Establishing confidence in qualitative evidence
The ConQual Approach
Objectives

• To review the JBI conceptualisation of what constitutes evidence for decision making
• To provide an overview of the JBI approach to Levels of Evidence (LoE) and Grades of Recommendation (GoR)
• To refresh your knowledge of the JBI approach to qualitative systematic review (Meta-aggregation)
• To overview the JBI approach to establishing confidence in the findings of qualitative systematic reviews (ConQual Approach)
• To practically apply the ConQual approach to qualitative systematic review findings
What is evidence?

What constitutes evidence to inform practice
JBI and Evidence
What is evidence?

• “the basis of belief; the substantiation or confirmation that is needed in order to believe that something is true” (Pearson et al 2005)

• In healthcare this relates not just to effectiveness, but to feasibility, appropriateness and meaningfulness (i.e. different questions require different research evidence to answer them)
FAME

• **Feasibility** (practicality or viability)
• ** Appropriateness** ("fit" with context or setting)
• **Meaningfulness** (patient/provider experience)
• **Effectiveness** (achieves the intended result)
Levels of Evidence and Grades of Recommendations
Is all evidence created equal?

• If not, how do we determine what “good” evidence is?
• How can we be confident that the evidence we are using is the “best”?
Current JBI Levels of Evidence

• Levels of evidence for:
  – Diagnosis

Levels of Evidence for Prognosis

Level 1 – Inception Cohort Studies
  Level 1.a – Systematic review of inception cohort studies
  Level 1.b – Inception cohort study

Level 2 – Studies of All or none
  Level 2.a – Systematic review of all or none studies
  Level 2.b – All or none studies

Level 3 – Cohort studies
  Level 3.a – Systematic review of cohort studies (or control arm of RCT)
  Level 3.b – Cohort study (or control arm of RCT)

Level 4 – Case series/Case Controlled/ Historically Controlled studies
  Level 4.a – Systematic review of Case series/Case Controlled/ Historically Controlled studies
  Level 4.b – Individual Case series/Case Controlled/ Historically Controlled study

Level 5 – Expert Opinion and Bench Research
  Level 5.a – Systematic review of expert opinion
  Level 5.b – Expert consensus
  Level 5.c – Bench research/ single expert opinion
Current JBI Levels of Evidence

• Levels of evidence for:
  – Diagnosis
  – Prognosis
Current JBI Levels of Evidence

• Levels of evidence for:
  – Diagnosis
  – Prognosis
  – Economic Evaluations

**Levels of Evidence for Economic Evaluations**

**Levels**

1. Decision model with assumptions and variables informed by systematic review and tailored to fit the decision making context.
2. Systematic review of economic evaluations conducted in a setting similar to the decision makers.
3. Synthesis/review of economic evaluations undertaken in a setting similar to that in which the decision is to be made and which are of high quality (comprehensive and credible measurement of costs and health outcomes, sufficient time period covered, discounting, and sensitivity testing).
4. Economic evaluation of high quality (comprehensive and credible measurement of costs and health outcomes, sufficient time period covered, discounting and sensitivity testing) and conducted in setting similar to the decision making context.
5. Synthesis/review of economic evaluations of moderate and/or poor quality (insufficient coverage of costs and health effects, no discounting, no sensitivity testing, time period covered insufficient).
6. Single economic evaluation of moderate or poor quality (see directly above level 5 description of studies).
7. Expert opinion on incremental cost effectiveness of intervention and comparator.
Current JBI Levels of Evidence

• Levels of evidence for:
  – Diagnosis
  – Prognosis
  – Economic Evaluations
  – Effectiveness
Current JBI Levels of Evidence for Meaningfulness

Levels of evidence for meaningfulness:

1. Qualitative or mixed methods systematic reviews
2. Qualitative or mixed methods synthesis
3. Single qualitative study
4. Systematic review of expert opinion
5. Expert opinion
Grades of Recommendation

• Grades of Recommendation are used to assist healthcare professionals when implementing evidence into practice.

