



# Critical Appraisal of Qualitative Research

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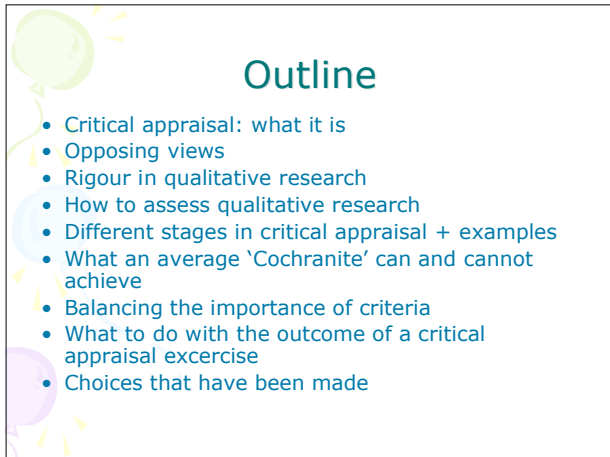
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## Outline

- Critical appraisal: what it is
- Opposing views
- Rigour in qualitative research
- How to assess qualitative research
- Different stages in critical appraisal + examples
- What an average 'Cochranite' can and cannot achieve
- Balancing the importance of criteria
- What to do with the outcome of a critical appraisal exercise
- Choices that have been made

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## Critical appraisal: what it is!

- "the process of systematically examining research evidence to assess its validity, results and relevance before using it to inform a decision"

• Hill, A., Spittlehouse, C. 2003. What is critical appraisal? Evidence Based Medicine, 3 (2), 1-8. Available from:

- <http://www.evidence-based-medicine.co.uk/ebmfiles/WhatisCriticalAppraisal.pdf>

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## A review of published QES

- 21 papers did not describe appraisal of candidate studies
- 6 explicitly mentioned not conducting formal appraisal of studies
- 5 papers did a critical appraisal, but did not use a formal checklist
- 7 described modifying existing instruments
- 1 used an existing instrument without modification
- Dixon-Woods M, Booth A, Sutton AJ. Synthesizing qualitative research: a review of published reports. *Qual Res* 2007; 7:375

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## Opposing views

- Interpretivist perspective
  - **Bias:** Subjectivity is used actively/creatively through the research process
  - **Validity:** there are multiple ways of understanding reality
  - **Reliability:** Researchers report information and readers discern the patterns identified and verify interpretations. If reality is assumed to be multiple and constructed we should not expect researchers to arrive at the same themes or categories.
- Realist-pragmatic perspective
  - **Bias:** Researcher bias affects trustworthiness, or validity. One should be clear about one's assumptions and background that influences results
  - **Validity:** The emphasis is on striving for truth in being adequate, trustworthy, accurate, credible
  - **Reliability:** Steps to establish reliability should be built into the research process to affirm researchers' observations

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## Opposing views

- **Qualitative research is subject to the same criteria as quantitative research**
- Validity, reliability and generalisability should be addressed in critical appraisal



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## Opposing views

- **Adjust the tools**
- Qualitative research is in need of a set of criteria specifically designed for it




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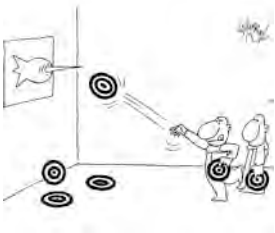
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## Opposing views

- **Put an end to criteriology**

Do not try to fit something that in the end stifles the creative aspects of qualitative research




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## Opposing views

- **Use criteria as guides to good practice**
- They should not be used as rigid requirements in appraising papers.




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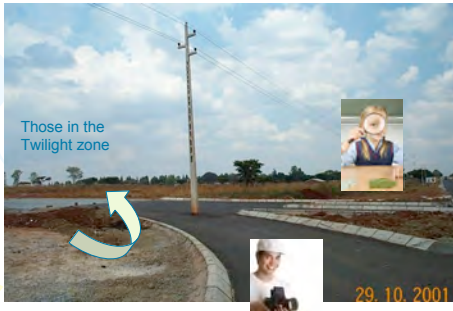
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## Finding a balance between opposing views is difficult, if not, impossible



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## Finding a balance between opposing views is difficult, if not, impossible

Should, will or dare we choose between opposing views?

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## Opposing views

- Realists have succeeded at positioning the qualitative research enterprise as one that can produce research that is valid, reliable and generalisable and therefore of value and import equal to quantitative biomedical research.
- In the context of enhancing Cochrane systematic reviews this approach might have more potential to be generally accepted.
- However, we should acknowledge that there are other, valuable points of view that cannot be marginalized because their philosophy does not fit the health care community as neatly as o



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## If we reject the concepts of validity and reliability, we reject the concept of rigour .

