Kleevens et al. (1) recently reported results of an acquired immunodeficiency syndrome (AIDS) risk group validation study. They inferred that heterosexual risk was validated in 82 percent of the cases originally so classified and in 22 percent of men and 60 percent of women among cases originally reported as having no identified risk factor. They verified AIDS risk classification at six US sites by using information obtained mainly from medical records; details on the information distilled were not presented. The report by Kleevens et al. may be misnamed, given that it is more a reliability study than a validity study (i.e., people may reliably provide the same false information repeatedly). A rigorous reliability study requires multiple methods of querying respondents rather than recording of unchallenged (2) medical chart entries. In a study of adolescents, use of computer-assisted questionnaires resulted in reported prevalences of homosexual activity that were up to seven times greater than those obtained through conventional methods (3).

A persuasive validation study would demand a multi-method search for invalidation of patients' self-reports, particularly given the literature on misreporting of sexual and drug use histories (4, 5). When epidemiologists in Chicago, Illinois, conducted a similar validation study (one that the authors failed to cite) by using various combinations of record reviews and personal interviews (of medical providers and patients themselves or their proxies), they reclassified 69 percent of originally "heterosexual" or unidentified risk cases into nonheterosexual categories (6). A yet more rigorous validation study requires additional investigative methods (5), including measures of response bias and physical and serologic (7) markers of injection drug use and anal intercourse. It is likely that use of such additional methods would dramatically reduce the number of insufficiently researched cases assigned to the heterosexual group.

AIDS case categories used by the Centers for Disease Control and Prevention (CDC) are asymmetrical and ambiguous. The "heterosexual" category fails to capture crucial transmission efficiency differences between vaginal intercourse and anal intercourse, and "men who have sex with men" is a cumbersome construct used to avoid the neutral term "homosexual" (and is less specific than "men who report receptive anal intercourse"). In the elucidation of modes of AIDS transmission, the dual danger of patients' misreporting their drug and sex histories and of misleading language is compounded by this CDC classification system. Deficiencies in risk factor assessment—whether a consequence of patient recall, misunderstanding, or lying or of interviewer vagueness or timidity—can yield inflated "heterosexual" or "unidentified" risk factor counts, because these can be used as default categories. Patients who report heterosexual contact may be pleading guilty to a lesser charge—not only because admitting to illicit drug use or anal or homosexual intercourse may be pejorative but also because, quite literally, injection drug use is illegal at all six sites studied, homosexual anal intercourse is illegal at three (four including California prisons), and heterosexual anal intercourse is illegal at two (8). Consistent with the tendentious CDC approach, Kleevens et al. (1) interpret the dearth of identified risk factors among the vast majority of nominally heterosexual partners as evidence of secondary transmission, ignoring the possibility that it may simply be evidence of the low validity of self-reported information. The widespread use of the confounded CDC classification system may have produced a spurious, albeit still quite small, "heterosexual" epidemic.

REFERENCES


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THE FIRST AUTHOR REPLIES

We thank Drs. Brody and Potterat for their letter (1) on our study (2). In response to the concerns they expressed, we wish to clarify the definition of two terms that are widely understood in the public health community but may pose a challenge to researchers in academic settings. “Validity” refers to the accuracy of a measurement not due to chance (3). “Surveillance” refers to population-based information that is collected, analyzed, and disseminated for public health action (4).

To evaluate the validity of surveillance systems in contrast to the validity of clinical research studies, chart reviews are usually conducted (4). Although a “gold standard” source of information on human immunodeficiency virus (HIV) risk has not been determined, in our study (2) we considered medical charts to be the most accurate source among the sources accessible to health departments. Physicians conduct individual assessments of patients’ medical and social histories; we should not assume that the confidential information a patient shares with his or her medical care provider is untrue. Drug use has legal implications; however, self-reported information on drug use is considered valid (5).

Having multiple sources of the same information is ideal but is more difficult to implement in a representative population. In our multisite validation study (2), in addition to the chart reviews, we interviewed persons with acquired immunodeficiency syndrome (AIDS) and their medical care providers. The Chicago HIV/AIDS surveillance program (Illinois) that validated mode of HIV transmission used chart reviews and interviews (6). However, differences in surveillance practices strongly determine the quality of risk information reported to surveillance programs to begin with.

We found wide variation in the likelihood of misclassification by area; findings from the Chicago study are consistent with these variations. Analysis of the interview component of our study is ongoing and should provide further insight into the issue of secondary transmission.

HIV/AIDS surveillance at the Centers for Disease Control and Prevention uses categories of transmission risk (7) that are ordered hierarchically on the basis of the risk factors most likely to have resulted in infection in the population. This structure is crucial for monitoring patterns of transmission and is not intended for ascribing risk to persons.

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RE: “WEIGHT HISTORY, GLUCOSE INTOLERANCE, AND INSULIN LEVELS IN MIDDLE-AGED SWEDISH MEN”

Carlsson et al. (1) found that the odds ratio for impaired glucose tolerance and type 2 diabetes mellitus increased with the length of time that the subject had been overweight (body mass index (weight (kg)/height (m)^2) ≥25.0). Duration of overweight provided information about risk in addition to that given by recent body mass index.

We had the opportunity to examine duration of overweight as an independent risk factor for impaired glucose tolerance and diabetes mellitus in data from the Air Force Health Study. In that study, the health status of male Air Force veterans who participated in Operation Ranch Hand in the 1960s (1962–1971) and of a comparable group of male Air Force veterans who served in Southeast Asia during the same period was studied systematically (2). Operation Ranch Hand involved potential exposure to the herbicide Agent Orange. The veterans in the comparison group were matched to Ranch Hand subjects by age, race, and military occupation. Physical examinations have been conducted periodically since 1982. The 1992 examination included a glucose tolerance test, during which 100 g of glucose was given orally and serum glucose was measured 2 hours later (3).

We analyzed these data by using methods nearly identical to those used by Carlsson et al. for their table 1 (1, p. 542). Our subjects were classified as having normal glucose tolerance, impaired glucose tolerance (2-hour postprandial glucose level >140 mg/dl (>7.8 mmol/liter) and <200 mg/dl (<11.1 mmol/liter)), or type 2 diabetes mellitus (2-hour postprandial glucose level ≥200 mg/dl (≥11.1 mmol/liter)). Data on waist circumference but not on hip circumference were available to us. Family history of diabetes mellitus was based on the subject’s report of diabetes in a parent or sibling. Data on body habitus at the time of service in Southeast Asia (>20 years previous) were based on military records.

We included in our analysis only those subjects who had complete data for body mass index at the time of military service (>20 years previous), in 1982, and in 1992; who had available data on waist circumference; and who had undergone the glucose tolerance test in 1992 (308 subjects were