Module 3: Appraising Evidence

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Module Objectives

At the end of this module participants will be able to:

- Identify characteristics of basic research designs and methods
- Describe the types of evidence generated from different designs
- Know characteristics and questions to use for appraising the strength of a research paper/article, and a body of evidence.
- Describe how characteristics of critical thinking apply to assessing quality of evidence

Below are a few basic definitions of research, scientific method, and the importance of research.

What is Research?

The word "research" comes from the French word "recherche", which means "to go about seeking."

The objective of research is to extend human knowledge of the physical, biological, or social world beyond what is already known.

Research is a process to discover new knowledge. It is a systematic investigation designed to develop or contribute to generalizable knowledge. A systematic investigation means that a careful plan is followed to gather and analyze information.

Research is different from other forms of discovering knowledge (like reading a book) because it uses a systematic process called the Scientific Method.

The Scientific Method

The Scientific Method consists of observing the world around you and creating a hypothesis about relationships in the world. A hypothesis is an informed and educated prediction or explanation about something. Part of the research process involves testing the hypothesis, and then examining the results of these tests as they relate to both the hypothesis and the world around you.

Therefore, one of the most important considerations in doing good research is to create a protocol (the research plan) that all people doing the research must follow. The protocol is developed by an experienced researcher who is called the Principal Investigator (PI).

Why is Health Research Important?

The purpose of health research is to create knowledge needed to improve health and reduce disease and death. Health research is important because it ensures that people are provided with good health services. If we do not have health research to demonstrate the things that work well or do not work well, then action for health care may be impossible, wasteful, expensive, or harmful because it will have no logical or empirical basis.

Empirical basis means that the results are based on proven findings gathered from experimental research and not just based on a theory. Having an empirical basis makes it possible to make health services decisions based on available evidence (also called evidence-based interventions).

The value of the research depends on how well it is designed and carried out. A research design is a framework in which a research study is undertaken. It employs one or more research techniques to collect and analyze data.

The information presented below helps to define the various types of research designs to help you know what type of research to use to best answer your policy question. See Additional Resources and Useful links for more information.

Basic Research Design

"The best statistics cannot save an inferior design"

Research design is important because:

a. The design is the logical structure that gives direction and systemizes the study.
b. It serves to ensure that we obtain relevant information to answer the research question in a convincing way

The choice of study design depends on the type of research question and is influenced by the availability of resources and time to conduct the study. The research design dictates the type of conclusions that can be drawn.

There are many types of research designs. Refer to Module 3 Handout on 12 Major Research Designs at end of this section for detailed information on these deigns. Further, more information on research designs and examples are available in the Additional Resources and Useful Links at the end of this section.

What is important to bear in mind is that some designs are better suited for ***demonstrating*** the presence of a causal relationship, others are more appropriate for ***explaining*** such causal relationships while some designs are more useful for ***describing*** political, social and environmental contexts.

Types of Research Designs and the Data they Generate

Overarching types of research

Primary research studies empirically observe a phenomenon at first hand, collecting, analyzing or presenting 'raw' data. Primary research study tend to employ the following designs:

- Experimental

- Quasi-experimental
- Observational

Secondary review studies interrogate primary research studies, summarizing and interrogating their data and findings. Secondary research studies tend to employ the following designs:

- Systematic reviews - A systematic review is defined as "a review of the evidence on a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant primary research, and to extract and analyse data from the studies that are included in the review." (NHS Centre for Reviews and Dissemination 2001). This is covered in Module 2 in detail.
- Non-systematic reviews - Non-systematic or traditional literature reviews use informal, unsystematic and subjective methods to collect and interpret information (Klassen et al 1998). And the information is often summarized subjectively and narratively (ibid). Processes such as searching, quality appraisal and data synthesis are not usually described in the reviews and as such, these reviews are prone to bias. An advantage of these reviews is that they are often conducted by 'experts' who may have a thorough knowledge of the research field, but they are disadvantaged in that the authors may have preconceived notions or biases and may overestimate the value of some studies (Hedin and Kallestal 2004).

Theoretical or conceptual studies: most studies (primary and secondary) include some discussion of theory, but some focus almost exclusively on the construction of new theories rather than generating, or synthesizing empirical data.

