NHS001: Introduction to healthcare databases

library@kcl.ac.uk
Aim

To provide you with a hands-on introduction to carrying out a literature search
Today’s session

• Planning an effective search strategy

• Choosing relevant databases to conduct a search

• Search techniques to help you find what you’re looking for

• Saving your search and rerunning it in the future

• Accessing full-text articles
• Your name + job
• What brings you to the session today?
• How do you currently search for literature?
• What problems do you come up against?
Slides + other materials

libguides.kcl.ac.uk/NHS
Planning an effective search strategy

- Focus your question
- Identify key concepts
- Identify alternative search terms
Focus your question

A) Is physiotherapy effective in cystic fibrosis?

B) How does chest physiotherapy compare with other airway clearance techniques in cystic fibrosis in terms of their effects on respiratory function?
PICO framework

People / Patients / Population
Who are you interested in?
Age / gender / ethnic background …

Intervention / Exposure
Specific drug / environmental exposure / get their opinion …

Comparison
Are you comparing with another intervention/a placebo/no intervention?

Outcome
What are you trying to measure?
Cost-effectiveness / accuracy of test …
Other frameworks

See ‘Other frameworks to assist in defining your search question’ box at:

libguides.kcl.ac.uk/systematicreview/define

A research question doesn’t have to fit a framework.
Identify key concepts

What are the main things we are interested in in this question?

*How does chest physiotherapy compare with other airway clearance techniques in cystic fibrosis in terms of their effects on respiratory function?*
A problem…

How would you describe the age of these people?

- teen
- youth
- teenager
- young person
- young adult
- adolescent
Identify alternative search terms

- Acronym: cystic fibrosis, CF, mucoviscidosis
- Synonym: chest physiotherapy, chest physical therapy, percussion and vibration
- More specific term: other airway clearance techniques
- Broader term: respiratory function
- Related term: postural drainage
- Alternative Spelling: lung function
Practice

Plan a search using the handout. Use your own research question or the following example:

‘Should GPs prescribe antibiotics to treat children with middle ear infections?’

• Focus your question – is one of the frameworks useful?
• Identify key concepts – write down the most important search terms
• Identify alternative search terms – try out the techniques
• Take the person next to you through your plan. When listening, has your partner missed anything out?
What is HDAS?

journal articles

NHS OpenAthens account

Some full-text articles

PubMed
Medline
CINAHL
Embase

search platform

Healthcare Databases Advanced Search

What can I find using HDAS?

evidence summaries, guidelines, clinical pathways

systematic reviews

individual studies (randomised controlled trials, cohort studies, case controlled studies, surveys, case reports)
Subject heading searching

- Subject heading are tags given to all articles that discuss a concept, regardless of how the author has described it.
- In HDAS we can search the tags to find relevant literature.
Subject heading searching

Pros

- Subject headings are applied consistently regardless of the terminology or spelling the author has used

Cons

- Not available in all databases
- Not usually transferrable between databases (so search one database at a time)
- There might not be a relevant subject heading
- Take time to be added (so might miss very recent articles)
Free text searching

• Also known as keyword, or ‘natural language’ searching

• What you do when you use Google

• Finds results if the words you are searching for are present in:
  o article title
  o abstract
  o other parts of the records in the database
Free text searching

Pros
• Available in all databases
• You can be very flexible with your search terms

Cons
• You will only find articles if you use the same terms as the author
Free text searching – phrase searching

Use “ ” to ensure terms appear together.

These phrases come from 2 article abstracts:

A) specific physical therapy to strengthen core and chest wall muscles
B) chest physical therapy is the preferred treatment

Searching for *chest physical therapy* will find…
• Articles A and B

Searching for “*chest physical therapy*” will find…
• Article B only
Free text searching - truncation

Use the truncation symbol * to find alternative word endings.

therap*

therapy
therapies
therapist
therapists
therapeumatic
Free text searching - wildcard

Use the wildcard symbol ? to find different spellings.

p?ediatric

paediatric
pediatric
Combining your search terms

How does conventional chest physiotherapy compare with other airway clearance techniques in cystic fibrosis in terms of their effects on respiratory function?

- For combining synonyms and alternate searches for the same concept
- Gives you results containing at least one of the terms you combine
- Increases the number of results
Combining your search terms

How does conventional chest physiotherapy compare with other airway clearance techniques in cystic fibrosis in terms of their effects on respiratory function?

- For combining different concepts
- Gives you only results containing all the terms you combine
- Limits the number of results

\( \text{cystic fibrosis} \land \text{chest physiotherapy} \land \text{A} \land \text{B} \)
AND / OR?

*Is Cognitive Behavioural Therapy more effective at reducing the symptoms of eating disorders than antidepressants?*

<table>
<thead>
<tr>
<th></th>
<th>Eating Disorder</th>
<th>OR</th>
<th>Anorexia</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eating disorder</td>
<td>OR</td>
<td>Anorexia</td>
</tr>
<tr>
<td>2</td>
<td>Cognitive Behavioural Therapy</td>
<td>OR</td>
<td>CBT</td>
</tr>
<tr>
<td>3</td>
<td>Eating Disorders</td>
<td>AND</td>
<td>CBT</td>
</tr>
</tbody>
</table>
### Search techniques in HDAS

<table>
<thead>
<tr>
<th>Database(s)</th>
<th>Search Term</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Medline</td>
<td>exp &quot;CYSTIC FIBROSIS&quot;/</td>
<td>View Results (34,172)</td>
</tr>
<tr>
<td>2 Medline</td>
<td>(&quot;cystic fibrosis&quot;).ti,ab</td>
<td>View Results (42,031)</td>
</tr>
<tr>
<td>3 Medline</td>
<td>(CF).ti,ab</td>
<td>View Results (38,819)</td>
</tr>
<tr>
<td>4 Medline</td>
<td>(1 OR 2 OR 3)</td>
<td>View Results (69,155)</td>
</tr>
<tr>
<td>5 Medline</td>
<td>(&quot;chest physiotherapy&quot;).ti,ab</td>
<td>View Results (795)</td>
</tr>
<tr>
<td>6 Medline</td>
<td>(&quot;chest physical therapy&quot;).ti,ab</td>
<td>View Results (154)</td>
</tr>
<tr>
<td>7 Medline</td>
<td>(5 OR 6)</td>
<td>View Results (937)</td>
</tr>
<tr>
<td>8 Medline</td>
<td>(&quot;airway clearance technique* &quot;).ti,ab</td>
<td>View Results (193)</td>
</tr>
<tr>
<td>9 Medline</td>
<td>exp &quot;DRAINAGE, POSTURAL&quot;/</td>
<td>View Results (242)</td>
</tr>
<tr>
<td>10 Medline</td>
<td>(8 OR 9)</td>
<td>View Results (404)</td>
</tr>
<tr>
<td>11 Medline</td>
<td>(4 AND 7 AND 10)</td>
<td>Viewing (54)</td>
</tr>
</tbody>
</table>
Use these techniques in HDAS

Two ways to search:

- free text searching
- subject heading searching
Medline demonstration

How does conventional chest physiotherapy compare with other airway clearance techniques in cystic fibrosis in terms of their effects on respiratory function?

• Subject heading search
• Free text search
• Boolean operators: OR, AND
Over to You!

• Carry out a search on Medline based on your search strategy plan. Have a go at using:
  • Subject heading searches
  • Free text searches (are “ ” or * useful in your search?)
  • OR + AND

• Explain your approach to the person next to you. Have you got any suggestions for how they might improve their results?
Saving your search and rerunning it in the future

- Name and save your search
- Go to My Search Strategies
- Click on your search to rerun it
Accessing full-text articles

- Full text options are shown at the end of each result.
- Click on the link to be taken to the article website.
- If the article is not available through King’s journal subscriptions you can request it through the Interlibrary loan service.
Other support

NHS libguide - libguides.kcl.ac.uk/nhs

• Using databases – Databases tab (HDAS guides + videos)
• Accessing full-text journal articles – Journals tab (journal key links + Finding Evidence elearning)
• Using the libraries + www.kcl.ac.uk/library (see Quick links, Getting Started + Contact us sections)
• Other training (finding evidence quickly, critical appraisal) – Training session / Request a workshop tabs.
Reflection

Thank you for attending this session.

Please type bit.ly/KCLreflection into the address bar of your browser.

The session ID is: NHS001
Certificates

Next month you’ll be emailed a link to a survey asking what impact today’s session has had for you. This helps us ensure that sessions are as useful as possible for NHS staff.

As part of the survey you'll be asked to leave your details if you would like a certificate.