

Foray into Computable Reports

Brown EPC

Duke EPC

Minnesota EPC

Disclosures

- None

The report

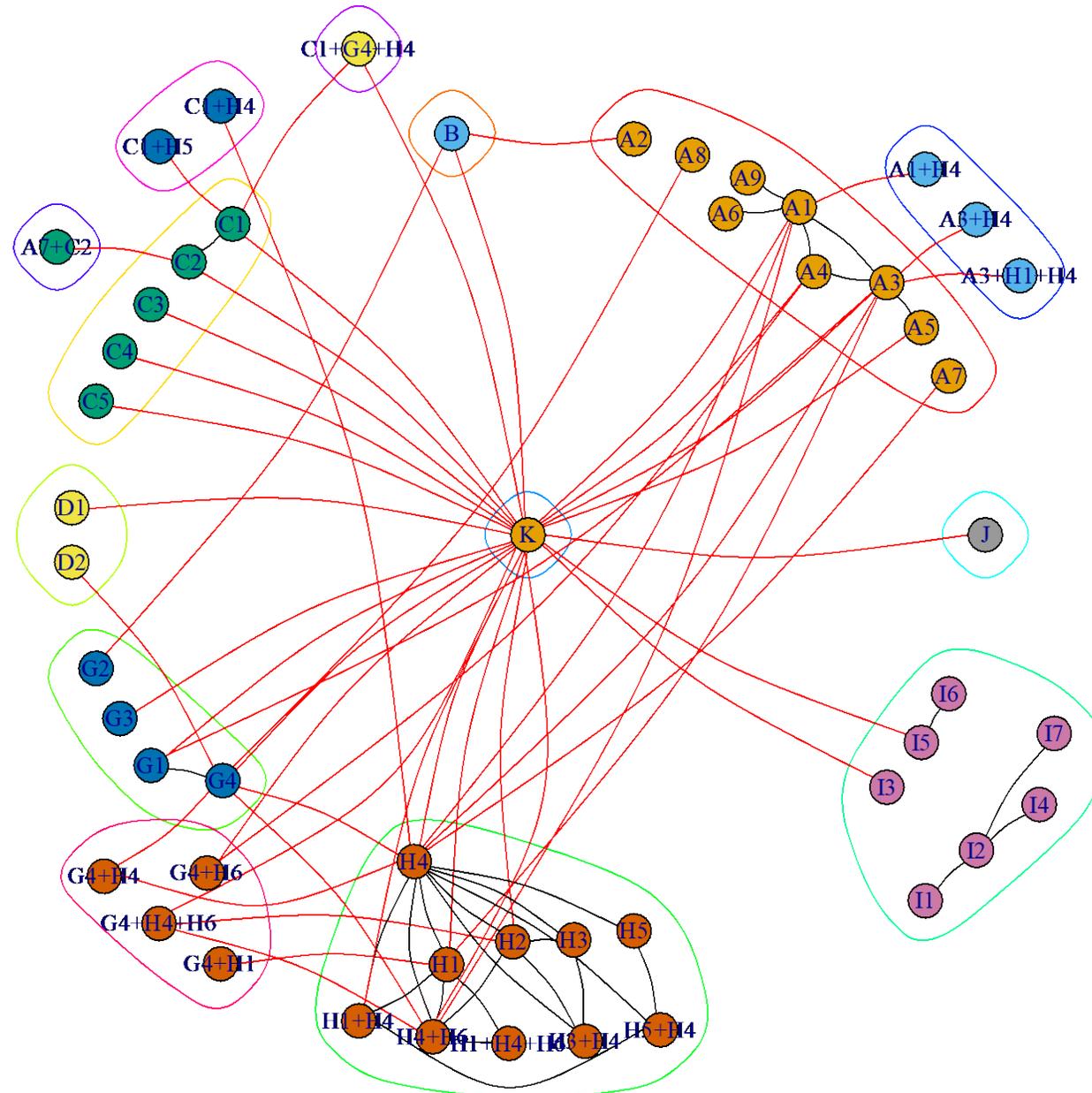
The Urinary Incontinence (UI) report

- Brown's "Nonsurgical Treatments for Urinary Incontinence (UI) in Adult Women" updates a 2012 report by the Minnesota EPC.
- Evidence synthesis for 51 specific interventions (14 intervention categories) for
 - Cure, improvement, satisfaction (n=117 studies)
 - Quality of life (n=84 studies)
 - Adverse events (n=138 studies)

