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January 25, 1999

Edward J. Sondik, Ph.D.
Director
National Center for Health Statistics
6525 Belcrest Road
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Dear Dr Sondik:

Thank you for your letter of January 20, 1998, concerning the materials I sent to Surgeon General
Satcher and Assistant Secretary Hamburg.   I thought I should respond briefly, however, regarding
your point about absolute differences.   Unfortunately, while reliance on relative absolute changes
in rates of experiencing some condition as a means of interpreting the changing relative status of
two groups at least does not lead to opposing conclusions depending on whether one examines
success or failure, relative absolute changes in rates is just as flawed a measure as relative
proportionate changes in rates.   For, just as two groups with different average susceptibilities to
some condition would be expected to experience different proportionate changes in rates of
experiencing the condition when there is an overall change in the prevalence of the condition, such
groups will be expected most of the time to experience different absolute changes in rates of
experiencing the condition when there is an overall change in the prevalence of the condition.

I use the phrase "most of the time" because there will be situations where the absolute change in
each group's rate would be expected to be the same.   The situation in Table 1 of the article from
Chance is one such situation.   However, such situations are relatively rare.   Thus, because it
might suggest that when a test cutoff if lowered (which is the same thing as an overall change in
the prevalence of a condition without a "true" change in relative susceptibilities) two groups would
experience the same absolute change in pass (or fail) rates, the hypothetical has its shortcoming.

In reality, the absolute change in rates each group experiences as a result of the overall changes in
the prevalence of the condition is a function of differences in the distributions and the place on the
overall distribution where the changes occurs, and most of the time the absolute changes will
differ.   I discuss the problem with the use of absolute differences in the enclosed unpublished
piece at 9-12.   I there also explain why the convergence of absolute infant mortality rates of
blacks and whites cannot be interpreted as demonstrating a narrowing in the gap between the
health of black and white infants.

The point can also be illustrated in the table in the attached copy of a page from a book on testing. It illustrates how at different points in the distribution lowering a cutoff will cause different absolute increases in pass rates for two groups with different average test scores.

Unfortunately, at a time of an overall change in the prevalence of some dichotomous outcome, interpreting whether there is any sort of true change in relative susceptibilities requires knowledge of the nature of each group's distribution of susceptibility. That nature may be knowable in situations where the outcome is artificially dichotomized, as, for example, where a test cutoff is established, a poverty line is defined, or (in areas closer to your interest) a standard is set for what constitutes low or very low birthweight. But I am not sure it is knowable in the case of true dichotomous outcomes. Possibly, given the high correlation of infant mortality/survival with birthweight, use of birth weights as a proxy for what may be the otherwise unknowable distributions of susceptibility to infant mortality may hold some promise.

Sincerely,

/s/ James P. Scanlan

James P. Scanlan

Enclosures