Sources: Hedin A, and Kallestal C. Knowledge‑based public health work. Part 2: Handbook for compilation of reviews on interventions in the field of public health. National Institute of Public Health. 2004. http://www.fhi.se/shop/material_pdf/r200410Knowledgebased2.pdf; Klassen TP, Jadad AR, Moher D. Guides for Reading and Interpreting Systematic Reviews. 1. Getting Started. *Archives of Pediatric and Adolescent Medicine*, 1998;152:700‑704; & NHS Centre for Reviews and Dissemination (2001). Undertaking Systematic Reviews of Research on Effectiveness. CRD's Guidance for those Carrying Out or Commissioning Reviews. CRD Report Number 4 (2nd Edition). NHS Centre for Reviews and Dissemination, University of York.

Qualitative and quantitative

Data collected by conducting research can be either Qualitative or Quantitative.

Qualitative data are usually text based and can be derived from in-depth interviews, observations, analysis of written documentation or open-ended questionnaires. Qualitative research aims to gather an in-depth understanding of human behavior and the reasons that govern such behavior. The discipline investigates the why and how of decision making, not just what, where and when. It allows researchers to explore the thoughts, feelings, opinions and personal experiences of individuals in some detail, which can help in understanding the complexity of an issue. Smaller but focused samples may be needed rather than large random samples.

Qualitative research is also highly useful in policy and evaluation research, where understanding why and how certain outcomes were achieved is as important as establishing what those outcomes were. Qualitative research can yield useful insights about program implementation such as: Were expectations reasonable? Did processes operate as expected? Were key players able to carry out their duties?

Examples of qualitative research questions:

- How can contraceptive use among young women be promoted in this setting?

- Under what conditions should serostatus disclosure be encouraged among HIV-infected minors? When should disclosure be discouraged?
- How do female sex workers experience stigma?

Quantitative data are numerical data that can be manipulated using mathematical procedures to produce statistics. Quantitative research is the systematic scientific investigation of quantitative properties, phenomena and their relationships. The objective of quantitative research is to develop and employ statistical models, theories and/ or hypotheses pertaining to phenomena and relationships. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and statistical expression of quantitative relationships.

The text below is an excerpt from DIFD How to Note, March 2014: Assessing the Strength of Evidence and can help you rate the evidence generated from a study. It will help you determine if the evidence presented is reliable enough to confidently be used to inform policy.

Assessing the Strength of Research Evidence from a Single Study

Critical Thinking

An important part of the process of assessing the strength of evidence is to be able to go through a critical thinking process as you review scientific papers.

Critical thinking involves the use of a group of interconnected skills to analyze, creatively integrate, and evaluate what you read and hear. To become a critical thinker you must be able to decide whether an author's opinions are true or false, whether he or she has adequately defended those ideas, whether certain recommendations are practical, as well as whether particular solutions will be effective.

What do critical thinkers do when analyzing content?

a. Order the material to distinguish dominant from subordinate ideas.
b. Distinguish statements of evidence from hypotheses.
c. See what assumptions or presuppositions the author makes.
d. Find evidence of the author's purposes.
e. Note how one idea relates to another.
f. Categorize information received.
g. Set up comparisons among things.

Source: Reichenbach (2000). *An Introduction to Critical Thinking: Six steps of critical thinking.*
http://mhhe.com/socscience/philosophy/reichenbach/m1_chap02studyguide.html

Critical appraisal is an essential part of evidence-based practice [and policy-making] and allows us to assess the quality of research evidence and decide whether a reported piece of research is good enough to be used in decision-making.

Critical appraisal is the process of systematically assessing and interpreting research studies by asking 3 key questions:

1. Is the study valid?
2. Are the results reliable?
3. Can I generalize from this study to my workplace?

There are 10 questions for critically appraising research article, including:

1. Is the study question relevant?
2. Does the study add anything new?
3. What type of research question is being asked?
4. Was the study design appropriate for the research question?
5. Did the study methods address the most important potential sources of bias?
6. Was the study performed according to the original protocol?
7. Does the study test a stated hypothesis?
8. Were the statistical analysis performed correctly?
9. Do the data justify the conclusions?
10. Are there any conflicts of interest?

