RS1
Searching the Literature
You will be able to:

- Carry out a search for relevant literature on your RS1 topic using the databases, Scopus and MedLine.
- Combine the keywords using the AND and OR operators to produce a search strategy.
- Break your Research Question down into concepts and identify keywords for each concept.
- Apply the search strategy to Scopus and MedLine, using appropriate limits and truncation.
- Incorporate Medical Subject Headings (MeSH) into the MedLine search strategy.
What are we looking for?

Journal articles:

• Research articles: short, in-depth, papers that report on new research on specific topics

• Reports of trials (RCTs)

• Case reports

• Review articles (clinical reviews; systematic reviews)
Quality of Evidence

- Meta-Analysis
- Systematic Review
- Randomised Control Trial (RCT)
- Cohort Studies
- Case Control Studies
- Case Series/Case Reports
- Animal research/Laboratory studies
Randomized controlled trial: (RCT) A study in which people are allocated at random (by chance alone) to receive one of several clinical interventions. One of these interventions is the standard of comparison or control. The control may be a standard practice, a placebo ("sugar pill"), or no intervention at all.

Medical Definition of Randomized controlled trial - MedicineNet
What is a systematic review?

A systematic review summarises the results of available carefully designed healthcare studies (controlled trials) and provides a high level of evidence on the effectiveness of healthcare interventions. Judgments may be made about the evidence and inform recommendations for healthcare.

These reviews are complicated and depend largely on what clinical trials are available, how they were carried out (the quality of the trials) and the health outcomes that were measured. Review authors pool numerical data about effects of the treatment through a process called meta-analyses. Then authors assess the evidence for any benefits or harms from those treatments. In this way, systematic reviews are able to summarise the existing clinical research on a topic.

Cochrane Consumer Network. What is a systematic review? http://consumers.cochrane.org/what-systematic-review
Where will we be looking?

Databases: Scopus and MedLine

- SCOPUS indexes 20,000+ journals (life sciences, social sciences, physical sciences and health sciences)
- MEDLINE indexes 5,600+ biomedical journals
- Both databases allow you to link out to the full paper/article (if available at Liverpool)
Why search more than one database?

The wider you search, the more you’ll find...

Scopus

Medline

Web of Science
Access databases (and more) through the Medicine Library Guide

ClinicalKey Student
ClinicalKey Student (formerly ClinicalKey Medical Education) provides digital access to over 200 cross-searchable medical textbooks, thousands of images and hundreds of videos. Users also have access to a range of study tools, including the ability to annotate, make notes and access the books offline. ClinicalKey, with its broader range of titles and enhanced study tool features, expands on and enhances the access to 18 medical e-textbooks previously available to University of Liverpool users via Elsevier eLibrary.

- MEDLINE
- PsycINFO
- PsycTESTS
- PubMed
- Scopus
- UpToDate
- Visible Body
- Web of Science
- WHO International Classification of Diseases
Turning your question into a search strategy:

• Identify the key concepts or components of your question
• Make a list of keywords for each concept (no substitute for background reading)
• There is a lot of variation in terminology, so it’s important to include similar or related terms: cancer, tumor, tumour, neoplasm....
Researching a topic: before you start

- Think about your research topic - what do you need to find out?
- From the topic make your research question manageable (specific, focused)
- Decide on the key concepts/keywords
- Think about terminology, synonyms, spelling
- What type of information do you need – RCTs, Qualitative?
- You should also consider constraints such as time, the library resources available, knowing when to stop - how much information do you need?
Research question: examples

• Is Fidaxomicin or Vancomycin more effective in preventing the recurrence of Clostridium Difficile infection in patients?

• Can virtual reality improve anatomy education for medical students?

• What evidence is there that lifestyle interventions are effective in reducing the risk of obese persons developing type 2 diabetes?

• What effect does caring for a stroke patient have on the quality of life of the carer?
Question: What effect does caring for a stroke patient have on the quality of life of the carer?

<table>
<thead>
<tr>
<th>Concept 1 <strong>and</strong></th>
<th>Concept 2 <strong>and</strong></th>
<th>Concept 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke</td>
<td>Quality of life</td>
<td>Carer</td>
</tr>
</tbody>
</table>
Can **virtual reality** improve **anatomy education** for **medical students**?

<table>
<thead>
<tr>
<th>Concept 1 <strong>and</strong></th>
<th>Concept 2 <strong>and</strong></th>
<th>Concept 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual reality <strong>or</strong> Simulation</td>
<td>Anatomy education <strong>or</strong> Anatomy teaching</td>
<td>Medical students <strong>or</strong> Medical education</td>
</tr>
</tbody>
</table>
Is **Fidaxomycin** or **Vancomycin** more effective in preventing the **recurrence** of **Clostridium Difficile** in patients?

<table>
<thead>
<tr>
<th>Concept 1 <strong>and</strong></th>
<th>Concept 2 <strong>and</strong></th>
<th>Concept 3 <strong>and</strong></th>
<th>Concept 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clostridium Difficile or Clostridium infections</td>
<td>Fidaxomycin</td>
<td>Vancomycin</td>
<td>Recurrence</td>
</tr>
</tbody>
</table>
What evidence is there that *lifestyle interventions* are effective in reducing the risk of *obese* persons developing *type 2 diabetes*?