• Recommendations assigned a grade...
# JBI Grades of recommendations

From 2004-2006 the following grades of recommendation were developed and used for the Best Practice series

<table>
<thead>
<tr>
<th>Grade of Recommendations</th>
<th>Feasibility F(1-4)</th>
<th>Appropriateness A(1-4)</th>
<th>Meaningfulness M(1-4)</th>
<th>Effectiveness E(1-4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Immediately practicable</td>
<td>Ethically acceptable and justifiable</td>
<td>Provides a strong rationale for practice change</td>
<td>Effectiveness established to a degree that merits application</td>
</tr>
<tr>
<td>B</td>
<td>Practicable with limited training and/or modest additional resources</td>
<td>Ethical acceptance is unclear</td>
<td>Provides a moderate rationale for practice change</td>
<td>Effectiveness established to a degree that suggests application</td>
</tr>
<tr>
<td>C</td>
<td>Practicable with significant additional training and/or resources</td>
<td>Conflicts to some extent with ethical principles</td>
<td>Provides limited rational for practice change</td>
<td>Effectiveness established to a degree that warrants consideration for applying the findings</td>
</tr>
<tr>
<td>D</td>
<td>Practicable with extensive additional training and/or resources</td>
<td>Conflicts considerably with ethical principles</td>
<td>Provides minimal rationale for advocating change</td>
<td>Effectiveness established to a limited degree</td>
</tr>
<tr>
<td>E</td>
<td>Impracticable</td>
<td>Ethically unacceptable</td>
<td>There is no rationale to support practice change</td>
<td>Effectiveness not established</td>
</tr>
</tbody>
</table>

During 2007 the following grades of recommendation were used by the Institute

<table>
<thead>
<tr>
<th>Grade of Recommendations</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Strong support that merits application</td>
</tr>
<tr>
<td>B</td>
<td>Moderate support that warrants consideration of application</td>
</tr>
<tr>
<td>C</td>
<td>Not supported</td>
</tr>
</tbody>
</table>
Group Discussion

• What questions might these GoR leave unresolved?
Group Discussion - Answers

• What questions might these GoR leave unresolved?
  – Quality of the primary research
  – Strength of primary research findings
  – Level of confidence in primary research findings
  – Degree to which primary research findings represent the participants voices
  – Degree to which the primary research findings are congruent with each other
Current JBI GoR

- JBI and collaborating entities currently assign a Grade of Recommendation to all recommendations made in its resources.
- These Grades are intended to be used alongside the supporting document outlining their use.

<table>
<thead>
<tr>
<th>JBI Grades of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade A</strong></td>
</tr>
<tr>
<td>A &quot;strong&quot; recommendation for a certain health management strategy where:</td>
</tr>
<tr>
<td>1. It is clear that desirable effects outweigh undesirable effects of the strategy;</td>
</tr>
<tr>
<td>2. Where there is evidence of adequate quality supporting its use;</td>
</tr>
<tr>
<td>3. There is a benefit or no impact on resource use, and</td>
</tr>
<tr>
<td>4. Values, preferences and the patient experience have been taken into account.</td>
</tr>
</tbody>
</table>

| **Grade B**                  |
| A "weak" recommendation for a certain health management strategy where: |
| 1. Desirable effects appear to outweigh undesirable effects of the strategy, although this is not as clear; |
| 2. Where there is evidence supporting its use, although this may not be of high quality; |
| 3. There is a benefit, no impact or minimal impact on resource use, and |
| 4. Values, preferences and the patient experience may or may not have been taken into account. |
Advice

New JBI Grades of Recommendation

Developed by the Joanna Briggs Institute Levels of Evidence and Grades of Recommendation Working Party October 2013

<table>
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<th>JBI Grades of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade A</td>
</tr>
<tr>
<td>A “strong” recommendation for a certain health management strategy where (1) it is clear that desirable effects outweigh undesirable effects of the strategy, (2) where there is evidence of adequate quality supporting its use, (3) there is a benefit or no impact on resource use, and (4) values, preferences and the patient experience have been taken into account.</td>
</tr>
<tr>
<td>Grade B</td>
</tr>
<tr>
<td>A “weak” recommendation for a certain health management strategy where (1) desirable effects appear to outweigh undesirable effects of the strategy, although this is not as clear; (2) where there is evidence supporting its use, although this may not be of high quality; (3) there is a benefit, no impact or minimal impact on resource use, and (4) values, preferences and the patient experience may or may not have been taken into account.</td>
</tr>
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The FAME (Feasibility, Appropriateness, Meaningfulness and Effectiveness) scale may help inform the wording and strength of a recommendation.

F – Feasibility; specifically:
- What is the cost effectiveness of the practice?
- Is the resource/practice available?
- Is there sufficient experience/levels of competency available?

A – Appropriateness; specifically:
- Is it culturally acceptable?
- Is it transferable/applicable to the majority of the population?
- Is it easily adaptable to a variety of circumstances?

M – Meaningfulness; specifically:
- Is it associated with positive experiences?
- Is it not associated with negative experiences?