An interactive tool

Level 1

Evidence Graph for *specific interventions*



- A1: oxybutynin
- A2: solifenacin
- A3: tolterodine
- A4: trospium
- A5: fesoterodine
- A6: flavoxate
- A7: phenylpropranolamine
- A8: propantheline
- A9: propiverine

- B: botox

- C1: vaginal estrogen
- C2: po estrogen
- C3: sc estrogen
- C4: transdermal estrogen
- C5: raloxifene

- D1: duloxetine
- D2: midodrine

- G1: electroacupuncture
- G2: interstim
- G3: magnetic stimulation
- G4: TENS

- H1: bladder training
- H2: education
- H3: heat therapy
- H4: PFMT
- H5: bladder support
- H6: biofeedback

- I1: polyacrylamide
- I2: collagen
- I3: autologous fat
- I4: carbonated beads
- I5: polydimethylsiloxane
- I6: porcine collagen
- I7: dextranomer hyaluronate

- J: intravesical pressure release

- K: sham/no treatment

[Some summary information]

[Amount of evidence]

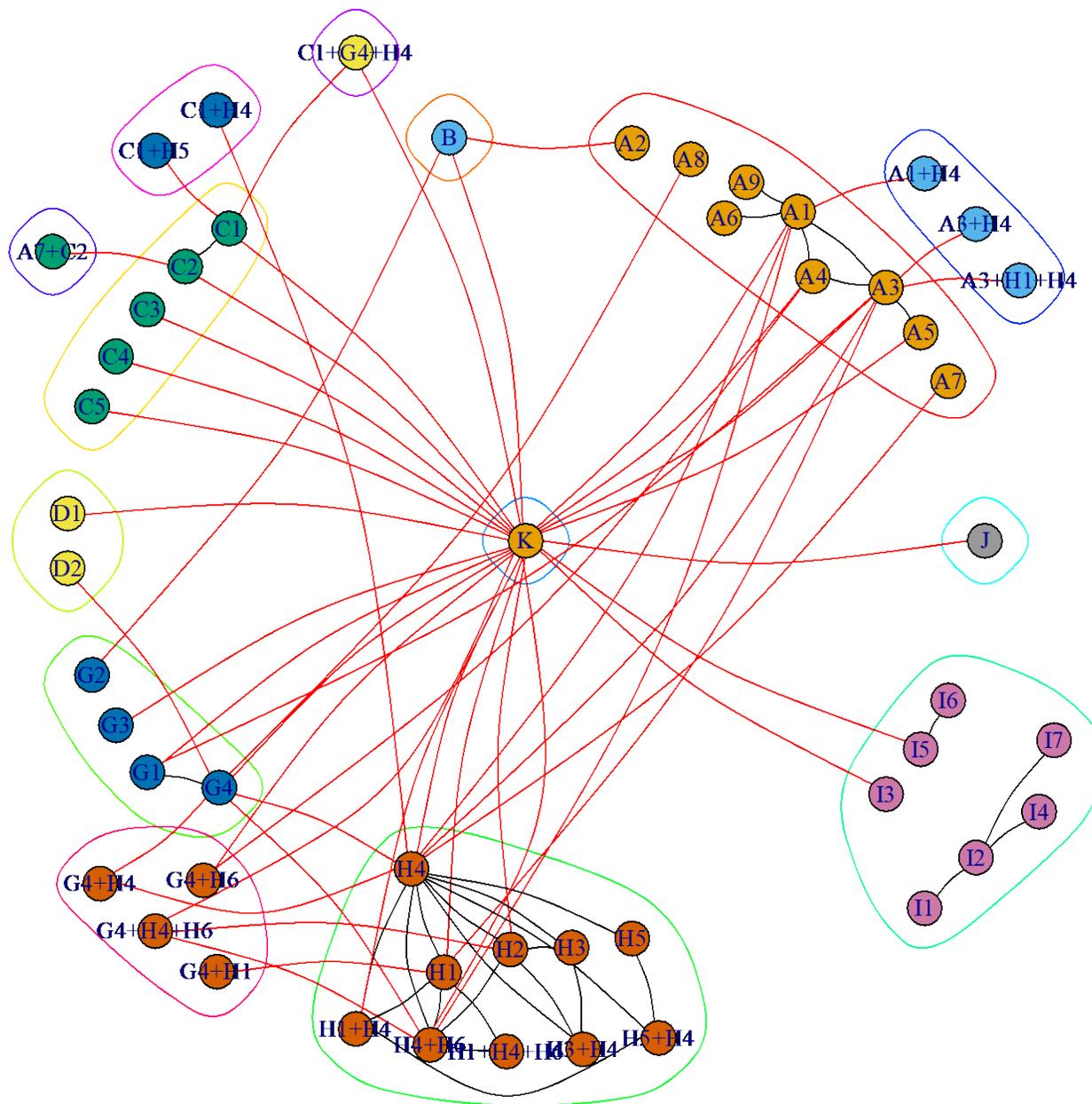
- *n* studies
- *N* people

[Outcomes (studies; people)]

- Cure (75; 13921)
- Improvement (82; 17276)
- Satisfaction (12; 2430)

[Connectivity]

- 80 observed comparisons
- 1275 possible comparisons
- **No treatment (K) is the most common comparator**



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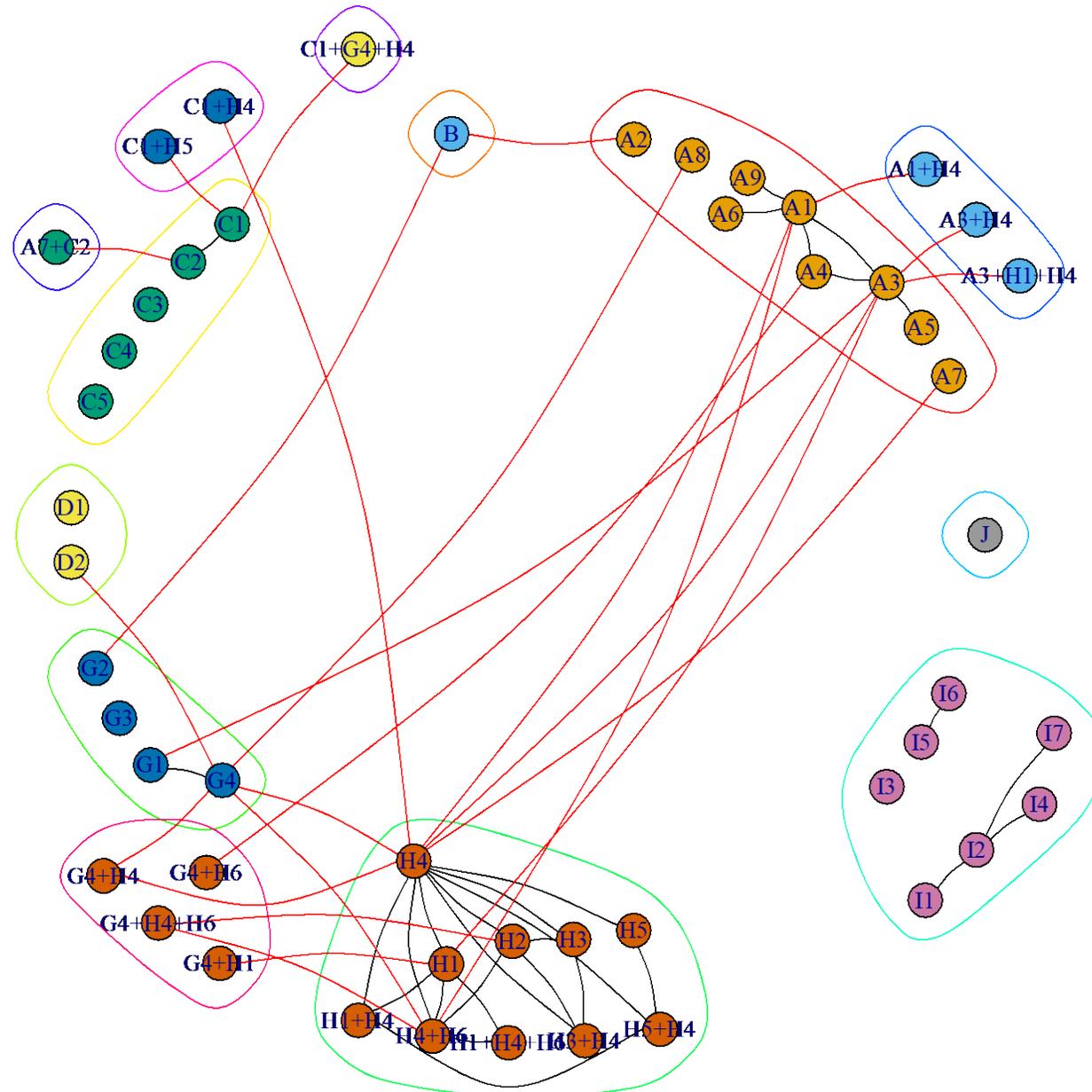
J: intravesical pressure release

