Identifying effective care bundles for preventing surgical site infections in primary surgical wounds: an overview of reviews, network meta-analysis and expert elicitation

Wound Research Network 2018

Hung-Yuan Cheng,
Katherine Chaplin, Howard Thom, Kerry Avery,
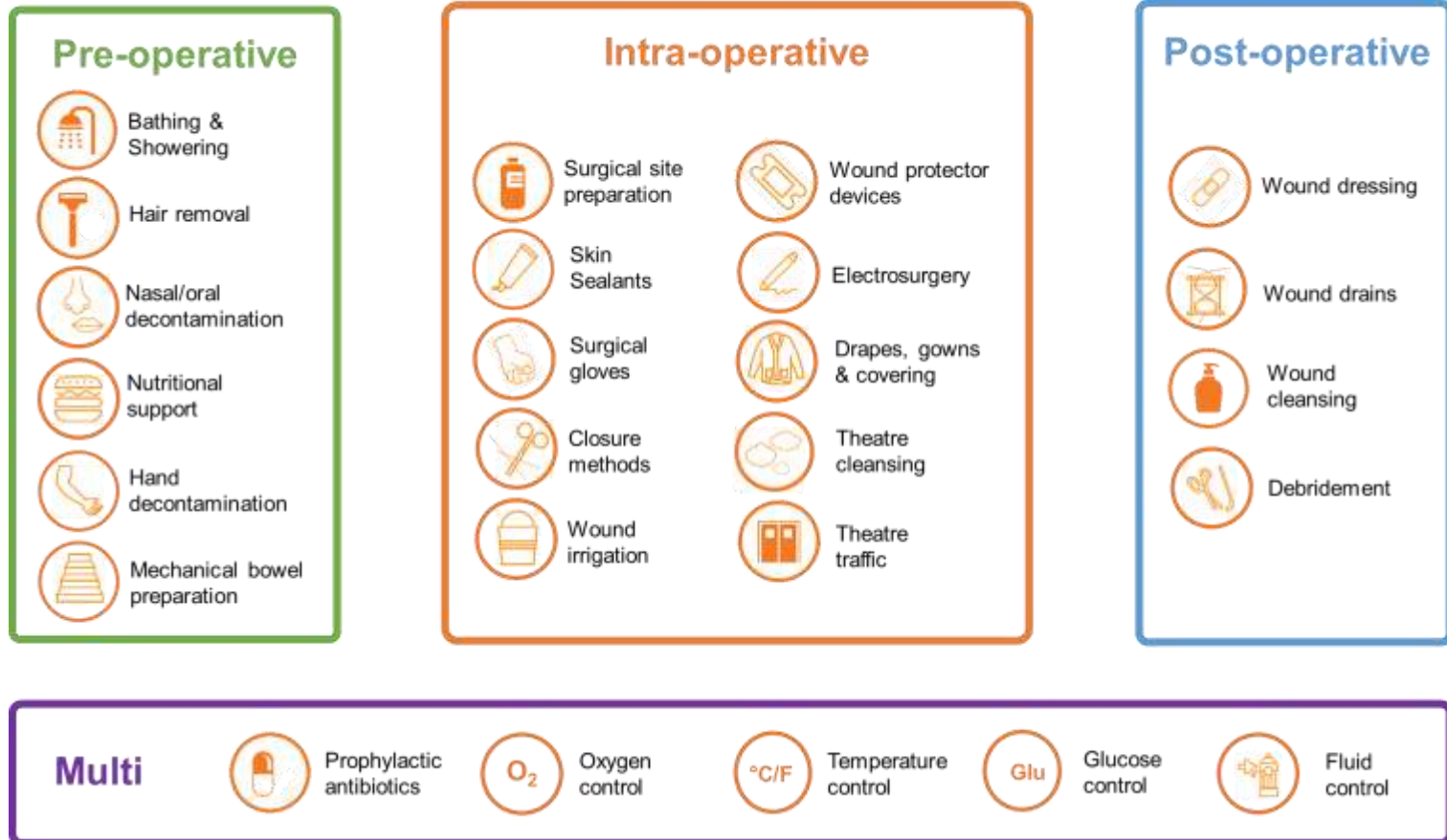Jo Dumville, Jane Blazeby, Nicky Welton

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Introduction

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Introduction

- Surgical site infections (SSIs) are a significant clinical problem

- SSI prophylaxis often involves the selection of multiple interventions along the surgical pathway