E – Effectiveness; specifically:
- Was there a beneficial effect?
- Is it safe? (i.e. is there a lack of harm associated with the practice?)
Implications for HDR

• All systematic reviews must have recommendations for practice with a GRADE assigned in their systematic reviews
Systematic Review of Qualitative Evidence

Knowledge refresher of the JBI Approach: Meta-aggregation
JBI and Qualitative Evidence

Systematic review of qualitative evidence important:

• To generate evidence for practice in a systematic, transparent and robust way
• To provide recommendations for policy or practice arising from review findings
JBI and Qualitative Evidence

• The JBI approach = *Meta-aggregation*

• Meta-aggregation focuses on study *findings* not study *data*
  – This means differing methodologies (e.g. phenomenology, ethnography or grounded theory), using different methods, can be mixed in a single synthesis of qualitative studies as long as they focus on the same phenomena of interest
Meta-aggregation

• Aim of meta-aggregation:
  – is to assemble findings
  – categorize these findings into groups on the basis of similarity in meaning
  – aggregate these to generate a set of statements that adequately represent that aggregation
Defining Findings

• A finding is a **verbatim extract** of the authors analytic interpretation accompanied by either a participant voice, or fieldwork observations or other data.

• Illustration:
  – Direct quotation of participant voice, field-work observations *or other supporting data*
A forever healing process

Venous ulcer healing extends over lengthy periods. In the larger sample of 54 patients, for the 38 ulcers that healed, the mean healing time was 31.37 weeks, and more than half of the patients were experiencing their second, third, or fourth ulcer. When asked about their first leg ulcer experience, many patients could not even remember their first ulcer experience. “It’s been so long.” The constant prevalence of the ulcer was referred to as an important aspect of living with the condition. “It’s like having something that you cannot get rid of. It seems like it to me. It’s like...In fact, I wonder if it will ever heal.” Another man living with the condition for years said, “It’s like a forever healing process, not getting better, not getting worse.”

From: Chase et al 1997
Assigning a level of credibility to findings

• **Unequivocal** - findings accompanied by an illustration that is beyond reasonable doubt and therefore not open to challenge

• **Credible** - findings accompanied by an illustration lacking clear association with it and therefore open to challenge

• **Not supported** - when 1 nor 2 apply and when most notably findings are not supported by the data. Should not be included in synthesis to inform practice
Defining Categories

• Categorization involves repeated, detailed examination of the assembled findings
• The reviewer identifies groups of findings on the basis of similarity in meaning to create categories
  – an explanatory statement is created by the reviewer to assist interpretation and understanding of the context, promoting auditability
Defining synthesized findings

• In meta-aggregation a synthesized finding is an overarching description of a group of categorized findings that allow for the generation of recommendations for practice.

• Synthesized findings are expressed as ‘indicatory’ statements that can be used to generate recommendations for policy or practice.
Confidence in the evidence

Confidence is ‘defined as the belief, or trust, that a person can place in the results of the research’

Considering that our Synthesised Findings are statements that should assist in informing practice / decision making:

• How confident are we that the quality of evidence supports a particular decision or recommendation?
What increases or decrease our confidence in the results of a SR?

- Quantitative
- Qualitative
What increases or decrease our confidence in the results?

- **Quantitative**
  - Study design
  - Risk of bias
  - Indirectness
  - Heterogeneity
  - Imprecision
  - Publication bias
  - Effect size
  - Plausible bias
  - Dose response effect

- **Qualitative**
What influences our confidence in the results of a SR?

- **Quantitative**
  - Study design
  - Risk of bias
  - Indirectness
  - Heterogeneity
  - Imprecision
  - Publication bias
  - Effect size
  - Plausible bias
  - Dose response effect

- **Qualitative**
  - Type of research
  - Dependability
  - Credibility
Analogous criteria for paradigmatic assumptions

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>Dependability</td>
</tr>
<tr>
<td>Internal Validity</td>
<td>Credibility</td>
</tr>
<tr>
<td>External Validity</td>
<td>Transferability</td>
</tr>
</tbody>
</table>
Dependability [Reliability]

• Appropriateness of methodology, methods and implementation of the research methods, regardless of paradigm

• The focus of dependability is on achieving consistent quality rather than repeatability

• Should be logical, traceable and clearly documented
Credibility [Internal validity]

- Credibility addresses whether a finding has been represented correctly
  - Assessment of credibility is multi-dimensional, including goodness of fit and representativeness
  - Credibility is auditable - the process may be based upon researcher confirmation, member checks, peer checks, second researcher analysis, or observation
Transferability [External validity]

• Findings are not generalizable in the quantitative sense of the word
  
  – generalization is “narrowly conceived in terms of sampling and statistical significance.”
  
