Navigating the Literature

Step 3: Databases & Subject terms
Identifies useful features of databases

Identifies core public health databases @ IUPUI

Uses relevant subject- and discipline-related terminology
Databases are organized collections of information, structured to help you find what you need.
Library databases are organized collections of information resources, sometimes called electronic catalogs, structured to help you find what you need.
Library databases include records like Essentials of environmental health.
Library databases include records like

Environmental perceptions as mediators of the relationship between the objective built environment and walking among socio-economically disadvantaged women


Abstract

Background: Women living in socio-economically disadvantaged neighbourhoods are at increased risk for physical inactivity and associated health outcomes and are difficult to reach through personally tailored interventions. Targeting the built environment may be an effective strategy in this population subgroup. The aim of this study was to examine the mediating role of environmental perceptions in the relationship between the objective environment and walking for transportation/recreation among women from socio-economically disadvantaged neighbourhoods.

Methods: Baseline data of the Resilience for Eating and Activity Despite Inequality (READI) study were used. In total, 4139 women (18-46 years) completed a postal survey assessing physical environmental perceptions (aesthetics, neighbourhood physical activity, personal safety, neighbourhood social cohesion), physical activity, and walking. Environmental perceptions were moderated by objective street connectivity measures. Mixed-effects models were used to test the mediating role of environmental perceptions in the relationship between street connectivity and walking.
It might be helpful to think of databases as a series of lists that you can search:

- authors
- year of publication
- title
- subjects
You can find the core public health databases listed on the graduate student subject guide

http://iupui.campusguides.com/fsphgrad
Using the right language (i.e., keywords AND subject terms) is necessary to find the literature relevant to your question.
Subject terms are the specific terms assigned by experts, librarians, or database vendors to describe a concept or idea.
Sometimes subject terms are part of controlled vocabularies or ontologies.
Controlled vocabularies are standardized terminology for use in indexing and retrieval of information.

Example: Library of Congress Subject Headings
Standardized terminology is necessary when we communicate with others so we can be clear and specific.
An **ontology** formally represents knowledge as a hierarchy of concepts within a domain, using a shared vocabulary to denote the types, properties and interrelationships of those concepts.
Ontologies you might know...

NLM Medical Subject Headings (MeSH)

Diagnostic & Statistical Manual of Mental Disorders (DSM-V)

SNOMED-CT

Unified Medical Language System (UMLS)
Databases use subject terms/headings to organize resources.

Google Scholar does not.

Sometimes, this will matter, sometimes not. The problem is that you can’t know when it will.
<table>
<thead>
<tr>
<th>Concepts</th>
<th>Primary Concept</th>
<th>Secondary Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built environment</td>
<td>Physical activity</td>
<td>Recreation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physical health</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Keywords + Synonyms</th>
<th>(covered in the previous tutorial)</th>
</tr>
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| Related Terms                     | (will be used in an upcoming tutorial) |
You should know...

1. Access to databases & collections
   - University Library (ulib.iupui.edu)
   - Medical Library (library.medicine.iu.edu)

2. Interlibrary Loan
   - Never pay for access to full-text!

3. Your librarians
   - Heather Coates @ University Library
   - Beth Whipple @ Ruth Lilly Medical Library

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Slide 1: Welcome to the third tutorial in this series. This time we’ll introduce databases and subject headings. These, along with keywords, will be the building blocks of your searches.

Slide 2: After watching this tutorial, you should be able to identify some useful features of library databases, identify core databases for public health at IUPUI, and use relevant terminology in your searching.

Slide 3: Let’s start with databases. Basically, they are organized and structured collections of information.

Slide 4: Library databases are a little different than other types of databases, but are essentially electronic catalogs to help you find information resources.

Slide 5: This is one example of a record from IUCat, the electronic catalog for all IU campuses. This record contains information about a book titled Essentials of Environmental Health. The record includes information about the author, when it was published, where it is located within the many IU libraries, and a link to the Google Book Preview.