Sources: Young and Solomon (2009). *How to critically appraise an article.* *https://www.researchgate.net/profile/Michael_Solomon2/publication/23801220_How_to_critically_appraise_an_article/links/5567adb508aeccd777378c24.pdf* & The Christie NHS Foundation Trust (no date). *Critical Appraisal: a definition:* *http://nursery.christies.org/school-of-oncology/kostoris-library/critical-appraisal.aspx*

Rating the strength of Research Evidence

Evidence-informed policy is not simply to increase reliance on research results, but to increase reliance on "good" (i.e., rigorous) research evidence. A first step in using evidence-informed policy is learning how to objectively weigh information to determine its value as evidence.

Key questions to ask when reading a research publication include:

1. What makes the study important?
2. Do the findings make sense?
3. Who conducted the research and wrote the report?
4. Who published the report?
5. Did the researcher select an appropriate group for study?
6. If comparison groups are used, how similar are they?
7. What has changed since the information was collected?
8. Are the methods appropriate to the research purpose?
9. Does the study establish causation?
10. Is the time frame long enough to identify an impact?
11. Could the data be biased as a result of poor research design?
12. Are the results statistically significant?

It is also important to look at content quality criteria in appraisal, besides strength of evidence, such as:

1. Uniqueness – is it original?
2. Completeness – is any information missing?
3. Coverage – what depth does it go into?
4. Timeliness – is it up-to-date?

DFID has suggested various principles of research quality – Refer to the Module 3 Handout on ***Principles of Research Quality***.

What to bear in mind when assessing the strength of qualitative research findings

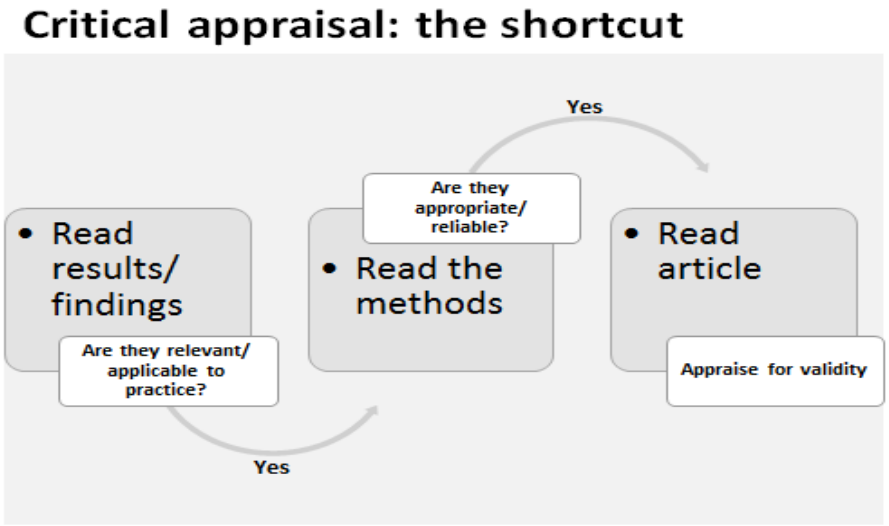
The British Medical Journal suggests the following important questions to ask yourself when assessing qualitative research:

- Question 1: Did the paper describe an important clinical problem addressed via a clearly formulated question?
- Question 2: Was a qualitative approach appropriate?
- Question 3: How were the setting and the subjects selected?
- Question 4: What was the researcher's perspective, and has this been taken into account?
- Question 5: What methods did the researcher use for collecting data—and are these described in enough detail?
- Question 6: What methods did the researcher use to analyze the data—and what quality control measures were implemented?
- Question 7: Are the results credible, and if so, are they clinically important?
- Question 8: What conclusions were drawn, and are they justified by the results?
- Question 9: Are the findings of the study transferable to other clinical settings?

