

*Editorial***Improving Completeness and Quality of Epidemiologic Study Publications****Thomas A. Sellers**

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To my fellow epidemiologists, I would like to ask whether there is anyone among us who has not had to defend criticisms about the nature of our research? When responding to a question about what it is I do, I do not find myself having to say "I'm an epidemiologist" (pause) "which is..." nearly as often as I did when I first started my career. However, I still trade playful barbs with my colleagues in basic and clinical science about not being a "real scientist" because we typically conduct observational rather than experimental research. The remarkable ability to conduct larger and larger studies of increasingly greater biological complexity is necessarily bringing together teams of investigators from observational and experimental disciplines. Our effectiveness in advancing knowledge about the causes and prevention of cancer requires that we do so, especially in a clear and objective manner.

In this editorial, I would like to bring to the attention of the readers of the journal, efforts to improve the quality of reporting of epidemiologic studies. In particular, an initiative was undertaken in 2004 to develop a simple checklist of essential items that should be included in any manuscript reporting results from a case-control, cohort, or cross-sectional study. Initial efforts began with review of textbooks, bibliographic databases, and reference lists to identify previous recommendations and empirical studies on the subject. A website was established for initial commentary, and a meeting was held among 23 epidemiologists, biostatisticians, methodologists, and journal editors. After seeking additional input and several iterations, a checklist was created to serve as a guideline for reporting observational studies. Some of the methods and rationale underlying the approach have now been published as the STROBE statement (The Strengthening the Reporting of Observational Studies in Epidemiology) in 11 different journals in the fall of 2007 (1-11).

The checklist includes 22 items considered by the authors as essential for good reporting. Briefly, these items cover the title and abstract (item 1), the introduction (items 2 and 3), methods (items 4-12), results (items 13-17), and discussion sections (items 18-21) plus a recommendation regarding source of funding disclosure

(item 22). The checklist is short, easy to read and use, and most authors will find it of considerable assistance in the preparation of their research manuscripts, especially junior investigators and authors without extensive training in epidemiology.

As a Senior Editor, I find that many of the items on the checklist are ones that I mentally consider when reading and making publication recommendations to the Editors-in-Chief. For example, item 10 is a recommendation to explain how the study size was arrived at. Although it is expected that manuscripts include participation rates, rarely do they mention how the target sample size was derived. We certainly do this to get funding for our studies, and providing this in our publications can help assuage concerns about post hoc (or "hypothesis generating") analyses that may reflect false positive findings. In fact, the STROBE guidelines suggest that mention should be made when analyses were suggested by inspection of the data. Another intriguing recommendation is inclusion of an appendix with a list of variables. Although this is helpful, it adds excess pages, with consequent effects on cost and the number of articles we can publish. Perhaps a better alternative is the creation of a study website where such details may be presented.

Of the guidelines presented, there were only two I do not fully support. One was a recommendation to include the design of the study in the title of the report; given the use of key words for indexing, this is not essential. The other suggestion that I support in concept, but not necessarily in practice, is the inclusion of limitations of the study in the abstract. Given the brevity of the abstracts in *CEBP*, this is not always practical and should not be advocated at the expense of other key components of the abstract.

In summary, von Elm and colleagues who developed the STROBE guidelines have done a useful service for the epidemiologic community. I heartily encourage our readers to download and read the STROBE guidelines and routinely use the checklist in the preparation of manuscripts to be submitted to *CEBP*.

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

References

1. Egger M, Altman DG, Vandenbroucke JP. Commentary: strengthening the reporting of observational epidemiology the STROBE statement. *Int J Epidemiol* 2007;36:948-50.
2. Vandenbroucke JP, von Elm E, Altman DG, et al. Strengthening the

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- Reporting of Observational Studies in Epidemiology (STROBE): explanation and elaboration. *Epidemiology* 2007;18:805–35.
3. Vandembroucke JP, von Elm E, Altman DG, et al. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): explanation and elaboration. *PLoS Med* 2007;4:e297.
 4. Vandembroucke JP, von Elm E, Altman DG, et al. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): explanation and elaboration. *Ann Intern Med* 2007;147:W163–94.
 5. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandembroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Lancet* 2007;370:1453–7.
 6. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandembroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Epidemiology* 2007;18:800–4.
 7. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandembroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Bull World Health Organ* 2007;85:867–72.
 8. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandembroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Prev Med* 2007;45:247–51.
 9. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandembroucke JP. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *BMJ* 2007;335:806–8.
 10. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandembroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *PLoS Med* 2007;4:e296.
 11. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandembroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Ann Intern Med* 2007;147:573–7.

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