

Chapter XXIII

Statistics in Administration

VALUES OF STATISTICS. Financial accounting alone is not a sufficient recording of the activities of a social agency. Equally important for effective administration is service accounting derived from statistical records just as accurate and often quite as detailed as the financial records. Accurate statistical records, analytical of the various phases of the agency's program, regularly compiled, and comparing present performance with past experience of the agency, are essential to sound administration.

(a) *Interpretation of Agency Services.* Statistics, suitably interpreted, are one of the most important materials for accounting to contributors, taxpayers, and the community for the funds which have been invested in the agency's service. They form a measure of the extent and progress of service in a form easily understood (though sometimes perhaps they make too powerful an impression on the uncritical mind). They may be one of the chief materials by which the board determines the service program of the agency, and they are a vital factor in the adoption of budgets.

Every agency might well have a committee on statistics, the chairman of which at least should be a member of the board. Statistical reports, which give data for the past month, the year to date, and comparable periods of recent years, should be presented at each board meeting and discussed to bring out their full implications for the agency's program.

(b) *Guide to Operation.* For the administrator, statistical data, both current and comparative, are essential in planning the agency's service program as it fluctuates from month to month and year to year, in determining need for professional and non-professional personnel, and in distributing the responsibility for services among the personnel. For example, simple statistics of the increasing case load of a family service agency committed to an average load of 35 cases per worker would indicate when the time had come to add another

case worker. Similarly, reports on the number of cases carried per worker would help in the distribution of the load among the workers.

Moreover, figures of agency service enable the administrator to study the strengths and weaknesses of his service program and to detect gaps in service. For instance, if the record of registrations of and attendance in a group work agency showed small attendance and low registration in an activity which presumably should be popular, investigation might be made as to the reason for the shortcoming. The inquiry might result either in abandonment of the activity as not being actually needed or in reassignment of personnel to supply stronger leadership to meet the actual but unmet demand. On the other hand, another activity might show exceedingly high registration and attendance so great that the one professional staff member assigned could not give adequate service. In such a case additional personnel might be assigned; or the too-large group might be split into smaller, more cohesive groups for service at non-conflicting times or places.

Statistical records also aid in controlling the costs of the organization. Comparative costs of food per patient per day in a number of hospitals might be a guide either to more adequate diets for one hospital or to more economical purchasing by another. We mentioned unit costs in Chapter XXI; these are a combination of accounting and statistics!

(c) A Concern of the Professional Staff. Obviously, statistics are of concern to the professional staff. To a certain extent they measure the efficiency of the staff members and help to determine the assignment of professional responsibility. They are an aid to effective supervision and provide a stimulus to efficient performance. They are a tool for staff participation in management. The staff should advise on the establishment of the statistical classifications and procedures. It should provide the basic statistical records of its own services for compilation into the agency's statistical reports. Through group discussion of these reports, the staff should help to guide the agency's service and administrative policies.

(d) Helpful to Human Service. Statistics also are vital to the people actually or potentially served by the agency. Such data help to measure the adequacy of the agency's service, both in quantity and in quality. Related to over-all figures of community life and social problems, the agency's records of service help to determine the strategy of extension into areas of need or of withdrawal from others.

For example, Boy Scout organizations use, as a rough guide to their coverage, the number of boys of Scout and Cub age in the community as compared with the numbers of boys registered as Scouts and Cubs, and their extension services are planned accordingly.

(e) *Vital to Community Planning.* Statistics of all agency services in a community, collated by fields of service through the research bureau of a community council of social agencies and thrown against a background of community data, are vital to the planning activities of the council's functional committees and divisions and aid in allocating responsibility for service among the agencies in the community.

(f) *Essential to Budget Presentation.* Statistics of agency services, often combined with financial data to show unit costs of service, related to statistics on community needs, and showing trends from month to month and year to year, are helpful in the effective presentation of agency budgets before community chest budget committees. Similarly useful are cost-of-living data secured from national sources such as the Federal Bureau of Labor Statistics and related to the problems of the agency. For example, figures on the increasing cost of living, corrected for the community concerned, may be the determining argument for an increase in the cost of boarding home care for a child-placing agency. At the same time, records of increasing case loads for several years, projected into the year ahead, may show the necessity of providing for a greater number of children in boarding homes. Census data, actual and estimated, showing an increase in the community population may also help to secure a desired increase in chest allocation.

(g) *An Aid to Money Raising.* The community chest itself uses statistics in its analysis of givers by number and by size of gift in proportion to the population of the community and as compared with similar data on other communities compiled by the national organization, Community Chests and Councils, Inc. Thus, if your community chest shows only a fifth of its population giving, whereas comparable communities average one-fourth to one-third, more widespread and effective interpretation and a more thorough campaign organization may be indicated.

Throughout the whole length and breadth of social work, then, the compilation and reporting of statistical data is manifestly a major administrative concern of social agencies.

STAFF PARTICIPATION REQUIRED. Development of statistical procedures and their operation must be shared by the administrator with

his staff. Even from the standpoint of securing accurate, consistent, and practical data, workers must be brought into discussions on the development and use of such material. Statistical classifications must have the same meaning for all professional and other staff members concerned with the preparation and use of statistics, if each member is to carry through satisfactorily his individual responsibility as to statistical procedures.

It would be unrealistic on the part of the administrator to expect that all his staff workers will follow through consistently in the subsequent preparation of statistical data, if the data when compiled are not used and if the data are not ultimately shared with the staff as a means for guiding policy and for stimulating professional activity. It appears that a common complaint among staff members is, "What do they want with these figures and what do they do with them?" It is not a valid answer to say that the administrator makes use of these figures in some way known only to himself. The staff should be kept fully aware of the uses to which the statistical data are put. The whole personnel, in so far as it is competent, should share in planning the statistical program and in discussing its implications for the agency.

STAFF MUST PRODUCE BASIC MATERIAL. The professional staff must realize that it has a vital part in the statistical program. Usually the professional staff members are responsible for providing the basic data in respect to cases or groups which they handle. Preparation of statistical material should be part of the professional responsibility of each worker. Reports should be prompt, accurate, and in accordance with the classifications of data which have been established.

Records and statistics should be seen as part of the job of the case worker or the group worker and as fundamental to the case work and group work processes. A tendency on the part of some workers to feel that record keeping is something far removed and apart from their jobs has often been observed. Actually, however, it is an integral part of their professional responsibility.

STANDARD STATISTICAL PRACTICE PART OF THE OFFICE MANUAL. The statistical procedure of the agency, as produced through group discussion by the members of the staff, should be made part of the standard practice instructions and included in the office manual.

USE COMPETENT NATIONAL ADVICE AND DATA. The administrator and statistician should keep in touch with and make use of listings of and commentaries on continuing series of statistical data which are currently available and have value for the administrator. Some of

this material may come from the national organization of which the local agency is a part—as, for example, from the Family Service Association of America, the Child Welfare League of America, and the National Boy Scout and Girl Scout organizations. Another resource is the material on volume of service and of expenditure collected biennially in many fields—until recently compiled by the Federal Children's Bureau and now by Community Chests and Councils, Inc. From the Children's Bureau also material on juvenile delinquency may be secured. The Federal Security Agency produces important data on trends in public welfare, for both categorical and general assistance. Data on the cost of living may be obtained from the Federal Bureau of Labor Statistics.

RESOURCES FOR DEVELOPING AND MAINTAINING PLAN. The administrator need not develop the statistical plan of his agency out of thin air, through staff conference, or out of books, magazine articles, or pamphlets. Usually there are many resources that may be utilized in developing an adequate statistical system. Among these would be the research bureau of the local community council of social agencies, the national organizations of which the local agency is a part or is a member, the United States Children's Bureau, the Federal Security Agency, and others.

AGENCY COMMITTEE ON STATISTICS. Considerable help can also be gained through a competent committee on statistics. As has already been suggested, every agency might well consider organizing such a committee. The committee need not be made up entirely of board members but may include people from the community who are familiar with research and statistics—such as qualified members of the faculties of local colleges or universities, research executives of local utilities, the statistician of the chamber of commerce, and other statistically minded citizens. The members of this committee from their statistical knowledge will contribute to the successful practice of sound procedures within the agency. Moreover, through the statistics which the outside committee members help to produce, they will learn more of the work of the agency than they otherwise would and will become interpreters of its services. A committee on statistics is another one of the numerous means which the agency should use to weave the community into its program.