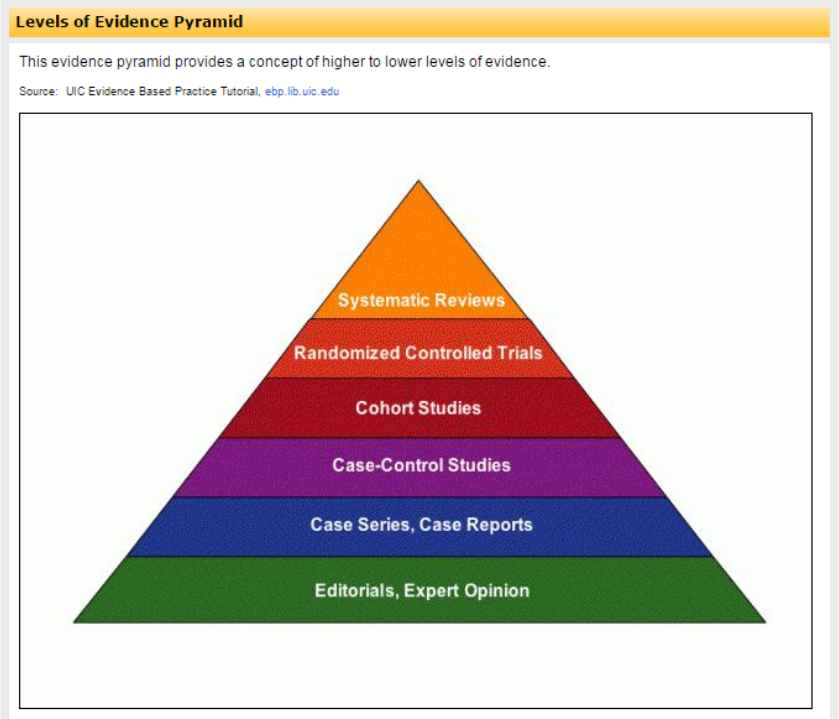
Source: BMJ (1997). *How to Read a Paper: Papers that summarize other papers (*systematic reviews and meta-analyses). http://www.bmj.com/content/315/7109/672.full?ijkey=i4KrZYjNSaatI&keytype=ref&siteid=bmjjournals

The graphic below illustrates one simple way to use critical appraisal when appraising a study. By reversing the order in which you read an article or report, you can quickly determine first, if it is relevant to you and then if the methods are reliable and valid. That is, if repeated would the outcome be the same and did the study actually measure what it purported to measure.

The following is a good, short resource with strategies, examples for drawing inferences, and a Taking Notes on Research Articles template.
Source: Purugganan, M., and Hewitt, J. (2004). *How to Read a Scientific Article.*
http://www.owlnet.rice.edu/~cainproj/courses/HowToReadSciArticle.pdf



Remember, some designs are more rigorous than others as illustrated with the hierarchy of evidence in the diagram below.



For more guidance on appraising evidence, read Module 3 Handout on 'How to critically appraise an Article'.

A brief primer on P-Values

P value is a short form for *probability value* and another way of saying significance value. It refers to the chance that you are willing to take in being wrong.

No matter how careful you are, random chance plays a part in everything. If you try to guess whether you'll get heads or tails when you flip a coin, your chance of guessing correctly is only 50%. Half the time, you'll flip tails even if you wanted to flip heads.

In research, we don't like 50/50 odds. We instead only want to risk that 5% or 1% of our predictions are wrong. And, if you just picked 1% or 5%, you've just picked a p-value.
P-values are almost always expressed out of 1. For example, a p value of 0.05 means you are willing to let 5% of your predictions be wrong. A p-value of 0.1 means you are willing to let 10% of them be wrong. Don't let that pesky decimal place fool you. A p-value of 0.01 means 1% and a p value of 0.1 means 10%.

When you do a statistical test in software like SPSS or Systat, it will tell you the exact p-value associated with your specific set of data. For instance, it might indicate that the p-value of your result is 0.035, or

"Men are significantly taller than women, p=0.035". That means there is a 3.5% chance that men are NOT actually taller than women and this result happened only because of random chance.

A p-value tells you if the relationship is strong enough to pay attention to.

You should look out for p values lower than .05, or 5%, when reading journal papers.

A relatively simple way to interpret p-values is to think of them as representing how likely a result would occur by chance. We use p-values to determine whether observed differences between experiment and control groups are due to systematic effects of treatments or simply to chance factors.

