specific items for NMA to be added to Cope's proposed approach.

Conclusions: The results obtained from NMAs are increasingly used to inform decision-making. Methodological assumptions underpinning the validity of a NMA should be particularly scrutinized when planning a NMA that includes pharmacological and non-pharmacological interventions in the same network, or when appraising its quality. Ref: Cope et al. A process for assessing the feasibility of a network meta-analysis: a case study of everolimus in combination with hormonal therapy versus chemotherapy for advanced breast cancer. BMC Med 2014;12:93

Node-making processes in network meta-analysis of non-drug treatments

Shi C[1], Westby M[1], Norman G[1], Dumville J[1], Cullum N[2]

[1] Division of Nursing, Midwifery & Social Work, School of Health Sciences, Faculty of Biology, Medicine & Health, University of Manchester, Manchester Academic Health Science Centre, Manchester, UK, M13 9PL, UK
[2] Division of Nursing, Midwifery & Social Work, School of Health Sciences, University of Manchester; Research and Innovation Division, Manchester University NHS Foundation Trust, Manchester Academic Health Science Centre, Manchester, UK

Background: Network meta-analyses (NMAs) are common outputs of evidence synthesis. Treatment nodes are integral to network formation and represent the entities being evaluated. Because different node-making methods can alter the network and subsequent results drastically, robust conduct and reporting are needed. There is scope to expand current recommendations for NMAs of non-drug treatments so as to avoid arbitrary node-making.

Objectives: To enhance existing recommendations on the conduct and reporting of node-making process for NMAs of non-drug treatments.

Methods: We synthesised a node-making taxonomy based on a review of methodological papers. The taxonomy was developed and refined further in conjunction with methodological and clinical experts as we considered node-making processes in NMAs of treatments for pressure ulcers. We summarised our findings narratively and integrated them into existing recommendations.

Results: We summarise four node-making approaches. A broad lumping approach that groups similar treatments at a broad level, which is useful to estimate effects of treatment groups. A clinically-meaningful-element approach groups treatments with similar components, taking account of clinically important variables. A component lumping-and-dismantling approach is informed by meta-regression to investigate effects attributed to different treatment components. A class-effect model approach lumps similar treatments as a class, but assumes effect variations amongst these treatments, and uses modelling to estimate effects of specific treatments. Using this taxonomy and the practical implications it highlights, we suggest the following additional elements are needed in node-making guidance: - explicitly considering the effect of lumping on the exclusion of studies from the NMA; - use of additional sources of information to improve descriptions of non-drug treatments in included studies, which thus supports node-making judgments; - reporting sources of information about treatments (e.g. manufacturers' websites); - following a reliable approach in order to avoid arbitrary node-making (e.g. undertaken independently by two people against defined criteria).

Conclusions: We propose the addition of four new elements to current recommendations, and suggest that node formation should follow a robust, preplanned process that is fully reported.

Methodological challenges in performing network meta-analyses using data from Cochrane intervention reviews: are data across reviews reliable and consistent?

Imamura M1, Wallace S2, Brazzelli M1, Hudson J1, MacLennan G3, Javanbakht M4, Moloney E5, Vale L6, Craig D5

[1] Health Services Research Unit, University of Aberdeen, UK

[2] Cochrane Incontinence Group and Evidence Synthesis Group, Institute of Health & Society, Institute of Health & Society, Newcastle University, UK
[3] Centre for Healthcare Randomised Trials (CHaRT), Health Services Research Unit, University of Aberdeen, UK
[4] Health Economics Group, Institute of Health & Society, Newcastle University, UK
[5] Health Economics Group and Evidence Synthesis Group, Institute of Health & Society, Newcastle University, UK
[6] Health Economics Group and Cochrane Incontinence Group, Institute of Health & Society, Newcastle University, UK

Background: When there are several interventions for a single condition, several Cochrane intervention reviews (CIR) may cover the plethora of pairwise comparisons. Nevertheless, consumers and policy-makers face challenges in judging which intervention is best. Network meta-analyses (NMA) allow comparison of multiple interventions. A NMA using data from CIRs may reduce research waste and avoid duplication. However, it can also present some unique methodological challenges.
Objectives: To describe the challenges faced in compiling data from CIRs for a NMA.
Methods: We used a NMA of randomised controlled trials (RCT) of nine distinct surgical interventions for women with stress urinary incontinence (SUI). Primary outcomes were cure and improvement of SUI. Data came from eight CIRs from a single Cochrane Review Group (CRG). The CIRs provided relevant studies, outcome data from individual RCTs, study characteristics and findings of risk of bias (RoB) assessment. Where the same trial was used in two or more CIRs, we compared data extraction. When data were inconsistent or insufficient, we assessed primary trial reports. We updated literature searches to a common date and reviewed newly identified studies.
Results: We included 147 RCTs from eight CIRs and 28 new studies. A challenge for the NMA was caused by poor reporting in the original trial reports (e.g. number of participants in each group). This led to CIR authors making assumptions in order to use data, but limited reporting in the CIRs meant that extracted data from the CIR could not be replicated or verified. Additionally, methods also varied between CIRs; for example, outcomes were grouped into categories using different criteria. Study characteristics were also inconsistently reported across reviews as were descriptions of adverse events. The different publication dates of the CIRs, meant different versions of the Cochrane RoB tool were used.
Conclusions: Considerable additional work was required to make data from the CIRs useable. The NMA also served as a methods audit and highlighted the need to ensure consistency across reviews addressing substantially the same participants, intervention, comparator and outcomes (PICO). CIRs and CRGs need to ensure assumptions for handling missing or ambiguous data are consistent and clearly described, and CRGs need to ensure consistency of methods.

Oral session: Overviews of reviews and network meta-analysis (2)

Cochrane overviews of reviews: purpose and quality

Dalsbø TK[1], Dahm KT[1], Strømme H[1]

[1] Norwegian Institute of Public Health, Norway

Background: The Cochrane Handbook guides authors of Cochrane overviews of reviews. The Handbook gives advice about five relevant reasons for overviews and to distinguish between the quality of included reviews and the studies they include. The recommendations are: to use Grading of Recommendations, Assessment, Development and Evaluation (GRADE), conduct network meta-analysis if appropriate, and to interpret findings and present confidence in findings using a plain language format style. Our aim was to see if overviews published in the Cochrane Library were performed in accordance with key guidance from the Cochrane Handbook.
Methods: We searched for overviews of reviews in the Cochrane Database of Systematic Reviews (CDSR). We extracted data about their: main purpose, search date, number of included reviews, and if they planned to use a checklist for quality of included reviews such as AMSTAR (A MeaSurement Tool to Assess systematic Reviews). Then we assessed if they used GRADE, performed network meta-analysis (if appropriate), and gave a balanced