K: sham/no treatment

Level 1

Evidence Graph
for *specific*
interventions:

Excluding no
treatment (K)



- A1: oxybutynin
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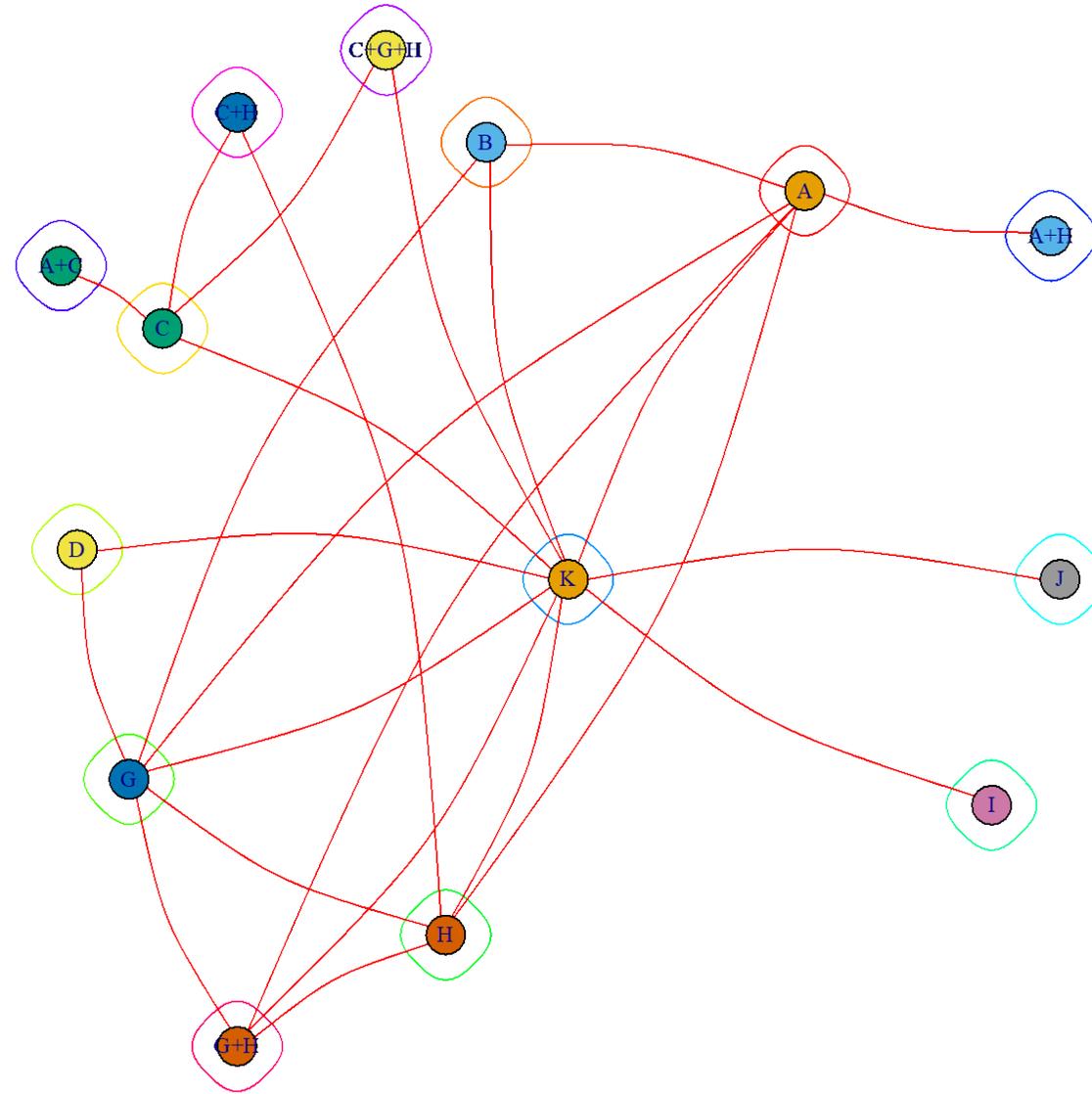
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- J: intravesical pressure release