If we reject scientific enquiry, we are undermining the belief that qualitative research is a scientific process that has a valued contribution to make to the advancement of knowledge. Without rigour, there is a danger that research may become fictional journalism, worthless as a contribution to knowledge.



Tobin GA, Begley CM. Methodological rigour within a qualitative framework. JAN 2004; 48(4):388-396.  
Morse JM, Barrett M, Mayan M, Olson K, Speris J. Verification strategies for establishing reliability and validity in qualitative research. International J of Qualitative Methods: 1(2), article 2.

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## Rigour in qualitative research

- There is no reason to believe that all knowledge and feelings are of equal weight and value. If we sort fact from fancy in real life, then why should research be any different?
- Methodological anarchy offers a negative message to the audiences of qualitative research, suggesting that its proponents have given up claims to validity



Seale C, Silverman D. Ensuring rigour in qualitative research. Eur J of Public Health 1997;7:379-384.

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## Rigour in qualitative research

- Reliability and validity are ways of demonstrating and communicating the rigour of research processes and the trustworthiness of research findings. If research is to be helpful, it should avoid misleading those who use it.



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## Results from a synthesis on published criteria for qualitative research

- Carrying out ethical research
  - Importance of the research
  - Clarity and coherence of the research steps
  - Use of appropriate and rigorous methods
- Divergent perspectives, linked to research paradigms
- Importance of reflexivity or attending to researcher bias
  - Importance of establishing validity or credibility
  - Importance of verification or reliability

Cohen DJ, Crabtree BF. Evaluative criteria for qualitative research in health care: controversies and recommendations. *Annals of Fam. Med.* 2008; 6(4):Jul/aug

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## A possible solution

Developing criteria that fit the qualitative paradigm

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## Rigour in qualitative research

- Are we not just introducing words that say the same things?
- Are we in danger of yet more confusion into the already turbulent waters of the appraisal criteria debate?



Seale C, Silverman. Ensuring rigour in qualitative research. *Eur J of public health* 1997; 7:379-384.

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## Rigour in qualitative research



- **Internal validity=credibility:** addresses the fit between respondents' views and the researcher's representation of them (member checks, peer debriefing, audit trails)
- **External validity=transferability:** are results transferable to other settings?

• Schwandt TA. Dictionary of Qualitative Inquiry. Sage, Thousand Oaks, CA., 2001.  
 • Spencer L et al. Quality in Qualitative Evaluation: a framework for assessing research evidence. Government chief social researcher's office 2003.  
 → Based on Guba & Lincoln, 1989

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## Rigour in qualitative research



- **Reliability=dependability:** does the audit trail ensure that the process of research is logical, traceable and clearly documented?
- **Neutrality=confirmability:** are the data and interpretations not figments of the inquirer's imagination?

• Schwandt TA. Dictionary of Qualitative Inquiry. Sage, Thousand Oaks, CA., 2001.  
 • Spencer L et al. Quality in Qualitative Evaluation: a framework for assessing research evidence. Government chief social researcher's office 2003.  
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## Rigour in qualitative research

- Scientific rigour is essential. However, it is not straightforward to assess. Each criterion will require judgements to be made.

• Roberts P, Priest H. Reliability and validity in research. Nursing Standard 2006; 20(44): 41-45.  
 • Sandelowski M. The problem of rigour in qualitative research revisited. Advances in Nursing Science 1993; 16(2): 1-8




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## How to assess qualitative research?

### 3 stages of appraisal

- **1. Filtering:** *Flash back to screening:* inclusion criteria=empirical study and method of data collection and analysis clearly described.
- **2. Description:** evaluating the technical criteria
- **3. Analysis:** evaluating the match between philosophical underpinnings of a study and the findings presented

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## What an average 'Cochranite' can achieve

### • Stage 2: Description

To look for indications that show a certain level of validity, reliability, objectivity to determine the degree of confidence in the researcher's competence in conducting research following established norms

→Facilitated by checklists

→Needs a basic level of experience with qualitative research

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## What an average Cochranite can achieve

- Techniques and approaches that can help to improve the reliability and validity of qualitative data exist. However, many of the published criteria have not been packaged up in a neat prescription or in the form of a checklist.
- Some examples of existing checklists

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## What an average Cochranite can achieve

- CASP critical appraisal instrument
  - Screening questions
  - Compact
  - Space to write notes
  - Explains all the criteria (useful for novices)
- [http://www.phru.nhs.uk/Doc\\_Links/Qualitative%20Appraisal%20Tool.pdf](http://www.phru.nhs.uk/Doc_Links/Qualitative%20Appraisal%20Tool.pdf)
- Qualitative research appendix C
- Used by Munro et al. PLOS Medicine 2007

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## What an average Cochranite can achieve

