



National Collaborating Centre
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An Introduction to Evidence-Based Public Health and

A Compendium of Critical Appraisal Tools for Public Health Practice

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A Compendium of Critical Appraisal Tools for Public Health Practice

Purpose

To provide some tools for conducting critical appraisal (step 3 below).

Audience

Public health decision-makers in practice or policy.

How to use this tool

Consider the type of question you are asking (first column); then consider the type of evidence you have found. That will lead you to what tool to use.

This is not an exhaustive list of critical appraisal tools; merely a listing of tools that are commonly used.

The status “Recommended,” indicates that the tool 1) was judged as relevant for most studies in public health, and 2) includes an explanation of criteria within the tool, so the use of the criteria are self-explanatory.

Introduction to Evidence-Informed Public Health

Effective evidence-informed decision-making includes the following steps:

<i>Stage in EIPH</i>		<i>Description</i>
1	DEFINE	Clearly define the issue or problem.
2	SEARCH	Efficiently search for the research evidence.
3	APPRAISE	Critically and efficiently appraise the information sources.
4	SYNTHESIZE	Interpret information and/or form recommendations for practice based on the relevant literature found.
5	ADAPT	Adapt the information to local context.
6	IMPLEMENT	Make a decision about implementing the adapted evidence in practice, program- or policy-development, or decision-making.
7	EVALUATE	Evaluate the effectiveness of the implementation efforts.

Type of Research	Website (Link)	Type of Study - Link to Tools
<p>Quantitative</p> <p><i>What is the effectiveness of....?</i></p> <p><i>What is the result of exposure to...? (causation or harm)</i></p> <p><i>Guidelines for...?</i></p>	<p>Critical Appraisal Skills Programme (CASP) (UK):</p> <p>http://www.phru.nhs.uk/Pages/PHD/resources.htm</p> <p>Recommended</p>	<p>randomized control trials:</p> <p>http://www.phru.nhs.uk/Doc_Links/rct%20appraisal%20tool.pdf</p> <p>cohort studies:</p> <p>http://www.phru.nhs.uk/Doc_Links/cohort%2012%20questions.pdf</p> <p>case control studies:</p> <p>http://www.phru.nhs.uk/Doc_Links/Case%20Control%2011%20Questions.pdf</p> <p>diagnostic studies:</p> <p>http://www.phru.nhs.uk/Doc_Links/Diagnostic%20Tests%2012%20Questions.pdf</p>

Type of Research	Website (Link)	Type of Study - Link to Tools
	<p>Scottish Intercollegiate Guidelines Network (SIGN):</p> <p>http://www.sign.ac.uk/</p>	<p>randomized control trials tool and guidelines:</p> <p>checklist:</p> <p>http://sign.ac.uk/guidelines/fulltext/50/checklist2.html</p> <p>notes on use:</p> <p>http://sign.ac.uk/guidelines/fulltext/50/notes2.html</p> <p>cohort studies tool and guidelines:</p> <p>checklist:</p> <p>http://sign.ac.uk/guidelines/fulltext/50/checklist3.html</p> <p>notes on use:</p> <p>http://sign.ac.uk/guidelines/fulltext/50/notes3.html</p> <p>case-control studies tool and guidelines:</p> <p>checklist:</p> <p>http://sign.ac.uk/guidelines/fulltext/50/checklist4.html</p> <p>notes on use:</p> <p>http://sign.ac.uk/guidelines/fulltext/50/notes4.html</p> <p>diagnostic studies tool and guidelines:</p> <p>checklist:</p> <p>http://sign.ac.uk/guidelines/fulltext/50/checklist5.html</p>

Type of Research	Website (Link)	Type of Study - Link to Tools
<p>Qualitative</p> <p><i>What is the experience of or meaning of..?</i></p>	<p>Critical Appraisal Skills Programme (CASP) (UK):</p> <p>http://www.phru.nhs.uk/Pages/PHD/resources.htm</p> <p>Recommended</p>	<p>qualitative research studies:</p> <p>http://www.phru.nhs.uk/Doc_Links/Qualitative%20Appraisal%20Tool.pdf</p>
	<p>Reading Qualitative Studies:</p> <p>Article link (pdf): http://www.ualberta.ca/~iiqm/backissues/1_1Final/pdf/sandeleng.pdf</p>	
	<p>National Health Service (UK)</p> <p>www.hda.nhs.uk</p>	
<p>Systematic Reviews</p> <p><i>What is the effectiveness of...?</i></p>	<p>Critical Appraisal Skills Programme (CASP) (UK):</p> <p>http://www.phru.nhs.uk/Pages/PHD/resources.htm</p> <p>Recommended for critical appraisal of systematic reviews</p>	<p>systematic reviews:</p> <p>http://www.phru.nhs.uk/Doc_Links/S.Reviews%20Appraisal%20Tool.pdf</p>
	<p>Scottish Intercollegiate Guidelines Network (SIGN):</p> <p>http://www.sign.ac.uk/</p>	<p>Systematic reviews and meta-analysis tools and guidelines:</p> <p>checklist:</p> <p>http://sign.ac.uk/guidelines/full-text/50/checklist1.html</p> <p>notes on use:</p> <p>http://sign.ac.uk/guidelines/full-text/50/notes1.html</p>

