What Can I Trust?
Identifying Trustworthy Information

Health 205- September 2014

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Learning Outcomes

In today’s class you will learn how to:

• Critically evaluate information, in particular health information, found on the Internet.
• Distinguish among a primary, secondary and tertiary source.
• Differentiate between scholarly and popular resources.
• Identify a citation.
• Use the Queen’s Library resources to write your papers/essays.
Where do you like to study/write your papers?

1. Stauffer Library
2. Bracken/Health Sciences Library
3. Douglas/Engineering Science Library
4. SKHS building
5. Home
6. Coffee shop
7. None of the above
Where do you go first when researching your essay or assignment?

1. Your prof or TA
2. Your textbook
3. The Library’s resources (catalogue, journal articles)
4. The Internet
5. Friends
Where do most people go first?

The Internet: Google, Wikipedia

Wikipedia ranks among first ten results in top search engines for health-related inquiries.
# Using the Internet

## What is the Internet good for?
- Current events
- Finding lots of information
- Popular culture
- Quick facts
- Company and product info
- Self-published writing

## What is harder to find on the Internet?
- Scholarly topics
- Uncommon topics
- Older news
- In depth analysis of a topic
- Unbiased analysis
- Indexes to search for articles by subject
How Good Are Your Sources?

Not everything on the Internet is as it seems.

Sometimes this is obvious http://zapatopi.net/afdb/
Sometimes this is not as obvious http://www.dhmo.org/

There are an infinite number of websites that may support your research in the area of Health Promotion. But how good are your sources?
Finding Quality Websites

• The Library's **Subject Guides** contain lists of recommended websites in a particular subject. For example, the **Kinesiology and Health Studies** guide, contains a list of useful **websites**.

• Another good practice is to look for the HONCode Certificate symbol.
  - The **Health on the Net Foundation** grants this certificate to health sites who comply with ethical and trustworthy practices.
  - Provides option to search for [HONCode sites](http://www.hon.ch).
Evaluating Sources

• Evaluating your sources is a crucial step in the research process.

• You need to evaluate each source to determine its appropriateness and quality.

• Anyone can create a webpage so it is particularly important to analyze and assess information that you find on the Internet before using it in a research paper.

*Critically evaluating the information you find is central to successful academic research.*
What Should You Look For When Evaluating the Quality of Health Information on the Web?

- There are a number of approaches for evaluating health-related information on the Internet.

- Web evaluation criteria:
  - **Authority**: The source of the information.
  - **Purpose**: The possible bias present in the information.
  - **Accuracy**: The reliability of the information.
  - **Relevance**: The depth and importance of the information.
  - **Currency**: The timeliness of the information.
  - **Organization/design**: The effectiveness of the delivery of information.
  - **Interactivity**: The provision of contact and feedback options.
  - **Disclosure**: Informs users how data will be collected and used.
## Authority

- Who wrote or published the information?
- What are the credentials of the author? Is the author affiliated with an academic institution? Or is the author backed by a known organization?
- What else has the author written?

## Content

Accuracy or verifiability of details is important.
- How is the information documented? Facts and statistics should have references.
- Can the information be verified by another source?
- How was the data gathered? Look for a description of the process of selecting or approving information on the site under *editorial policy* or *selection policy*.

Can you determine if the material is:
- Aimed at a particular audience? Consumer, health professional, researcher?
- Cited or linked to other sources?
- Do links go to high-quality sites?
### Evaluating Information on the Web