- JBI critical appraisal instrument
  - Embedded in a software package
  - Needs two independent researchers to evaluate
  - More general questions, without explaining a lot (needs more expertise)
- Used by Briggs & Flemming. Journal of Advanced Nursing 2007

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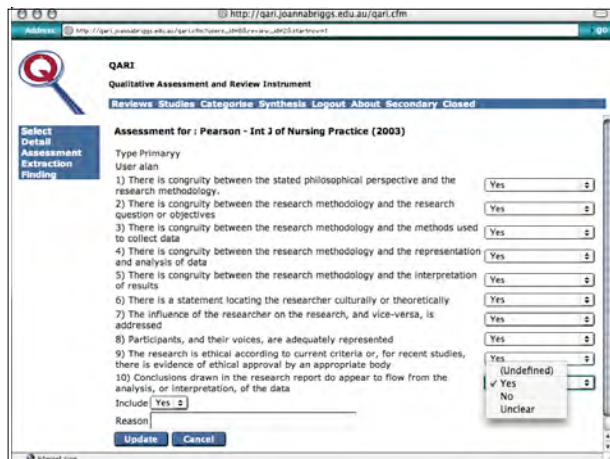
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## What an average Cochranite can achieve

- There are lists available tailored to different research techniques or traditions.
- Ex. Vermeire et al → focus groups



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## What an average Cochranite can achieve



Make sure that you know where it comes from.

Motivate your choice.

There is a difference between 'choosing between alternatives' and 'anything goes'

What has been successfully used by others?

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## What an average 'Cochranite' cannot achieve

### • Stage 3: Analysis

An additional, paradigmatic approach to judgement is preferable to identify the quality of the decisions made, the rationale behind them or the responsiveness or sensibility of the researcher to the data.

- Overall judgement
- Needs a higher level of expertise

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## What an average Cochranite cannot achieve

- Technical criteria may be kept as proof of the decisions made throughout the project, but they do little to identify the quality of those decisions, the rationale behind them or the responsiveness and sensitivity of the investigator to data. It is of little use for identifying or justifying actual shortcomings that have impaired reliability and validity.

• MorseJM, Barrett M, Mayan M, Olson K, Spiers J. Verification strategies for Establishing Reliability and Validity in Qualitative Research. *Int. J. of Qual. Meth.* 2002; 1(2): spring.

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## What an average Cochranite cannot achieve

- What I expect to happen when we leave Cochranites to expert judgement (unless they do not have to do it themselves or have the right expertise)



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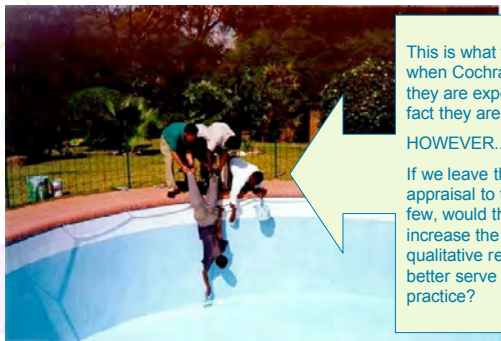
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## What an average Cochranite cannot achieve



This is what will happen when Cochranites think they are experts, while in fact they are not.

HOWEVER...

If we leave the critical appraisal to the happy few, would that help us to increase the number of qualitative reviews to better serve policy and practice?

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## What an average Cochranite cannot achieve

- How far criteria-based approaches offer significant advantages over expert intuitive judgement in assessing the quality of qualitative research is being challenged by recent evidence indicating that checklist-style approaches may be no better at promoting agreement between reviewers

- Dixon-Woods M, Sutton AF, Shaw RL, Miller T, Smith J, Young B, Bonas S, Booth A, Jones DR. Appraising qualitative research for inclusion in systematic reviews: a quantitative and qualitative comparison of three methods. *Journal of Health Service Research and Policy* 2008.

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## Balancing the importance of criteria

- “The skill in critical appraisal lies not in identifying problems, but in identifying errors that are **large enough** to affect how the result of the study should be interpreted”

- **Petticrew and Roberts (2006, p128)**

- *Systematic Reviews in the Social Sciences: A practical guide.* Oxford: Blackwell Publishing.



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## Balancing the importance of criteria

What are fatal flaws?

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## Balancing the importance of criteria

- A study may be judged to have followed the appropriate procedures for a particular approach...yet the study may suffer from poor interpretation and offer little insight into the phenomenon at hand.
- A second study may be flawed in terms of the transparency of methodological procedures and yet offer a compelling, vivid and insightful narrative, grounded in the data.
- Dixon-Woods M, Shaw RL, Agarwal S, Smith JA. The problem of appraising qualitative research. QSHC 2004: 223-225

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## Balancing the importance of criteria

- Fatal flaws may not be easily distinguished into simple binary judgements: it may be necessary to take a holistic view of a study that recognises the importance of context and what was feasible in that context.
- Fatal flaws may differ for different approaches or techniques used.
- We need to balance assessment against the weight of a message: 'signal to noise ratio'
- Booth A. Cochrane or cock-eyed? How should we conduct systematic reviews of qualitative research? Qualitative EBP conference, coventry university, may 14-16 2001.

