Lecture 5 – How to integrate by comparison

ESI Mixed methods evidence synthesis

25th and 26th September Galway Bay Hotel

Comparing and linking

- **Purpose:** To compare varied facets of the same complex phenomenon, identifying similarities and discordances

- **Question:** Separate question(s) for QES, quantitative synthesis and mixed-method synthesis

- **Assumptions:** The different natures of qualitative and quantitative evidence mean that they should often be synthesized separately – but that the findings of one type of evidence can be combined with the findings of the other.

- **Strategy:** To juxtapose findings from QES and quantitative / effectiveness synthesis to offer insight about how findings may be interpreted.

What to compare and how?

	If your aim is …	What to compare	Comparison tool
1	To illustrate extent of evidence supporting QES themes / gaps in evidence.	QES themes *compared with* **quant findings**	Matrix
2	To illustrate extent to which interventions reflect needs / preferences identified in QES.	QES themes *compared with* **Individual interventions**	Matrix
3	To illustrate whether effectiveness evidence supports overarching QES theory.	QES theory compared with **quant findings**	Annotated logic model
4	To illustrate (explain?) how results of QES and effectiveness synthesis are discordant	QES themes *compared with* **quant findings**	Line of argument

Example 1 - QES themes compared with Quant findings (matrix)

- **Review:** Houghton et al (2020) Factors that impact on **recruitment to randomised trials** in health care: a qualitative evidence synthesis

- **Review objectives:** To explore potential trial participants' views and experiences of the recruitment process for participation […] and to what extent barriers and facilitators identified are addressed by strategies to improve recruitment evaluated in previous reviews.

- **Integration methods:** QES findings integrated with two previous intervention effects reviews (Gardner et al 2020; Treweek et al 2018) by juxtaposing quantitative and qualitative findings in a matrix.

- **Value of integration:** QES enabled development of key questions that trialists can ask when developing recruitment strategies. Matching these to the identified evidence and gaps from effectiveness reviews.

Example 1. QES themes compared with Quant findings

Juxtaposing the findings in a matrix

Summary of qualitative findings	Implications for trialists	Treweek effectiveness Review	Gardner effectiveness Review
TRIAL INFLUENCES ON THE DECISION TO PARTICIPATE			
Communication of trial information			
Finding 1: Trial information delivered verbally during face-to-face contact can be less confusing than written trial information.	*Will trial information be delivered verbally with face-to-face contact?*	[D2] Researcher reading out the consent details (GRADE: very low).	
Finding 2: Written trial information may be beneficial as an adjunct to verbal information and facilitates time and space for reflection without the added influence of recruiters' presence.	*Will written information be offered as a supplement to / in addition to verbal information?*	[C3] Giving quotes from previous participants in SMS messages (GRADE: moderate). [D3] Easy to read consent form (no GRADE*).	
Finding 3: The person delivering trial information should have good communication skills, be approachable, trustworthy, person-centred and	*Is the person delivering the trial information approachable, trustworthy, participant-centred and knowledgeable with a good*	E18] Trained recruiters from a similar ethnic background to study population already taking part in a trial as lay	

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Example 2. QES themes compared with interventions (matrix)

- **Review:** Bohren et al (2019) Perceptions and **experiences of labour companionship**: a qualitative evidence synthesis

- **Review objectives:** To explore perceptions of women, partners, community members, healthcare providers and administrators, and other key stakeholders regarding labour companionship […] to explore how the findings of this review can enhance understanding of the related Cochrane systematic review of interventions

- **Integration methods:** A matrix compared features of labour companionship identified as important in the QES with features of interventions in effectiveness review.

- **Value of integration:** Summary of how the QES findings are reflected in content of the interventions – i.e. do interventions address needs?

Example 2. QES themes compared with individual interventions

Matrix model applying key findings from the qualitative synthesis to studies included in the Cochrane

Main takeaway from integration: most interventions *did not* include the key features of labour companionship that were identified in the qualitative evidence synthesis

Factors identified from QES:

1. Providers trained on benefits of labour companionship?
2. Women educated about benefits of labour companionship?
3. Labour ward structured or restructured in a way to ensure privacy?
4. Providers trained to integrate companions into care team?
5. Clear roles and expectations set for companions and providers?
6. For trials with lay companions, was training for companions on how to support women integrated into antenatal care?
7. Did the woman choose her own companion?

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Example 3. QES theory compared with Quant findings (logic model)

- **Review:** Murray et al (2019) The impact of <u>care farms*</u> on quality of life, depression and anxiety among different population groups: A systematic review (*care farm = therapeutic use of agricultural and farming practices)

- **Review objectives:** To systematically review the available evidence of the effects of care farms on quality of life, health and social well-being on service users [...] *to understand the mechanisms of change for different population groups*.