- K: sham/no treatment

Level 1

Evidence Graph for *intervention* *categories*



- A: anticholinergic
- B: botox
- C: hormones
- D: alpha agonist
- G: neuromodulation
- H: behavioral therapy
- I: periurethral bulking
- J: intravesical pressure release
- K: sham/no treatment

[Some summary information]

[Amount of evidence]

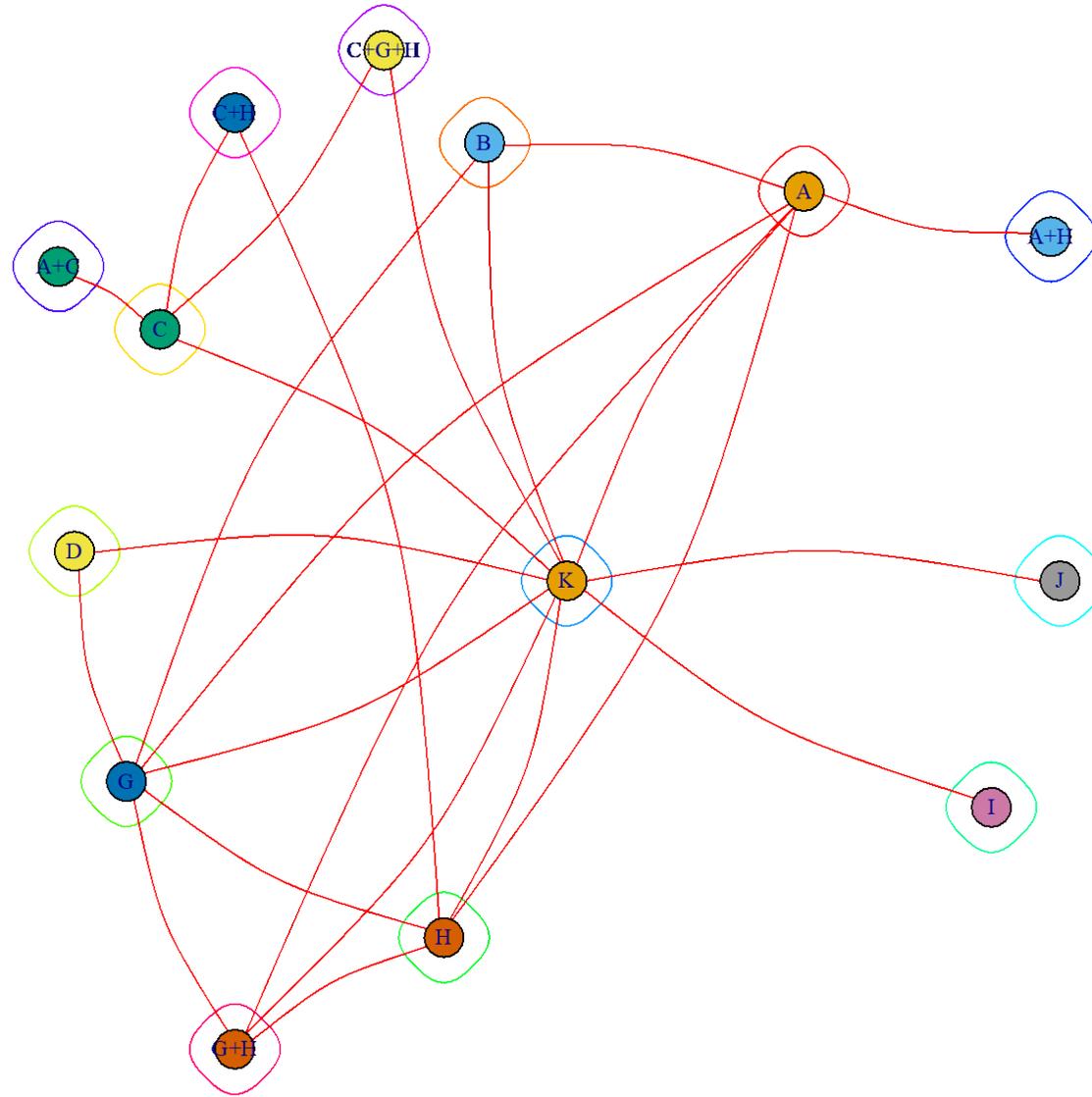
- *n* studies
- *N* people

[Outcomes (studies; people)]

- **Cure (54; 8664)**
- *Improvement (62; 13407)*
- *Satisfaction (8; 1668)*

[Connectivity]

- 24 observed comparisons
- 91 possible comparisons
- ...

