Drug Information Recourses Review

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Objectives

- Value of referenced information.
- Type of resources
- Review the differences between primary, secondary, and tertiary resources
- Discuss the value of each resources type
Value of referenced information:
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» To provide the right patient-oriented information, evidence-based medicine that may change or affect patient care.

» Provides a broad scope and/or concise information on specific topics.

» Provides confidence to have well-established information that is approved and accepted by the national and international referenced bodies.

» Is well accepted by health care providers in medical practice.
Types of Resources

3 main types of drug information Resources:

- **Tertiary**
  Interpretation of primary data

- **Secondary**
  No interpretation, just helps you find sources

- **Primary**
  Original research & analysis
Review the differences between primary, secondary, and tertiary resources

Tertiary Resources:
- Summarizes and interprets the primary literature
- Information generally well accepted
- Place to start for basic information and guidance
## Tertiary Literature

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenient, accessible</td>
<td>Lag time</td>
</tr>
<tr>
<td>Often available online</td>
<td>Not as complete</td>
</tr>
<tr>
<td>Review process of information is already done</td>
<td>Author’s interpretation</td>
</tr>
</tbody>
</table>
## Examples of Tertiary Resources

<table>
<thead>
<tr>
<th>Textbooks (Electronic also)</th>
<th>Drug Databases (Online)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handbooks</td>
<td>Lexi Comp</td>
</tr>
<tr>
<td>Reference books</td>
<td>MICROMEDEX</td>
</tr>
<tr>
<td>Full-text computer databases (Internet)</td>
<td>Drug Facts and Comparisons</td>
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<tr>
<th>Print Books</th>
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<tbody>
<tr>
<td>Remington’s</td>
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<tr>
<td>Trissel’s</td>
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<tr>
<td>Handbook of Nonprescription Drugs</td>
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<tr>
<td>Drugs in Pregnancy &amp; Lactation</td>
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<tr>
<td>Martindale: The Complete Drug Reference</td>
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<tr>
<td>MD Consult</td>
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<tr>
<td>UpToDate</td>
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<tr>
<td>Pharmacist’s Letter</td>
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<tr>
<td>Natural Medicines Comprehensive Database</td>
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<tr>
<td>FDA.gov (FDA@Drug)</td>
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<tr>
<td>CDC.gov</td>
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<tr>
<td>Package Insert</td>
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Before Using Tertiary Literature!

1. Does author have expertise?
2. Is the information current?
3. Is the information supported with citations?
4. Does the resource contain relevant information?
5. Is the resource free of bias or errors?
6. Is it clear/concise/easy-to-use?
Review the differences between primary, secondary, and tertiary resources

Secondary Resources:
- Guides you to the primary and tertiary literature
- Indexing
  - Bibliographic info only
- Abstracting
  - Bibliographic citation plus brief summary of article or resource
- Almost all are electronic format
Secondary Resources:

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<tr>
<td>Simple search strategies</td>
<td>Understanding coverage of the database</td>
</tr>
<tr>
<td>Very current citation information</td>
<td>Tweaking search strategies unique to each database</td>
</tr>
<tr>
<td>Access point for tremendous amount of primary sources</td>
<td></td>
</tr>
</tbody>
</table>
Secondary Resources:

- **OVID:**
  - The Ovid database is used by many health professionals to search large collections of scientific, medical, and technical databases (currently over 80).
  - For the most part it is extremely easy to work with and use.

- **MEDLINE:**
  - Abstracting service produced by the National Library of Medicine; indexes articles from over 4000 journals available on-line.
Secondary Resources:

- **The Medical Letter:**
  - This is basically an abstracting and evaluating service that reviews recently approved medications, drug classes, and lists current treatment options for various diseases.
  - The reviews are excellent and non-biased and offer specific recommendations; published every two weeks.

- **Iowa Drug Information Service:**
  - IDIS indexes English articles relevant to drugs and treatment of disease from approximately 200 journals.
  - The database is sold on a subscription basis.
  - Full-text articles are available on the web or on CD-ROM.
The Medical letter

C:\Users\user\Desktop\DI course almadeenah presentations\TML-issue-1449 August.pdf
C:\Users\user\Desktop\DI course almadeenah presentations\TG-issue-142.pdf
Secondary Resources:

- **The Cochrane Library (Collaboration):**
  - Provides an assessment of the literature on particular health care topics thorough literature review.

- **Review Articles:**
  - Are summaries that are usually written by experts in the field
  - May have the same inherent limitations as texts.
  - The reader needs to be aware of the timeliness of a review, and the author’s credentials.
Review the differences between primary, secondary, and tertiary resources

Primary Literature:
- It is the source of information for the development of secondary and tertiary literature resources.
- Primary literature is comprised of original research that is written in the author(s) own words.
- It consists of research studies, case reports, editorials.
- Most primary literature contains a detailed description of the study design, methodology, and scientific results.
- The reader is able to critique and analyze the study in order to develop a conclusion.
Primary Literature:

Peer reviewed
The peer review process

Scientists study something.

Scientists write about their results.

Journal editor receives an article and sends it out for peer review.

Peer reviewers read the article and provide feedback to the editor.

Editor may send reviewer comments to the scientists who may then revise and resubmit the article for further review. If an article does not maintain sufficiently high scientific standards, it may be rejected at this point.

If an article finally meets editorial and peer standards it is published in a journal.
## Primary Literature:

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<tr>
<td>Most current published source</td>
<td>Overwhelming volume</td>
</tr>
<tr>
<td>Tremendous range of information</td>
<td>Interpretation of results</td>
</tr>
<tr>
<td>Personally assess utility/validity</td>
<td>Not yet vetted by experts</td>
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</table>
Hierarchy of Research Designs & Levels of Scientific Evidence

- Clinical Practice Guidelines
  - Secondary, pre-appraised, or filtered Studies
  - Primary Studies
  - Observational Studies
- Randomized Controlled Trial
  - Prospective, tests treatment
- Cohort Studies
  - Prospective: cohort has been exposed to a risk. Observe for outcome of interest
- Case Control Studies
  - Retrospective: subjects have the outcome of interest; looking for risk factor
- Case Report or Case Series
- Narrative Reviews, Expert Opinions, Editorials
- Animal and Laboratory Studies

Based on ability to control for bias and to demonstrate cause and effect in humans

Not involved w/ humans
Wrapping up!

- **Ease of use:**
  - Tertiary ➔ Secondary ➔ Primary

- **Most Current:**
  - Primary ➔ Secondary ➔ Tertiary
Reference:


- Medication Therapy and Patient Care: Specific Practice Areas–Guidelines, American Society of Health-System Pharmacist 2014
We don’t learn by doing, we learn by reflecting on what we've done.

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