Letters

Randomized Response Technique

The proposal to use the randomized response technique to elicit honest answers about sexual behavior (Research News, 24 April, p. 382) has several flaws.

1) If a respondent were very anxious to hide any hint of unacceptable behavior, he might respond "no" even when the coin toss resulted in heads simply because the "no" response involves no risk of detection. Randomized response may make it easier for the respondent to admit to unacceptable behavior, but it does not guarantee honesty.

2) The number of cases required to produce estimates having a specified level of reliability with the use of the randomized response technique would be much larger than the number required in surveys using conventional methods because the randomization procedure substantially increases sampling error.

3) In any survey intended to estimate the prevalence of behaviors that affect the risk of AIDS, it would be necessary to analyze the resulting data by a variety of social and demographic characteristics in order to identify high- and low-risk groups. For example, we would want to be able to estimate the use of prostitutes by men classified by age and marital status. In order to make reliable estimates for each cell in such a table, the number of cases in each cell would have to be much larger than the number required in a conventional survey in which responses can be associated directly with respondents having specified characteristics. This further multiplies the number of cases required.

4) Any satisfactory analysis of an AIDS-risk survey would require the cross-classification of two or more risk factors, derived from responses to two or more questions. If the responses to these questions were obtained by the randomized response technique, the cell size would have to be huge. For example, if one question asked a man whether he had had a sexual relationship with another man, we would surely want to know whether any prophylactic measures had been taken. Imagine that both questions are asked in the randomized response mode and further that the analyst wishes to classify the respondents by age and marital status. It is easy to see that the whole enterprise would become unmanageable.

There are alternatives to the randomized response technique that may overcome respondents' reluctance to provide truthful answers to sensitive questions. For example, the use of a self-administered questionnaire in a conventional interview survey may help. A technique that reduces the embarrassment in providing honest answers to sensitive questions is to hand the respondent a card showing response categories, each associated with a specific letter. This enables the respondent to respond to the question with a letter ("A," for example), rather than an explicit description of the behavior in question. This method has often been used to obtain answers to questions about methods of contraception. Another possibility is conducting the interview in a clinical setting, free from familiar distractions, in which the respondent may feel the urgent need for honest answers. In any effort to estimate the prevalence of high-risk behaviors, it will be necessary to impress potential respondents with the protection of confidentiality and the need for honesty. The AIDS epidemic has raised the need for accurate information on patterns of sexual behavior to the level of a national priority, and every effort must be made to assure results that are accurate and reliable and that can be analyzed in an appropriate and useful manner.

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Risk Perception

The recent risk assessment issue (17 Apr.) contained a significant article by Paul Slovic on "Perception of risk" (p. 280). One point that he touched on deserves strong underlining. Slovic says "Risk concerns may provide a rationale for actions taken on other grounds. . . . [h]idden agendas need to be brought to the surface for discussion." This is especially true when one considers the media treatment of risk.

We in the scientific community must recognize the central role played by risk perception in the selection of television news broadcasts. The barely hidden agenda of every network or station is to sell advertising time, and the price is keyed to the ratings. Consequently the most important parameter in deciding what to cover and what to omit is the television channel's perception of what will boost the ratings.

Slovic's figure 1 is a scatter diagram of perception of familiar risks by the public, according to the parameters "unknown risk" and "dread risk." The upper right quadrant (representing "highly unknown" risk and "highly dreadful" risk) is a perfect menu for obtaining high television ratings. The public easily gets all worked up over the issues falling in that quadrant. Television coverage tends to emphasize both the unknown and the dread factors, thus pushing perception of risk further up. Several of the "risky" things in the upper right quadrant (notably nuclear power) seem to be there simply because television put them there.

It is fair to ask what things have been kept at low perception of risk by the influence of television. Smoking, alcohol, Valium, and several others in the low-dread category are historically associated with heavy television advertising budgets.

Scientific professionals need to be more active in drawing the attention of the public to the distortions of risk inherent in what passes for "news" on television.

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Cancer Control

Barbara J. Culliton (News & Comment, 24 Apr., p. 380) quotes Vincent T. DeVita, Jr., as saying that I have "departed with reality" because I do not agree with his rosy assessment of recent progress against cancer. While one might ask whether any reality is left at the National Cancer Institute (NCI) if I "departed with" it, the remark seems to disparage my views and discourage healthy debate. Culliton's article focuses on the defensive reaction of cancer officials to a recent General Accounting Office (GAO) report (*1*), but does not really explain the positions of GAO and others (*2*) who disagree with extravagant claims of progress.

"Reality" includes the following facts, all taken from a recent publication of the NCI itself (*3*), except as noted:

- The age-adjusted U.S. cancer *mortality* rate (1970 standard) rose from 162.2 per 100,000 population in 1975 to 170.7 in 1984. The preliminary cancer death rate for 1985 (from the National Center for Health Statistics) is nearly identical to the 1984 figure. I see no reason to omit lung cancer, but NCI does; the death rate for non-lung cancer was 125.4 per 100,000 in 1975 and 125.1 in 1984. Not much progress there, even by NCI's reckoning.
- The age-adjusted cancer *incidence* rate (1970 standard) for the Surveillance, Epidemiology, and End-Result registry area, our closest thing to national cancer incidence data, was 330.5 per 100,000 in 1975 and 351.8 in 1984. There is again no reason to omit lung cancer, but if we follow NCI, the incidence rate for non-lung cancer rose from 285.3 per 100,000 in 1975 to 296.5 in