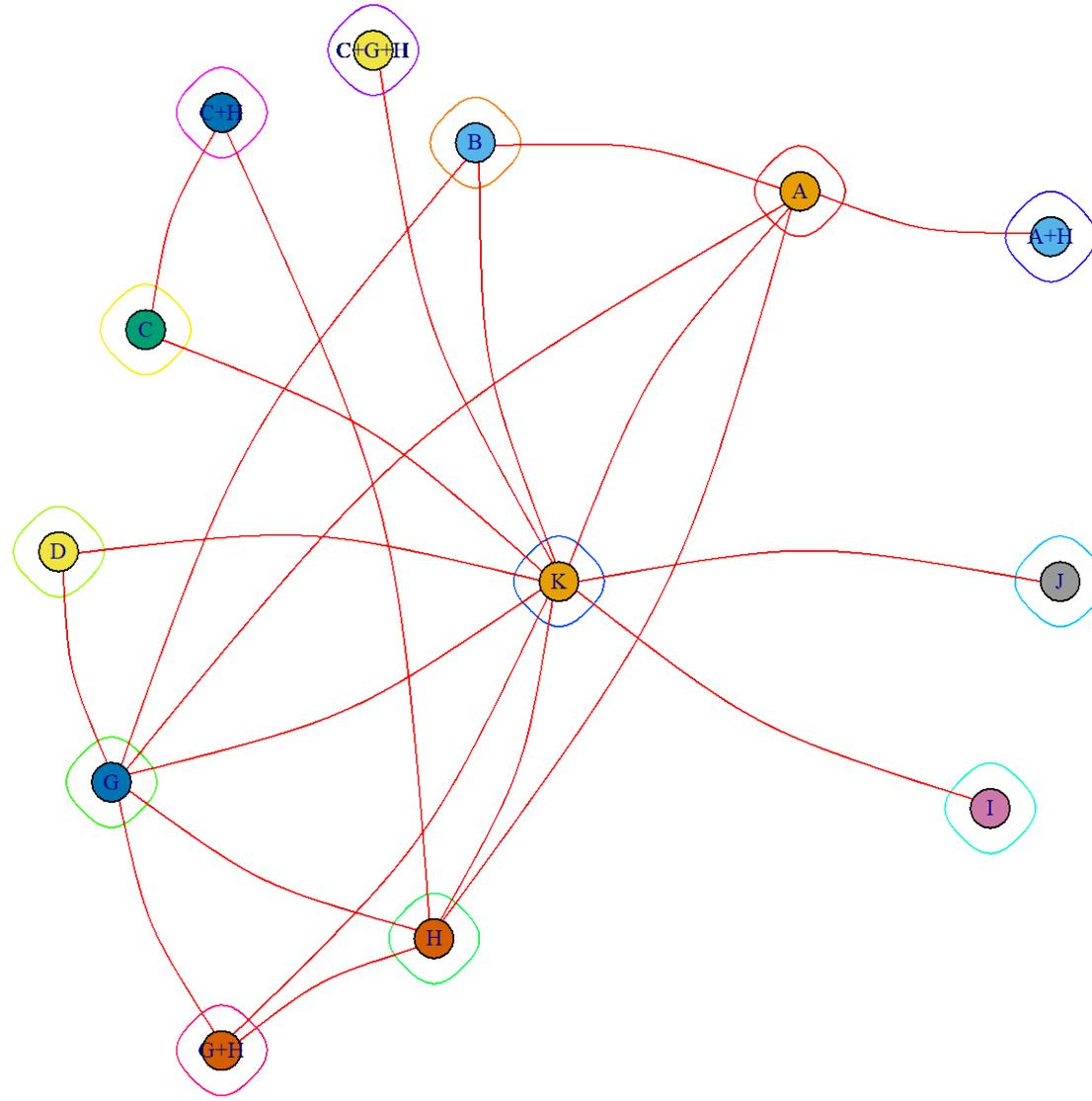


A: anticholinergic
B: botox
C: hormones
D: alpha agonist
G: neuromodulation
H: behavioral therapy
I: periurethral bulking
J: intravesical pressure release
K: sham/no treatment

Level 2

Evidence Graph
for *intervention*
categories:

Cure

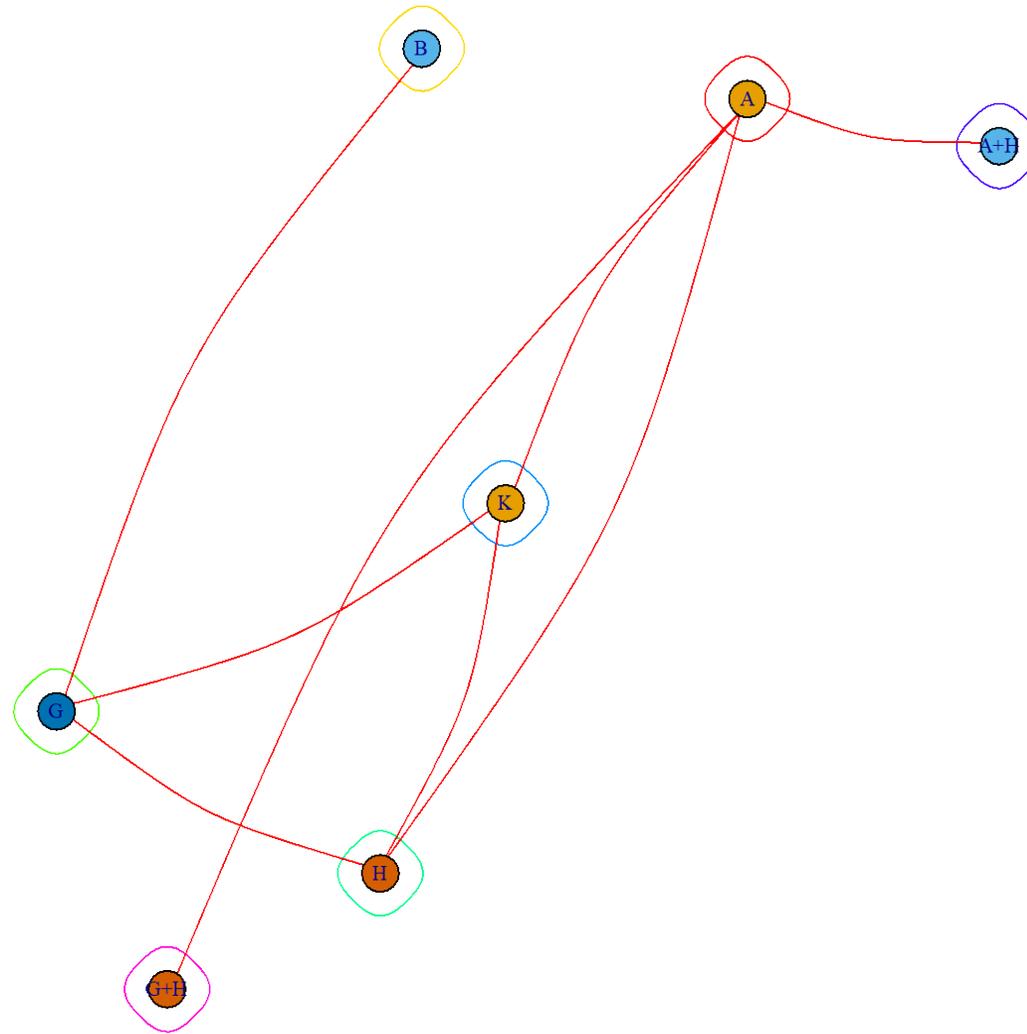


A: anticholinergic
B: botox
C: hormones
D: alpha agonist
G: neuromodulation
H: behavioral therapy
I: periurethral bulking
J: intravesical pressure release
K: sham/no treatment

Level 2

Evidence Graph
for *intervention*
categories:

Satisfaction



A: anticholinergic
B: botox
C: hormones
D: alpha agonist
G: neuromodulation
H: behavioral therapy
I: periurethral bulking
J: intravesical pressure release
K: sham/no treatment

All active treatments appear to be better than sham or no treatment with respect to satisfaction and, with one exception (combination of neuromodulation with behavioral therapy [G+H]), statistically significantly so.

Table 14. Mean and forecasted satisfaction rates by intervention category

Intervention category	Mean Percent (95% CI)	Forecast Percent (95% CI)
<i>Pharmacological</i>		
Anticholinergic (A)	51.0 (31.6, 70.1)	51.0 (9.9, 90.8)
Onabotulinum toxin A (B)	75.8 (50.8, 90.5)	75.8 (22.6, 97.1)
<i>Nonpharmacological</i>		
Neuromodulation + Behavioral therapy (G+H)	65.9 (19.0, 94.1)	65.9 (9.0, 97.4)
Behavioral therapy (H)	75.8 (57.0, 88.1)	75.8 (24.5, 96.8)
Neuromodulation (G)	69.4 (44.2, 86.7)	69.4 (17.8, 96.0)
<i>Combination</i>		
Anticholinergic + Behavioral therapy (A+H)	62.9 (40.8, 80.7)	62.9 (14.7, 94.3)
<i>No treatment</i>		
Sham/no treatment (K)	28.7 (15.0, 48.0)	28.7 (4.1, 79.4)

CI=confidence interval.

And so on...

...with various kinds of summaries (e.g., odds ratios, amount of direct and indirect data, RoB assessments, SoE assessments...)