<table>
<thead>
<tr>
<th>Disclosure</th>
<th>Objectivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Look for links that say About Us, About This Site, or Contact Us.</td>
<td>• Is the organization recognized in your field of study?</td>
</tr>
<tr>
<td>• Is the organization recognized in your field of study?</td>
<td>• Advertisements should be labeled.</td>
</tr>
<tr>
<td>• Advertisements should be labeled.</td>
<td>• Is it clear that the content is coming from a non-commercial source?</td>
</tr>
<tr>
<td>• Users should be informed of any collection, use or dissemination of</td>
<td>• Users should be informed of any collection, use or dissemination of</td>
</tr>
<tr>
<td>information associated with using the site.</td>
<td>information associated with using the site.</td>
</tr>
<tr>
<td>Can you determine:</td>
<td>• Users should be informed of any collection, use or dissemination of</td>
</tr>
<tr>
<td>• Who is responsible for publishing the information?</td>
<td>information associated with using the site.</td>
</tr>
<tr>
<td>• Who has sponsored or funded the information?</td>
<td>• Is the order of the material clear and easy to find?</td>
</tr>
<tr>
<td>• If the author has a vested interest or bias?</td>
<td>• Is there a good index/table of contents?</td>
</tr>
<tr>
<td></td>
<td>• Are the links to other pages working?</td>
</tr>
<tr>
<td></td>
<td>• Especially critical to the quality of a site are its external links that</td>
</tr>
<tr>
<td></td>
<td>will lead readers to other authoritative sources.</td>
</tr>
</tbody>
</table>
### Evaluating Information on the Web

**Currency/Timeliness**
- Is this a rapidly changing subject area?
- Does the page have a “last updated” date?

**Interactivity**
- Interactivity does not affect the quality of the web content, however it is important to provide contact information and feedback options on the site.
- A good website should include a feedback mechanism for users to offer comments or raise questions.
Contact Us

Your comments are important to us. We will address your concerns; however, the fastest way for us to do so is to help you find the information available online. We invite you to look for an answer to your question in the Frequently Asked Questions.

On this page:
- General Inquiries
- Contact Resources by Subject
- Health Portfolio Contacts
- Technical Difficulties

You can contact Health Canada for general enquiries in any one of the following ways:

- **By Mail:** Health Canada Address Locator 0900C2 Ottawa, Ontario K1A 0V9
- **Email:** info@hc-sc.gc.ca
- **Telephone:** 613-957-2991 Toll free: 1-866-225-0709
- **Facsimile:** 613-941-5366 Technoprophile: 1-800-465-7735 (Service Canada)

Privacy Notice

The Government of Canada and Health Canada are committed to providing websites that respect the privacy of visitors. This privacy notice summarizes the privacy practices for Health Canada’s online activities.

All personal information collected by this institution is governed by the Privacy Act. This means that you will be informed of the purpose for which your personal information is being collected and how to exercise your right of access to that information.

Your Privacy and the Internet

The nature of the Internet is such that web servers automatically collect certain information about a visit to a website, including the visitor’s Internet Protocol (IP) address. IP addresses are unique numbers assigned by Internet Service Providers (ISP) to all devices used to access the Internet. Web servers automatically log the IP addresses of visitors to their sites. The IP address, on its own, does not identify an individual. However, in certain circumstances, such as with the co-operation of an ISP for example, it could be used to identify an individual using the site. For this reason, the Government of Canada considers the IP address to be personal information, particularly when combined with other data automatically collected when visitor requests a web page such as the page or pages visited, date and time of the visit.

Unless otherwise noted, Health Canada does not automatically gather any specific information from you, such as your name, telephone number or email address. Health Canada would obtain this type of information only if you supply it to us, for example, by email or by filling in a contact form. In such cases, how your personal information is handled will be provided in a Personal Information Collection Statement.

In cases where services are provided by organizations outside of the Government of Canada, such as social media platforms or mobile applications, IP addresses may be recorded by the web server of the third-party service provider.
The web address can provide additional information about the nature of the site and the sponsor’s intent.

.ca usually indicates a Canadian not-for-profit, government department (.gc.ca, .ontario.ca) or university/college (queensu.ca, stlawrencecollege.ca)
.com indicates a commercial organization
.edu indicates an American university
.gov indicates a U.S. government agency or department
.org usually indicates a U.S. not-for-profit, such as http://www.cancer.org for the American Cancer Society
.int indicates an international organization
Activity: Evaluating Websites

Would you include information from these websites in your research paper?

