

DISCUSSION

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My comments on the paper by Drs. Rosenberg and Lunde will be restricted to a few major points which I feel need elaboration.

1. The paper refers several times to existing Federal-State-local cooperative programs, and recommends their extension and elaboration. These programs have been very helpful. They have been a primary focus of good quality statistical work at the State and local levels, and are the most immediately receptive points of Federal contact for improving State and local professionalism. There is, however, a unique reason for these features which should be clearly understood. Every one of these cooperative programs, except the one on population estimates operated by the Census Bureau, is primarily Federally-funded. For example, it is my present understanding that of the 52 State programs on labor statistics funded by US-DOL, 36 are 100 percent Federally-funded, and in the remaining States the funding is primarily Federal. Certainly there is far more and better statistical output because of these programs, and hopefully they are educating and addicting State and local governments to good quality statistics. But whether their presence has stimulated increased professionalism and professional statistical positions in other functional areas funded by State and local governments is not clear.

The Federally funded local professional statisticians in these programs not only produce statistics required by the Federal Government based on designs and specifications developed in the parent Federal agency, but also do professional statistical work of primary use by the State or local government, and designed by themselves fitted to State and local needs. This is in considerable contrast to the non-Federally funded cooperative program of population estimating. In this case, the professional work is done 100 percent by the parent agency, with some exceptions. The role of the State and local staff is primarily to provide input. It is not clear that this kind of program is stimulating state and local demographic professionalism, since it does not provide professional statisticians working on State and local demographic issues. (However, as an important aside, this program is an important protection to the objectivity of population estimates by making them relatively free from State or local political pressures. The local demographer is of course far more exposed to political pressure than the Federal Government. This is no mean advantage.)

2. The paper speaks of the difficulty of defining the term "statistician," and how it means different things to different people. It also makes various recommendations for improving the quality of State and local statisticians by training programs, expanding the cooperative programs, encouraging uniform professional standards, and other means. It makes only passing reference to the naiveté of administrators and the possibility of developing brochures

aimed at administrators about what statistics can do.

It is this last point, the naiveté of administrators, which in my judgment is a major problem, perhaps the paramount problem in upgrading State and local statistical professionalism. It must be clearly understood that there are practically no autonomous professional statistical services in State and local government. There are no parallels to such Federal agencies as Census Bureau, BLS, BEA, NCHS, NCES. With some exceptions in health, to the best of my knowledge most statistical positions are either individual positions or small units embedded in operating agencies with layers of Divisions and Bureaus over them. A few are in central planning agencies. Most administrators are abysmally ignorant of the planning, programming and managerial benefits of professional statistical operations. They tend to think of a statistician simply as a data collector. Sample survey design, statistical quality control, statistical modeling, and other technics of modern statistics are essentially unknown or dimly known to the typical highway, police, budget, revenue, fire, school administrator. In accord with this ignorance of modern statistical methods, the primary mission of whatever statistical work is done tends to be data gathering rather than professional statistical applications.

There are individuals sprinkled through State and local government who are doing professional level statistical work. But they are usually not called statisticians. Some administrators sort of intuitively know that certain things should be done that are statistical, and in filling a job they seek a subject-trained applicant who also has some statistical training. That is why such persons are sometimes found in subject matter positions. But the administrator can seldom articulate that his need is for professional statistical help or even recognize it in those terms very clearly. Thus having the job labeled something else ("educational analyst," etc.) is actually a protection because it permits a salary level that it could not attain if it were labeled "statistician."

Approaching the problem from this perspective, I suggest that the level of statistical work in State and local government is not likely to improve substantially until the subject matter administrators who make budget allocations are educated to the usefulness of modern statistical methods.

How can we raise the level of understanding of Departmental administrators? One way, as stated briefly in the Rosenberg-Lunde paper, would be to develop a series of educational brochures, each containing brief case studies and examples of how professional statistics can improve management--"How Statistics Can Help the Fire Department," "How Professional Statisticians Can Help the Board of Education." Another way is

to design a series of seminars for administrators, perhaps one-half day each, in addition to seminars for statisticians which are suggested in the paper. These perhaps could be prepared cooperatively with subject-matter professional associations, and given at professional meetings or by a statistician on the administrator's home ground.

In this connection the paper mentions "that about 13 States had established (central statistical coordinating units) as of 1968, but by 1977 there was not much evidence that earlier momentum had been sustained; indeed, some of these offices have since been disbanded." In my opinion we would gain considerable insight by pursuing this matter, such as investigating why momentum has not been sustained and some earlier efforts abandoned. I wish to propose some hypotheses:

(a) We are all aware of the severe budget contractions of State and local government in recent years. As a rough generalization with numerous exceptions, when budgets contract staff functions tend to be affected more severely than line functions. The garbage has to be collected, the potholes filled, the schools run. "Coordination," "planning," "research," and other staff functions being less directly visible to the electorate, are the easiest to cut.

