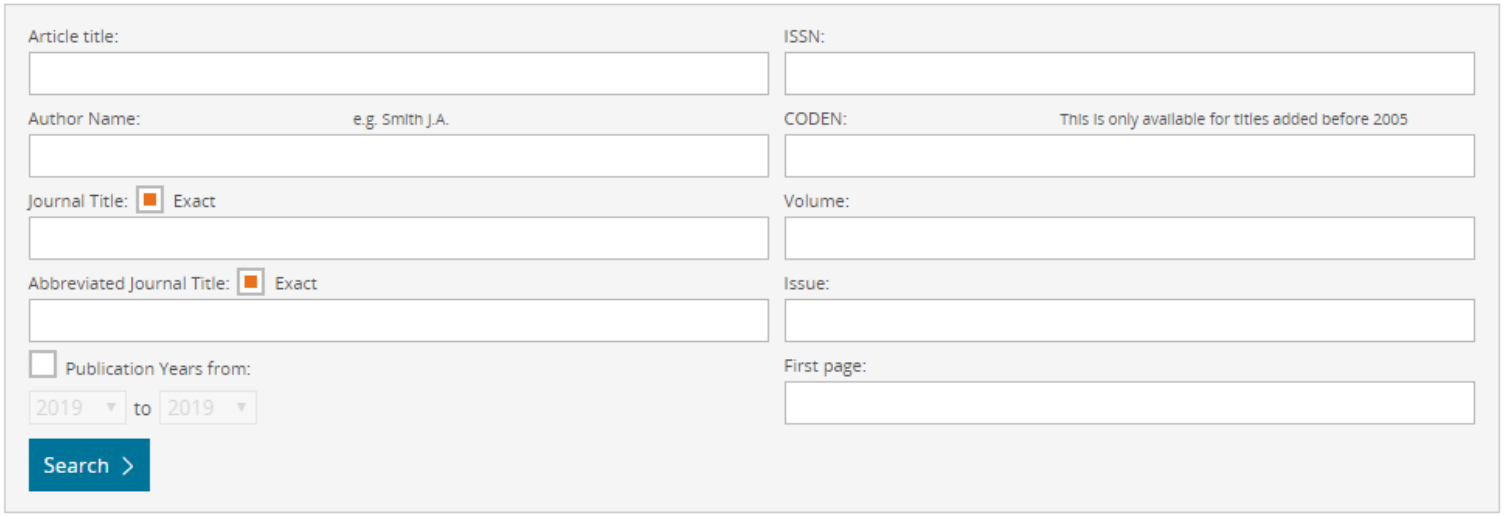
Embase's special search screens

- Drug, Disease, Device
  - Highlights fields and Emtree subheadings relevant to these topics