- Current evidence to guide decision making is composed of studies evaluating one or two interventions in a specific surgical phase

- **This makes it difficult to anticipate the cumulative effects of interventions and design evidence-based care bundles**

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Aims

- To estimate the relative effectiveness of interventions for SSI prevention in primary surgical wounds using network meta-analysis and expert elicitation
- To develop a care bundle for evaluation in a future randomised controlled trial (RCT)

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Methods

- A suite of reviews to identify systematic reviews (SRs) using Cochrane library, overviews[1] and WHO SSI guidelines[2]

[1] Liu Z, et al. *Cochrane Database of Systematic Reviews* 2018: CD012653.
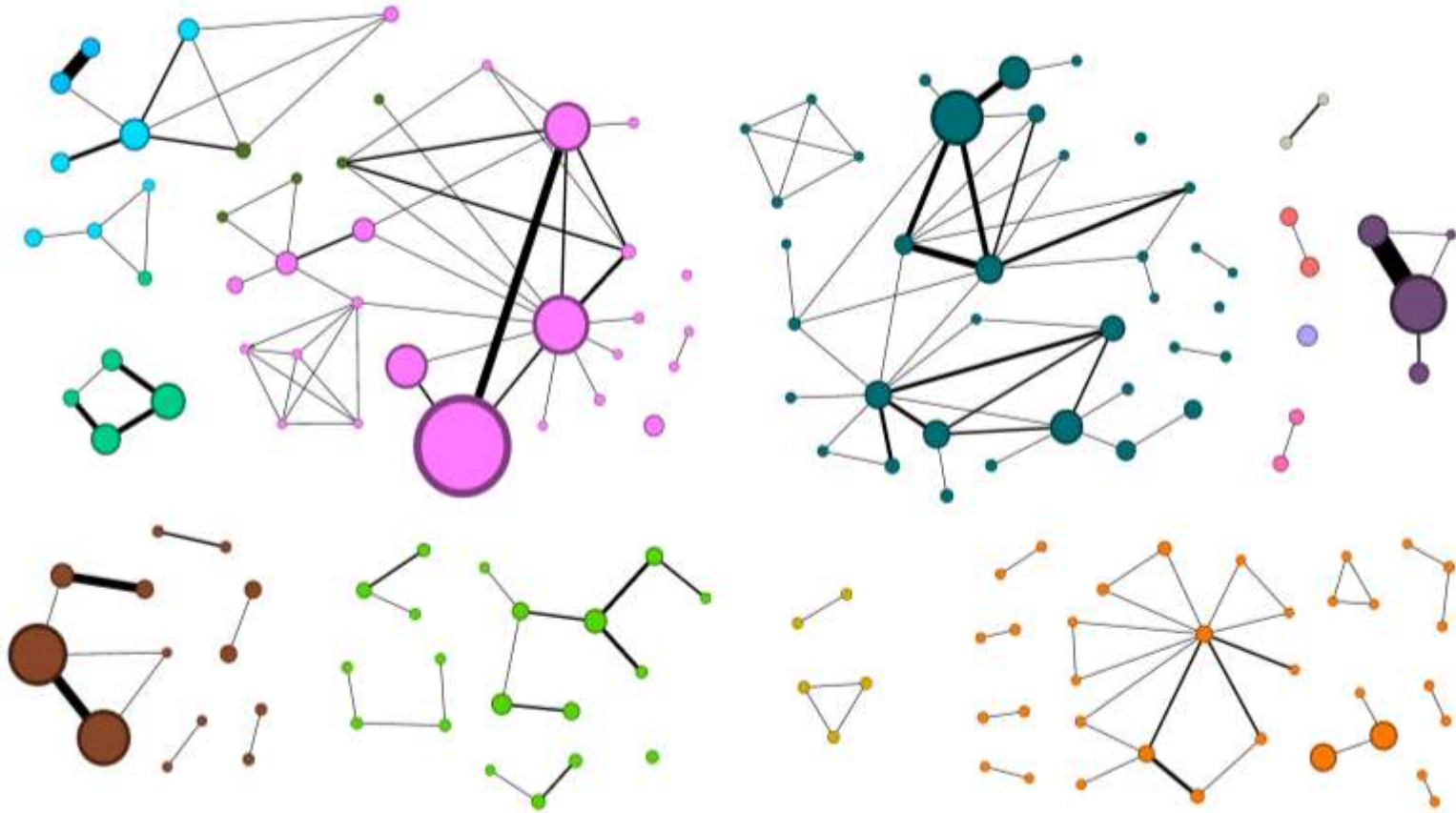[2] http://www.who.int/gpsc/ssi-guidelines/en