<table>
<thead>
<tr>
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<th>Concept 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifestyle interventions <strong>or</strong> Lifestyle changes <strong>or</strong> Lifestyle modifications</td>
<td>Obese <strong>or</strong> Obesity <strong>or</strong> Overweight</td>
<td>Type 2 diabetes <strong>or</strong> Type II diabetes <strong>or</strong> Non-insulin dependent diabetes</td>
</tr>
</tbody>
</table>
Boolean logic: Combining keywords

- virtual reality AND anatomy education narrows search (use to join distinct concepts)

- medical students OR medical education expands search (for interchangeable keywords)

- hospital NOT university refines search (to exclude a specific term)
Remember: OR is more!
<table>
<thead>
<tr>
<th></th>
<th>AND Results include both terms</th>
<th>OR Results include either term</th>
<th>NOT Results do not include second term (use with caution)</th>
<th>PHRASE Exact match of terms</th>
<th>WILDCARDS TRUNCATION Searches for variant word-endings / spellings / increases results</th>
<th>PROXIMITY OPERATORS Number of words between search terms / increases relevancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDLINE (OVID)</td>
<td>cells and signalling</td>
<td>cancer or neoplasm</td>
<td>HIV not AIDS</td>
<td>adverse drug reactions</td>
<td>cell* (0 - unlimited) cell*4 (limited) wom#n (1 character) signal?ing (1 or 0 characters)</td>
<td>penicillin adj3 allergy</td>
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<td>cancer or neoplasm</td>
<td>HIV not AIDS</td>
<td>&quot;adverse drug reactions&quot;</td>
<td>cell* (0 - unlimited)</td>
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<td>cancer or neoplasm</td>
<td>HIV and not AIDS</td>
<td>&quot;adverse drug reactions&quot;</td>
<td>cell*, behavio*r (0 - unlimited) wom?n (1 character: ?? 2 characters, etc.)</td>
<td>penicillin w/5 allergy (any word order) penicillin pre/3 allergy (set word order)</td>
</tr>
<tr>
<td>DISCOVER (EBSCO)</td>
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<td>cancer or neoplasm</td>
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<td>&quot;adverse drug reactions&quot;</td>
<td>cell* (0 - unlimited) wom?n (1 character) signal?ing (1 or 0 characters)</td>
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</tbody>
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Phrases & Limits

Phrase searching
Inverted commas around a phrase or term

- heart disease will search for heart, disease, heart disease
- “heart disease” will only search for the phrase heart disease

Limits
Applying limits will focus your search

- Publication date, language, publication types
- Remember limits are database dependant
Scopus: create an account
Scopus: create an account
Create an account
Your details

First name: Louise
Family name: Minta

E-mail and password

Your e-mail address will be your username
E-mail address: l.minta@liverpool.ac.uk
Password: ********

* Password Guidelines

Add profile details

I wish to receive information from Elsevier B.V. and its affiliates concerning their products and services
* I have read and understood the Registered user agreement and agree to be bound by all of its terms.

Register
Look here for your name to check you are logged in.
Example of a Scopus search

- Search:
  - "lifestyle intervention**" or "lifestyle change**"
  - "type 2 diabetes" or "non insulin dependent diabetes"
  - "randomized controlled trial"

- Options:
  - Put phrases in "quotation marks". Enter related/similar terms in the same search box and combine with or
  - Enter each separate concept in a new search box. This will automatically combine with and
  - Limit by study type, if appropriate
  - Apply limits, if appropriate

- Date range (inclusive):
  - Published: 2010 to Present
Your first attempt may not work

• Don’t worry, this is normal!
• Too many results?
• Too few results?
• Too many irrelevant results?
Searching MedLine

• Medline has a thesaurus – a controlled list of terms

• Whatever terms the author has used the indexer will try and ‘map’ the term to a term on this list

• These thesaurus terms are referred to as MeSH terms or ‘Medical Subject Headings’ or sometimes ‘subject headings’

• Using the thesaurus/scope notes can help you find other keywords for your search
Medical Subject Headings (MeSH)

Lung Neoplasms

- Lung Tumour/Tumor
- Lung Cancer
- Lung Carcinoma
Medical Subject Headings (MeSH)
Medical Subject Headings (MeSH)
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Medical Subject Headings (MeSH)
What happens if you can’t find a MeSH term?

• MeSH terms are there to help: if nothing quite matches your search term, use the ‘Search as Keyword’ option instead.

• Sometimes a MeSH term will be relevant, but you still want to search on your keyword: that’s fine; tick the MeSH term and also the ‘Search as Keyword’ option.

• MeSH terms may not be included for very recent topics, or specific drug names, for example
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- PsyCITESTS Recommended New
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- UpToDate Recommended
- Visible Body Recommended
- Web of Science Recommended
- WHO International Classification of Diseases Recommended
Don't have an Account?

Use a Personal Account to save searches, create alerts and manage research.

Create Account
Personal Account Login

Personal Account Name:
Iminta

Password:

Login

Forgot Account Name or Password?
Look here for your name to check that you are logged in
Tips for searching MedLine

• Search for **one** term/phrase at a time. This will ensure your term will map to a MeSH heading (if there is one). Each term will be added to the ‘Search History’

• When all terms in your search strategy have been added to the Search History, select and combine with AND/OR

• Combine similar/related terms with ‘OR’ to get an overall set of results for a concept.

• Combine the separate concepts with ‘AND’
MedLine question

What effect does caring for a stroke patient have on the quality of life of the carer?
MedLine question

<table>
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<td>limit 8 to systematic reviews</td>
<td>18</td>
<td>Advanced</td>
<td>Display Results</td>
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Save Remove Combine with: AND OR
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Off-campus access

• Login to the University site – this authenticates you as a Liverpool student
• Access ejournals, ebooks and databases via the Library web page
• No further login required for many resources; if you are prompted, login with your University of Liverpool username/password
This is not the end....... drop-in sessions held in the Library
Thank you!

https://liverpool.onlinesurveys.ac.uk/library-sessions-feedback-1920

Louise Minta
Liaison Librarian

l.minta@liverpool.ac.uk
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