• Internet Mental Health
• Canadian Mental Health Association, Ontario

Please evaluate the following websites based on the criteria we just discussed:

• http://www.who.int/topics/health_promotion/en/
• http://www.healthcentral.com/
Should you trust a reference source that can be edited by anyone?

• Maybe...
  • Wikipedia: A Key Tool for Global Public Health Promotion*

• Use Wikipedia to:
  • Provide an **overview** of a topic;
  • Better **understand** a topic;
  • Become familiar with the **terminology** or **key words**; and
  • Help you **find sources**.
Evaluation Criteria Resources

• Evaluating Health Websites
• Evaluating Internet Health Information (National Library of Medicine)
• Evaluating Web Sources (Queen’s University)
• Medline Plus Guide to Healthy Web Surfing
• Policy Paper: Assessing the quality of health information on the internet
Are you able to distinguish a primary resource from a secondary resource?

1. Yes
2. No
3. Not sure
Types of Information Sources: Primary

*Primary sources* are original materials/information on which other research is based and are published by the individual(s) who actually conduct the research or observe the events in question.

Examples include: journal articles of original research, autobiographies, minutes, letters, reports, theses, patents.

Types of Information Sources: Secondary

Secondary sources are written or compiled by people who are not directly involved in the primary research or events.

Secondary sources analyze, evaluate, interpret, or summarize information reported by researchers in primary literature and often include a bibliography of primary sources.

Examples include: journal review articles, literature or systematic reviews, biographies, textbooks.

Types of Information Sources: Tertiary

*Tertiary sources* make use of both primary and secondary sources and synthesize the information. Tertiary sources provide what are considered to be known facts.

Examples include almanacs, encyclopedias, dictionaries and handbooks.

Is the following resource a primary, secondary or tertiary source?

Encyclopedia of primary prevention and health promotion

1. Primary
2. Secondary
3. Tertiary
Is the following resource a primary, secondary or tertiary source?


1. Primary
2. Secondary
3. Tertiary
Is the following resource a primary, secondary or tertiary source?


1. Primary
2. Secondary
3. Tertiary
For More Information

The University of Minnesota has a good resource on types of information sources in the health sciences:

http://hsl.lib.umn.edu/sites/default/files/Primary%20Sources%202010.pdf
Identifying a Citation

• A **citation** is a short description of an information source.

• It contains all the information you need to be able to locate the source again.

• A citation can be for a journal article, web page, book (print and electronic) or chapter within a book.

• There are many different citation styles e.g. APA or MLA, but the individual elements of a citation will generally be the same.
Identifying a Citation

Book:
✔ *Note inclusion of publisher*

Government Document:
✔ *Note inclusion of URL*
Identifying a Citation

Journal Article:


✓ Note inclusion of volume number and lack of publisher
✓ Note inclusion of doi to identify article as an electronic resource
Identifying a Citation

Web Page:


✓ Note inclusion of URL and retrieval date
Quiz #1. Identify the Citation


1. Book

✓ 2. Book chapter

3. Article

4. Website
Quiz#2. Identifying a Citation


1. Book
2. Book chapter
3. Article
4. Website

1. Book
2. Book chapter
3. Article
4. Website
Scholarly vs. Popular Writing

Scholarly Journals:

- have articles that are written by a scholar/expert in the field and will usually include their credentials.
- report on original research or experimentation.
- have articles that use the terminology and language of the covered subject.
- have articles that are footnoted and/or have a bibliography.
- are generally published by a professional organization or a scholarly press.

Distinguishing Scholarly Journals from Other Periodicals
Scholarly vs. Popular Writing

Popular Works such as magazines and newspapers:

✓ are written for the general public.
✓ are written to inform or entertain, sell products or promote a point of view.
✓ avoid specialized terminology of the field.
✓ do not have bibliographies.
✓ may be written by authors who have no expertise on the topic.
Peer Review

“Peer review means that other scientific experts in the field check research papers for validity, significance and originality – and for clarity.”

From: I don’t know what to believe...making sense of science stories.

• One way researchers try to ensure the legitimacy of their work is to have it peer reviewed prior to publication.