ADMINISTRATOR'S RESPONSIBILITY. Although the administrator need not be a statistical expert, he should by all means have a knowledge of at least the elementary principles of statistics. That means some-

thing more than having a little arithmetic. He should keep in touch with current developments in the statistical field through reading important books and other published material on the subject. Similarly he should expect the person who handles the statistics for his agency to keep up with developments and apply these principles in his work.

WHO SHALL COMPILE AGENCY STATISTICS? One person in the agency should be responsible for assembling and compiling the statistical data. In large agencies a specially trained and competent full-time statistician or director of research will be necessary. Smaller agencies do not need full-time statistical service. In these the task should be assigned to someone who not only can be trained in simple statistical procedures but also realizes the value of statistics in the work of the agency. This person might be the registrar, the intake supervisor, the executive's secretary, or in some cases a social-minded bookkeeper or auditor.

MATERIAL FOR STATISTICS. The material for statistics is manifold. It may include the number of clients or patients cared for during the month, together with various subdivisions as to age, race, religion, the kind of treatment given, and so on almost without end.

In an agency that does group work, statistics may further include attendance as well as registration. In group work statistics, care should be taken to secure an unduplicated count of the number of persons included in the various clubs, classes, and other groups.

Case work statistics may include the number of families and individuals served; the number of visits made by members of the staff or the number of other services performed by them; the causes of treatment or the contributory factors in the problems of the persons served by the agency; and the number of clients from each agency which refers cases to the organization.

In addition to the count and analysis of services rendered, the organization may also conduct statistical surveys to indicate situations which require attention—as, for example, the number of children within the agency's community, analyzed by age, sex, race, nationality, religion, and other factors which may be significant. Almost anything in the agency's area of service which can be counted or measured may be the subject of statistics.

The dual test which should be applied is (1) whether the figures collected make any real difference in the agency's work or in the at-

titude of the public or of clients toward the agency and its problems; and (2) whether the result from collecting, compiling, and publishing such statistics is commensurate with their cost in time, effort, and money.

MECHANISM FOR STATISTICS. Behind the presentation of statistics lies the mechanism for keeping statistical records. Financial statistics, such as the cost per patient per day in a hospital, mean the combination of financial and social bookkeeping. Volume statistics, which show the growth of the organization, the load of work for each worker, and other pertinent facts, are dependent on systematic keeping of records which permit the counting of particular items or acts. Each system of records should be adapted to the agency which plans to use it.

A large agency may have a statistical card for each person served by the agency. On the card will be recorded pertinent facts. From it and its mates significant summaries will be compiled. In addition, each worker may compile a report of services rendered and actions taken. Few agencies are large enough to use punch-card systems which automatically classify and tabulate all record data. These have great fascination, though!

A small social agency which does not require complicated statistical records can use for its statistical analysis a sheet much like the one it uses for its bookkeeping. Vertical columns for various classifications of activities would be set up across the top of the page. The days of the month would be listed down the side, with a line for each day running across the page. On a sheet like this a children's institution might analyze each day the total number of girls, the total number of boys, the number admitted, the number released, the number sick, and any other data which it found important. Each figure would be posted under the appropriate column heading. At the end of the month the only action necessary to compile the statistical report would be to add the various columns. The desired figures would thus be immediately available. This statistical procedure would be comparatively easy. It would require no elaborate form, and the data would be ready when needed. Almost any social agency can follow this general plan. Keeping records day by day reduces them to manageable terms. Simplicity in the collection of data is as important as simplicity in recording it, and the system should be thoroughly planned in advance.

INTERPRETATION OF STATISTICS. Statistics are only half completed when they have been collected for the specified period and prepared

in a carefully typed tabulation. They must also be interpreted. Explanation may take various forms:

(a) *Comparisons.* Statistics for the same month in several years may be compared, column by column, in a tabulation which will reveal important trends of increase or decrease. In the same columnar manner, that part of the year which has elapsed since the beginning of the current year may be compared with identical periods of previous years. Experiences of several entire years may be reduced to a tabular statement which will be helpful in showing trends. Various factors within the organization activities (for example, in a hospital, the number of full-pay patients, part-pay patients, and free patients) may be compared in the same manner.

Statistical statements of present performance may be compared with past experience just as profitably as those of current income and expense may be compared with the agency's past experience and with its budget. Relationships shown by comparative statistical tables may be expressed in percentages of change or in ratios of one year's experience to another's.