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Methods

- A suite of reviews to identify systematic reviews (SRs) using Cochrane library, overviews[1] and WHO SSI guidelines[2]

- Using SRs to identify RCTs, which investigated any intervention used for SSI prevention at any surgical phase

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Methods

- A suite of reviews to identify systematic reviews (SRs) using Cochrane library, overviews[1] and WHO SSI guidelines[2]

- Using SRs to identify RCTs, which investigated any intervention used for SSI prevention at any surgical phase

- **Adapting data from SRs and supplementing missing data, e.g. key trial information and risk of bias assessment, by retrieving full-texts**
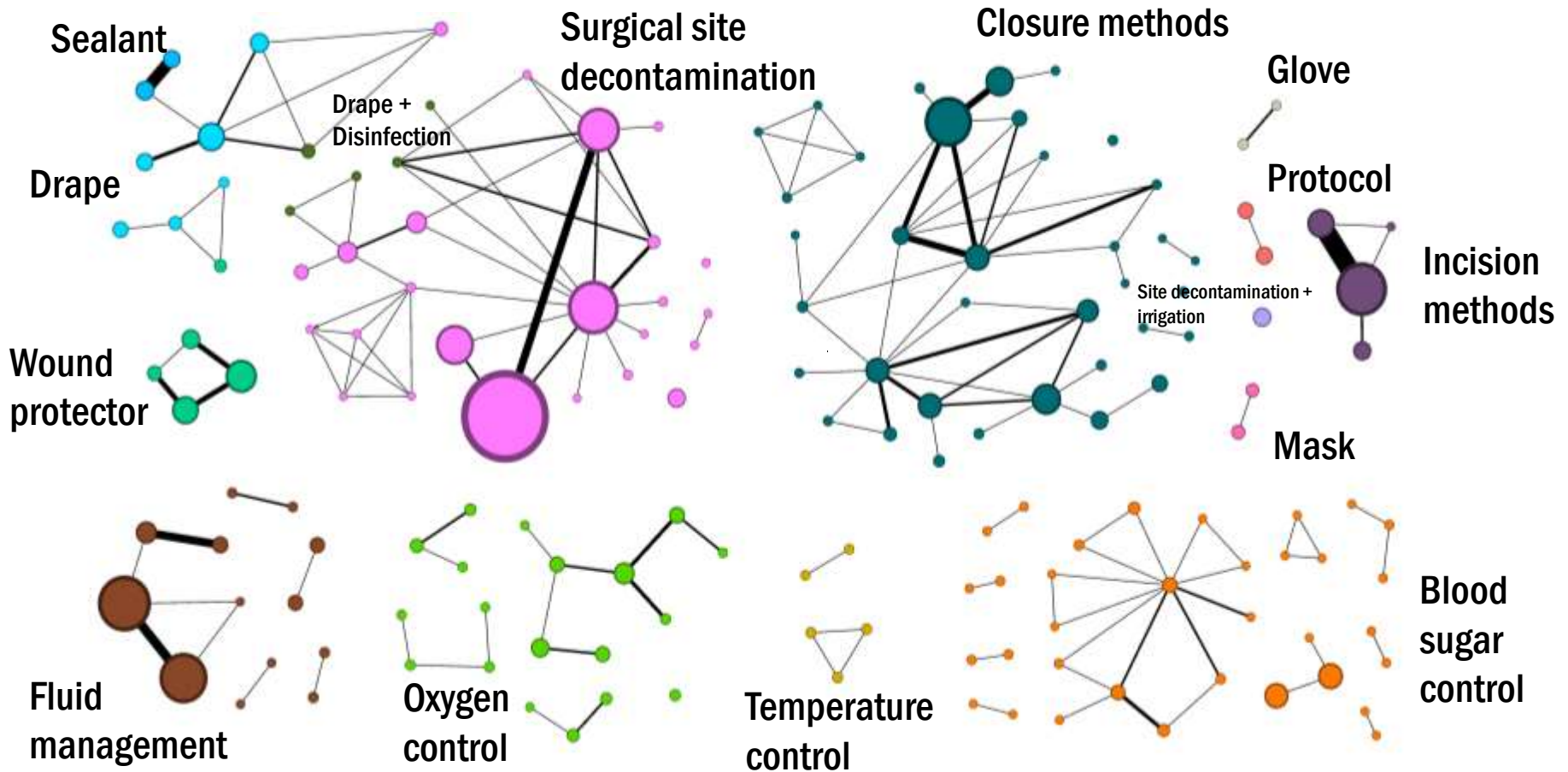
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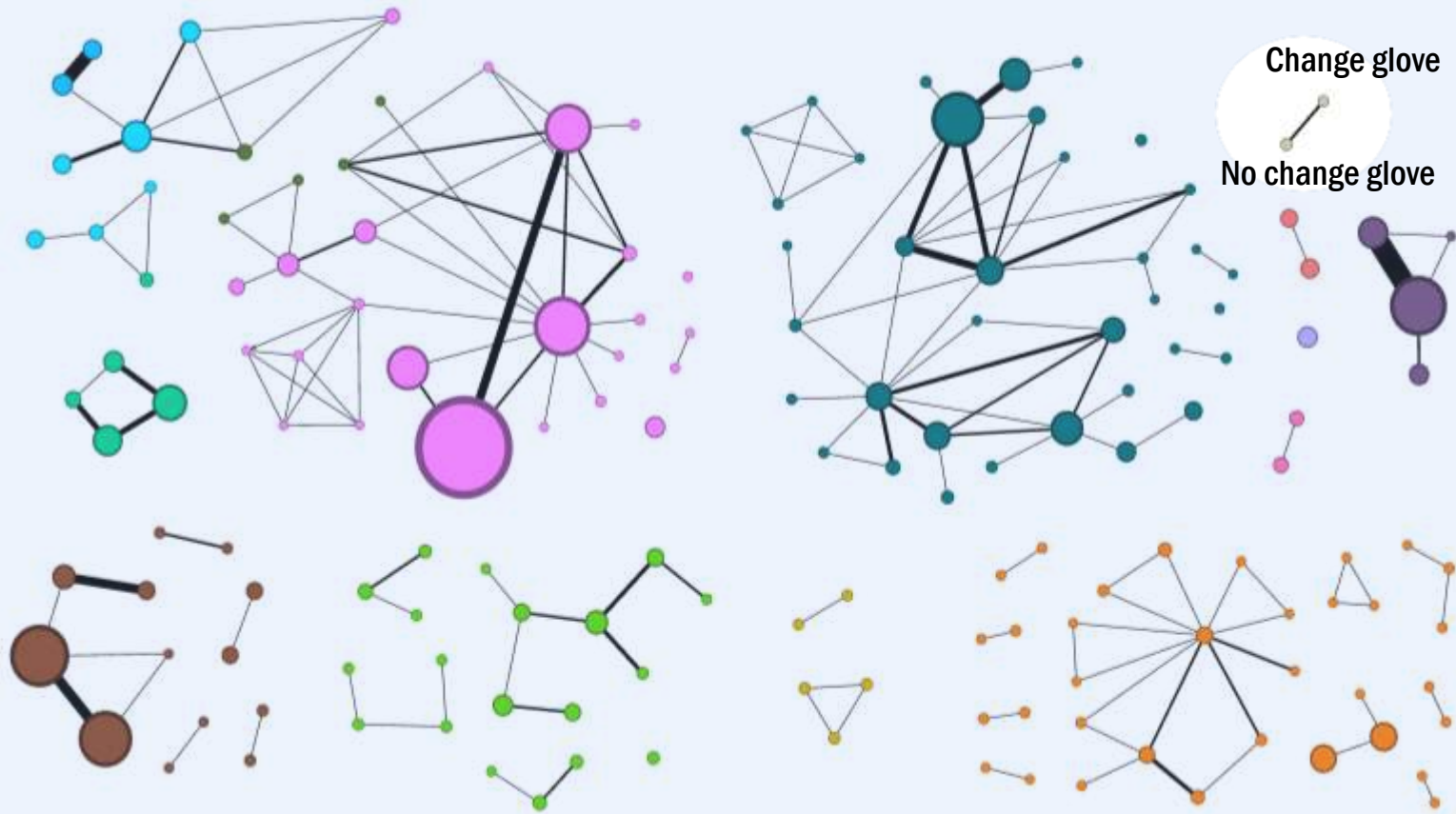# Preliminary Results

