Letters to the Editor

ADULT HEALTH BEHAVIORS

In the recent article, "Trends in Socioeconomic Inequalities in Adult Health Behaviors Among U.S. States, 1990–2004" (*Public Health Reports*, March/April 2007, p. 177–189), Sam Harper and John Lynch used multiple years of the Behavioral Risk Factor Surveillance System (BRFSS) to investigate the socioeconomic inequality of various health behaviors at the state level. The BRFSS is a valuable dataset in that it is the largest ongoing national telephone survey, with hundreds of thousands of participants each year. Analyses, such as Harper's and Lynch's, are imperative to the public health community's understanding of health disparities; more specifically to this article, how socioeconomic disparities translate to health behaviors.

When evaluating their study, we are concerned about state-level differences in BRFSS response rates. States have autonomy over how the BRFSS is executed (i.e., questionnaire length, whether data collection is in-house or contracted out, sampling design), which subsequently differentially impacts the final state-level response rates. Further, BRFSS response rates declined on both the national and state levels over the past decade. In 1994, the median response rate was 69.9%, with Michigan reporting the lowest (42.6%) and North Dakota reporting the highest (86.8%).[1] By 2004, the median response rate for the BRFSS was 52.7%, with New Jersey reporting the lowest response rate (32.2%) and Nebraska reporting the highest (66.6%).[2] If low response rates increase the possibility of survey error biasing results, how would this impact the calculation of the Relative Concentration Index and the reported results? Nonresponders are usually less educated, younger, and racially/ethnically diverse.[3] Could increases in the socioeconomic inequality of health behaviors over time be due to nothing more than nonresponse?

The study attempts to correct for nonresponse by using a sample weight provided by the Centers for Disease Control and Prevention (CDC) in the analytic stage. This correction weight works by bumping up the BRFSS numbers to match the age, gender, and racial distribution of the targeted population for that state. Yet, the underlying assumption is that nonresponders answer all survey questions identically to those responders in the same age, gender, and racial category. However, the amount of bias introduced by nonresponse depends not only on the proportion of the sample that fails to respond, but also the extent to which the nonresponders are systematically different from the entire population. We do not know how nonresponders to the BRFSS differ beyond age, gender, and race from those who respond. It would be prudent to assume that the nonresponse correction weight will not effectively eliminate nonresponse bias.

The authors assert that their results "represent the 'true' population health and inequality burdens of these behaviors given the actual demographic composition of the state" (p. 187). Research evaluating the extent of nonresponse bias in the BRFSS and the validity of the missing completely at random assumption that the CDC-provided sampling weights imply is sorely needed. Until the time when such methodologic research is available, researchers using BRFSS data should consider the role of nonresponse bias as a noncausal explanation and heed caution when interpreting their findings.

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HARPER AND LYNCH RESPOND

We thank Karen Schneider and Kate Lapane for their letter[1] and their interest in our article[2] on socioeconomic inequalities in health behaviors. The substance of their letter deals with the question of nonresponse bias and the extent to which it may have played a role in our findings. They note that response rates to the Behavioral Risk Factor Surveillance System (BRFSS) surveys are low, have declined in recent years, and vary by state and demographic characteristics, and they suggest that these circumstances could bias our results;

however, they offer no specific mechanism for how this could explain the pattern of findings in our study.

The assumption that low response rates actually generate response bias rather than simply the potential for such bias is important, but currently lacks robust evidence. A recent systematic review of 30 studies of nonresponse bias concluded that, while nonresponse bias does occur, the overall survey response rate is a poor predictor of the magnitude of bias.[3] Thus, the fact that the BRFSS response rates are low and differ by state does not, on its own, tell us much other than that the potential for nonresponse bias exists (as it does for virtually all surveys), and Schneider and Lapane do not present any evidence that the BRFSS response rates generate a pattern of nonresponse bias that could explain our results.

They do, however, cite evidence[4] that nonresponse may be related to education, age, and race or ethnicity, but the fact that nonresponders are less educated, younger, and less diverse in terms of race or ethnicity says nothing about the potential for bias unless those who ultimately participate respond differently with respect to health behaviors than those who do not participate would have responded, had they actually participated.

