Reviewer's report

Title: Exchanging and using research evidence in health policy networks: a statistical network analysis

Version: Date: 21 May 2014

Reviewer: Thomas Valente

Reviewer's report:

This is a great field of study that applies network analysis to an important policy implementation issue: namely the role networks play in getting evidence into policy discussions. A few comment to improve the MS.

First, I think you should create a sort of consort diagram showing the recruitment chains for the snowball samples and how they evolve by topic.

Second, the organization of the paper into “Step 1” “Step 2” etc. is distracting. It is not typical of a journal article and it doesn’t adequately portray your research project. I would reorganize into a traditional format.

Third, on page 11 authors write “…. toggled from 0 to 1.” It is my understanding that all ties are toggled those absent to present and those present to absent.

Fourth, the description of “use of research evidence” is rather clunky. It seems the authors conducted in-depth interviews with the participants about their use of research evidence. Initially the authors thought they could construct a 5-point scale but instead determined, based on their experiences(?), that it made the most sense to categorizes as dichotomous, they either used evidence or did not.

Fifth, the authors are not always clear on the relationship between closure/homophily and diffusion. The general model is that homphily and closure accelerate diffusion at the dyadic and even sub-group level but at the macro-level they create barriers to diffusion because the structure they impose or imprint on the network. This comes out in the discussion in which the authors write that closure is associated with the limited diffusion of ideas. It depends on the level of analyses.

Minor edits:

Page 4: Yet, few of these studies are able to accurately explain why some relationships form and other do not …

Page 8: “when evidence is provided without a request, might indicate the dissemination of research evidence for symbolic or political uses [39], perhaps … in this study’s context of lower capacity and demand for research evidence, and
higher symbolic and political uses.”
I’m not sure this paragraph makes sense

Page 10: “Ties were coded as 1 if at least one of the actor-pair reported that a tie existed.”
I don’t understand how you can measure entrainment if you dichotomized the networks

Page 12: ” AE models included covariates …”
AE include …

Page 12: “ … outdegree,” a term not otherwise included in the … ”
I think this may need to re-phrased as outdegree is included in the model as density (or edges)

Page 14: “All models converged, avoiding degeneracy problems typical of ERGMs [43].”
If ERGMs typically have degeneracy problems, we couldn’t use them. Suggest revise:
All models converged.

Page 16: “The statistical significant …”
Significance

Page 16: “ … suggests a dose-response effect; or, an actor …”
Change “or” to in other words

Page 16: “ … predictive of research use than their other attributes … “
Drop “other”

Page 17 and page 19: ” Taken together, these findings support taking a network lens when designing knowledge translation or evidence-informed policymaking interventions and focusing on strategies than increase an actors’ capacity to provide and request evidence.”
See Valente (2012) Network Interventions

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
I declare that I have no competing interests