Reviewer's report

**Title:** Research Collaboration in Tehran University of Medical Sciences

**Version:** 1  **Date:** 18 December 2007

**Reviewer:** Charo Rodriguez

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In this paper, nine authors, all working at the Tehran University of Medical Sciences, aim to examine the extent to which researchers operating in this university collaborate when doing research. Although at first sight this manuscript could be considered appropriate for "Health Research Policy and Systems," in its present formulation it presents very significant problems that prevent publication. I detail below my main concerns, all of which are considered major necessary revisions.

1. Is the question posed by the authors new and well defined?

As stated by the authors, the research question to be answered is twofold: "How the behavior of the researchers in this university towards collaboration in research is? Which factors affect this behavior?" (page 5). The key problem here is that the authors do not define what they consider "collaboration in research." Does this concept concern cooperation between/among researchers working in the same faculty, and/or working in other faculties/centres/divisions of the same institution? Does it include cooperation with colleagues working in other academic institutions? Does it include a cooperative behavior among researchers and other academic decision-makers? Further, does it also concern policy decision-makers? Likewise, does it involve practitioners? This is a crucial issue, which should be adequately explained.

I would also suggest that the authors clearly highlight in this section whether or not they will use a conceptual frame that will help make sense the results of their investigation. In this sense, they refer to "the Deliberative and/or Interactive model." The authors however neither adequately explain this model nor state that they will adopt it.

In more general terms, the Background section of the manuscript is fairly poor, both in content and length. In addition to a clear definition of what research collaboration means for the authors, I would thus strongly recommended that they develop and summarize and adequate literature review on this topic, which would appropriately frame their study and illuminate the discussion of its results.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

Population under study. It is not clear if the population considered by the authors is comprised of research projects or of researchers who have been principal investigators in granted research projects. This point should be well explained...
and adequately justified.

If one considers the first option, what is the rationale behind selecting the research projects granted in 2004 and still active in the second half of 2006 as the sample? How many were there? Furthermore, what are the inclusion criteria of this study, which determine a sample size of 315 studies? Such criteria are not specified. In addition, what are the reasons for the non-availability of some of the projects, which reduces the sample to 301?

If one considers the second option, are the authors including research projects granted through peer-review processes and commissioned research in the same pool? If or if not, what is the rationale behind their decision?

Research design. Nothing is said regarding the research design of this investigation.

Data collection tools. What is the rationale behind the use of two different tools, namely a questionnaire addressed to researchers and a collection form for projects? Why was the questionnaire only addressed to principal investigators, and not to all the investigators involved in the funded project? Why do the authors not give any information regarding the literature review performed in order to construct the questionnaire? Who were the members of the panel of experts who assessed the content validity of this new questionnaire? Why do the authors not provide enough information about the variables (domains?), both independent and dependent (i.e. collaboration score), measured by the questionnaire? What is the concept of collaboration network? What, if any, is the relationship between collaboration score and collaboration network?

In my view, these are some of the important questions that the authors should answer in this section. Indeed, both tools should be added in appendices.

3. Are the data sound and well controlled?

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

According to the Results section, it seems that the population under study is made up of researchers (page 9). Therefore, the confusion over the target population of this study resurfaces here. Furthermore, explanation about the origin of research funds lacks clarity, as do the reasons this different origin support the reconversion of variables shown in Table 1.

Confusion is also present in the collaboration in research subsection. Here it seems that collaboration is established among 11 organizational actors, to which 21 connections are added (page 10).

The remaining subsection, entitled factors related to collaboration in research, raises doubt about the research design adopted here: does it allow the researchers to establish causal relations between factors (independent variables) and collaboration score (dependent variable), whatever is
meant by the latter? Always with caution, causal relationships can only be reasonably established when a longitudinal research design is adopted; it seems to me that this is not the case in this investigation.

In short, for the sake of clarity, I believe that the Results section of this manuscript should be rewritten. In this sense, I also think that the inclusion of the major revisions suggested above for the Background and Methods sections would help the authors to better introduce the results of their study to their readers.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

The authors have not included a Conclusions section in their manuscript. In regard to the Discussion section, my impression after a number of readings is that a lack of clarity, as well as of structure that helps the reader follow authors’ thinking are also dominant characteristics of this part of the manuscript. For instance, there is no clear connection between the results observed and previous literature on the topic. Lack of clarity also concerns the explanation of the results in their particular context. Furthermore, although important, it appears to me that authors are more worried about discussing the possible bias present in their study than about discussing the results they have obtained. Indeed, no contribution for theory or practice appears clearly stated.

6. Do the title and abstract accurately convey what has been found?

I would suggest that the abstract be rewritten according to the suggestions provided for the manuscript as a whole. I would also recommend that the title be such that it better conveys the purpose of the study, for instance preceding the current title with a gerund such as “exploring” or “examining,” or something similar, would take great steps toward an accurate title.

7. Is the writing acceptable?

This manuscript definitely needs proper editing in English. I really hope that the aforementioned suggestions help the authors to improve their work. I wish them all my best in their research endeavor.

What next?: Reject as not sufficiently sound

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.