

# Synthesis of evidence from qualitative research

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**Trusted evidence.  
Informed decisions.  
Better health.**



# Disclosure

I have no conflicts of interest with anything in this presentation.



# What is qualitative metasynthesis?

Related terms:

- Qualitative evidence synthesis
- Qualitative meta-analysis
- Qualitative research integration
- Meta-ethnography
- Meta-study
- Meta-interpretation
- Narrative metasynthesis



# What is qualitative metasynthesis?

- Pre-specific methods – justifiable, transparent, auditable
- A process of systematic identification, examination, comparison and interpretation of findings from published qualitative research
- NOT simply a narrative review of qual. research (interpretation rather than aggregation)

(Sandelowski and Barroso, 2007)

Note: Cochrane includes “meta-aggregation” and “meta-summary” in their description of methods for “qualitative evidence synthesis”

## Review process

Question

Inclusion criteria

Search strategy

Critical appraisal

Data extraction

Data synthesis

### Qualitative Reviews:

→ Pop<sup>n</sup>, phenon. of interest

→ Operationalised from question

→ Explicit; 2X indep screening

→ Maximising trustworthiness; less established

→ Interpretive; often inductive

→ Interpretive

as

# Sensitivity analysis

1. Categorise all included studies:

- KP – Key paper
- SP – Satisfactory paper
- UR – Unclear relevance
- FF – Fatally flawed

2. Conduct analysis with all (non-FF) papers

3. Then evaluate impact of UR (and SP?) on overall emphasis in findings

(Dixon-Woods et al. 2007)

## CerQual

- A new approach for assessing how much certainty (or confidence) to place in the findings of qualitative evidence syntheses.
- Certainty = the extent to which the review finding is trustworthy or valid
- Combined two evaluations:
  1. Critical appraisal
  2. Coherence of review findings (the extent to which a clear pattern can be identified across study data – e.g. consistent across multiple contexts; explains multiple variations across studies)

## Benefits of qual. data

- Exploring concepts not easily measured
- Examination of lived experiences (e.g. what matters; how people make sense of health and disability experiences)
- Generation of new ideas, theories, typologies or classifications
- Contributing to practical significance of quant. research





# Benefits of systematic methods

- Comprehensive identification of all studies on a given topic
- Development of fresh interpretations
- Broadening the relevance of findings from single studies; addressing issues of generalisability



# Potential value: Workplace-based return-to-work interventions

- A review of both quant and qual research
- Quant data: ‘Our research team was struck by the limited details provided about the interventions offered’ (Franche et al., 2005, p. 627).
- Qual data: supplemented understanding the mechanisms of effective interventions (MacEachen et al., 2006)



# Potential value: Workplace-based return-to-work interventions

– e.g. Quant data:

- early contact with worker → reduced work disability duration, reduced cost of disability

– e.g. Qual data:

- What ‘counts’ as early contact
- How early contact influences improved outcome
- When early contact is detrimental
- Importance of non-measurable factors: e.g. ‘good will’ between workers, work place and insurer

(Franche et al. 2004)

