

DISCUSSION OF THE SESSION

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I am very happy to see a paper on quality indicators in a session on data quality standards. I worry that there may be a general tendency to forget about the direct measures of data quality when standards are followed in survey. Indeed, this has been one of my biggest reservations to promoting the use of standards for the surveys. I believe their ability to improve the quality of data has been somewhat oversold. For example, in 1983, EIA discontinued all of their field validation studies in favor of a mandatory data quality standards program. Apparently, EIA believed that quality auditing is superior to monitoring data quality through the quality indicators provided by their validation studies. I'm not convinced, however. Nevertheless, I am in agreement with the paper by Dave Bayless and his co-authors and the paper by Stan Freedman. I do believe that standards can have a positive influence on the quality of survey data. It is just that standards by themselves are not enough.

Stan Freedman discussed a number of ways that standards can help data quality. Let's review some of these. First of all, standards can inform survey personnel as to a) how they can do their jobs better and b) what their supervisors expected from them. This in itself is a real benefit and it is true regardless of whether standards are mandatory or optional. Secondly, by introducing standards, management emphasizes data quality to its employees. The message is that data quality is important and that all should be concerned about it. Then, perhaps workers will begin to talk to one another about quality which will increase their awareness of it and, hopefully, will motivate them to learn more about it and to perform better. Third, if standards are enforced, they can ensure conformance with an ideal

level of performance or at least a minimum standard level of performance by survey personnel. To the extent that the improved performance by the survey personnel affects the data, data quality can be improved. For example, documentation of computer programs and survey procedures can be improved by standards and this can indirectly affect data quality. Fourthly, file formats, data structures, variable definitions and codes and so on can be standardized across data collection programs which, besides increasing the efficiency of data processing, encourages the comparison and checking of data between surveys. Thus, surveys have higher consistency and greater face validity. There are other advantages to using standards but I believe those were the major ones.

On the other hand, as I have mentioned earlier, because standards can have such a great impact on the "face validity" of the data, they can encourage a false sense of security about the quality of the data. Data presentation reports look better, documentation is more readable and better organized, estimates are more consistent between programs. Therefore, one tends to accept that the data must be of high quality. Of course, this may not be true. In addition if standards are not enforced there is the risk that they will be ignored. If they are enforced, the auditing body may be regarded as the "data policeman" of the organization and resentment could build between the auditors and the audited. This could focus attention away from data quality issues and more toward just passing the quality audit. Further standards often do not distinguish between the critical areas and those which are less important. Therefore, each statement or rule receives the same priority by the users. This has to be considerably less cost

efficient than an implementation strategy which would devote more resources toward complying with those standards which are critical before addressing those which are less so. Neither EIA nor CEDCARS attempts to prioritize or rank their standards. Finally, there is a risk that compliance with the standards becomes a substitute for data quality studies. Here I'm referring to studies that provide direct measures of data quality via quality indicators such as those described in Bob Groves paper. If these problems can be held in check, then standards can offer substantial benefits to survey data quality.

It is interesting that some statistical agencies see the need for standards while others do not. For example, neither the Census Bureau, BLS, nor NASS use data quality standards. However, NCES, NCHS and EIA do use them. As Stan Freedman mentions in his paper, adoption of data quality standards is usually in response to obvious problems with data quality. Perhaps this implies that the organizations that would benefit the most from the use of survey standards are those who are experiencing the most visible data problems. This would seem to support the argument that the benefits of standards may be more cosmetic than substantive.

In closing I found all three papers to be very well-written and important contributions to the development of standards and quality procedures in Federal Surveys. The Bayless, Cahalan, Stufflebeam paper provides an excellent background and theoretical structure for the standard setting process. I believe Bayless and his co-authors should be congratulated for providing one of the most extensive coverages of quality standards development in the literature today. I particularly enjoyed his definition of quality improvement as the process of

closing the gap between current practices and best practices (which we hope are reflected in the standards). This strategy of moving current practice toward the standards will succeed in continually improving data quality only if the standards truly reflect the best practices. I believe this underscores the need for more methodological research to determine what the "best practices" really are. In fact, I question whether his model of quality improvement can succeed without a program of mandatory standards coupled with an extensive program of methodological research for determining best practices.

The Freedman paper nicely complements the Bayless paper with a report on the success EIA has had with their standards program. There is an abundance of good practical advice in this paper from someone who has fought the battle of getting standards implemented and apparently won. I would like to learn more about the content of the State of the Data Report he mentioned which focuses on evaluation of nonsampling error in the data. I applaud EIA's efforts to develop the link between standards, quality control procedures and nonsampling error.

Finally, Bob Groves, who has become the sampling statistician's major liaison with the social science discipline, has again provided a paper which builds another bridge between the two disciplines. His paper describes a number of interesting ideas for forming indicators of data quality, many from social science literature. I was only a little disappointed that my favorite quality indicators, namely edit failure rates, item nonresponse rates, and the percentage of cases requiring follow-up, did not receive a mention in his review.