Reviewer's report

Title: Physicians' propensity to collaborate and their attitude towards EBM: A cross-sectional study

Version: 1 Date: 25 February 2011

Reviewer: Adam G Dunn

Reviewer's report:

Review of “Physicians’ propensity to collaborate and their attitude towards EBM: a cross-sectional study”

Mascia et al. present an analysis of physicians’ attitudes towards EBM and the presence of homophily in a social network comprising these physicians. The article is valuable because the authors seek to understand how relationships between physicians may influence their practice. In addition, the network size (297) is large relative to existing studies in the domain and the compliance rate (90%) suggests high reliability.

Major Compulsory Revisions

1. There is currently not enough information presented about the construction of the network to allow for replication of the approach or detailed evaluation of the results. 87912 dyadic observations do not indicate the density (they represent the number of possible connections) and a reader will be unable to determine from what is written how weights were assigned to the relationships. From visual inspection of Figure 1, it appears as though unreciprocated relationships were included in the construction of the adjacency matrix, which may possibly explain the abnormally high density. Homophily, like most other network metrics, is influenced by density and by degree distribution.

Minor Essential Revisions

1. Account for the choice of an undirected (symmetric adjacency matrix), which does not reflect the nature of the responses that were collected. In the survey, responders provided ordinal information about their relationships, and those relationships may not have been reciprocated.
2. Account for the potential for individual variation in answers amongst survey responders. Respondents view qualitative relationship answers in different ways and this is likely to influence their response.
3. The opposite of homophily is heterophily, not heterogeneity (Page 11). Heterogeneity generally refers to the differences in personal characteristics within a group, whereas heterophily refers to the preference for creating links between individuals that are different.
4. Careful proof-reading is required. The writing is acceptable but the manuscript includes several errors. Instances of typographical errors include Page 5, Paragraph 2, Line 2; Page 5, Paragraph 2, Line 14, Page 5, Paragraph 3, Line 5,
5. “A raft of papers ... [17]” “Although the literature has widely investigated the outcome of the formation of such communities (e.g. [8])”. These are unusual choices for citing what the authors suggest is a wide corpus of information on collaborative ties in healthcare organisations and their outcomes. There is a wealth of information about how communities are formed (in the vast literature on methods for modelling the growth of networks, outside of the domain of healthcare), and many recent examples of social network analysis being applied to communities within healthcare organisations. [17], although high-impact, is now 7 years old, and [8] is not representative of the others.

Discretionary Revisions

1. What does the low value for the coefficient of determination imply? Would a different choice of construction (say, creating/changing a threshold in what determines a relationship in the binary estimation of the network) produce a higher value?

2. I am unable to determine how several confounders may have contributed to the homophily. For example, if a positive attitude towards EBM is closely correlated to the number of years since graduation, number of publications, or field of specialisation, then perhaps EBM is not causal in the formation of relationships. The authors have mentioned causality in the limitations section but it may be worth being more explicit about this issue.

3. I understand that quantitative literature on homophily is sparse but I feel that the authors have not done justice to the field of social network analysis and homophily. Perhaps identifying seminal examples of homophily studies in the SNA domain (more recent than the McPherson et al. 2001 review) may provide context and provide guidance on the network properties that are essential in such a study.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.