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## What to do with the outcome of a critical appraisal exercise?

- It can be used to include or exclude studies from a synthesis
  - Keep the high quality <-> throw valuable insights out
- It can be used to give more weight to studies that are labelled as high quality
  - Valuable insights stay in <-> complex to report given the split between studies
- It can be used to describe what has been observed in the studies, without excluding them for the synthesis
  - Valuable insights stay in <-> reader has to determine quality him/herself

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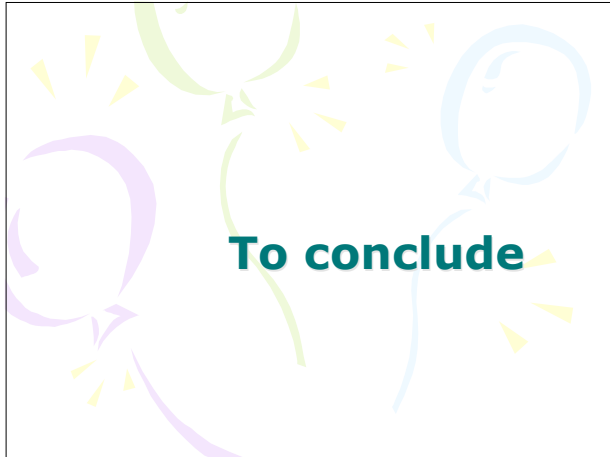
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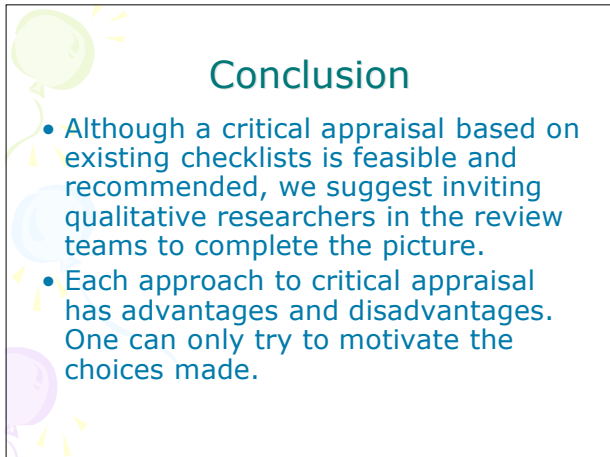
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### Conclusion

- Although a critical appraisal based on existing checklists is feasible and recommended, we suggest inviting qualitative researchers in the review teams to complete the picture.
- Each approach to critical appraisal has advantages and disadvantages. One can only try to motivate the choices made.

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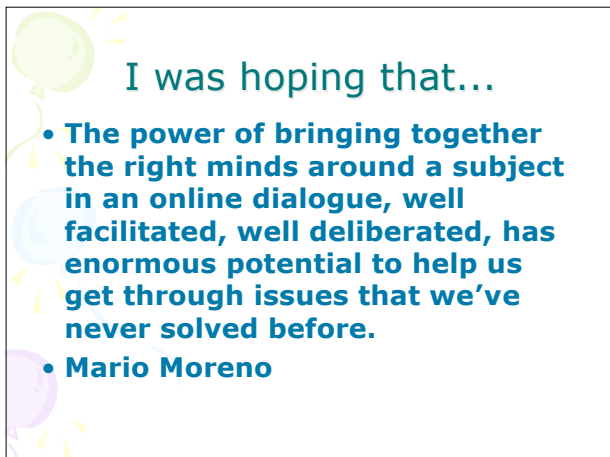
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### I was hoping that...

- **The power of bringing together the right minds around a subject in an online dialogue, well facilitated, well deliberated, has enormous potential to help us get through issues that we've never solved before.**
- **Mario Moreno**

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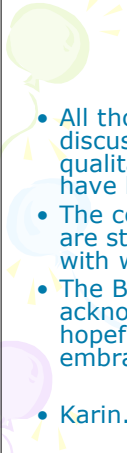
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## Thanks to ...

- All those who have contributed to the discussions on critical appraisal of qualitative research and from whom I have honestly stolen many insights.
- The co-convenors of the CQRN-group who are still trying to figure out what to do with what has been learned so far.
- The Belgian Cochrane Branch, who acknowledges the value of QES and will hopefully convince many other centres to embrace this type of reviews.
- [Karin.hannes@med.kuleuven.be](mailto:Karin.hannes@med.kuleuven.be)

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