When a quantitative study uses a sample (as opposed to surveying an entire population), it is important to determine mathematically that there is little probability the result could have occurred by chance—that is, that a different sample could have produced other results.

Here are three important points to consider when you're reading scientists' interpretations of their data in research papers:

(1) Statistical significance alone is not enough to prove cause and effect, but it lends credibility to an argument. Statistical significance also does not necessarily mean an association has substantive significance; that is, it does not necessarily make a study finding important. In a large enough sample, a small difference can be statistically significant but of limited real world importance.

(2) Statistical significance by no means indicates practical significance, or the importance of the data in an applied setting. To reach strong interpretations about the practical significance of a study's data, you must deeply understand the motivating research questions and the science that defines the field.

(3) Researchers must report on the results of all hypotheses, regardless of whether or not they reach statistical significance.

Sources: Adapted from https://lovestats.wordpress.com/2011/03/21/really-simple-statistics-p-values/; A Brief Explanation of Statistical Significance and P-Values http://www.colorado.edu/intphys/Class/IPHY3700_Greene/slides/generatingContentInterpret/explainPValues.pdf; Interpreting Research Studies, https://www.guttmacher.org/pubs/2006/07/27/IB_Interpreting.pdf

Appraising the Quality of Non-Scientific Information

There exist extensive guidance on how to appraise the quality of information generated from scientific research processes. However, when it comes to non-scientific information, there is not much guidance on how one should go about appraising its quality. Non-scientific information as used here refers to information that was not gathered through a scientific process with a clear a conceptual framework, research design, methods, analytical frameworks, etc. As used here, examples of non-scientific information may include newspaper articles such as feature stories or opinion pieces, blogs, reports of commissions (often established by governments to conduct an inquiry into an issue of public concern), government policy documents or guidelines, among others. In the text box below, we suggest some

questions that one needs to ask when appraising the quality of non-scientific information before they consider using it.

Questions to Consider when Appraising the Quality of Non-Scientific Information

- Who is the author of the information?
  - Is the author an expert on the issue of focus?
  - What else has the author published related to the issue before?
  - Is the author objectively interested in the issue or is s/he biased for some reasons?
- Who is the publisher or the publishing institution?
  - Is it a publisher with a reputation of publishing on the issue?
  - Is the publishing institution an authority on the issue?
- Is the information consistent with what you may already know about the issue?
  - Does the information make sense given what you may already know about the issue?
  - If the information contradicts what you already know, is the contradiction explained? And is the explanation convincing?
- Is the content consistent throughout the document?
  - Are there any contradictions from one section to the other?
  - Does the 'story-line' flow well?
- Is the information complete?
  - Are there any obvious gaps in what the publication should have covered given its title?
  - What is the depth of the information on the issue of focus?
- Is the information current?
  - When was the information published?
  - Have there been important changes since the information was published?
- How was the information generated and who was involved in its generation?
  - For instance, if the information is a policy document, who was involved in the policy development process (refer to acknowledgement section in the document)?
  - What approach was used in developing the document – was it a consultative process involving all relevant stakeholders?
- Is the information presented accurate and authentic?
  - If any information or data is cited, is the cited information or data authentic?
  - In the case of statistics either from government agencies or other sources, one should try interrogate numbers and their interpretation. It is important to pay attention to denominators used to come up with rate
- Is the information presented in a format that implies it is final and ready for dissemination?
  - Is the information professionally presented in a format that implies it is final, e.g. is it in PDF format?
  - If it is a policy document or government report, has it been signed off by the relevant official and officially launched?
- Who funded the production and publication of the information?
  - Does the funder have interests that may bias the information?

Assessing the Strength of a Body of Evidence

Assessment of the technical quality of a body of research evidence builds upon prior assessment of the quality of single research studies conducted individually or as part of a secondary study such as a systematic review.

Assessment of the overall strength of evidence with reference to a particular policy or business case is directly linked to the quality, size, consistency and context of the body of evidence.

When you are not able to assess all the individual studies that constitute a body of evidence due to inadequate time or expertise, you should seek to use evidence synthesis products which *have* assessed the quality of individual studies or when possible, commission evidence synthesis products which assess the quality of individual studies, such as systematic reviews.

