



CATNiP

Critical Appraisal Navigating into Practice



Edge Hill University  
LEARNING SERVICES

# CATNiP

## Critical Appraisal Toolkit Navigating into Practice

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HLG 20<sup>th</sup> July 2010



# Background

- Increasing requests for CA training from NW health librarians
- Small numbers of librarians cascading CA skills after training
- Why are librarians not delivering CA skills training?



# Research

- Attitudes, barriers and level of involvement of healthcare librarians in critical appraisal skills training
  - MA Sept 2009, Liverpool John Moores University
  - Health Information Libraries Journal
    - Part 1: Attitudes and levels of involvement (early view online June 2010)
    - Part 2: Barriers to involvement (submitted for peer review June 2010)



## Aim

- To examine the attitudes of UK healthcare librarians towards involvement in critical appraisal skills training, the extent to which critical appraisal training is currently being delivered by healthcare librarians and the barriers faced by healthcare librarians in delivering critical appraisal skills training

## Methods

- Questionnaire survey of 57 library services (48 NHS, 9 HE) Response rate = 48/57 (84%) library services responded, 55 questionnaires returned (7 responses from multi-site library services)
- Semi-structured interviews, n=21 – 7 not delivering CA training, 6 intending to deliver CA training, 8 delivering CA training



# Main findings

- 78% (43/55) thought librarians ought to be involved in delivering CA training, 22% were not sure if librarians ought to be involved
- Less than 1/3 (16/55) of healthcare librarians with responsibility for end-user training were delivering CA training
- 86% (47/55) had attended CA training, 29% (16/55) attended >1 training session
- 94% (15/16) of librarians involved in delivering CA training collaborate with other colleagues (R&D, statistician, other librarians)
- Librarians mainly cascade levels of evidence/resources training on their own
- Systematic Reviews is the most popular CA training delivered by librarians on their own
- No consensus on depth of librarian involvement in delivering CA training to healthcare professionals



# Barriers to involvement

Extrinsic	Intrinsic
<ul style="list-style-type: none"><li>• Organisational (27)</li><li>• Environmental (21)</li><li>• Training (12)</li><li>• Role expectation (3)</li></ul>	<ul style="list-style-type: none"><li>• Knowledge (26)</li><li>• Attitude (20)</li><li>• Skills (9)</li></ul>



## What CA resources librarians wanted...

- Study designs/research methodology
- Checklists
- Levels of evidence
- Statistics
- Pre-appraised articles
- Exercises for training
- Teaching plans
- An ‘appraisal of appraisal resources’
- Links to key CA resources
- “all the help we can get”!!



**CATNiP** <http://catnipnw.pbworks.com>

- To provide support and resources for librarians looking to deliver CA skills training
- To signpost to useful CA resources on the WWW



## CATNiP <http://catnipnw.pbworks.com>

- Collating CA resources all in one place
- Links to CA checklists
- Quick identification of CA checklist resources by study design
- Examples of exercises to use in CA training
- Links to CA databases of appraised articles
- Bibliography of useful articles and resources on:
  - Study designs
  - Statistics
  - Definitions/glossary
- Links to other CA presentations



## Welcome to CATNiP: Critical Appraisal Toolkit Navigating into Practice



The CATNiP wiki has been developed to supplement the LIHNN Critical Appraisal Training Workshops. It aims to provide support and resources for those intending to deliver critical appraisal training.

Critical appraisal resources on the wiki include:

- Links to online training and workshops to improve your own critical appraisal knowledge
- Download exercises to use in your training sessions
- Links to critical appraisal checklists and databases containing pre-appraised articles
- Advice on setting up your own critical appraisal training and facilitation tips
- Critical appraisal bibliography

The toolkit allows you to download and use the resources in your own training sessions. It allows you to design your own workshops by providing the background materials and exercises for you to build up a workshop suited to the level of your end-users. It does not provide powerpoint slides with pre-prepared presentations. Use the Navigator on the right-hand sidebar to locate the resources.