Slide 6: This is an example of a record from ProQuest Public Health. This record contains information about a 2013 article published in the International Journal of Behavioral Nutrition and Physical Activity. Besides the abstract and citation information about an item, databases have other useful features. If it’s available, you will see a link to a PDF file containing the full article, otherwise known as full-text. If the database doesn’t include full-text of an article or book, you can click on the red “Find It” button to see if the Library provides access through another subscription. Use the Export/Save feature to download the item information to Endnote or Zotero, or just click on the Cite button to copy the citation directly into your paper. You can also explore similar items by looking at the references or papers that have cited this item.

Slide 7: Databases can be very complex and intimidating especially if you haven’t used them recently. It might be helpful to ignore some of the more advanced options and focus on searching four main fields: authors, title, year of publication, and subjects.

Slide 8: Public health literature is spread out across many databases, so you will probably have to search more than one for any given topic. We have a list of commonly used databases on the graduate student research guide. This guide is updated frequently.

Slide 9: Now that you have a better idea of what library databases do, let’s talk about subject headings and terms. Databases are organized based on the language used by experts, so you need to know and use that language to find information relevant to your research question.
Slide 10: Most of the time, subject headings or terms are assigned by people, usually the authors or librarians. They are assigned to describe the concepts and ideas within an article. For example, PubMed relies on expert librarians at the National Library of Medicine to catalog new articles. This is why there is a slight delay in adding subject headings to new items.

Slide 11: Sometimes, but not always, subject terms are part of controlled vocabularies or ontologies.

Slide 12: Controlled vocabularies are standardized terminology used in indexing and retrieving information. Some examples of this include the Library of Congress Subject Headings used in academic libraries, Dewey Decimal Classification system used in public libraries, and ICD-10 codes used in healthcare.

Slide 13: Standardized terminology is necessary when we communicate with others so we can be clear and specific. For example, the term evaluation means different things in psychology, education, and public health. Another example is the term data management, which refers to different activities depending on whether you’re in computer science, electrical engineering, clinical research, or the social sciences.

Slide 14: An ontology is something more than a controlled vocabulary. It is a formal representation of concepts within a domain. However, ontologies used shared vocabularies to describe the relationships of those concepts. A common ontology is the Linnean classification system taught in biology class.

Slide 15: Other ontologies you might know or come across in public health include: National Library of Medicine Medical Subject Headings, Diagnostic and Statistical Manual of Mental Disorders criteria, SNOMED-CT, and the Unified Medical Language System. Some debate exists whether the DSM is actually an ontology or not, but it’s used in similar ways.

Slide 16: Databases use subject terms and headings to organize resources. Google Scholar does not; it relies on natural language processing, so if people use the same word or phrase to mean totally different things, it will not differentiate between them. Sometimes, this will matter a lot, and sometimes not. The problem is that you can’t know when it will matter. My suggestion is to use both Google Scholar and library databases.

Slide 17: In this screenshot, I’ve highlighted where you can find subject headings in ProQuest Public Health. In ProQuest databases, the subject headings are accessed through the Thesaurus.

Slide 18: In PubMed, you can search MeSH for subject headings by selecting it from the drop down list.
Slide 19: In Global Health through the Ovid interface type in your concept into the text field, then make sure the checkbox next “map term to Subject Heading” is checked.

Slide 20: Building from the example we used in the last tutorial, I searched the ProQuest Public Health database for MeSH and ProQuest subject headings relevant to the question. I wasn’t able to find a close match for the phrase built environment, but I did find a few that are somewhat related. I included them here - Environment Design, Residence Characteristics, and Neighborhoods - so we can use them when we get to the basic search. There won’t always be subject headings that match your topics exactly, so you will generally need to use both keywords and subject headings. Now, it’s your turn to try it out. Either take the concepts from your own research question and look for subject headings, or use the example I presented here.

Slide 21: Remember, Beth and I are here to help. I have weekly office hours; the schedule is posted at the graduate subject guide. Email me, or just stop by.