

# Thesaurus mapping in healthcare databases

## How can a thesaurus help my literature searching?

Many bibliographic databases use what is known as a ‘controlled vocabulary’ to index articles. Each common medical concept is given a single subject heading which covers all the words and phrases used to describe that concept. For example, “Cerebral vascular accident” is a subject heading which covers all the words and phrases used for the concept of “stroke”.

Each record in a database may have several subject headings given to describe the various concepts covered in the article. If you search using a database’s thesaurus, only articles that have been labelled as being about the subject heading you choose will be selected. Your results will be more relevant, as articles where your search terms are not a significant topic will not be included in the results.

Using a thesaurus also helps overcome problems of inconsistent terminology and alternative terms or spellings. If you type in the word ‘paediatric’ as a keyword in a search you should also carry out a search for ‘pediatric’ as well, as records in databases can use both spellings. The thesaurus will include articles with either spelling under one subject heading – so you would only need to do one search rather than two.

Each database uses a different list of subject headings i.e. the BNI thesaurus will have different subject headings to the Medline thesaurus. For this reason, **you can only use a thesaurus if you are searching in one database only**. If you need to use several databases, search them separately, and compare results when you have finished searching.

Not every search term will correspond with a suitable thesaurus term (e.g. a very new topic or a topic that is UK specific). You should also be aware that new articles are often added to the database before being assigned subject headings. Therefore, to ensure you capture newly published articles you should also employ some free text searching and should not rely solely on the thesaurus.

## How are subject headings arranged?

Subject headings are normally arranged in a hierarchy or tree structure, where broad subjects are subdivided into more specific topics. This picture shows part of the Medical Subject Headings (MeSH) hierarchy in Medline. Narrower, more specific terms (e.g. ear) are indented under broader terms (e.g. head).

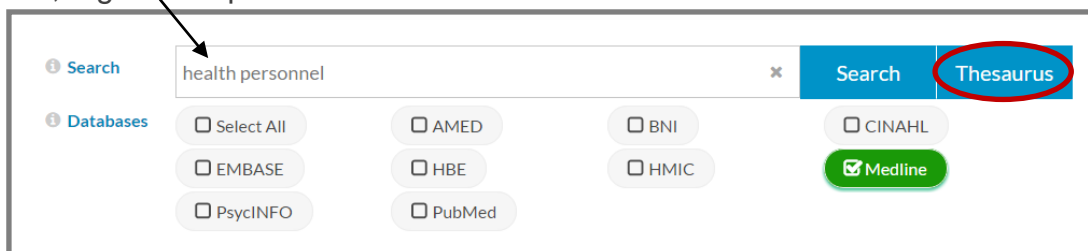
The screenshot shows the Medline thesaurus interface. At the top, it says "Medline > head > Head" and "Build a search with thesaurus terms". There are buttons for "Clear Selection", "Close Thesaurus", "Or And", "Search Now", and "Search as individual Queries". A search box contains the word "head". Below the search box is a table of results:

Thesaurus	Select	Explode	Major	Term	Broad	Narrow	Sibling	Used For	Related	Subheadings	Notes	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Body Regions						Subheadings	Scope	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Head	1	4			1	Subheadings	Scope	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ear						Subheadings	Scope	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Face						Subheadings	Scope	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Scalp						Subheadings	Scope	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Skull Base						Subheadings	Scope	
	Related Terms											
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Facial Bones						Subheadings	Scope	

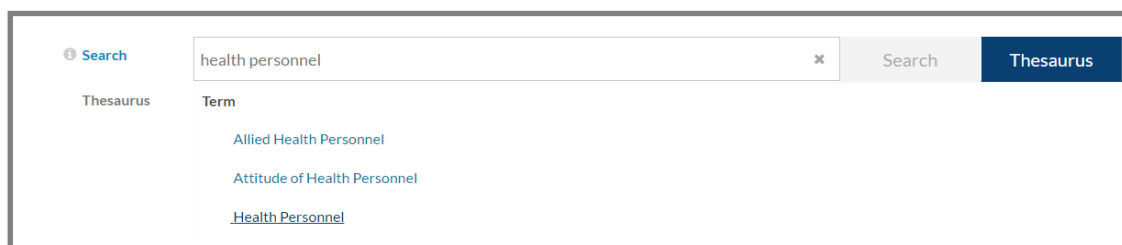
## Using Thesaurus Mapping

You will need to log into the databases with your NHS Athens password. The databases can be accessed at: <https://hdas.nice.org.uk/>