• A peer-reviewed or refereed journal is one in which manuscripts submitted by authors are reviewed by experts on the topic before being accepted for publication in the journal.
How do I find peer-reviewed or scholarly research?

• Look in **Research Databases** to find peer-reviewed scholarly journal articles.
  – Some databases make it easy. Limit or refine to "Peer Reviewed" or Scholarly.

• Use **Summon**
  – **Refine Your Search.** Limit to articles from scholarly publications, including peer-review.

• **Google Scholar**
  – Enables you to search specifically for scholarly literature (including peer-reviewed papers).
  — While not a substitute for the article indexes and databases available at Queen’s University Library, Google Scholar can be a useful supplement.
How can you tell if an article is peer-reviewed?

✓ Read the selection or editorial policies of the journal.

**Example:** [Canadian Journal of Public Health](https://www.cjph.ca/)

Peer Review Process

All original contributions are reviewed by the editor and sent to two or more external reviewers as part of a double-blind peer review process (authors and reviewers are anonymous). The editor reserves the right to make editorial changes in all matter published in the Journal and cannot enter into correspondence about papers not accepted for publication.

**Example:** [The Lancet](https://www.thelancet.com/)

Peer review

Every Article, Case Report, Hypothesis, Seminar, and Review published in The Lancet has been peer reviewed. Occasional contributions (eg, Essays) are accepted without peer review.
Even reputable organizations can be fooled

- **The Lancet** case study: Wakefield’s linkage between autism and the MMR vaccine.

- Even if something *looks* legitimate, you still need to do some investigating to be sure it *is* legitimate.

  “Science is at once the most questioning and…skeptical of activities and also the most trusting.” Arnold Relman, cited in BMJ 2011;342:c7452 p.64
Research Starting Points:

✓ Research by Subject → Kinesiology and Health Studies
A guide to key information resources for Kinesiology and Health Studies.

Research Tools:

✓ QCAT (the library catalogue). Searches for books (print and electronic), DVDs, government documents, and journals.

✓ Summon (multi-disciplinary). Searches the library catalogue and many electronic resources including full-text articles.

✓ Google Scholar

• Statistics
Strategies for Effective Searching

• Start your search with main concepts or key words.
  • Think of synonyms, alternate spellings to express the same concepts.

• Combine words by using the connectors: **and**, **or**, **not**
  – **AND** narrows a search
  – **OR** broadens a search

**Narrow** a topic that is too broad by:

– Time period
– Geographic location
  • Country, city, region
– Gender
– Population group
  • Children, teens, adults, seniors
– Using quotation marks for phrases or proper names.
  • For example, “health promotion”
Finding Articles

Health Studies students often have research questions related to a range of different disciplines. For **in-depth searching**, use **subject databases**.

The [Kinesiology and Health Studies](#) **Subject Guide** lists core and related recommended databases.

- **Recommended Queen’s databases** for disciplines relevant to health studies include:
  - Psychology: [PsycINFO](https://psycnet.apa.org)
  - Public Health: [ProQuest Public Health](https://www.proquest.com/health), [CINAHL](https://www.cinahl.com)
  - Sociology: [Sociological Abstracts](https://www.journals.peat.org)
  - Sports and Recreation: [SportDiscus](https://www.sportdiscus.com)
Organize Your Research

• **RefWorks** is a web-based research management tool that allows you to:
  – organize your research by creating folders for classes and assignments;
  – format bibliographies automatically in any of the major bibliographic styles (e.g. APA, MLA, etc.); and
  – import citations from database and library catalogue searches.

• Connect via the RefWorks link on the Queen's Library home page.
Citing Sources

• **Citing sources** is an important part of your research.

• It documents what sources you have used in writing your paper and gives credit to the author's work. It also gives you and your instructor information needed to identify and retrieve the cited sources.

• There are many different styles. For example: APA, MLA, Chicago.

• The Library has print and electronic copies of the various citation style guides.
  – Please go to [http://library.queensu.ca/help/cite-sources](http://library.queensu.ca/help/cite-sources) to access these resources.
Questions?

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