  – “qualitative research is directed toward naturalistic or idiographic generalizations, or the kind of generalizations made about particulars”
  
  – Schofield (1990) describe qualitative metasynthesis as “cross-case generalizations created from the generalizations made from, and about, individual cases.”

Sandelowski et al (1997)
ConQual Approach
Establishing confidence in the output of qualitative research synthesis: the ConQual approach

Zachary Munn*, Kylie Porritt, Craig Lockwood, Edoardo Aromataris and Alan Pearson
The ConQual Approach

- Rankings of confidence can be:
  - High
  - Moderate
  - Low
  - Very Low

- All findings start off as ‘high’

- System allows synthesized findings to be downgraded based on the dependability and credibility of individual findings
The ConQual Approach: Dependability

Measurement
Measured by asking the following questions:

1. Is there congruity between the research methodology and the research question or objectives?
2. Is there congruity between the research methodology and the methods used to collect data?
3. Is there congruity between the research methodology and the representation and analysis of data?
4. Is there a statement locating the researcher culturally or theoretically?
5. Is the influence of the researcher on the research, and vice-versa, addressed?

Ranking system:
- 4 – 5 'yes' responses: the finding remains unchanged
- 2 – 3 'yes' responses: move down 1 level
- 0 – 1 'yes' responses: move down 2 levels
The ConQual Approach: Credibility

**Measurement**

Assign a level of credibility to the findings:

- **Unequivocal** (findings accompanied by an illustration that is beyond reasonable doubt and; therefore not open to challenge)

- **Credible** (findings accompanied by an illustration lacking clear association with it and therefore open to challenge)

- **Unsupported** (findings are not supported by the data, or with no illustration)

**Ranking**

- The synthesized findings contains only unequivocal findings
  - **No change**

- Mix of unequivocal/credible findings
  - **Downgrade one level (-1)**

- All credible findings
  - **Downgrade two levels (-2)**

- Mix of credible/unsupported findings
  - **Downgrade three levels (-3)**

- Unsupported findings
  - **Downgrade four levels (-4)**
Summary of Findings table

• Includes:
  • Context
  • Synthesized Findings
  • Type of research
  • Dependability Score
  • Credibility Score
  • ConQual Score
  • Reasons behind decisions
Qualitative SoF Table

<table>
<thead>
<tr>
<th>Systematic review title:</th>
<th>Population:</th>
<th>Phenomena of interest:</th>
<th>Context:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Synthesised Finding</th>
<th>Type of research</th>
<th>Dependability</th>
<th>Credibility</th>
<th>ConQual*</th>
<th>Comments</th>
</tr>
</thead>
</table>
Qualitative SoF Table

**Systematic review title:** A comprehensive systematic review on the experience of lateral/horizontal violence in the profession of nursing

**Population:** Licenced and Student Nurses in any setting

**Phenomena of interest:** The experience of LV/HV in the profession of nursing

**Context:** Nurses in any practice setting

<table>
<thead>
<tr>
<th>Synthesised Finding</th>
<th>Type of research</th>
<th>Dependability</th>
<th>Credibility</th>
<th>ConQual*</th>
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<tbody>
<tr>
<td>There is a wide array of coping behaviors that are employed, either successfully or unsuccessfully, by victims of lateral/horizontal violence. In more cases than not, people just coped the best way they could.</td>
<td>Qualitative</td>
<td>(HIGH)</td>
<td>(MODERATE)</td>
<td>(LOW)</td>
<td>LOW</td>
</tr>
</tbody>
</table>
JBI Reviews

> It is recommended that all JBI systematic reviews of qualitative evidence include a summary of findings table. These should appear following the executive summary in JBI systematic reviews in the appropriate format.
Activity

Determining the ConQual Score
The influence of workplace culture on nurses’ learning experiences: a systematic review of qualitative evidence

Kate Davis · Sarah Louise White · Matthew Stephenson
Joanna Briggs Institute, Faculty of Health Sciences, University of Adelaide, Adelaide, Australia

EXECUTIVE SUMMARY

Background
A healthy workplace culture enables nurses to experience valuable learning in the workplace. Learning in the workplace enables the provision of evidence-based and continuously improving safe patient care, which is central to achieving good patient outcomes. Therefore, nurses need to learn within a workplace that supports the implementation of evidence-based, professional practice and enables the best patient outcomes; the influence of workplace culture may play a role in this.

Objectives
The purpose of this review was to critically appraise and synthesize the best available qualitative evidence to understand both the nurses’ learning experiences within the workplace and the factors within the workplace culture that influence those learning experiences.

Inclusion criteria
Types of participants
Registered and enrolled nurses regulated by a nursing and midwifery board and/or recognized health practitioner regulation agency (or their international equivalent).

Phenomena of interest
This review considered studies that described two phenomena of interest: the nurses’ learning experience, either within an acute healthcare workplace or a workplace-related learning environment and the influence of workplace culture on the nurses’ learning experience (within the workplace or workplace-related learning environment).

Context
This review considered studies that included nurses working in an acute healthcare organization within a Western culture.

Types of studies
This review considered studies that focused on qualitative evidence and included the following research designs: phenomenological, grounded theory and critical theory.

Search strategy
Published and unpublished studies in English from 1980 to 2013 were identified using a three-step search strategy, searching various databases, and included hand searching of the reference lists within articles selected for appraisal.

Methodological quality
For studies meeting the inclusion criteria, methodological quality was assessed using a standardized checklist from the Joanna Briggs Institute Qualitative Assessment and Review Instrument (JB-QARI).

Data extraction
Qualitative data were extracted from articles included in the review using the standardized data extraction tool from the JB-QARI.

Data synthesis
Qualitative research findings were pooled using the Joanna Briggs Institute Qualitative Appraisal and Review Instrument (JB-QARI). This involved the aggregation and synthesis of findings to generate a set of categories, which were then subjected to a meta-synthesis to produce a single comprehensive set of synthesized findings that could be used as a basis for evidence-based practice.
## Synthesised Finding 1

<table>
<thead>
<tr>
<th>Type of Research</th>
<th>Dependibility</th>
<th>Credibility</th>
<th>CONQUAL Score</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational influences</strong>&lt;br&gt;Enabling nurses to demonstrate accountability for their own learning, along with clear organizational systems that provide resources, time, adequate staffing and support, demonstrates encouragement for and the value of nurses learning and education.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Synthesised Finding 2

<table>
<thead>
<tr>
<th>Type of Research</th>
<th>Dependibility</th>
<th>Credibility</th>
<th>CONQUAL Score</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relational dynamics</strong>&lt;br&gt;Nurses value their peers, expert nurses, preceptors, mentors and educators facilitating and encouraging their learning and professional development.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Summary of findings

**Systematic review title:** The influence of workplace culture on nurses’ learning experiences: a systematic review of the qualitative evidence  
**Participants:** Registered and enrolled nurses regulated by a nursing and midwifery board and/or recognized health practitioner regulation agency (or their international equivalent)  
**Phenomena of interest:** The nurses’ learning experience, either within an acute healthcare workplace or a workplace-related learning environment and the influence of workplace culture on the nurses’ learning experience (within the workplace or workplace-related learning environment)  
**Context:** Nurses working in an acute health care organization within a Western culture

<table>
<thead>
<tr>
<th>Synthesized finding</th>
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<th>Dependability</th>
<th>Credibility</th>
<th>ConQual score</th>
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</tr>
</thead>
</table>
| **Organizational influences**  
Enabling nurses to demonstrate accountability for their own learning, along with clear organizational systems that provide resources, time, adequate staffing and support, demonstrates encouragement for and the value of nurses learning and education. | Qualitative | High | Down-grade one level* | Moderate | +Downgraded one level due to mix of unequivocal (U) and credible (C) findings  
46U + 12C |

(Continued)

<table>
<thead>
<tr>
<th>Synthesized finding</th>
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| **Relational dynamics**  
Nurses value their peers, expert nurses, preceptors, mentors and educators facilitating and encouraging their learning and professional development. | Qualitative | High | Down-grade one level* | Moderate | *Downgraded one level due to mix of unequivocal (U) and credible (C) findings  
39U + 8C |
Summary

The main reasons for continuing with a Levels of Evidence system are as follows:

- To assist in assigning a pre-rankings to studies when conducting systematic reviews.
- For resources such as evidence summaries which require a rapid review and classification of literature (for example, the Levels of Evidence can provide information on the most appropriate study design to search for when asking a clinical question).
- For educational purposes for health professionals.
Summary

• GoR are helpful, but arguably are the equivalent of surrogate outcome measures – they tell part of the story, not the full story
Summary

• Establish confidence in the findings of qualitative evidence
  – Study Design
  – Dependability
  – Credibility
Useful tips to remember

• Clearly document and record your process
• Clearly record the studies that inform the synthesised finding
  – This makes it easier to rank Dependibility
• Clearly record the credibility ranking for each of the findings that inform the synthesised finding
  – This makes it easier to rank Credibility