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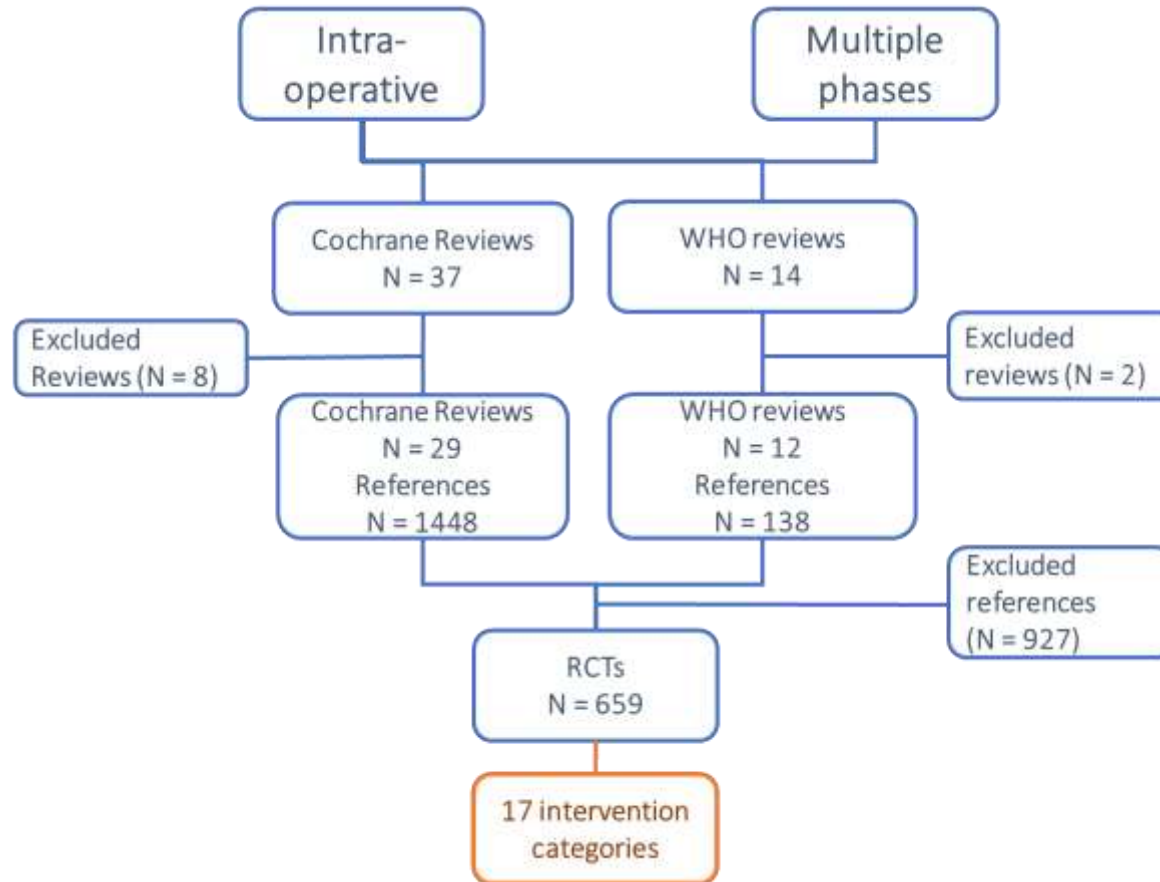