# Potential value: Measuring what matters in TBI rehabilitation

*Disability and Rehabilitation*, 2010; 32(12): 986–999

informa  
healthcare

## Experience of recovery and outcome following traumatic brain injury: a metasynthesis of qualitative research

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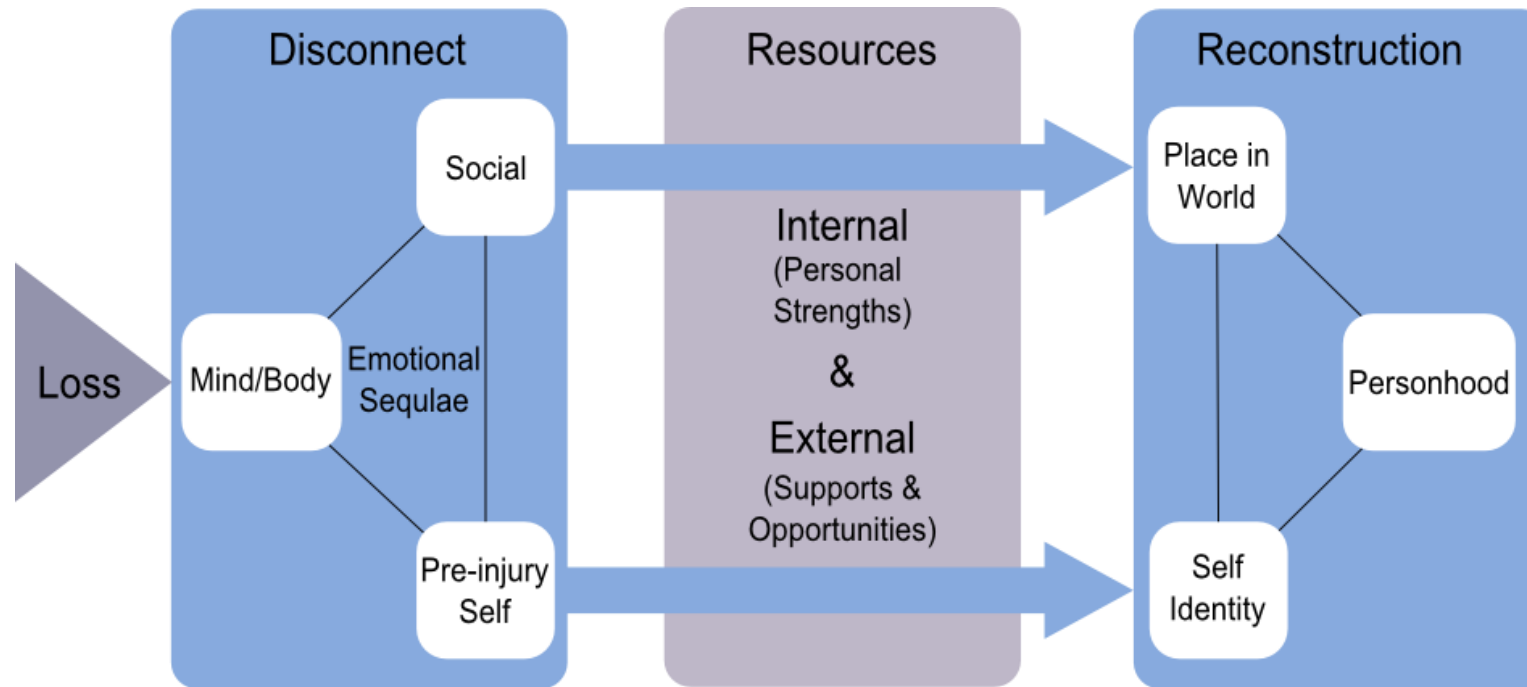
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### Abstract

**Purpose.** To explore the use of qualitative metasynthesis to inform debate on the selection of outcome measures for evaluation of services provided to adults with traumatic brain injury (TBI).