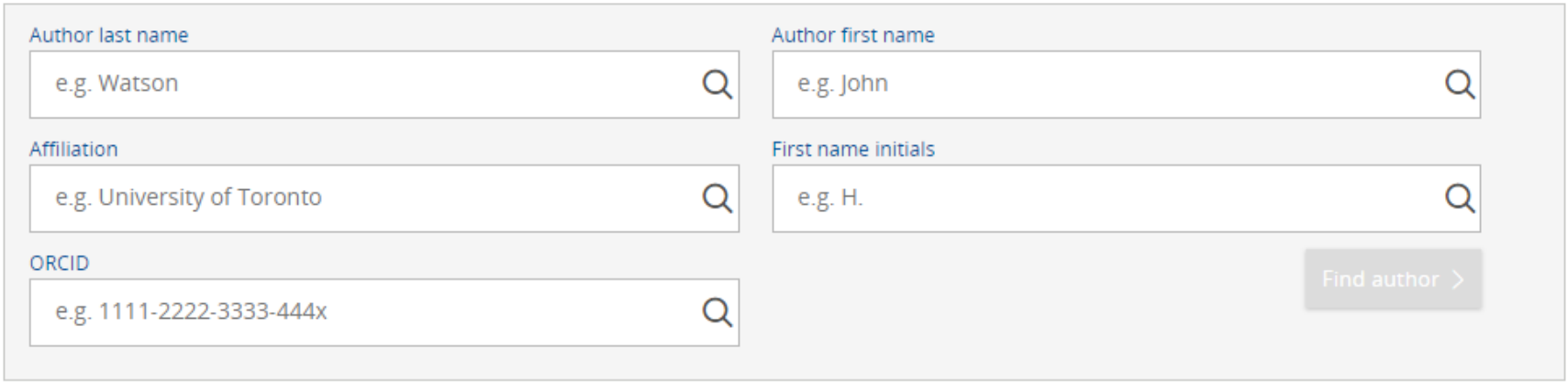
Embase's special search screens

- Article
  - Citation matching



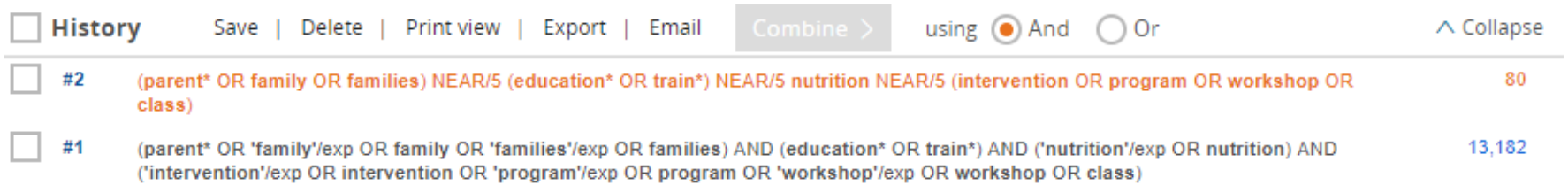
Embase's special search screens

- Author
  - Disambiguate authors & their affiliations



Proximity searching

- NEAR/X and NEXT/X



Questions?

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- UC eLinks

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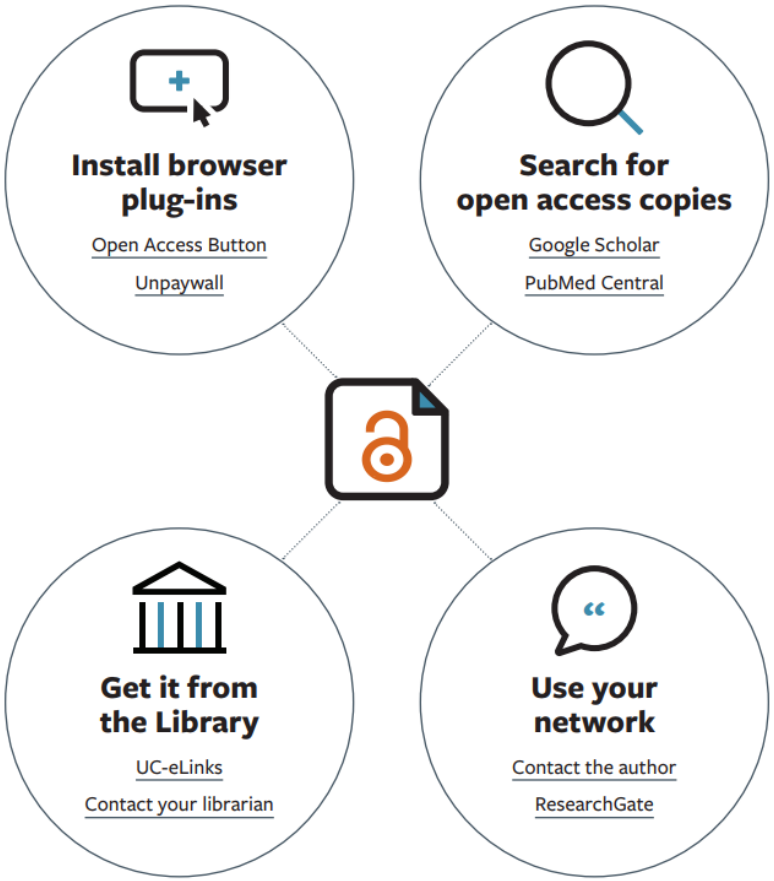


Note: The UC Libraries do not endorse using Sci-Hub for article access.