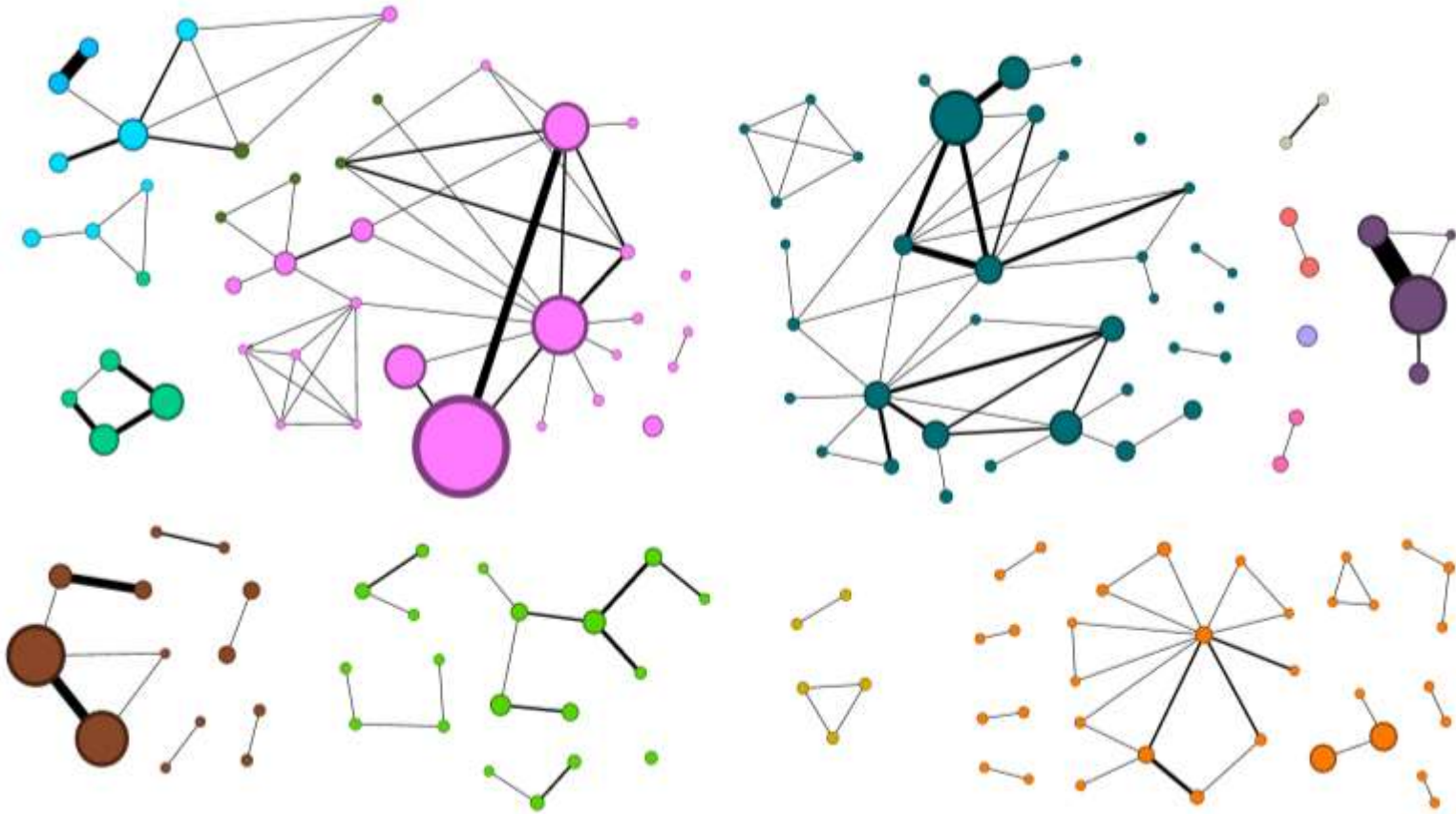
Preliminary Results – network plot