(b) *Graphics.* Statistical relationships may be presented graphically by bar charts which will show, in terms either of numbers or percentage of cases, the ratio of one period to another. Curves may be used equally well—either cumulative curves which reveal the total number of cases handled from month to month, with lines of different substance for each year; or curves of absolute total frequencies which indicate merely the fluctuations from month to month or year to year.

Graphic comparisons are useful in revealing relationships or trends which otherwise might not be suspected. They are of especial value in interpreting complicated tabulations to the lay person. By their use the past may be understood and the future largely predicted. Procedure thus guided may correspond more exactly to the actual needs for service by the agency than would be possible without graphic aid.

In the last few years striking interpretations of statistical data have been made through the use of pictographs, popularized by the ingenious pioneer work of the late Otto Neurath, originally of Vienna and latterly of New York.¹ Stylized figures to represent various kinds of data are repeated as units in simulated bar charts. Each unit figure represents a specified number of items. For example, one

¹ See Waldemar Kaempffert, "Appreciation of an Elephant," in *Survey Graphic*, February, 1946.

silhouetted baby might stand for 1,000 babies in a series of bars which showed the number of births in a city, year by year, for several years. Pictographs, now widely used in statistical comparisons, deserve still more extensive use by social agencies.

(c) *Written Explanations.* Important as charts, graphs, and pictographs are for the interpretation of statistics, the record of service needs further interpretation. The resourceful executive will add to his tabulations and charts a written explanation of the significance of various factors which may not otherwise be completely revealed.

For instance, the number of pay patients in a hospital might be greatly reduced for some months because a certain physician with a large practice left the staff after a difference of opinion and as a result brought no more patients to that hospital. Interpretation of this factor would illumine the drop in income. No statistics or charts could tell that story!

The executive will interpret his statistical report in divers ways. The secretary of a family agency might one month stress the importance of divorce as a factor in family dependency and explain some of the reasons for it. Another month, he might call attention to physical disability and explain those factors in it which would defy statistical analysis but would be revealed by the case records of the organization and the experience of the workers.

In these ways the statistical record can be given life and significance. The sole purpose of statistics, charts, graphs, and explanatory words is to give an interpretation of the work of the agency, of the problems it faces, and of the measures it must take to meet those problems. The resourceful executive, therefore, will take every possible opportunity to interpret those statistics by word and by chart. Thus illumined, those data will have significance to all who read or hear the agency's report—including especially the board, the executive, and his staff.

FALLACIES IN STATISTICS. Some statistics may fail of their purpose if they are not themselves illuminating and based on real distinctions. The ancient joke that there are three kinds of liars—liars, damned liars, and statisticians—may be applied to social service organizations as well as to others.

The playground director who counts one more boy every time a youngster comes into the yard (even though the same boy comes three times a day, perhaps runs across the street to chase a baseball, and then comes back) or merely looks at the playground and guesses "five hundred" (and guesses liberally so as to make no error on the

wrong side) is another kind of liar. So also is the social settlement worker who counts a little girl as one more user of the settlement every time she registers for a different club or class, so that if she belongs to ten groups she is ten little girls. Some not very competent agencies have been known to count a family every time a member came to the agency's office to ask for advice or help. We were almost (but not quite) fooled once by an agency which reported that it had given away 3,000 pounds of coal in a year. That sounded like a lot of coal until we reflected that 3,000 pounds is one and one-half tons. Ho-hum!

One experienced social worker expresses the dangers of fallacious statistics in the following words:

On statistics in group work, personally I should spend more time in describing the process, such as clubs, athletic fields, etc., than number of people. The statistics of a group organization should cover the number of group activities undertaken, and then the average attendance upon each activity. This will avoid that terrible result usually secured when all the people who come to any activity are added together so that we sometimes get a result greater than the entire population of the city. If, however, it could be said that there are three athletic teams, five study groups, one dramatic group, etc., and that each of them has an average attendance, or even membership, of so many, no such impossible totals could be presented.

In plain honesty, statistics should be based on valid distinctions and on a fair count of the activities of the agency.