Managing references

- Organize the articles that you read
  - Make logical groups
  - Make notes to yourself
  - Keep PDFs together
  - Highlight/annotate PDFs
  - Quickly search and find papers you've saved
- Share articles on a collaborative project
- Save time typing a bibliography
- Easily reformat manuscript to a different citation style

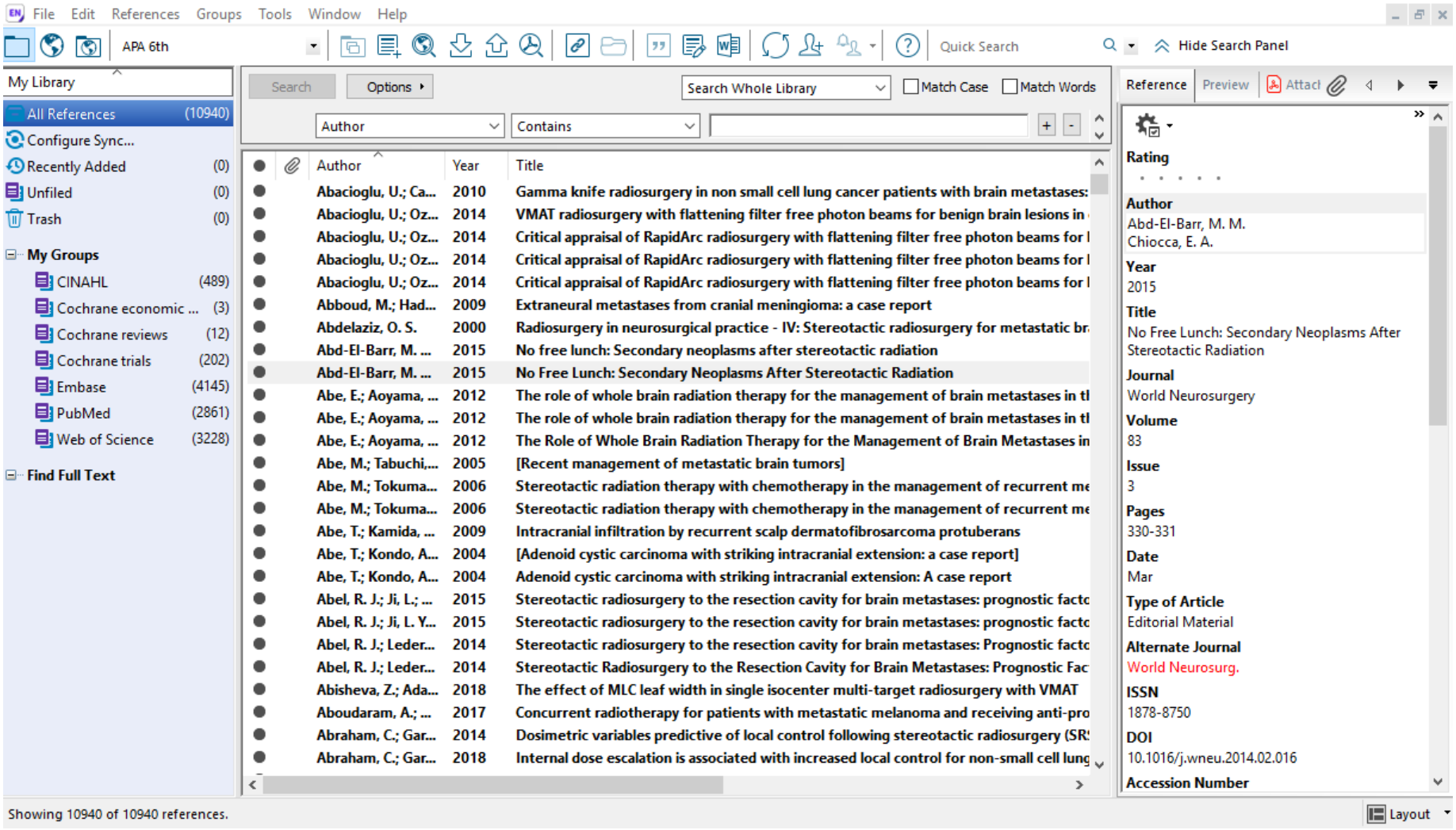
Managing references

- You have a lot of options
  - https://en.wikipedia.org/wiki/Comparison_of_reference_management_software
- Today we'll be looking briefly at these:
  - Endnote X9
    - $68 with academic discount, unlimited storage
  - Zotero (open source)
    - Free with 300MB storage
    - Storage upgrade: $20-$120/year for 2GB-unlimited

Managing references

- Which one should I use?
- Endnote is better at:
  - Organizing large libraries with hundreds or thousands of results
  - Facilitating workflows requiring sophisticated organization
  - Editing citation styles if you need a custom output
  - Importing PDFs *after* you import the reference
  - De-duplication of results
- Zotero is better at:
  - Importing PDFs at the *same time* you import the reference
  - Importing references one at a time from the web
  - Importing webpages and other non-journal sources
- If you are going to do a systematic review or meta-analysis you should probably buy Endnote