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Preliminary Results

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Preliminary Results

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Preliminary Results

Closure methods

Future plan – network meta analysis

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Future plan – expert elicitation

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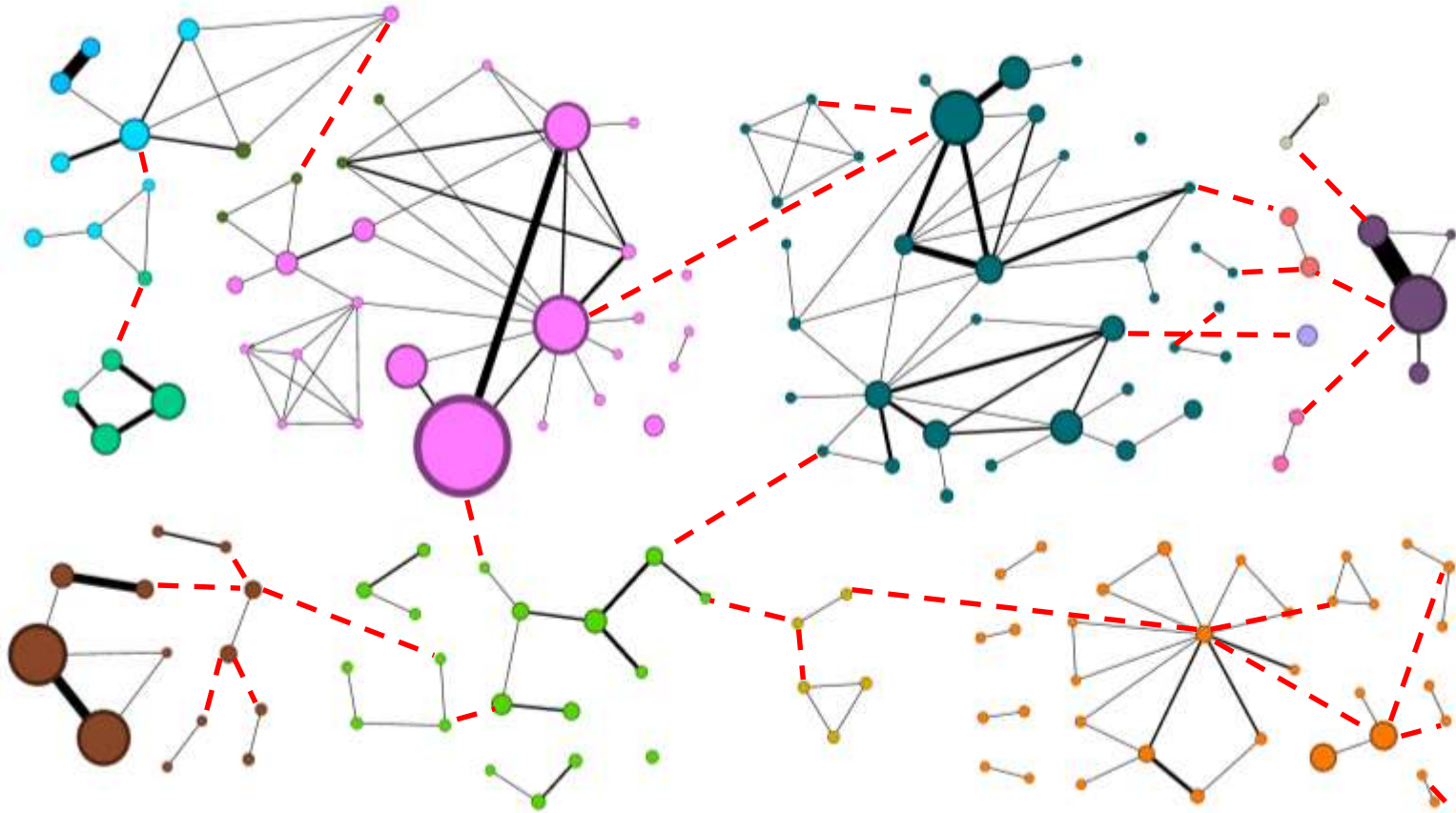
Future plan – further data extraction

Pre-operative

Intra-operative

Post-operative

Multi phases

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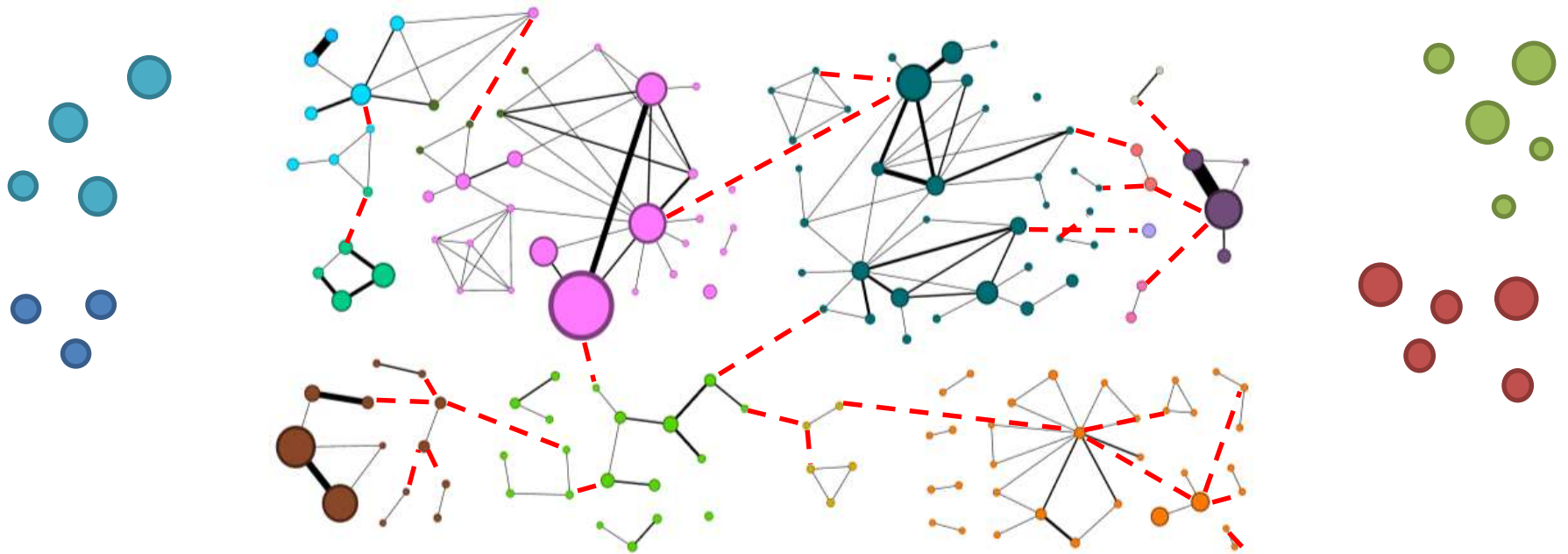
Future plan – future RCT design