Please note this is a work in progress and the wiki will be moving to the new LIHNN wiki platform shortly.

**Your feedback on the CATNiP resources is vital to determine whether your resource and support needs are being met and to identify further requirements. For example if you have used any of the exercises on this site please let us know, it will give us an idea of how useful certain aspects are. Comments may be left on each page visited, simply scroll down to the bottom of each page, alternatively click [here](#) to add your feedback.**

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**Navigator**

- Facilitation skills
- Resources
- Training
- CATNiP**
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**SideBar**

**Critical Appraisal Resources**

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- [Critical Appraisal Checklists Locator](#)
- [Critical Appraisal Databases](#)
- [Critical Appraisal Presentations](#)
- [Glossaries](#)

**Exercises**

- [RCTs: Allocation Concealment](#)
- [RCTs: Per-protocol analysis](#)



### ★ Critical Appraisal Checklists Locator

last edited by Michelle Maden 28 mins ago

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There are numerous critical appraisal checklists freely available on the www. The table belows indicates where specific types of common study design checklists can be located on the www. For an appraisal of the checklists from individual websites and other publications (e.g. books) please click [here](#).

	<a href="#">CASP</a>	<a href="#">JAMA</a>	<a href="#">BestBETs</a>	<a href="#">How to Read a Paper</a>	<a href="#">CEBM (UK)</a>	<a href="#">CEBM (Toronto)</a>	<a href="#">SIGN 50</a>	<a href="#">University of Glasgow</a>	Crombie (1)
Case Control	*		*				*		*
Clinical Decision/Prediction Rule		*	*						
Cohort	*		*				*		*
Decision Anlysis								*	
Diagnosis/Diagnostic Test	*	*	*	*	*	*	*	*	
Economic Evaluation	*	*	*	*					
Educational Intervention			*					*	
Guideline			*					*	
Harm		*	*			*		*	
Prognosis		*	*			*		*	

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#### Navigator

##### Resources

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- **Critical Appraisal Checklists Locator**
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##### Critical Appraisal Resources

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### ☆ Critical Appraisal Databases

last edited by Michelle Maden 26 mins ago

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NB: While many of the critical appraisals are freely available to download and use remember that critical appraisal is a subjective process and there may not be a definitive right answer. Most of the appraisals below are NOT peer-reviewed. Use the critical appraisal databases below as a guide to generate discussion in your workshop.

#### FULL PAPER CRITICAL APPRAISAL DATABASES

##### [LIHNN Clinical Librarians Critical Appraisals](#)

A selection of pre-appraised medical articles shared by NW LIHNN Healthcare Librarians. Examples of RCTs and a cross-over trial are provided.

##### [Centre for Evidence-Based Child Health - Teaching Resources](#)

A freely available collection of 99 pre-appraised individual articles covering Child Health topics spanning interventions, diagnosis, guidelines, economic evaluations, qualitative, overviews, prognosis, harm and causation each with an associated clinical problem with scenario. Some have search strategies and tutor notes with preappraised answers. The majority of the articles are appraised using the [JAMA Users' Guides to Evidence Based Practice](#) checklists but other checklists are utilised (e.g. Sackett, [Greenhalgh](#), etc) since the database collection relies on contributors from around the UK.

##### [Pediatric Critical Care Medicine](#) (PedsCCM.org)

A large collection of over 400 critical appraisals of clinical trials in paediatric critical care using the JAMA checklists. Browse by subject or date or search by freetext, publication or subject. The journal club is a collaborative effort, anyone can submit to the collection. However, these appraisals are peer-reviewed by 2 journal club editors.

##### [BestBETS - Critical Appraisal Database](#)

A collection of topic specific pre-appraised individual articles from [BestBETS](#). Some of the appraisals link into published Best Evidence Topics (BETs). Articles are appraised using [checklists](#) developed by the BestBETS team. Healthy warning: some of the appraisal checklists are long!