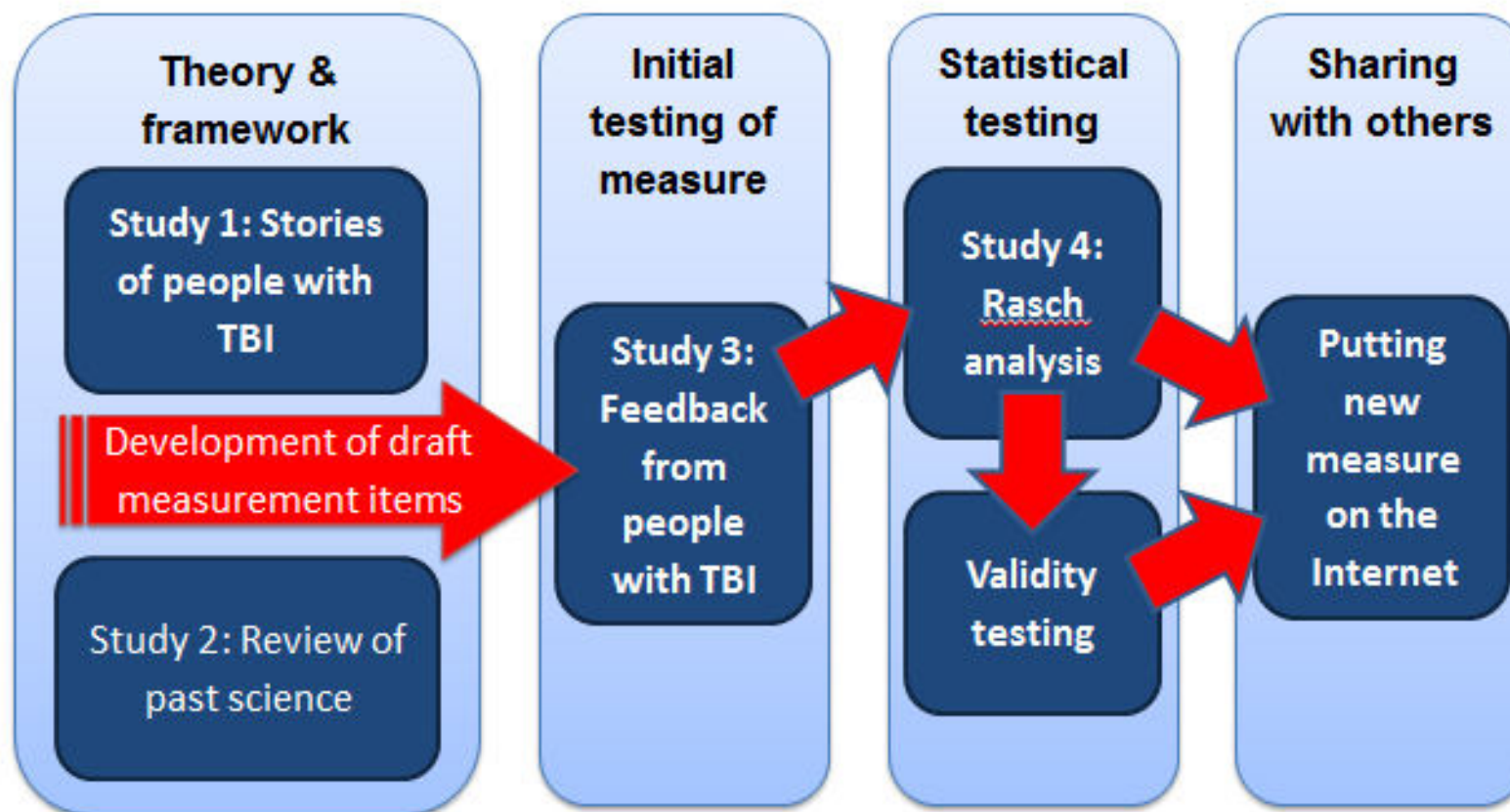
**Method.** Fifteen databases were searched for qualitative research published between 1965 and June 2009, investigating the lived experience of recovery following TBI acquired during adulthood. Two reviewers independently screened all abstracts. Included studies were evaluated using methodological criteria to provide a context for interpretation of substantive findings. Data were extracted and synthesised by the reviewers using GEP 2.1.1 to assist with data management.

# Potential value: Measuring what matters in TBI rehabilitation



Levack, Kayes, and Fadyl. Experience of recovery and outcome following traumatic brain injury: a metasynthesis of qualitative research. *Disability & Rehabilitation*. 2010; 32:986-99.

## Leading to... development of a new measure



# Brain Injury Sense of Self Scale (BISoSS)

## Brain Injury Sense of Self Scale (BISoSS).

The following questionnaire asks for information about how you view yourself, how other people treat you, and how you view your place in the world.

Please answer all questions. There are no right or wrong answers.

Please answer the questions thinking about how you have been feeling most of the time over the last 7 days

Put a cross in the circle to indicate how strongly you agree or disagree with each statement below. Choose agree or strongly agree if you think the statement really applies to you and disagree or strongly disagree if the statement does not apply to you.

