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Police administrators have accepted statistical reporting as an essential administrative tool, but in general modern statistical techniques have not been widely employed. Descriptive statistics are recognized in the police field, but sampling methods have been slow to gain acceptance. Sample surveys and the methods of drawing useful conclusions from them constitute the essence of modern statistics.

The need for the broadest possible factual data for decision making and the formulation of policies is admitted by enlightened police administrators. How to get these data in time to be useful and without insuperable cost problems has proven baffling. The result is that many decisions are reached on the basis of informed opinion or the hunches of superior officers in the department. Just as the development of uniform crime reporting has brought a new approach in that field so the extension of statistical techniques promises a new approach in the general area of data gathering.

DESCRIPTIVE DATA

The development of uniform crime reporting, since 1930, has served to acquaint police departments with systematic statistical procedures operating within the framework of standards and definitions prescribed by a representative group of police officials. The work of the Committee on Uniform Crime Reports of the International Association of Chiefs of Police and the work from day to day of the Federal Bureau of Investigation has made police departments conscious of the significance of data and more particularly of comparable and reliable data. The fact that crime reports not meeting the standards will be excluded from the published Uniform Crime Reports has brought persuasive pressure upon the local departments in the direction of improving their reporting procedures (1). While it would be naive to assume that complete uniformity has been achieved, the fact that even the largest cities have on occasion been induced to change internal procedures, which were yielding unacceptable data, is most encouraging.

In uniform crime reporting the statistician faces an intriguing problem in that the "universe" of crime is only in part described by "offenses known to the police." The relationship between known crime and total crime is unknown, and is, in part at least, a function of the intensity of police activity. Thus, it is still possible to have a "statistical crime wave." Intensification of police activity, which may increase total known offenses, may also result in improved measures of operating efficiency such as clearance rates. Obviously, the statistical aspects of crime reporting are so closely

bound up with public and departmental judgments of efficiency that there is always the temptation to use crime reports for the purpose of disciplining precinct commanders. This will inevitably lead to closing the "squeal book." The existence of a central complaint desk may not completely eliminate this situation.

The second major form taken by descriptive statistics in police administration is the annual report. Like uniform crime reporting, the annual report is descriptive and historical. The preparation of the annual report provides a major opportunity to set the operations of the police department in their proper perspective. This cannot be accomplished merely by masses of tabulated data on personnel, distribution of ranks, and salary scales. Likewise, summary statements of the number and disposition of offenses known to the department and characteristics of persons arrested and similar data do not exhaust the statistical possibilities in this field. One of the new perspectives is the need to set all police data in a community setting, which is more sophisticated statistically than "number of offenses per hundred thousand inhabitants." If, as Chief William H. Parker has pointed out, crime rates rise and fall with changes in economic, social, and political conditions, the police administrator would do well to present background data on the basis of which to judge specific police statistics. Information on population distribution and its characteristics, measures of economic activity, relief loads, and similar social statistics have a place in the annual report. Extensive use of modern methods of graphic presentation can give the report readability and make it an effective instrument for telling the police story in its community setting.

Sampling Survey Unit

The methods of descriptive statistics exemplified by crime reports and annual reports cannot give the police administrator all of the data he needs. In fact no routine large-scale reporting system is capable of the rapid low-cost flexibility of modern sampling work. It would seem that the fundamental answer can be provided by a sample survey unit within the police department. Business and industry have very generally used this approach for their decision making problems, ranging from consumer attitudes toward package design to control over the quality of manufactured products. Such a sample survey unit can be regarded as the new "intelligence unit" of the police administrator. It is not a records unit, which is concerned with the tabulating of masses of required reports. It is a small, professionally trained unit, which can be turned to any data-collecting problem which may arise from time to time.

The basic function of the sample survey unit would be to conduct surveys on a probability sample basis. Many administrators are suspicious of sample information, but yet they are willing to use data collected without any control and of unknown reliability so long as it is supposed to be "complete." The essence of a probability sample is that it provides a quantitative measure of its sampling error. With such knowledge it becomes possible to control the extent of the sampling error. Decisions must be reached as to the amount of error which is permissible, in view of the use to which the particular data will be put. In general, a reduction in the sampling error will involve an increase in the size of the sample. An understanding that error can

be controlled will lead to a determination of how much a specific degree of accuracy is worth.

To indicate the potentiality of sample survey techniques attention may be called to the Current Population Survey of the United States Bureau of the Census. This survey, which yields estimates of the number of employed and unemployed persons in the United States, uses a sample size as small as one out of every 2,250 households in the population. The relative sampling errors of the major magnitudes, for which figures are published, are now approximately 0.6%. This particular sample survey, like a great number of such surveys, is conducted on the basis of small geographic sampling units. The most convenient of these from the point of view of a sample survey unit in a police department is the city block. The decennial census of the United States publishes for most large cities basic data for each block and additional data for the census tract, which is an area made up of about ten adjacent blocks. These data on population characteristics and economic status can be brought up to date by sample surveys, thus giving a sense of trend. Maps are available for most cities showing on a fairly large scale each city block with information on the characteristics of each building on the block. These are the Sanborn maps which, although originally designed for use in the fire insurance business, have become an essential tool in survey sampling (2).

Recent work in the police field has shown a growing understanding of these new statistical perspectives. The study by Captain G. Douglas Gourley of public attitudes in Los Angeles toward police is an example of a sample survey in this important field (3). The attempts to place patrol coverage needs on a scientific basis have led to many studies on the allocation of manpower. Reports of this type have been prepared in such cities as Philadelphia, New York, Chicago, and Wichita and are encouraging attempts to develop satisfactory criteria (4). The lack of accurate work measurement devices in the police field has resulted in the necessity of making assumptions as to "work load," "police hazards," "average time spent on a complaint", and similar concepts. Many departments have been reluctant to engage in large-scale research projects because of the cost and time factors involved. A sample survey unit would be most helpful in these situations.

Police departments in the larger cities can develop within their own ranks personnel capable of manning a sample survey unit. It is important that the members of this unit should be practical police officers with statistical training rather than mere statistical technicians. Just as the professionalizing process in police administration has provided technically competent officers in other areas, so a rational training program in statistics can fill the need here. If, as has been said, "there is nothing more frightful than ignorance in action," then one of the most encouraging recent developments, one of the new perspectives, is the use of closely-controlled survey techniques to dispel that ignorance.

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