Type of Research	Website (Link)	Type of Study - Link to Tools
	Cochrane Handbook for Systematic Reviews of Interventions http://www.cochrane.org/	Handbook link (pdf): http://www.cochrane.org/resources/handbook/Handbook4.2.6Sep2006.pdf
	Centre for Reviews and Dissemination (CRD) University of York (UK): Undertaking systematic reviews of research on effectiveness. CRD's guidance for those carrying out or commissioning reviews: http://www.york.ac.uk/inst/crd/	Handbook link http://www.york.ac.uk/inst/crd/report4.htm
	Evidence for Policy and Practice Information and Coordinating Centre (EPPI-centre) (University of London, UK): http://eppi.ioe.ac.uk/cms/	Methods: Stages of a Systematic review link: http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=89 Quality Assessment and Relevance of evidence: http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=177
	PHRED Effective Public Health Practice Project http://oldhamilton.ca/.phcs/ephpp/ReviewsPortal.asp <i>Recommended for conduct of systematic reviews</i>	
	Campbell Collaboration C2-SPECTR Database www.campbellcollaboration.org/	

Type of Research	Website (Link)	Type of Study - Link to Tools
<p>Health Services Research</p> <p><i>What is the cost-effectiveness?</i></p> <p><i>Cost-benefit?</i></p> <p><i>Cost-utility?</i></p>	<p>Critical Appraisal Skills Programme (CASP) (UK):</p> <p>http://www.phru.nhs.uk/Pages/PHD/resources.htm</p> <p>Recommended</p>	<p>Economic evaluation studies:</p> <p>http://www.phru.nhs.uk/Doc_Links/Economic%20Evaluations%2010%20Questions.pdf</p>
	National Health Services Economic Database	www.york.ac.uk/inst/crd/crddatabases.htm
	<p>The Guide to Community Preventive Services.</p> <p>The Task Force on Community Preventive Services (US):</p> <p>http://www.thecommunityguide.org/library/book/Front-Matter.pdf</p>	<p>Chapter 11 "Understanding and Using the Economic Evidence" (tool):</p> <p>http://www.thecommunityguide.org/library/economics.pdf</p>
<p>Clinical Practice Guidelines</p> <p><i>What is the best intervention/ management of?</i></p> <p><i>(considers the best evidence, context and expert opinion.)</i></p>	<p>Scottish Intercollegiate Guidelines Network (SIGN):</p> <p>http://www.sign.ac.uk/</p>	<p>SIGN 50: A Guideline Developers' Handbook:</p> <p>http://sign.ac.uk/guidelines/fulltext/50/index.html</p>
	<p>AGREE (Appraisal of Guidelines Research and Evaluation) Collaboration</p> <p>http://www.agreecollaboration.org/</p> <p>Recommended</p>	<p>Critical appraisal tool for Guidelines – AGREE Tool</p> <p>http://www.agreecollaboration.org/instrument/</p>
	<p>National Institutes for Health and Clinical Excellence</p> <p>http://www.phel.nice.org.uk/</p>	

Type of Research	Website (Link)	Type of Study - Link to Tools
<p>Overviews of Critical Appraisal Methods/Tools/Processes</p> <p><i>What is the level of evidence?</i></p>	<p>The NIHR Health Technology Assessment Programme (NHS)– Report “Evaluating non-randomized intervention studies:</p> <p>http://www.ncchta.org/Project-Data/3_project_record_published.asp?PjtId=1117</p>	
	<p>BioMed Central Systems article on grading the quality of evidence and the strength of recommendations II: Pilot study of a new system:</p> <p>http://www.biomed-central.com/content/pdf/1472-6963-5-25.pdf</p>	
	<p>Agency for Healthcare Research and Quality (AHRQ) (US):</p> <p>http://www.ahrq.gov/</p>	
	<p>The Guide to Community Preventive Services.</p> <p>The Task Force on Community Preventive Services (US):</p> <p>http://www.thecommunityguide.org/library/book/Front-Matter.pdf</p>	<p>Chapter 10 “Methods Used for Reviewing Evidence and Linking Evidence to Recommendations” (tool):</p> <p>http://www.thecommunityguide.org/methods/methods.pdf</p>
	<p>The Canadian Task Force on Preventive Health Care:</p> <p>http://www.ctfphc.org/</p>	