For example:

Strongly agree	Agree	Disagree	Strongly disagree
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

### How I feel about myself... (Egocentric Scale)

	Strongly agree	Agree	Disagree	Strongly disagree
1. I have a clear idea of who I am	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I feel in control of my actions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly			Strongly

## Cochrane Qualitative & Implementation Methods Group

Our focus is on methods and processes involved in the synthesis of qualitative evidence and the integration of qualitative evidence with Cochrane intervention reviews of effects. Our purpose is to advise Cochrane and its network

### Cochrane News

- ◆ Cochrane goes to the March for Science
- ◆ Cochrane Eyes and Visions seeks Methodologist - Baltimore, USA
- ◆ Cochrane Vascular seeks Information Specialist / Systematic Review Methodologist - Edinburgh, UK
- ◆ Launch of Cochrane Global Mental Health
- ◆ Featured Review: Psychosocial interventions to support



# Qualitative metasynthesis in Cochrane

- First qual. review in Cochrane published 2013  
Glenton, C., Colvin, C. J., Carlsen, B., Swartz, A., Lewin, S., Noyes, J., & Rashidian, A. (2013). Barriers and facilitators to the implementation of lay health worker programmes to improve access to maternal and child health: qualitative evidence synthesis. *Cochrane Database of Systematic Reviews*(10). doi:10.1002/14651858.CD010414.pub2
- All qual. reviews have to be associated with a quant review on effectiveness
- CQIMG Report 2015-2016: Cochrane published 6 reviews (+ 12 protocols)
- Guidelines added to Cochrane Handbook
- Developing methods for evaluation for certainty of findings: CerQual

## Conclusion

- Reviews of qualitative research have much to offer PRM, particularly:
  - Understanding participant/patient experiences
  - Explaining mechanisms of effect and reasons for variance
  - Evaluating hard-to-measure consequences of intervention
- Fairly new to Cochrane, but growing



## Other references of interest

Dixon-Woods et al. (2007). Appraising qualitative research for inclusion in systematic reviews: A quantitative and qualitative comparison of three methods. *Journal of Health services Research & Policy*, 12(1), 42-47.

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# Challenges

**For rehabilitation in development of best practice evidence and how to address them**

**Assoc. Professor William Levack PhD  
Rehabilitation Teaching & Research Unit**

**Trusted evidence.  
Informed decisions.  
Better health.**



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*“to put Cochrane evidence  
at the heart of health  
decision-making all over  
the world”*

Search...



- ◆ People
- ◆ Resources
  - ◆ Resources for Gro
  - ◆ Support from CET
  - ◆ Policies
  - ◆ Strategy to 2020
  - ◆ Dashboard

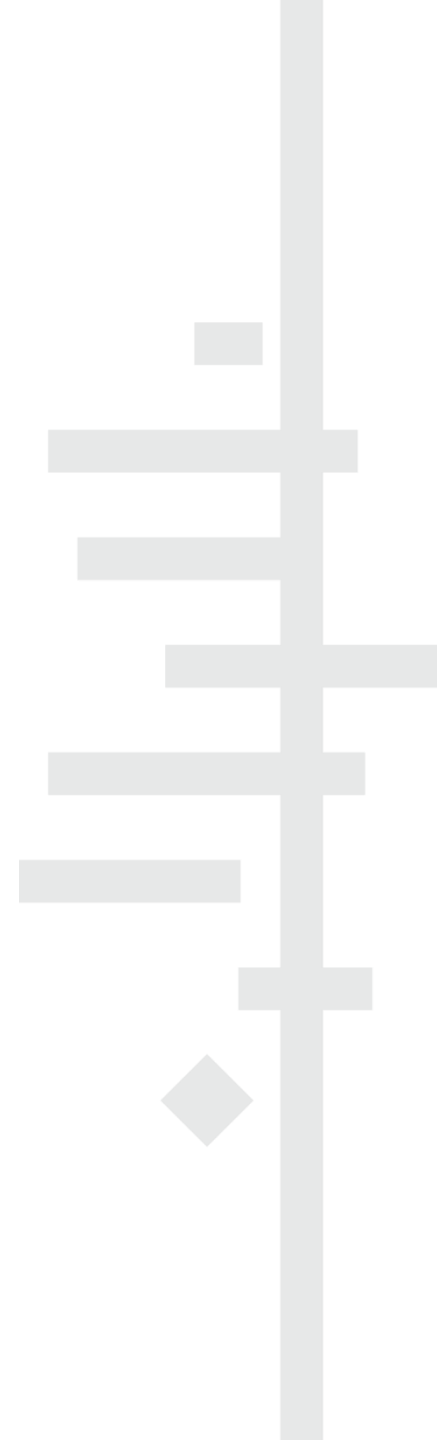
### Producing the evidence:

- Coverage is define by the needs of end users...
- ... continue to develop innovative methods for designing and conducting research evidence synthesis

# Cochrane Reviews on TBI interventions

Scoping of reviews (Feb 2017):

- 25 reviews and protocols
  - 13 exclusive to TBI (9 reviews; 4 protocol)
  - 12 mixed brain injury, incl. stroke (10 reviews; 2 protocol)
- 9/25 reviews or protocols over 5 years out of date
- Meta-analysis attempted in only 6 reviews (incl. only 2 TBI exclusive reviews)
- Majority concluded “insufficient evidence”



# GRADE the evidence

- Risk of bias (randomisation; group allocation; ITT; other)
- Directness of evidence
- Heterogeneity
- Precision of effect estimates
- Risk of publication bias





## Risk of bias

- Randomisation → Ethical and pragmatic problems of not delivering intervention
- Rehabilitation interventions usually require active involvement of patients and personnel → But blinding not possible
- Patient reported outcome measures important → But blinding not possible
- Incomplete out data → Problem with attrition in long term, community-based studies

# Heterogeneity & precision of effect estimates

- Rehabilitation trials often have high heterogeneity in terms of:
    - Patient population
    - Person-centred interventions
    - Health-care context
    - Socioeconomic context
    - ‘Quality’ of the therapist on effects of intervention
- ... All of which reduce precision of effect estimates



## Other barriers to RCTs in rehabilitation

- Most rehab interventions are complex (Craig et al., 2008)
  - Multiple interacting components
  - Behaviour challenge elements
  - Individualisation of interventions  
(i.e. the ‘black box’ of rehabilitation)



## Other barriers to RCTs in rehabilitation

- Most rehab interventions are complex (Craig et al., 2008)
  - ... requiring many multiple RCTs to investigate (\$\$\$ and time!)
  - ... problems with intervention fidelity
  - ... problems with selecting a comparison group
    - (no treatment; ‘usual care’; attention control?)



# Other barriers to RCTs in rehabilitation

- Sample sizes for less common conditions  
e.g. multiple sclerosis; motor neuron disease; severe TBI



# But... don't throw the baby out with the bathwater

Evidence-based  
rehabilitation

Rehabilitation professions

Cochrane

Things that are problematic  
for rehabilitation research



## So... where to from here?

What work needs to happen now to make Cochrane relevant to rehabilitation?



# Cochrane Rehabilitation Methodology Committee

Chair: Dr. Antti Malmivaara (Finland)

Co-Chair: Prof. Thorsten Meyer (Germany)







# Information gathering!

An international survey of prioritise and expertise:

<http://tinyurl.com/lfxd8w6>

**Contribute your ideas!**



## Proposed activities

- Review how Cochrane methods have been applied to rehab topics
  - How PICO has been applied
  - How risk of bias has been managed
  - How heterogeneity has been managed
- Collect and summarize publications on review methods for evidence based practice relevant to rehabilitation
- Investigate methods used in non-Cochrane reviews on rehabilitation topics

## Proposed activities

- Assess relevance of Cochrane reviews on rehab topics
- Investigate the relevance of Cochrane reviews and methods, incl. priorities of review questions to low or middle income countries
- Investigate and develop methods for critical appraisal & evidence synthesis involving non-RCT designs (e.g. single case series; bench-mark controlled trials)

## Contributions welcome!

- A lot to be done!
- Join Cochrane Rehabilitation mailing list: [cochrane.rehabilitation@gmail.com](mailto:cochrane.rehabilitation@gmail.com)
- Contribute to our current survey:

<http://tinyurl.com/lfxd8w6>