##### [Occupational Therapy Critically Appraised Topics](#)

Contains Critically Appraised Topics on Occupational Therapy interventions, similar to the BestBETS format. A standard template structures the topics by

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## ★ Critical Appraisal Bibliography

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The following is not intended to be a comprehensive list of sources but a handpicked selection of some of the more useful resources and references compiled and used in the self-taught learning process and to inform critical appraisal training but which may also provide useful handouts. Many of the journal references will require a NHS Athens account to access the fulltext.

### Overview of Critical Appraisal

- [What is critical appraisal?](#)
- Crombie, IK. (2006). The Pocket Guide to Critical Appraisal. London: BMJ Publishing.
- Greenhalgh, T. (2006). How To Read a Paper. London: BMJ Publishing
- Goodacre, S. [Critical appraisal for emergency medicine: 1. Concepts and definitions](#). *EMJ* 2008;25:219-221.
- Sackett, DL., Richardson, WS., Rosenberg, WMC. and Haynes, RB., 1997. Evidence-Based Medicine: How to Practice and Teach EBM. New York: Churchill Livingston.
- Centre for Evidence Based Medicine [Power Point Presentations](#) from the CEBM Workshops.
- Glasziou P, Vandembroucke J, Chalmer I. [Assessing the Quality of Research](#). *BMJ* 2004;328:39-41.
- BMJ [Endgames](#) series

### Statistics

#### Overview

- BMJ [Statistics Notes](#) Series
- Pocock, SJ. & Ware, JH. [Translating statistical findings into plain English](#). *The Lancet* 2009;373(9679):1926-1928.
- [MeReC Briefing No. 30: Using Evidence to Guide Practice](#). National Prescribing Centre. September 2005.
- [MeReC Briefing No. 30: Using Evidence to Guide Practice - Supplement](#). National Prescribing Centre. September 2005.
- Harris, M., & Taylor, G. (2004). Medical Statistics Made Easy. Martin Dunitz.
- Goodacre, S. [Critical appraisal for emergency medicine: 2. Statistics](#). *EMJ* 2008;25:362-364.
- Driscoll P, Lecky F, & Crosby M. [An introduction to everyday statistics - 1](#). *EMJ* 2000;17:205-211

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### ☆ Study Design: Identify the Study Design

last edited by Michelle Maden 3 days ago

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**DON'T FORGET TO REFERENCE ALL RESOURCES USED IN YOUR PRESENTATIONS**

Title: [Study design](#)

Overview: Quick multiple choice question to identify the correct study design.

Source: Sedgwick P. Study design. *BMJ* 2009;339:b4458. Part of the [BMJ Endgames](#) series.

CATNiPPER: Michelle Maden, [madenm@edgehill.ac.uk](mailto:madenm@edgehill.ac.uk) (added August 2009)

Title: [Study Design](#)

Overview: Quick multiple choice question to identify the correct study design.

Source: Sedgwick P. Study design. *BMJ* 2010;340:c2667 Part of the [BMJ Endgames](#) series.

CATNiPPER: Michelle Maden, [madenm@edgehill.ac.uk](mailto:madenm@edgehill.ac.uk) (added July 2010)

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#### Navigator

##### Exercises

- Statistics: Relative risk and absolute risk reduc...
- Study Design: Cohort Studies
- **Study Design: Identify the Study Design**
- Study Designs: Identify the Abstract
- Study Designs: Levels of Evidence

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Critical Appraisal Resources

- [Critical Appraisal Bibliography](#)



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### ☆ Study Designs: Identify the Abstract

last edited by Michelle Maden 3 days ago

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#### DON'T FORGET TO REFERENCE ALL RESOURCES USED IN YOUR PRESENTATIONS

**Overview:** The first step in critical appraisal is to identify the type of study you are looking at, in order to select the right checklist. Sounds easy in theory but in practice it is harder than first thought. This exercise is designed to test your ability to identify the right type of study.

**Time to complete exercise:** c.15 mins for discussion and identification (but depends on how many abstracts you use) c.10 mins for feedback/answers

**Resources required:** A selection of abstracts of different study designs, Powerpoint or handouts, Flipchart/whiteboard (optional)

**Facilitation notes:** Abstracts can be presented one at a time on a powerpoint slide or can be printed off altogether and handed out. Ask the groups to read the abstracts and then identify the study design. This is usually best achieved by splitting into small groups and allowing them a little time to read, discuss and identify the study design.

When facilitating the feedback ask the groups what study design they chose. Don't simply give the answer and move on, take each abstract in turn and highlight the key features/terms in the abstract that identify a particular study design, for example in an RCT pick out terms such as 'blinding' or 'randomisation', etc.

The study design identified by each group could be noted on a flipchart and correct answers totted up at the end to see which group got the most correct answers.

You could add in a 'rogue' abstract - i.e. one where it is not possible to tell from the abstract what the study design is. Point out then that it may not always be that easy to identify the study design from the abstract alone, despite the fact that most journals now are providing 'structured abstracts'. Sometimes you need to read further into the paper before you can identify the study design. This impacts on literature searching skills as well when scanning abstracts for relevant papers.

**Examples:** Abstracts can be selected from PubMed on any topic of your choice so if you are delivering critical appraisal training to a specific group then you could tailor the abstracts to that particular discipline. Alternatively you could use the examples below.

- [Identify the abstracts - exercise](#)
- [Identify the abstracts - answers](#)

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Exercises

- Statistics: P-values
- Statistics: Relative risk and absolute risk reduction
- Study Design: Cohort Studies
- Study Design: Identify the Study Design
- **Study Designs: Identify the Abstract**

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Exercises



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## ★ Rating the paper

last edited by Michelle Maden 10 hrs ago

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### Resources required

- Flip-chart and pens
- Paper to be appraised

### Facilitation notes

1. Allow 10-15 minutes for people to read/re-read the paper to be appraised. Once people have read the paper get them to rate the paper out of 10 in terms of how good they think the study is and write down their rating on a piece of paper without telling anyone.
2. Draw an axis for a graph in order to plot the ratings.
3. Go round the group and ask people to shout out their rating and keep score for each rating.
4. Plot and draw the graph based on the ratings given.
5. Repeat the exercise once the paper has been appraised and compare before and after scores.

### Time to complete facilitation

- 10/15 mins to read the paper, 5 mins to collate ratings and draw graph at beginning and end of session.

### Why do it?

Demonstrates that critical appraisal helps to give a more consistent view of the strengths and weaknesses of research. What you usually find is that on the first graph the ratings are more widespread than on the second graph and that the second graph resembles something like a bell curve as people's opinions are drawn together and become more aligned and in agreement.

### Acknowledgement

This facilitation exercise is based on the [BestBETs critical appraisal checklists](#) which rate the paper before and after appraisal.

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##### Facilitation skills

- Choosing the right paper for appraisal
- **Rating the paper**
- Reflection
- Suggested topics for teaching Critical Appraisal

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# The Challenges!

- No back-up facility as yet > Wiki will move to LiHNN platform  
[www.lihnn.nhs.uk](http://www.lihnn.nhs.uk)
- Firewalls
- Currency
- Engagement
- Quality control



## To boldly go...

- Encourage others to submit CA resources
- Move to open access
- Wiki evaluation
- Which are the most prominent barriers (ranking) to librarian involvement in CA skills training?
- What are the effective strategies for overcoming barriers to librarian involvement in CA skills training?
- Informing the debate...Is it appropriate for librarians to be involved in CA training and to what extent if any? – the healthcare professional perspective



## Beyond CATNiP...

- CA training sessions for NW healthcare librarians
  - Delivered by experienced and novice trainers
- Mentor network
  - Assistance with setting up CA workshops
  - Observation of librarian CA facilitation
  - Peer support
  - Assistance with the delivery of CA sessions



# Thank you

- Any questions?
- For more information contact:  
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