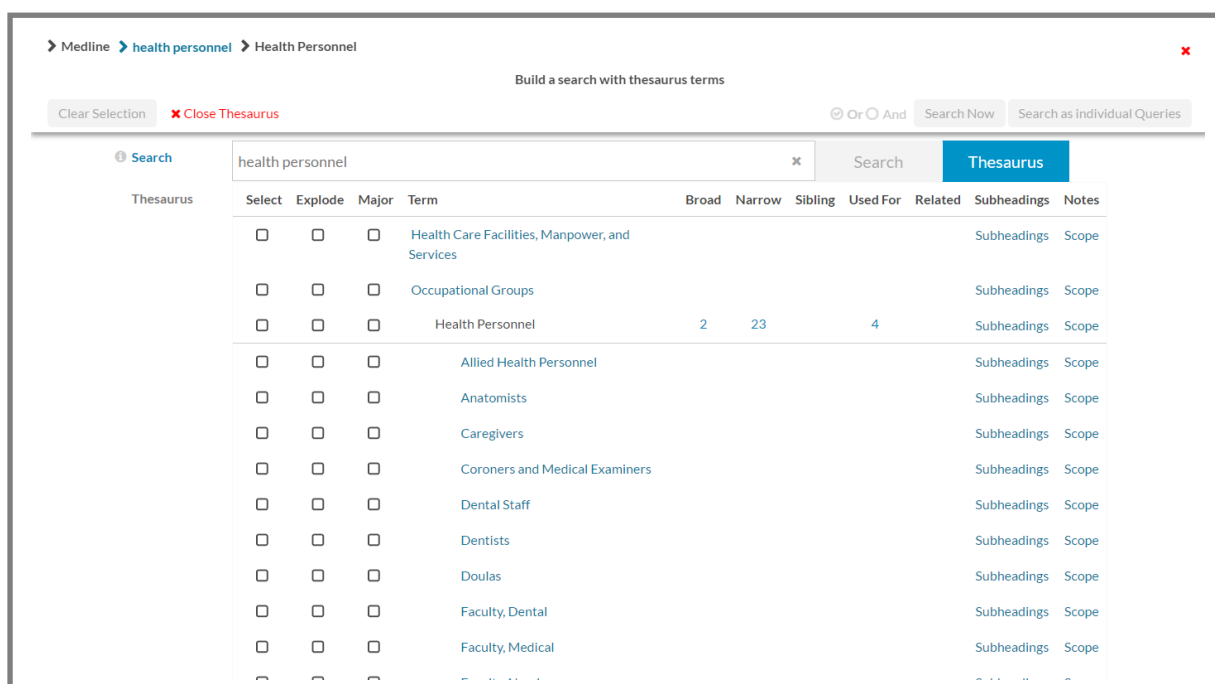
Once logged in select the database you want to search (e.g. Medline) and enter your search term or search phrase, e.g. health personnel into the search box. Then click the thesaurus button.



Terms which the database thinks may be relevant to your search will then be displayed. Select the most appropriate sounding term from the list.



The selected section of the thesaurus 'tree' will then load. Your chosen term is visible in black. Available broader terms are listed above your selected term and narrower terms are listed below. If any other related terms are available they will be listed underneath the narrower terms. In some databases such as Medline scope notes (which offer a definition of the selected term) are available.



Incorporate any of these terms into your search by checking the appropriate select, explode or major options.

- **Select** will retrieve articles where the selected subject heading/thesaurus term has been used as an index term

- **Explode** will expand your search by retrieving articles that are indexed with your search term plus any narrower terms (if available). In the above example explode would search for health personnel and the 23 narrower terms.

**Top tip:** if only some of the narrower terms are relevant to you search select them individually by ticking their select option rather than using the explode option of your main thesaurus term.

- **Major** will retrieve only articles where the subject matter is predominantly that of your chosen thesaurus term.

## Subheadings

It is possible to break down some Subject Headings into subheadings. Subheadings are specific characteristics of a main thesaurus term e.g. ethics or history. They are not narrower terms, so specific professions, e.g. physiotherapy would not appear as subheadings for the term healthcare staff.

Subheadings enable you to focus your search even further. To view the subheadings attached to a thesaurus term, click on the subheadings link to the right of the page.

Then click on the subheading(s) you want to search for (they will go green when selected).

The screenshot shows a search interface for the term "Health Personnel". The main search bar contains "health personnel" and the "Thesaurus" tab is active. Below the search bar is a table with columns: Select, Explode, Major, Term, Broad, Narrow, Sibling, Used For, Related, Subheadings, and Notes. The "Health Personnel" row is selected, and its subheadings are displayed below it. The subheading "ed education" is highlighted in green. Other subheadings include "cl classification", "ec economics", "es ethics", "hi history", "lj legislation & jurisprudence", "og organization & administration", "px psychology", "sn statistics & numerical data", "st standards", "td trends", and "ut utilization".