What to bear in mind when assessing the strength of systematic review findings

The British Medical Journal suggests the following important questions to ask yourself when assessing systematic review findings:

- Question 1: Can you find an important clinical question, which the review addressed?
- Question 2: Was a thorough search done of the appropriate databases and were other potentially important sources explored?
- Question 3: Was methodological quality assessed and the trials weighted accordingly?
- Question 4: How sensitive are the results to the way the review has been done?
- Question 5: Have the numerical results been interpreted with common sense and due regard to the broader aspects of the problem?

Source: BMJ (1997). *How to Read a Paper: Papers that summarize other papers (*systematic reviews and meta-analyses). http://www.bmj.com/content/315/7109/672.full?ijkey=i4KrZYjNSaatI&keytype=ref&siteid=bmjjournals

Policymakers can go a long way toward understanding the scientific basis of many debates if they keep in mind a hierarchy of questions… for evaluating any health intervention: Can it work? Will it work? Is it worth it?

Source: Atkins, D., Siegel, J., and Slutsky J. (2005). *Making Policy When the Evidence is in Dispute.* http://content.healthaffairs.org/content/24/1/102.full

Five categories are proposed to determine the overall strength of a body of research when it is being applied to a particular policy, program or clinical protocol. The table below summarises an indicative guide to the typical features of "very strong", "strong", "medium" and "limited" bodies of evidence.

You will use this guide in a training activity using the case study brief.

Evaluating the overall strength of a body of evidence

Categories of evidence	Quality + size + consistency + context	Typical features of the body of evidence	What it means for a proposed intervention
Very Strong	High quality body of evidence, large in size, consistent, and contextually relevant.	Research questions aimed at isolating cause and effect (i.e. what is happening) are answered using **high quality experimental and quasi-experimental research designs**, sufficient in number to have resulted in production of a systematic review or meta-analysis. Research questions aimed at exploring meaning (i.e. why and how something is happening) are considered through an **array of structured qualitative observational research methods** directly addressing contextual issues.	We are very confident that the intervention does or does not have the effect anticipated. The body of evidence is very diverse and highly credible, with the findings convincing and stable.
Strong	High quality body of evidence, large or medium in size, highly or moderately consistent, and contextually relevant.	Research questions aimed at isolating cause and effect (i.e. what is happening) are answered using **high quality quasi-experimental research designs and/or quantitative observational studies**. They are sufficient in number to have resulted in the production of a systematic review or meta-analysis. Research questions aimed at exploring meaning (i.e. why and how something is happening) are considered through **an array of structured qualitative observational research methods** directly addressing contextual issues.	We are confident that the intervention does or does not have the effect anticipated. The body of evidence is diverse and credible, with the findings convincing and stable.
Medium	Moderate quality studies, medium size evidence body, moderate level of consistency. Studies may or may not be contextually relevant.	Research questions aimed at isolating cause and effect (i.e. what is happening) are answered using **moderate to high-quality quantitative observational designs**. Research questions aimed at exploring meaning (i.e. why and how something is happening) are considered through a **restricted range of qualitative observational research methods** addressing contextual issues.	We believe that the intervention may or may not have the effect anticipated. The body of evidence displays some significant shortcomings. There are reasons to think that contextual differences may unpredictably and substantially affect intervention outcomes.
Limited	Moderate-to-low quality studies, medium size evidence body, low levels of consistency. Studies may or	Research questions aimed at isolating cause and effect (i.e. what is happening) are answered using **moderate to low-quality quantitative observational studies**. Research questions aimed at exploring meaning (i.e. why and how something is happening) are considered through a **narrow range of qualitative observational**	We believe that the intervention may or may not have the effect anticipated. The body of evidence displays very significant shortcomings. There multiple are reasons

	may not be contextually relevant.	**research methods** addressing contextual issues.	to think that contextual differences may substantially affect intervention outcomes.
No evidence	No/few studies exist.	Neither cause and effect, nor meaning is seriously interrogated. Any available studies are of low quality, and are contextually irrelevant.	There is no plausible evidence that the intervention does/does not have the effect indicated.

Source: DFID (2014). *How To Note: Assessing the Strength of Evidence.*
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291982/HTN-strength-evidence-march2014.pdf

Refer to Module 3 Handout: *Twenty Tips for Interpreting Scientific Claims*

This document is a recent article from *Nature*, the weekly, international, interdisciplinary journal of science. It is be helpful to you as it contains examples on how to appreciate the limitations of evidence.

The document presented below is an example of a "reading checklist" which can be used when seeking and tracking specific messages, text, or concepts during your analysis of evidence.

Example of Reading Checklist/Data Extraction Tool	
Data to be extracted	*Notes*
Details of publication	
Bibliographic details	
Timeframe	[when was the study conducted?]
Methodology (or methodologies) used	[e.g. qualitative, quantitative, mixed, comparative]
Data source(s)	[e.g. surveys, interviews, focus groups, documentation, secondary data sets, observations]
Literature in which it is situated	
Explicit use of (explanatory) theory?	
Research focus	
Country case(s)	
Health issue(s)	
Informants	[e.g. ministers, hospital managers, policy entrepreneurs, scientists, administrators, 'knowledge brokers']
Summary/key points	
Relevant themes and findings	
Further comments	

Additional Resources and Useful Links

A Practical Guide for Health Researchers
Covers the broad spectrum of the research process. It includes a glossary of terms in health research.
http://applications.emro.who.int/dsaf/dsa237.pdf

What Researchers Mean By…
At Work, the newsletter of the Institute for Work & Health, has included a column on commonly used research terms since 2005. The column can help program managers and decision-makers better understand the language researchers use when reporting their findings. Features on such topics as "grey literature," "sample size and power," and "absolute and relative risk" can be accessed here.
https://www.k4health.org/toolkits/research-utilization/what-researchers-mean

Assessing the Strength of Evidence. DfID How to Note.
This guidance helps you assess the strength of evidence to inform effective policy and programmes. It introduces both appraisal of the quality of individual studies and assessment of the strength of bodies of evidence.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291982/HTN-strength-evidence-march2014.pdf

Health Policy and Policy Analysis Short Course, School of Public Health, University of Witwatersrand
The guide for the short course, *Health Policy and Policy Analysis*, outlines key concepts relating to policy and policy analysis.
http://www.dphu.org/uploads/attachements/books/books_1426_0.pdf

Trochim, William M. The Research Methods Knowledge Base, 2nd Edition.
The Research Methods Knowledge Base is a comprehensive web-based textbook that addresses all of the topics in a typical introductory undergraduate or graduate course in social research methods. It uses an informal, conversational style to engage both the newcomer and the more experienced student of research.
http://www.socialresearchmethods.net/kb/

Qualitative Research Designs
This site offers an easy to use comparison of quantitative and qualitative research
www.umsl.edu/~lindquists/qualdsgn.html

Wikipedia Research
The Wikipedia site offers research basics such as: Forms of research, definitions, steps in conducting research, methods, publishing, and funding.
http://en.wikipedia.org/wiki/Research

A guide for using statistics for evidence based policy

This guide, from the Australian Bureau of Statistics, provides an overview of how statistical information can be used to make well informed policy decision. It includes content on: how good statistics can enhance the decision making process; using statistics for making evidence based decisions; statistical concepts and terminology; how to analyse, interpret, evaluate and communicate statistical information; and how to evaluate outcomes of policy decisions.
http://www.abs.gov.au/ausstats/abs@.nsf/mf/1500.0

Illustrative Case Study

Illustrative Case Study for Evidence Use in Decision-Making

Exercise: Interpreting Evidence

One of the next steps for evidence use after it has been appraised is to determine which findings are relevant for your situation. The evidence presented below has gone through the appraisal process and has been deemed high quality and credible. Please choose an institution or organization you are all familiar with, e.g. the MoH. Then, devise questions that should be asked to determine the evidence or innovation's a) applicability (e.g., feasibility), and b) transferability (e.g., generalization) within the chosen institution or situation.

For the Illustrative Case Study (the HIV-FP Integration document), please refer to the Pre-reading section of this Guide.