Pre-operative

Intra-operative

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Multi phases

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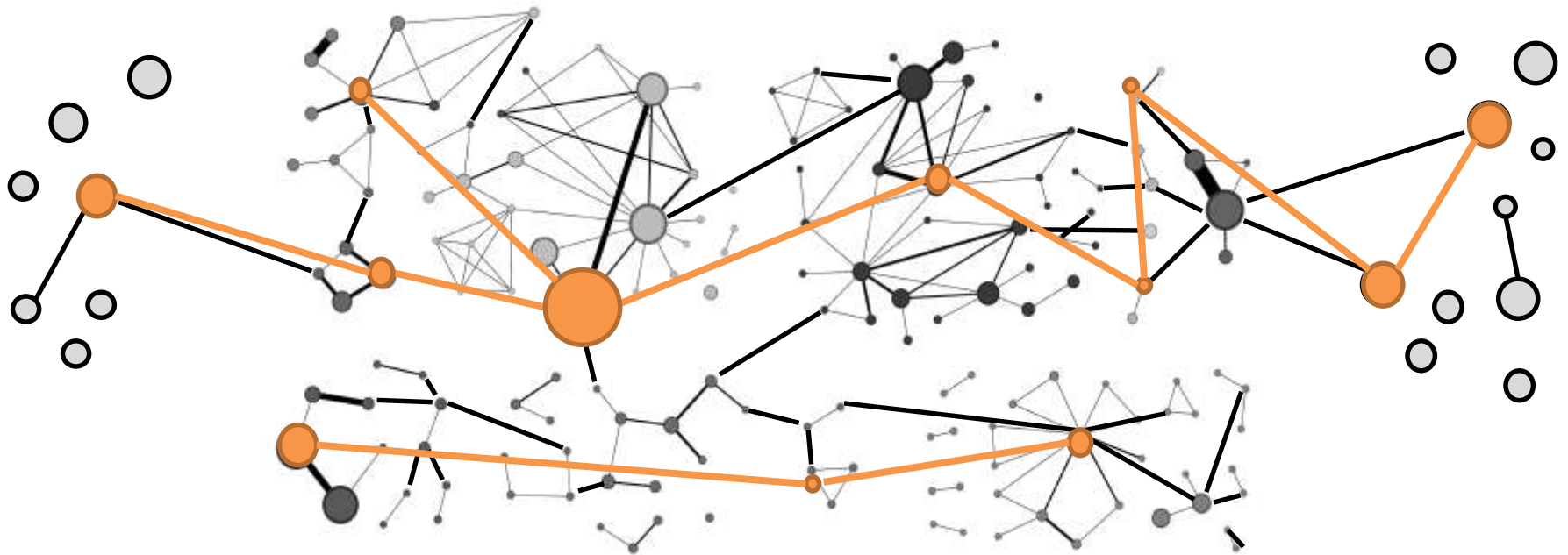
Conclusion

- NMA and expert elicitation are useful methodologies to:

  - Identify care bundles for SSI prevention in primary surgical wounds

  - Develop evidence-based RCT designs

- Future work is required to obtain more data for analysis and RCT design

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National Institute for Health Research Bristol & Manchester Biomedical Research Centre

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Q&A

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