As has already been suggested in our discussion of the charting of finances, charts also may lie in their presentation of statistical relationships. This would be the case when the chart begins at 100 per cent instead of 0, or when units of measurement are drawn on a scale which makes the fluctuation in agency activities seem unduly large or small. To the above groups of liars might therefore be added a fourth, the chart maker. Fallacious statistical charts and curves, however, increasingly carry their own penalty for the person who falsifies them. People are more and more learning good statistical and cartographic methods. One who either willfully or ignorantly falsifies such material will dig his own grave through the distrust of him and his agency that will be built up in the minds of all informed persons who see it.

One inherent fallacy, in addition to those of willfulness or ignorance, may be found in statistics: Ordinarily they do not interpret in human values the quality of the service rendered. Statistics present a count of numbers, whether in terms of human beings, of dollars,

or of acts. Numbers unaided cannot well show the quality of service rendered. One solution may lie in comparisons between statistics of like organizations, as when the figures of an agency of known excellence are compared with those of an agency of unknown excellence. For example, if a children's institution of admittedly competent dietary management has a food cost of 75 cents per child per day, whereas for an institution of unknown standards this cost is 50 cents, suspicion might arise that the second was not feeding its children adequately. Further investigation of the latter institution, however, might show economies of purchasing, or the receipt of large quantities of canned goods from the religious denomination to which the agency belonged, or some other factor which would legitimately reduce food costs. On the other hand, the first institution might be wasting considerable food and not giving a well-balanced diet. But comparative statistics may well be used, if merely to reveal a basis for inquiring into the quality of the service of the agencies whose work is compared.

UNIFORM STATISTICS. The qualitative value of comparative statistics suggests the self-evident fact that all social agencies which perform similar work in a community should use uniform service reports and uniform definitions of the classifications of their service, so that their work can be compared. Uniform definitions of statistical classifications are just as important as uniform classifications of fiscal accounts. It does little good to attempt to compare the cost per patient per day of hospitals, if in one of two maternity hospitals each mother and child are counted as two separate patients and in the other the mother and child are counted as one patient. In family case work agencies, public and private, difference may exist as to definitions of what constitutes a major care case and what a minor. All of these difficulties can be removed by careful analysis and by a growing understanding, on the part of social workers, of the importance of comparative figures.

Uniformity can more readily be secured if the community council of social agencies has a research department and a competent research committee, which work for uniformity of statistical procedures among the agencies and prepare comparable data for common use.

Manifestly, uniform statistical reports are desirable for social agencies throughout the country. Much progress in this direction has been made through the collection of data on volume and costs of services which, as already noted, was initiated some years ago by Community Chests and Councils, Inc., and the University of Chi-

cago, then taken over, developed, and extended by the Federal Children's Bureau, and most recently, because of the loss of federal appropriation, returned on a limited basis to Community Chests and Councils, Inc. This activity has been of great value in improving the quality of social service and community planning and in giving social agencies everywhere an opportunity to analyze their problems in terms of the experience of other communities and of other social agencies.

Through the development of these data it has been possible for the co-operating communities to make use of what might be called a "social service weather map" for each community and for a large part of the nation. This map shows the storms, the tempests, the fair weather, and the high and low temperatures of human welfare. If fully developed, these data will enable the whole country to predict the need for humanitarian activity, to plan great preventive measures, and to conduct social work on a higher plane than has been possible—with most communities going their own statistical way and many going no way at all.

That far-flung statistical plan would be the natural result of the development of good statistics in each individual social agency. Just as the health of the community is the health of the individual, so also good statistical activity on the part of each social agency will give data which may be useful to the nation as a whole. Adequate service reporting, statistically sound, is a vital factor in the successful administration of any social agency which wishes either to conduct its own work competently or to relate that service effectively to the social work of the community and of the nation. Brighten the statistical corner where you are!

QUESTIONS

1. In some typical social agency with which you are familiar, what use does the board make of agency statistics?
2. What use does the executive make of them?
3. What is the relation of the staff to statistical procedures?
4. Does the agency have a committee on statistics? If so, what are the qualifications of its members and what do they do about the agency's statistics?
5. What material does this agency have for statistics?
6. What mechanism does it use for collecting and assembling its statistics?

7. What comparisons of past and present data does it use?
8. How, if at all, does it use graphic methods in statistical presentation?
9. What other interpretation does it give to its statistics?
10. What fallacies can you detect in its collection or presentation of statistics?
11. Is this agency a participant in a community and/or a national plan of uniform statistical presentation? If so, what are the features of this plan?
12. How do you think the statistical procedure of this agency could be improved?