- **Integration methods:** Logic models depicting care farming components, mechanisms and proximal outcomes were developed from QES. Effectiveness evidence mapped onto both proximal and endpoint health outcomes (anxiety, depression and health-related quality of life) to identify whether supported by the evidence base.

- **Value of integration:** Communicates the complexity of the intervention theory juxtaposed against the nature, extent and direction of effectiveness evidence.

Example 3. QES theory compared with Quant findings

Logic model for combined mental ill health and substance misuse group. a, Mechanisms that were most frequently found and with greatest spread across studies. Grey and black symbols show quantitative evidence for which – means no significant difference and + means significant difference; grey represents RCT evidence; two symbols beside each other show different time points within the same study; and shaded process outcomes equate to evidence from qualitative literature. t, theory based.
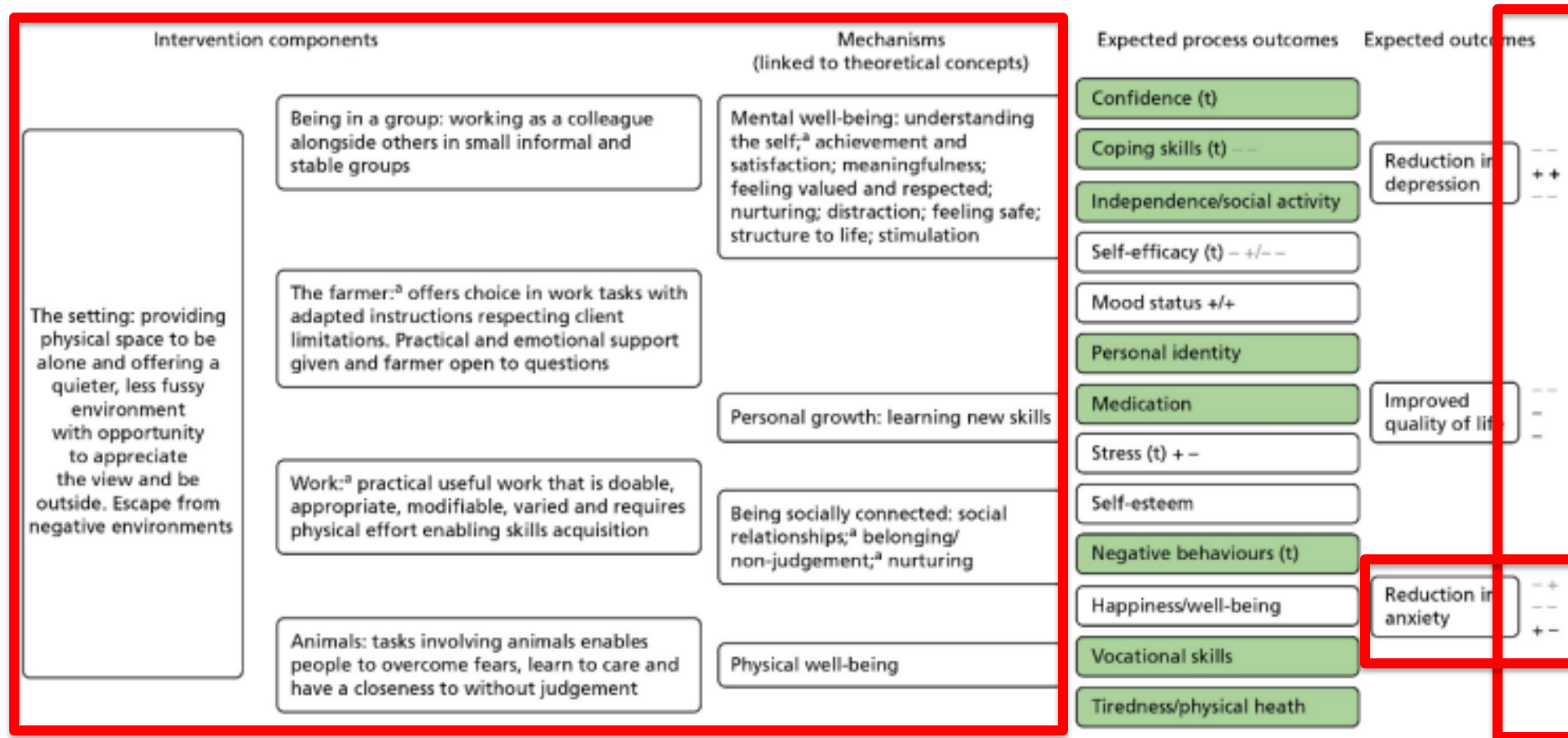
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- **Integration methods:** Logic models depicting care farming components, mechanisms and proximal outcomes were developed from QES. Effectiveness evidence mapped onto both proximal and endpoint health outcomes (anxiety, depression and health-related quality of life) to identify whether supported by the evidence base.

- **Aim of integration**: To understand and illustrate whether effectiveness evidence supports overarching QES theory.

- **Value of integration:** Communicates the complexity of the intervention theory juxtaposed against the nature, extent and direction of effectiveness evidence.

Example 4. QES themes compared with Quant findings (line of argument)

- **Review:** Lester et al (2019) What helps to support people affected by **Adverse Childhood Experiences (ACEs)**? A review of evidence

- **Review objectives:** To gather, assess and present evidence on what helps to mitigate harmful impacts of ACEs through a review of reviews on effectiveness of interventions for people affected by ACEs, a QES on the experiences and service needs and a stakeholder consultation with young people with lived experiences of ACEs in the UK.

- **Integration methods:** A narrative line-of-argument was used to illustrate key areas of discord between the types of interventions examined in systematic reviews and the findings of the QES and stakeholder consultation.

- **Value of integration:** Exposed fundamental disconnect between types of interventions examined in systematic reviews and people's needs as revealed in the QES and consultation findings.

Example 4. QES themes compared with Quant findings

- Key findings from integration: When comparing evidence three areas of discordance identified:
  - First, importance of day-to-day practical and emotional support underpinned by relationships with a trusted adult (or mentor/ peer(s)) was **consistently highlighted in QES**. By **contrast**, the evidence relating to interventions focused on individualised 'crisis point' approaches. In the short term, these psychological interventions did improve mental health but failed to address the multifaceted and ongoing needs identified by young people in the QES and the stakeholder work.
  - Second, whilst QES highlighted that young people valued consistency and stability, many interventions evaluated in systematic reviews were short-term in nature and so were unable to address this need.
  - Third, whilst QES revealed that children and young people felt the attributes of supportive adults were more important for providing effective support than their professional role, the interventions evaluated in the systematic reviews tended to be delivered by staff otherwise unknown to the young person in community or clinical settings.

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Comparison recap

- **Purpose:** To compare varied facets of the same complex phenomenon, identifying similarities and discordances(iceberg!)

- **Strategy:** To juxtapose findings from QES and quantitative / effectiveness synthesis to offer insight about how findings may be interpreted.

- **What to compare:**
  1. QES findings with effectiveness synthesis findings (recruitment to trials)
  2. QES findings with individual interventions (labour companions)
  3. QES theory with effectiveness synthesis findings (care farms)
  4. QES findings with effectiveness synthesis findings (ACEs)

Which approach?

Approach	Useful when …	Strengths	Limitations
1. Compare: synthesis matrix (trial recruitment)	QES aims to understand existing quant synthesis	Understand extent of evidence supporting QES	Synergies between QES and interventions unclear
2. Compare: interventions matrix (labour companions)	Seeking detail about interventions*	Offers finer grained detail re interventions*	Depends on detailed intervention descriptions
2. Compare: annotated logic model (care farms)	Seeking to understand theory / mechanisms	Offers explanations of how interventions might work	Challenging to link evidence to mechanisms
4. Compare: line of argument (ACEs)	Synthesis findings do not "speak to each other"	Conceptual enlightenment / reveals research gaps	Lacks detail / limited use in decision-making

* Also when using QES to drive quantitative synthesis (next presentation)

Other considerations (recap)

- Selection of approach needs to balance aims / purpose vs which is most suited to available evidence

- What is possible / preferable may not be known at outset – need to tailor approach to evidence at hand

- Goal is to make most of having diverse evidence types

- These are examples seen in literature so far – MMSR is inherently creative – what else is possible?

Activity 5 – trying out integration by comparison

ESI Mixed methods evidence synthesis

25th and 26th September
Galway Bay Hotel

Activity: Trying out integration by comparison

Aim: Using a matrix your aim is to compare QES themes / implications for interventions with individual interventions from a mixed-methods review on "interventions to increase uptake of flu vaccination among healthcare workers".

Instructions:

a) Take ONE PAIR of intervention descriptions (Pair 1: Babcock and Awali; Pair 2: Smith and Ksienski).

b) Read the intervention descriptions for your pair and consider for each intervention whether they match each of the key implications for interventions identified as important by the QES / ICA.

c) Complete the table for your pair of interventions. Each row represents a single intervention. Each column represents a key feature.