... at different levels of granularity...

Other outcomes

- Analogous Evidence Graphs can serve as “navigation maps” for outcomes that have been synthesized qualitatively.
- For qualitative-only synthesis, the tool will present specifically-crafted summaries
- Two levels of abstraction
 - High level summary
 - More nuanced summary

Evaluation

Duke Health System, Stakeholders

- J. Bae, MD: Associate Chief Medical Officer for Patient Safety and Clinical Quality
- G. Cheely, MD, MBA: Medical Director for Care Redesign
- T. Owens, MD: Chief Medical Officer and Vice President for Medical Affairs

Role of Stakeholders

Stakeholders will inform on

- Tool development: What information is useful
- Pilot implementation: Which needs are met versus not met by the tool

Eliciting Stakeholder input

- Semi-structured interviews

Coordination between EPCs

Brown, Duke, Minnesota EPCs

- Brown will create the prototype tool including evidence graphs, associated summaries, and network meta-analysis results.
- Minnesota will create summaries for qualitatively synthesized results, which will be hooked into the tool by Brown
- Duke will run the evaluation

Scalability

- We propose to create a prototype web-based tool
- We will not create a software framework to enable analogous summaries for future EPC reports
- The qualitative-outcomes version of the tool pertains to all EPC reports

Fallback

- A static version of the tool, along the lines of this presentation, can be created at any time.