Endnote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Abacioglu, U.; Ca... 2010 Gamma knife radiosurgery in non small cell lung cancer patients with brain metastases:
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Abe, T.; Kamida, ... 2009 Intracranial infiltration by recurrent scalp dermatofibrosarcoma protuberans
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Abel, R. J.; Ji, L.; ... 2015 Stereotactic radiosurgery to the resection cavity for brain metastases: prognostic facto
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Author
Abd-El-Barr, M. M.
Chiocca, E. A.
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2015
Title
No Free Lunch: Secondary Neoplasms After Stereotactic Radiation
Journal
World Neurosurgery
Volume
83
Issue
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Pages
330-331
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10.1016/j.wneu.2014.02.016
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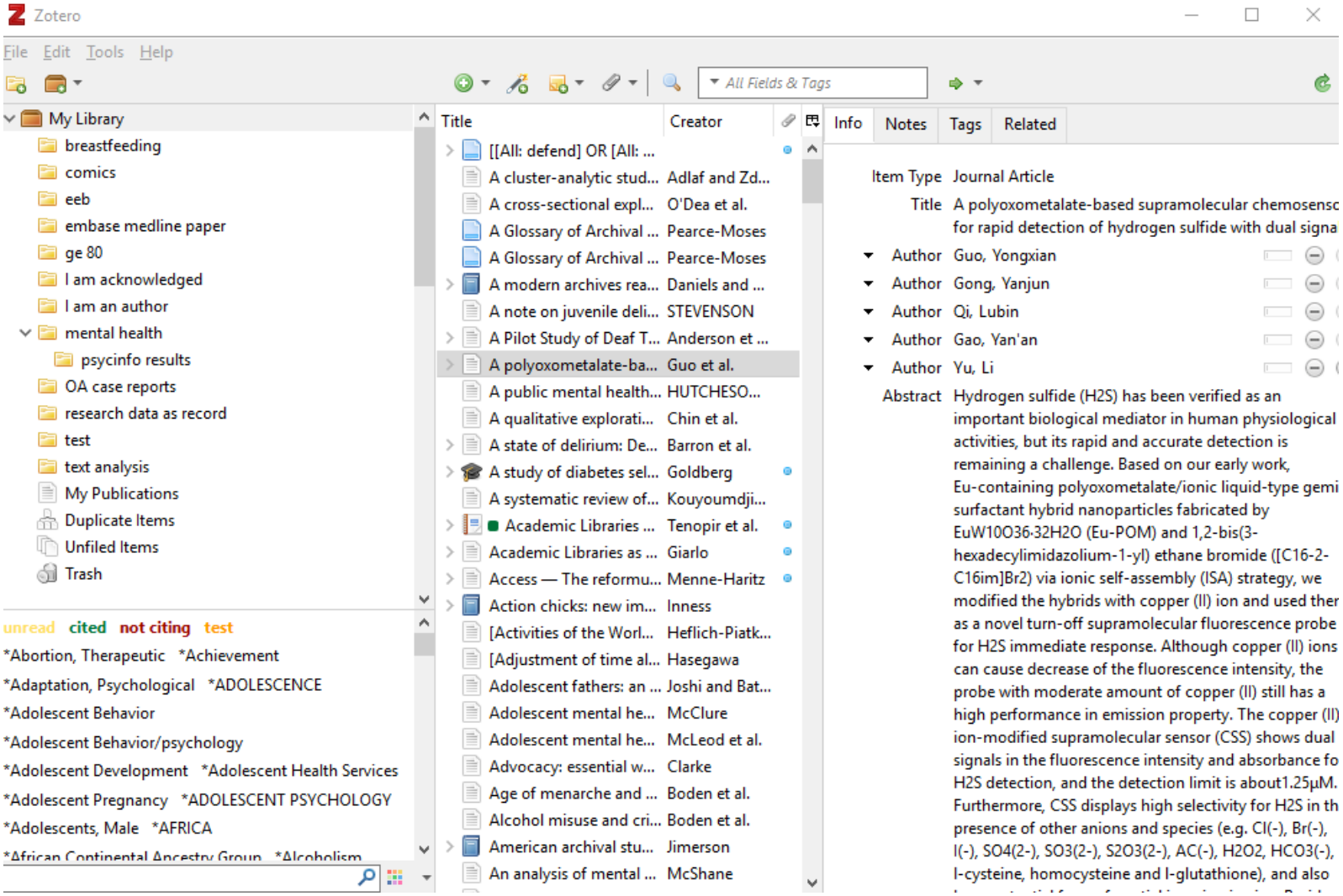
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Item Type Journal Article
Title A polyoxometalate-based supramolecular chemosensc for rapid detection of hydrogen sulfide with dual signa
Author Guo, Yongxian
Author Gong, Yanjun
Author Qi, Lubin
Author Gao, Yan'an
Author Yu, Li
Abstract Hydrogen sulfide (H2S) has been verified as an important biological mediator in human physiological activities, but its rapid and accurate detection is remaining a challenge. Based on our early work, Eu-containing polyoxometalate/ionic liquid-type gemi surfactant hybrid nanoparticles fabricated by EuW10O36·32H2O (Eu-POM) and 1,2-bis(3-hexadecylimidazolium-1-yl) ethane bromide ([C16-2-C16im]Br2) via ionic self-assembly (ISA) strategy, we modified the hybrids with copper (II) ion and used ther as a novel turn-off supramolecular fluorescence probe for H2S immediate response. Although copper (II) ions can cause decrease of the fluorescence intensity, the probe with moderate amount of copper (II) still has a high performance in emission property. The copper (II) ion-modified supramolecular sensor (CSS) shows dual signals in the fluorescence intensity and absorbance fo H2S detection, and the detection limit is about1.25μM. Furthermore, CSS displays high selectivity for H2S in th presence of other anions and species (e.g. Cl(-), Br(-), I(-), SO4(2-), SO3(2-), S2O3(2-), AC(-), H2O2, HCO3(-), l-cysteine, homocysteine and l-glutathione), and also

Questions?

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