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Cc

Date: Thursday, October 11, 2012 07:40 pm **Subject:** Statistical Analysis at Harvard and NEJM

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

A couple of times over the last few years, I have contacted you or the late Professor Stephen Lagakos regarding either health disparities measurement issues or subgroup effects these issues related to your roles as statistical consultant for the NEJM The points I raise related to the way standard measures of differences between outcome rates tend to be systematically affected by the overall prevalence of an outcome, especially the pattern whereby the rarer an outcome the greater tend to be the relative difference in experiencing it and the smaller tends to be the relative difference in avoiding it. A great many references may be found on my Measuring Health <u>Disparities</u>. The <u>Mortality and Survival</u> page discusses the way that, particularly in the discussion of racial differences in cancer outcomes, researchers refer to relative differences in survival and relative differences in mortality interchangeably, often stating they are analyzing one relative difference while in fact analyzing the other – but without recognizing that the two relative differences tend to change in opposite directions as overall survival rates change or that more survivable cancers tend to show larger relative differences in mortality but smaller relative differences in survival than less survivable cancers. The Subgroup Effects and Illogical Premises pages discuss that the assumption of a constant rate ratio as the benchmark against which one would identify subgroup effects is illogical as well as incorrect.

On October 17, 2012, I'll be giving a paper styled "The Mismeasure of Group Differences in the Law and the Social and Medical Sciences") at an Applied Statistics Workshop at Harvard's Institute for Quantitative Social Science. The invitation to give the paper arose out of my long-expressed intention to write Harvard University about the way various of its arms conduct health and healthcare disparities research. So preparatory to the presentation, I did write Harvard University a long letter encouraging it to review the manner in which its faculty and researchers measure health and healthcare disparities and other group differences.

The letter is quite long and questions a great deal about analysis of differences in outcome rates at Harvard (including with respect to analyses of subgroup effects), and suggests that Harvard conduct a thorough review of the way is various arms analyze those differences. It cites quite a few NEJM articles and the issues raised about Harvard research could as well be read as a raising similar issues about the NEJM. So I hope you'll read the letter carefully and, first, offer your view of Harvard as to whether my suggestion of a review of statistical methods is sensible and, second, consider its bearing on statistical analyses in works in the NEJM. Please also consider attending the workshop if it would be convenient.

Finally, I note that because Professor Ware responded to one of my earlier emails, I listed him at pages 44-45 among Harvard faculty with some awareness of the types of issue I raised.

Best regards,

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Attachments: