

Further reading: ESI Mixed Method Evidence Synthesis Course

The following papers may be useful to you in proceeding with an MMSR – they are roughly grouped according to their focus but there is some overlap.

Key resources

Sutcliffe K, Harden A, Noyes J, Thomas J, Garside R. Chapter 14. Integrating qualitative and quantitative review evidence. Draft version (February 2024) for inclusion in: Noyes J, Harden A, editor(s). Cochrane-Campbell Handbook for Qualitative Evidence Synthesis, Version 1. London: Cochrane - [geschapter14intv0190224 \(cochrane.org\)](https://doi.org/10.1002/jrsm.1437)

HONG, Q. N., REES, R., SUTCLIFFE, K. & THOMAS, J. 2020. Variations of mixed methods reviews approaches: A case study. *Research Synthesis Methods*, 11, 795-811. <https://doi.org/10.1002/jrsm.1437>

Thomas, James; (2024) Methods development in evidence synthesis: a dialogue between science and society. In: Oancea, Alis and Derrick, Gemma E and Nuseibeh, Nuzha and Xu, Xin, (eds.) Handbook of Meta-Research. (pp. 146-158). Edward Elgar Publishing. URL: <https://www.elgaronline.com/downloadpdf/edcollchap-oa/book/9781839105722/book-part-9781839105722-20.pdf>

Intro to / rationale for mixed method evidence synthesis

FERGUSON, S. L., KERRIGAN, M. R. & HOVEY, K. A. 2020. Leveraging the opportunities of mixed methods in research synthesis: Key decisions in systematic mixed studies review methodology. *Res Synth Methods*, 11, 580-593.

HARDEN, A. 2010. *Mixed-Methods Systematic Reviews: Integrating Quantitative and Qualitative Findings* [Online]. Available: https://ktdrr.org/ktdrr/articles_pubs/ncddrwork/focus/focus25/Focus25.pdf [Accessed].

HARDEN, A. & THOMAS, J. 2005. Methodological issues in combining diverse study types in systematic reviews. *International Journal of Social Research Methodology*, 8, 257-271.

SUTCLIFFE, K., MELENDEZ-TORRES, G. J., BURCHETT, H. E. D., RICHARDSON, M., REES, R. & THOMAS, J. 2018. The importance of service-users' perspectives: A systematic review of qualitative evidence reveals overlooked critical features of weight management programmes. *Health Expectations*, 21, 563-573.

THOMAS, J., HARDEN, A., OAKLEY, A., OLIVER, S., SUTCLIFFE, K., REES, R., BRUNTON, G. & KAVANAGH, J. 2004. Integrating qualitative research with trials in systematic reviews: an example from public health. *British Medical Journal*, 328, 1010-1012.

Mixed evidence synthesis high-level typologies

HONG, Q. N., PLUYE, P., BUJOLD, M. & WASSEF, M. 2017. Convergent and sequential synthesis designs: implications for conducting and reporting systematic reviews of qualitative and quantitative evidence. *Systematic Reviews*, 6, 61.

PLUYE, P. & HONG, Q. N. 2014. Combining the Power of Stories and the Power of Numbers: Mixed Methods Research and Mixed Studies Reviews. *Annual Review of Public Health*, 35, 29-45.

SANDELOWSKI, M., VOILS, C. I. & BARROSO, J. 2006. Defining and Designing Mixed Research Synthesis Studies. *Research in the schools : a nationally refereed journal sponsored by the Mid-South Educational Research Association and the University of Alabama*, 13, 29-29.

Integration approaches

HARDEN, A., THOMAS, J., CARGO, M., HARRIS, J., PANTOJA, T., FLEMMING, K., BOOTH, A., GARSIDE, R., HANNES, K. & NOYES, J. 2018. Cochrane Qualitative and Implementation Methods Group guidance series-paper 5: methods for integrating qualitative and implementation evidence within intervention effectiveness reviews. *J Clin Epidemiol*, 97, 70-78.

NOYES, J., BOOTH, A., MOORE, G., FLEMMING, K., TUNÇALP, Ö. & SHAKIBAZADEH, E. 2019. Synthesising quantitative and qualitative evidence to inform guidelines on complex interventions: clarifying the purposes, designs and outlining some methods. *BMJ Global Health*, 4, e000893.

