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University of Maryland Methods Workshop - Oct. 10

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Dear Members of the ASA Public Affairs Committee:

This note has two purposes. The first is to suggest to the members of the American Statistical Association Public Affairs Committee in the Washington, DC area attend a methods workshop titled “Rethinking the measurement of demographic difference in outcome rates” that I will be giving at the Maryland Population Center of the University of Maryland from 10:00 am to 12:00 pm on Friday, October 10. The details are in reference 1 and the content will be a variation on a methods workshop given to the epidemiology and demography arms of the University of Minnesota last month.[2]

The second is to alert the entire Committee of issues to be addressed to a degree in the workshop that I will likely address at some point in a formal letter to the Committee or the ASA leadership generally. In that regard, I note that I have for some time been in contact with ASA Director of Science Policy Steve Pierson, who advises the appropriate course for seeking ASA action of the type I desire is to address the matter with the Committees.

The Maryland methods workshop will explain the patterns by which standard measures of differences between outcome rates tend to be systematically affected by the frequency of an outcome and the reasons that the existence of such patterns undermines those measures for quantifying demographic differences in outcomes in the law and the social and medical sciences. In brief, as the prevalence of an outcome changes, relative differences in experiencing it and relative differences in avoiding it tend to change in opposite directions; the absolute difference tends to change in the same direction of the smaller relative difference; differences measured by the odds ratio tend to change in the opposite direction of the absolute difference.

I treat this subject, including the implications of the failure to understand the above-described patterns, at some length in the following recent article.

“Race and Mortality Revisited,” *Society* (July/Aug. 2014)
http://jpscanlan.com/images/Race_and_Mortality_Revisited.pdf

That article is an expansion on three articles in ASA publications between 1994 and 2012 [3-5] as well as reference 6,

which, together with reference 3, first caused the National Center for Health Statistics to recognize the determinations of whether health and healthcare disparities were increasing or decreasing would commonly turn on whether on examines relative differences in favorable outcomes or relative differences in adverse outcomes. The implications of the failure to understand these patterns are most succinctly stated in the December 2012 Amstat New article (reference 5), which arose from contacts with Steve Pierson.)

One glaring anomaly arising from the failure of the federal government to understand these patterns (also discussed in the Society article at 14-16) involves the following perverse situations in federal law civil rights enforcement. Based on the belief that reducing the frequency of an adverse outcome will tend to reduce relative racial/ethnic differences in rates of experiencing those outcomes, the federal government has for some years been encouraging lenders and public schools to reduce the frequency of adverse lending outcomes and adverse school discipline outcomes. In fact, however, reducing the frequency of an outcome tends to increase, not decrease, relative differences in rates of experiencing the outcome. Unaware of such fact, the federal government continues to monitor the fairness of lending and discipline practices on the basis of relative differences in adverse outcome. Thus, by complying with federal encouragements to reduce the frequency of such outcomes, lenders and schools increase the chance the government will sue them for discrimination. It should be recognized, however, that this anomaly persists because, for the most part, the statistical community is no more aware that reducing the frequency of an outcome tends to increase relative differences in experiencing it than the federal government is.

While the situation regarding the monitoring of lending and discipline practices is an unusually perverse consequence of the failure of federal agencies to understand the ways the frequency of an outcome affects relative differences in experiencing and avoiding it, the same failure of understanding has undermined virtually activity of the federal government involving the appraisal of group differences in outcome rates.

Beyond the materials mentioned, the implications of the federal government's failure to understand the above-described patterns with respect to civil rights enforcement and the conduct of health and healthcare disparities research are treated at length in papers created last year in connection with a faculty workshop at the University of Kansas School of Law [7] and the Federal Committee on Statistical Methodology 2013 Research Conference.[8]

I hope Committee Members in a position to attend the Maryland workshop will consider doing so. But I urge all members of the Committee to read references the recent Society article and the other references and consider what role the American Statistical Association should play in putting federal government policies on a sound statistical footing.

.Sincerely,
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1. Rethinking the measurement of demographic differences in outcome rates. Methods Workshop, Maryland Population Research Center of the University of Maryland, Oct. 10, 2014.
Abstract: http://jpscanlan.com/images/University_of_Maryland_Workshop_Abstract.pdf
Workshop details: http://www.popcenter.umd.edu/new_e/event_1406225824132
2. The mismeasure of association: The unsoundness of the rate ratio and other measures that are affected by the prevalence of an outcome. Methods Workshop at Minnesota Population Center and Division of Epidemiology and Community Health of the School of Public Health of the University of Minnesota, Minneapolis, Minnesota, Sept. 5, 2014.
http://jpscanlan.com/images/University_of_Minnesota_Methods_Workshop.pdf
3. “[Divining Difference](#),” *Chance* (Fall 1994).
http://jpscanlan.com/images/Divining_Difference.pdf
4. “Can We Actually Measure Health Disparities?,” *Chance* (Spring 2006) (guest editorial)
http://www.jpscanlan.com/images/Can_We_Actually_Measure_Health_Disparities.pdf
5. “Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies,” *Amstat News* (Dec. 2012):
<http://magazine.amstat.org/blog/2012/12/01/misguided-law-enforcement/>
6. “Race and Mortality,” *Society* (Jan./Feb. 2000) (reprinted in *Current*, Feb. 2000);
http://www.jpscanlan.com/images/Race_and_Mortality.pdf
7. The mismeasure of discrimination. Faculty Workshop, University of Kansas School of Law, Sept. 20, 2013.
http://jpscanlan.com/images/Univ_Kansas_School_of_Law_Faculty_Workshop_Paper.pdf
8. “Measuring Health and Healthcare Disparities,” Proceedings of the Federal Committee on Statistical Methodology 2013 Research Conference. (March, 2014)
Paper: http://jpscanlan.com/images/2013_Fed_Comm_on_Stat_Meth_paper.pdf

Presentation: http://jpscanlan.com/images/2013_FCSM_Presentation_pdf_.pdf