Select	Explode	Major	Term	Broad	Narrow	Sibling	Used For	Related	Subheadings	Notes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Health Care Facilities, Manpower, and Services						Subheadings	Scope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Occupational Groups						Subheadings	Scope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Health Personnel	2	23		4		12	Scope
cl classification   ec economics <b>ed education</b> es ethics   hi history lj legislation & jurisprudence   og organization & administration   px psychology sn statistics & numerical data   st standards   td trends   ut utilization										
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Allied Health Personnel						Subheadings	Scope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Anatomists						Subheadings	Scope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Caregivers						Subheadings	Scope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Coroners and Medical Examiners						Subheadings	Scope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dental Staff						Subheadings	Scope
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Dentists						Subheadings	Scope

## Running the thesaurus search

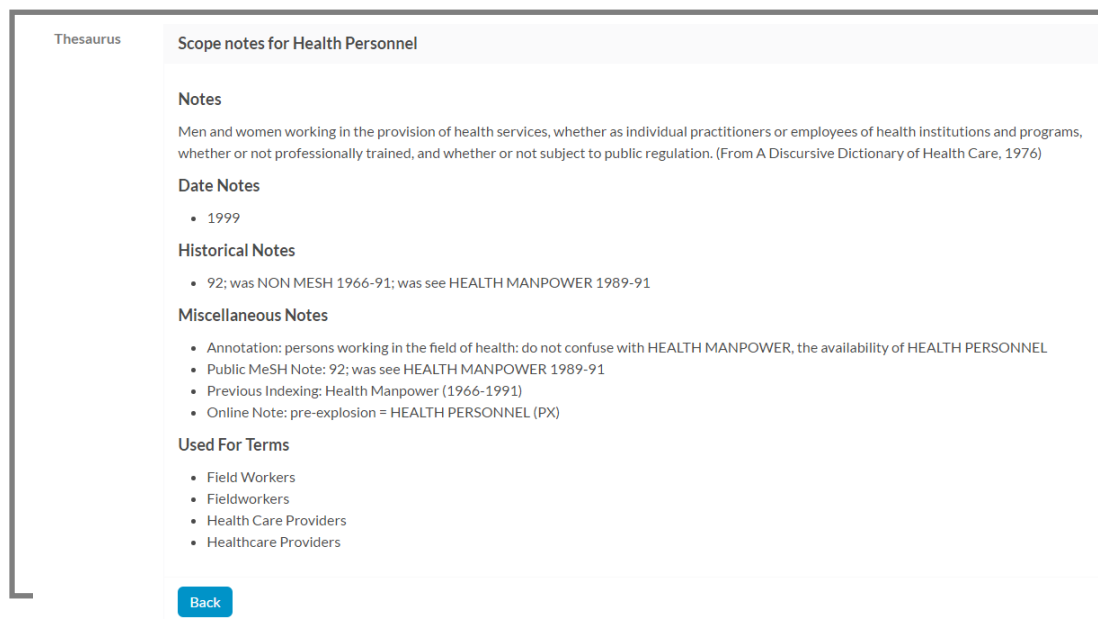
Once you have made your selection(s) choose the search now or search as individual queries button (right corner).

**Search now** will search all of your selected terms together (combining with an OR).

**Search as individual queries** will search for each of your selected thesaurus terms separately (so they will appear as separate search rows in your search strategy).

## What are scope notes and why should I read them?

Scope notes are thesaurus definitions. These can be helpful for checking that you have selected the correct term. To see the scope note, click on the word **scope** next to the thesaurus term (scope notes are not available in all databases).



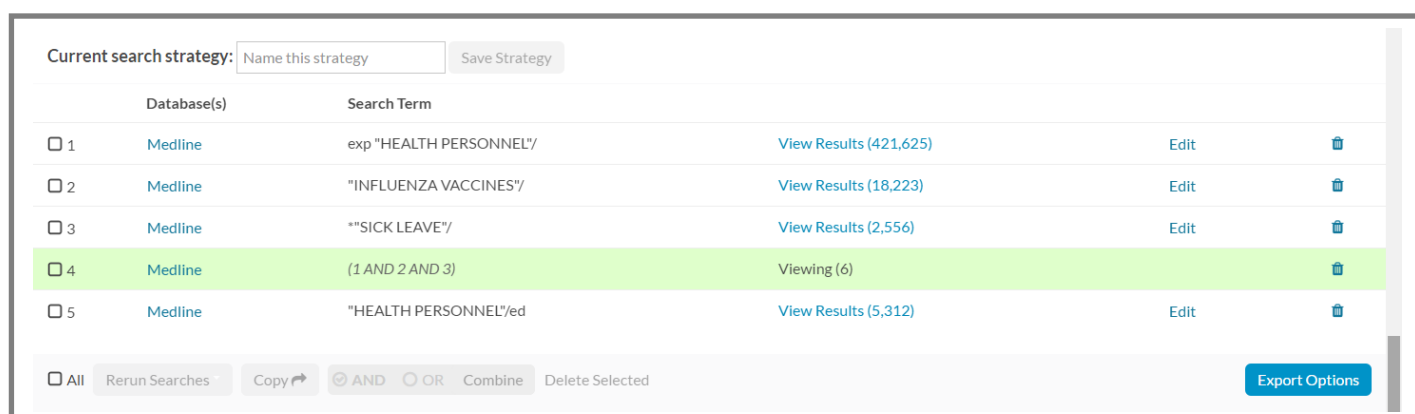
The screenshot shows a web interface for a thesaurus. On the left, a vertical tab labeled 'Thesaurus' is visible. The main content area is titled 'Scope notes for Health Personnel'. It contains several sections: 'Notes' with a definition: 'Men and women working in the provision of health services, whether as individual practitioners or employees of health institutions and programs, whether or not professionally trained, and whether or not subject to public regulation. (From A Discursive Dictionary of Health Care, 1976)'; 'Date Notes' with a bullet point for '1999'; 'Historical Notes' with a bullet point: '92; was NON MESH 1966-91; was see HEALTH MANPOWER 1989-91'; 'Miscellaneous Notes' with four bullet points: 'Annotation: persons working in the field of health: do not confuse with HEALTH MANPOWER, the availability of HEALTH PERSONNEL', 'Public MeSH Note: 92; was see HEALTH MANPOWER 1989-91', 'Previous Indexing: Health Manpower (1966-1991)', and 'Online Note: pre-explosion = HEALTH PERSONNEL (PX)'; and 'Used For Terms' with four bullet points: 'Field Workers', 'Fieldworkers', 'Health Care Providers', and 'Healthcare Providers'. At the bottom left of the content area is a blue 'Back' button.

Along with a definition the scope note usually also tells you the year the MeSH heading was added to the thesaurus. It may give any previous terms that were used which you might need to search with. If in doubt about using a thesaurus term – read the scope note.

To return to the thesaurus options click the blue back button.

## How do I know if I have searched the thesaurus?

A search strategy using the thesaurus is displayed below. If / appears after the search term, it shows the thesaurus was used. **Exp** before the search term shows an exploded search was used. \* before the search term shows the **major descriptor** option was used. Subheadings appear after the search term, as shown in search 5 below where the subheading **education** appears after the term **health personnel**.



The screenshot shows a search strategy interface. At the top, there is a 'Current search strategy:' label, a text input field containing 'Name this strategy', and a 'Save Strategy' button. Below this is a table with columns for 'Database(s)', 'Search Term', 'View Results', 'Edit', and a trash icon. The table contains five rows of search strategies. Row 4 is highlighted in green. At the bottom of the table, there are buttons for 'All', 'Rerun Searches', 'Copy', and radio buttons for 'AND', 'OR', and 'Combine', along with a 'Delete Selected' button. On the far right, there is a blue 'Export Options' button.

	Database(s)	Search Term	View Results	Edit	
<input type="checkbox"/>	Medline	exp "HEALTH PERSONNEL"/	<a href="#">View Results (421,625)</a>	<a href="#">Edit</a>	
<input type="checkbox"/>	Medline	"INFLUENZA VACCINES"/	<a href="#">View Results (18,223)</a>	<a href="#">Edit</a>	
<input type="checkbox"/>	Medline	"SICK LEAVE"/	<a href="#">View Results (2,556)</a>	<a href="#">Edit</a>	
<input type="checkbox"/>	Medline	(1 AND 2 AND 3)	<a href="#">Viewing (6)</a>		
<input type="checkbox"/>	Medline	"HEALTH PERSONNEL"/ed	<a href="#">View Results (5,312)</a>	<a href="#">Edit</a>	

## Exiting the thesaurus

To exit the thesaurus and return to the main search screen scroll to the top of the page and select the red 'close thesaurus' option (located on the left of the page).