(b) In accord with remarks made above, even to the administrator the benefits of "statistical coordination" are not clear enough to save the function when budgets contract. Indeed, this poor administrator understanding of what professional statistics can do to improve planning and management is a large factor in making these "central coordination units" rather powerless and ineffective offices when they are set up. Without authority to impose conformance to standards or to go into operating agencies with professional techniques, and without professional staff capable of doing this, it is not surprising that "central coordination units" cannot accomplish much.

3. Most of the recommendations made in the paper are aimed at raising the professionalism of the State and local statistician. With respect to this target population the recommendations are good. But I have suggested above that in my opinion this is not where the principal problem lies. If, due to naiveté of administrators there are few State and local professional statisticians and what ones there are have very little authority to act, then improving professional skills is likely to have minimal effect on improving State and local statistics. I wish now to suggest another major source of poor State and local statistics, far more serious than low statistical professionalism. Regardless of the quality of statistical analysis, such work must deal with existing data. If the data do not exist, good statistical professionalism can theoretically design survey or other procedures to generate original data. In fact this is seldom done at the State and local levels because the funds necessary to generate original data, even on a sample basis, very seldom exist. As stated earlier, the Federal statistical

agencies that generate original data primarily for statistical purposes have almost no counterpart in State and local governments. The overwhelming source of statistical information other than that generated by the Federal Government is operating programs. In theory there is a cornucopia of information in operating files. But from the point of view of the practicing statistician, sophisticated statistical know-how pales into insignificance compared to the frustration of working with local operating files. An adequate discussion of this matter is beyond the scope of these comments. Suffice it to say here that, for the purpose of coherence, we may divide the problems and limitations of operating files into three general categories.

(a) Operating file organization and content seldom match the statistical need. An operating file is designed primarily to serve a daily operating mission--getting out water bills or tax bills or welfare checks or payroll, or assigning police or fire trucks fast, processing license renewals or violations of various codes, or making property assessments. File organization and content for statistical analysis for community planning, or management improvement, or to enable use of one agency's records to improve another agency's operations, or any purpose other than the immediate primary mission of the agency, is secondary and usually ignored, indeed isn't even perceived. Two examples:

(1) Every property assessment file has a land use code. This code is usually designed solely to distinguish properties necessary to make an assessment. Land use is the single most important datum for physical planning, but the land use code designed by the assessors' office is usually so abbreviated as to be of very limited use to the physical planner.

(2) Every housing code violation file has a violations coding scheme. Housing code violations can theoretically be a fertile source of information on housing condition. But a coding scheme that does not distinguish, say, between big cracks and little cracks, that counts 25 cracked windows as 25 violations, etc., while adequate to enforce the housing violations code, is virtually useless to evaluate the condition of a structure.

(b) Lack of automation. Numerous files of a local government, potentially of great statistical value, are effectively inaccessible because they are manual. One cannot stratify, sort, select, screen or do much of anything with them in any realistic time or cost frame.

(c) Poor quality. The quality of many operating files is atrocious. They are riddled with omissions, duplications, errors, anomalies, inconsistencies, undefined terms. The quality is often good for those few items of critical importance to the primary operating mission, but deteriorates rapidly for less critical items. Yet it is these less critical items that are often the most important to the statistician.

In the first instance, improving the level of statistical professionalism is not likely to

improve the quality and usability of operating files. But it can have a substantial effect if the professional statistician is utilized to address this issue. He can design statistical quality control procedures, computer edit checks, mediate between the data collection activity of the source agency and the needs of central and other agency planner, e.g., modifying coding schemes to make a file more useful to other agencies or for statistical purposes. The District of Columbia has a central professional statistical service. One of its major functions is to maintain an inter-agency computerized information system. This system obtains diverse operating files, integrates them so that unit records match, and then selects items from each file to permit statistical surveys and analyses far beyond anything possible from the separate

files. In the course of matching files we impose both internal and cross-file computer edit checks. Each year we turn up thousands of errors this way, research and correct them, and feed them back to the source agencies, and thereby steadily improve their file quality.

If statistical staff is utilized this way, the upgrading of statistical professionalism can be of direct immediate benefit to operating agencies, whose needs almost always have budgetary priority over such luxuries as statistical analysis, management and planning. I submit that presenting the matter in this perspective may be one of the most fruitful ways to generate executive support for statistical professionalism in State and local government.

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