It is worth noting that the study they cite to support their claim[4] found no difference between those interviewed and not interviewed with respect to smoking, alcohol use, and body mass index, which is also consistent with a recent national survey on nonresponse bias in telephone surveys.[5] Furthermore, for nonresponse to account for our results the pattern must differ by socioeconomic position, health behavior, and over time, because our results were diverse: we found relative socioeconomic inequalities increasing for cigarette smoking, binge alcohol use, and physical activity, but declining for obesity and seat belt use. Schneider and Lapane provide no causal mechanism to suggest how nonresponse bias produced these heterogeneous trends. In addition, the overall trends we reported among U.S. states are consistent with evidence from nationally representative U.S. surveys.[6,7]

Finally, we think Schneider and Lapane may have misconstrued our statement that our estimates "represent the 'true' population health and inequality burden" among U.S. states.[2] We did not mean to suggest that our estimates were completely free of error (hence the quotation marks around the word "true"), but rather, for the purpose of monitoring burden in the population, there are plausible reasons for not adjusting state estimates to some arbitrary age-, race-, and sex-demographic standard. We apologize if this was not transparent in the article. Overall, while we remain generally confident that our assessment of trends in socioeconomic inequalities in health behaviors represents changes that are indeed occurring at the population level within each state, we agree with Schneider and Lapane that more research on nonresponse bias is necessary for understanding its effects on monitoring health disparities.

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WRITTEN CONSENT FOR HUMAN IMMUNODEFICIENCY VIRUS TESTING

Despite broad awareness of human immunodeficiency virus (HIV) and availability of testing and treatment, it is estimated that one in four people who are HIV infected are undiagnosed.[1] Because early diagnosis results in improved survival[2] and behavioral changes that reduce the risk of transmission,[3] increased testing could improve survival and limit transmission.

Recent Centers for Disease Control and Prevention (CDC) guidelines support increased HIV testing through simplifying the consent process, including removal of the separate, HIV-specific written consent.[1] However, laws in New York State and elsewhere require written informed consent prior to testing. While pretest counseling requirements and lengthy consent processes are cited by providers as barriers to HIV testing,[4,5] there is limited evidence regarding whether

the specific requirement for written informed consent poses a barrier.

From July to September 2006, the New York City (NYC) Department of Health and Mental Hygiene (DOHMH) interviewed 162 family practice and general internal medicine physicians practicing in three selected high-HIV prevalence areas of NYC. The selected areas, in the Bronx, Brooklyn, and Manhattan, have estimated HIV prevalences of 2.1% to 2.9%, compared with an estimated 1.2% HIV prevalence for NYC overall (unpublished data, DOHMH HIV Surveillance and Epidemiology Program). Each physician's office was visited by a health department representative,[6] who collected information about barriers to HIV testing prior to providing an educational session on HIV testing and prevention. The survey included the question: "If written consent were no longer required, would you offer more patients an HIV test?" One hundred thirty-seven physicians (85%) responded. Fifty-two (38%) answered "Yes," that they would offer more patients an HIV test if written consent were no longer required.

If the physicians surveyed in these high-burden NYC neighborhoods who responded "yes" to the survey question (n=52) tested between one more patient per week and one more patient per workday, about 15 to 74 additional HIV infections would be diagnosed by these physicians annually, based on the HIV prevalence of the areas in which they practice and the estimate that 25% of HIV-infected people are undiagnosed. If 38% of all NYC family practice and general internal medicine physicians similarly increased testing, an additional 332 to 1,659 HIV infections would be diagnosed annually, based on the citywide 1.2% HIV prevalence and the estimate that 25% of HIV-infected people are undiagnosed. These projections may underestimate the impact of removing written consent requirements, as they do not consider potential increased testing by physicians in other specialties.

This survey does have limitations. The convenience sample of physicians may have introduced selection bias. And physicians might be more likely to respond with an answer that is perceived to be desired by the representatives. Also, physicians in these high-burden neighborhoods might not be representative of other NYC physicians.

Our data do, however, suggest that more than one-third of primary-care physicians in NYC would increase the frequency with which they offer HIV testing if the requirement for written informed consent were removed. These results add urgency to the need to reform HIV testing laws in New York State and elsewhere.

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