SUTCLIFFE, K., HARDEN, A., NOYES, J., THOMAS, J. & GARSIDE, R. 2024. Chapter 14 Integrating qualitative and quantitative evidence. In: NOYES, J. & HARDEN, A. (eds.) Cochrane and Campbell Handbook for Qualitative Evidence Synthesis. Cochrane. <https://training.cochrane.org/cochrane-campbell-handbook-qualitative-evidence-synthesis>

SUTCLIFFE, K., THOMAS, J., STOKES, G., HINDS, K. & BANGPAN, M. 2015. Intervention Component Analysis (ICA): a pragmatic approach for identifying the critical features of complex interventions. *Systematic Reviews*, 4, 140.

Intervention and contextual complexity

GUISE, J.-M., BUTLER, M., CHANG, C., VISWANATHAN, M., PIGOTT, T. & TUGWELL, P. 2017. AHRQ series on complex intervention systematic reviews—paper 7: PRISMA-CI elaboration and explanation. *Journal of Clinical Epidemiology*, 90, 51-58.

NOYES, J., GOUGH, D., LEWIN, S., MAYHEW, A., MICHIE, S., PANTOJA, T., PETTICREW, M., POTTIE, K., REHFUESS, E., SHEMILT, I., SHEPPERD, S., SOWDEN, A., TUGWELL, P. & WELCH, V. 2013. A research and development agenda for systematic reviews that ask complex questions about complex interventions. *J Clin Epidemiol*, 66, 1262-70.

PETTICREW, M. 2015. Time to rethink the systematic review catechism? Moving from 'what works' to 'what happens'. *Systematic Reviews*, 4, 36.

PFADENHAUER, L. 2021. 'Conceptualizing Context and Intervention as a System in Implementation Science: Learning From Complexity Theory; Comment on "Stakeholder Perspectives of Attributes and Features of Context Relevant to Knowledge Translation in Health Settings: A Multi-country Analysis"', *International Journal of Health Policy and Management*, (), pp. -. doi: 10.34172/ijhpm.2021.147

Qualitative Evidence Synthesis Methods

BARNETT-PAGE, E. & THOMAS, J. 2009. Methods for the synthesis of qualitative research: a critical review. *BMC Medical Research Methodology*, 9, 59.

BRITTEN, N., CAMPBELL, R., POPE, C., DONOVAN, J., MORGAN, M. & PILL, R. 2002. Using meta ethnography to synthesise qualitative research: a worked example. *J Health Serv Res Policy*, 7, 209-15.

SUTCLIFFE, K., KNEALE, D., CHANDLER, J., & THOMAS, J. 2024. Chapter 18. Using qualitative comparative analysis (QCA) to understand intervention complexity. Draft version (August 2023). In J. Noyes, & A. Harden (Eds.), *Cochrane-Campbell Handbook for Qualitative Evidence Synthesis*. London: Cochrane. <https://training.cochrane.org/cochrane-campbell-handbook-qualitative-evidence-synthesis>

THOMAS, J. & HARDEN, A. 2008. Methods for the thematic synthesis of qualitative research in systematic reviews. ERSC National Centre for Research Methods.

Practical experience of conducting mixed method evidence synthesis

THOMPSON COON, J., GWERNAN-JONES, R., GARSIDE, R., NUNNS, M., SHAW, L., MELENDEZ-TORRES, G. J. & MOORE, D. 2020. Developing methods for the overarching synthesis of quantitative and qualitative evidence: The interweave synthesis approach. *Research Synthesis Methods*, 11, 507-521.

Examples of assimilation technique

GREENHALGH, J., GOODING, K., GIBBONS, E., DALKIN, S., WRIGHT, J., VALDERAS, J. & BLACK, N. 2018. How do patient reported outcome measures (PROMs) support clinician-patient communication and patient care? A realist synthesis. *J Patient Rep Outcomes*, 2, 42. (Note: An example of a realist synthesis where all evidence, regardless of design, is synthesised together).

VAN GROOTEL, L., BALACHANDRAN NAIR, L., KLUGKIST, I. & VAN WESEL, F. 2020. Quantitizing findings from qualitative studies for integration in mixed methods reviewing. *Res Synth Methods*, 11, 413-425. (Note: An example of where qualitative evidence is transformed into quantitative evidence (quantitizing) so that the evidence can be merged with quantitative evidence.)

Examples of comparative technique

Houghton C, Dowling M, Meskell P, Hunter A, Gardner H, Conway A, et al. Factors that impact on recruitment to randomised trials in health care: a qualitative evidence synthesis. *Cochrane Database of Systematic Reviews*. 2020(10). (Note: This review is badged as a qualitative evidence synthesis – but they provide a nice matrix where they integrate their qual findings with those of previous quantitative syntheses (see table 5). Also a nice example of a graphic to communicate qualitative findings (see figure 3)

BOHREN, M. A., BERGER, B. O., MUNTHE-KAAS, H. & TUNÇALP, Ö. 2019. Perceptions and experiences of labour companionship: a qualitative evidence synthesis. *Cochrane Database Syst Rev*, 3, Cd012449. (Note: See figure 3 where individual interventions are compared to QES findings in a matrix)

LESTER, S., LORENC, T., SUTCLIFFE, K., KHATWA, M., STANSFIELD, C., SOWDEN, A. & THOMAS, J. 2019. What helps to support people affected by Adverse Childhood Experiences? A Review of Evidence. [Online]. London: EPPI Centre, Social Science Research Unit, UCL Institute of Education, University College London. Available:

<https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3755> [Accessed 2023]. *(See line of argument in discussion where the key areas of discord between the QES and the effectiveness evidence are outlined).*

Examples of connection of phases technique

FLEMMING, K. 2010. Synthesis of quantitative and qualitative research: an example using Critical Interpretive Synthesis. *Journal of Advanced Nursing*, 66, 201-217. *(Note: a rare example of where the effectiveness synthesis is used to structure the extraction and synthesis of qualitative evidence).*

MELENDEZ-TORRES, G. J., SUTCLIFFE, K., BURCHETT, H. E. D., REES, R. & THOMAS, J. 2019. Developing and testing intervention theory by incorporating a views synthesis into a qualitative comparative analysis of intervention effectiveness. *Res Synth Methods*, 10, 389-397.

THOMAS, J., HARDEN, A., OAKLEY, A., OLIVER, S., SUTCLIFFE, K., REES, R., BRUNTON, G. & KAVANAGH, J. 2004. Integrating qualitative research with trials in systematic reviews. *Bmj*, 328, 1010-2.

Example protocols

Lorenc T, Khouja C, Harden M, Thomas J. Defensive medicine: a systematic review of qualitative studies. PROSPERO. 2020; Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020166559.

Note: this is not a mixed method review but a nice example of acknowledging iteration at the protocol stage. There are LOTS of mixed-method review protocols on PROSPERO – to find some examples I just put 'mixed-method' into the search box - you can see that they vary in their approach! <https://www.crd.york.ac.uk/prospero/>

Example mixed method evidence syntheses where quant data is not from trials

Sutcliffe K, Brunton G, Twamley K, Hinds K, O'Mara-Eves A, Thomas J. Young people's access to tobacco: a mixed-method systematic review London: EPPI Centre, Social Science Research Unit, Institute of Education, University of London; 2011 [Available from: <https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3301>].

Note: This MMSR brings together national level survey data about where young people access tobacco – and then qualitative data about experiences of accessing tobacco. It's a nice example of how the qualitative data provides the detail about how and why certain routes are preferred. It's also a nice example of how qualitative data can tap in to new ideas / phenomenon that closed question surveys don't pick up on – i.e. look at the info on proxy purchasing.

Paper on appraising qualitative research

Ruth Garside (2014) Should we appraise the quality of qualitative research reports for systematic reviews, and if so, how?, *Innovation: The European Journal of Social Science Research*, 27:1, 67-79
<https://www.tandfonline.com/doi/abs/10.1080/13511610.2013.777270?journalCode=ciej20>