From: Scanlan, James <jps@jpscanlan.com>

To: ralph@bu.edu, dhunter@hsph.harvard.edu, ware@hsph.harvard.edu, dph@hsph.harvard.edu

Cc:

Date: Wednesday, June 09, 2010 02:51 pm

Subject: NEJM Statistical Consultant Role

Dear Professors D'Agostino, Hunter, Ware, and Harrington:

This follows on notes I sent Professors D'Agostino, Hunter, Ware, and the late Professor Lagakos in March 2008 and May 2009, relating to roles as statistical consultants at the New England Journal of Medicine. The notes addressed certain statistical issues involving the ways standard measures of differences between outcome rates tend to be affected by the overall prevalence of an outcome. This note, which I also send to Professor Harrington, is to call to your attention a few developments that have occurred since then.

1. Subgroup Effects: Section 1 of May 2009 note involved the creation of a Subgroup Effects page on jpscanlan.com, where I addressed the pattern whereby, at least theoretically, a factor that increases (or decreases) an outcome would tend to increase the outcome to a larger proportionate degree for the group with the lower base rate while decreasing (or increasing) the opposite outcome to a larger proportionate degree for the other group. Since that time I have given a presentation on the subject at the 2009 JSM and posted a comment on the BMJ (responding to Sun X, Briel M. Walter SD, and Guyatt GH. Is as subgroup effect believable? Updating criteria to evaluated the credibility of subgroup analyses. BMJ 2010;340:850-854)). Further, the Subgroup Effects page has been updated to the reflect the view that the appropriate measure of effect for each subgroup should be that described on the Solutions sub-page of the Measuring Health Disparities page (MHD) of jpscanlan.com.

2. Solutions/Probit: Section 5 of my May 2009 note discussed a method for measuring differences between outcome rates that is theoretically unaffected by the overall prevalence of an outcome, which is set out on the Solutions sub-page just mentioned. As discussed in the most recent version of that page, I have since come to learn that the results achieved mechanically in the database supporting the Solutions page are the same as the result of a probit analysis.

3. Consensus: Sections 3 and 4 of the May 2009 note discussed, inter alia, some indication of agreement with my general thinking among some prominent European epidemiologists. Section E.7 of MHD discusses further indications, mainly in Europe, of general agreement with my thinking on this subject. Such indications by no means suggest there will be wholesale agreement with my thinking any time soon. But there exists the possibility of that's happening within the next decade

4. Mortality and Survival: Some months ago it came to my attention that frequently, particularly in cancer journals, researchers discuss disparities in mortality and disparities in survival interchangeably without recognizing, for example, that as mortality declines relative differences in survival and relative difference in mortality tend to change in opposite directions (or that survival disparities tend to increase with age while mortality disparities decrease with age). That led to creation of a Mortality and Survival page to address the subject at some length. I have not examined the NEJM with regard to such issues. But it is an issue of which the

journal's statistical consultants should be mindful. I add that, particularly given the varied way researchers at NCHS, AHRQ, and the Health Policy Group of Harvard Medical school measure ethnic difference in appropriate care, the issue raised on that page ought to be particularly pertinent to Dr. Harrington's CanCors work.

5. Institutional Correspondence: The Institutional Correspondence sub-page of MHD discusses my intentions to formally contact various institutions – including, among others, university and medical journals – regarding the extent to which the failure to consider patterns by which standard measures of differences between outcome area affected by the prevalence of an outcome may bear on the work of the institution. As reflected on that page, my pace in realizing that intention is a modest one. But among the most important such institutions are both the NEJM and Harvard University. When I get around to contacting those institutions in the manner suggested, I hope I can take the liberty of mentioning those of you affiliated with either institution as being knowledgeable about the issues I raise.

6. NEJM Comment: The earlier notes listed a number of comments on NEJM articles or discussions that were related to NEJM articles raising the measures issues addressed in those note. A couple of more recent items are listed after the signature.

Best regards,
James P. Scanlan
Attorney at Law
1529 Wisconsin Avenue, NW
Suite 300
Washington, DC 20007
Phone: 202.338.9224
e-mail jps@jpscanlan.com

Incentive programs to reduce healthcare disparities should await better understanding of how to measure those disparities. *Journal Review* March 2, 2010 (responding to Siegel B, Nolan L. Leveling the field – ensuring equity through National Health Care Reform. *N Engl J Med* 2009;361:2401-2403):
http://journalreview.org/v2/articles/view/19955518.html

Interpreting data on comparative efficacy of an intervention in settings with different base rates. *Journal Review* Feb. 28, 2010 (responding to Madhi SA, Cunliffe NA, Steele D, et al. Effect of human rotavirus vaccine on severe diarrhea in African infants. N Engl J Med 2010;362:289-98:
http://journalreview.org/v2/articles/view/20107214.html

Attachments: