Quality-Quantity Measurement of the Public Assistance Visitor’s Job

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PUBLIC assistance agencies in the United States administer about $2.7 billion annually in public funds under assistance programs defined in Federal, State, and local law. The community has the right to assure itself that the money is spent within the purposes and limits of the law. The clients have a right to the services for which they are eligible under the law. The agencies have the responsibility to administer the programs within the law and to account to the public for the funds spent.

Various methods are now used by the State and local public assistance agencies to ensure proper and efficient administration of public assistance funds. This article describes a method of administrative measurement and control — statistical quality-quantity control—that has not yet been tested in any State and that is, indeed, not yet fully developed for use in any State. The method, while in the experimental stage in public assistance, is familiar and well-established in industry.

At the present time the experiment in public assistance is limited to the job of the public assistance visitor. The visitor, as the client’s principal contact with the agency, has the basic responsibility for determining the eligibility of recipients of public assistance and for providing other services within the scope of the defined assistance programs.

The Bureau of Public Assistance has organized a committee to work on a method for quality-quantity measurement of the public assistance visitor’s job. The committee members are drawn from the policy-development, administrative, training, and research staffs of the Bureau and represent both social work and research skills. The committee is not attempting to set up a specific plan of quality-quantity measurement with forms, instructions, and a method for analyzing collected data, because the States define differently the duties of the public assistance visitor and what constitutes good quality of performance. The objective of the Bureau committee, therefore, is to work out principles and methodology of quality-quantity measurement that are independent of, but can be adapted to, any State’s definition of job and quality. There is no intention in this experiment to set up Federal standards on the definition of the public assistance worker’s job or on quality of performance. The purpose is to help States measure and control the job done against their own standards of what the job is and on how it should be done. In its experimental work, the Bureau committee is cooperating with the Department of Health and Welfare in Maine, which is adapting the methodology to its own definition of the visitor’s job and expected quality of performance.

Relationship to Present Administrative Tools

The basic administrative tools and the objectives of quality-quantity control in public assistance are familiar and accepted in present administration. Any public assistance agency reasonably well-organized and well-administered has the following elements of continuing administration: (1) agency policies on the scope of its services and eligibility for them; (2) instructions to staff for carrying out the agency’s program; (3) job descriptions for caseworkers; (4) performance standards for caseworkers; (5)

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1 Since the project is still in an experimental stage, the Maine agency is not yet prepared to provide information on its project to other States.
preventive and corrective action whenever it is needed.

The unique contribution of the quality-quantity control approach lies in the way it proposes to accomplish its objectives, including the introduction into public assistance administration of certain specialized statistical techniques and theories, discussed later. It would seldom, if ever, be possible under a quality-quantity control system to use without modification any of the present administrative tools in public assistance. Many of the current policies, job instructions, and performance standards are too general or incomplete to be used in a system of measurement and control such as that described here. Supervisory reviews, State reviews, staff development programs, and research and statistics programs also would need additions and changes to make them integral parts of the control system. Quality-quantity control is not just a different way of using present tools; it is a system of defining and adapting those tools in relation to the central objective of administrative control as described below.

Under a quality-quantity control system, control represents a management tool with four essential elements: (1) defining explicitly and in measurable terms what is to be controlled and the standards of acceptable performance on controlled work; (2) testing performance against the standards of acceptability; (3) acting when standards are not met; and (4) improving and extending the control system.

**Setting up a Control System**

If a public assistance agency is to move toward the adoption of a quality-quantity control system, a series of steps related to the four elements mentioned above appears to be necessary. These steps follow logically one from the other, but the completion of each, even without progress to the next, would result in improvements in administration. The steps are set up this way to allow the gradual or partial establishment of a quality-quantity control system, with rewards in administrative improvement along the way to compensate for and counteract frustrations that may occur because of the length of time it may take to achieve a complete system or because a complete system is not achieved.

The necessary steps can be summarized as follows:

**Step I: Define the job expected of caseworkers.**—The public assistance agency sets up job units to cover the whole job of the visitor, determines the job units to be measured quantitatively and qualitatively, specifies explicitly the scope of work under each unit to be measured, and specifies explicitly how the worker is expected to do the work within the scope of the measured job units. The job units provide the quantity measure in work performance and are the units of performance to which tests of quality are applied. If an agency goes no further than this step, it would still gain by clarifying for the visitors the scope of their work and how they are to do it.

**Step II: Devise and select tools for review of the caseworkers' performance.**—The agency decides on the scope of work for which it plans to test quality, translates its definitions of what workers are to do and how they are to do it into questions that will test the acceptability of the workers' performance in the tested scope, identifies criteria for judging acceptable performance, determines the sources of information for review of performance, and constructs a review schedule with instructions. This step goes beyond step I in defining expected quality and lays the groundwork for a second aspect of quality-quantity control: testing to see whether workers are doing what is expected of them and in the way they are expected to do it. Even without progress beyond this step, supervisors are provided with a valuable aid for reviewing the visitor's work. Step II, however, leaves the supervisors on their own as to the use made of the schedule and interpretation of the resulting data.

**Step III: Train staff in use of testing schedule.**—Staff of the public assistance agency should participate early in the development of the quality-quantity control system. Representatives of various levels and types of personnel should take part in developing job units, quality definitions, and the review schedule (steps I and II). All workers to whom the test is applied should be familiar with the content and the purposes of the review schedule. This step assures the agency that the definitions of job units and quality are as close as possible to operating reality, makes possible more nearly consistent performance among visitors and more nearly consistent quality judgments among supervisors across the State, and adds to the sense the workers have of sharing responsibility for quality and quantity of work performed. Completion of this step still leaves supervisors on their own as to interpretation of the resulting data.

**Step IV: Set up a reporting system on job units completed.**—The State agency sets up a reporting system to obtain lists of job units completed in an appropriate time period by each visitor and a statistical summary of numbers of job units completed. The coverage of this reporting system may be partial or complete, as far as the total job of the public assistance visitor is concerned, but as a minimum it must include the job units selected for quality-testing. Step IV provides for a measurement of quantity of work performed.

**Step V: Develop a plan for local supervisory review.**—The State agency develops and puts into effect a plan for sampling job units reported in step IV, for quality testing the sample units by the local supervisor, and for summarizing statistically and charting the results of the review, by type of job unit and by worker. To obtain the greatest possible effectiveness in terms of locating substandard quality or quantity quickly and correcting it promptly at its source, quality-quantity testing must be brought as close as possible to the point at which the job is being done. For this reason, the actual testing of job units should be done by the visitor's immediate supervisor. The quality-quantity control approach assumes, however, that to achieve the most effective administration not only must all staff contribute to the quality and quantity of the final product but also all staff must have a sense of shared responsibility for that product. Quality-quantity tests of the public assistance visitor's work are essential in
the discharge of the supervisor's re-
ponsibility for quality and quantity. A routine, 100-percent rechecking of the visitor's work for quality, how-
ever, runs contrary to the principles of quality control. Such a check almost inevitably weakens the worker's feeling of responsibility for doing a good job in the first place and reduces the supervisor's role to that of a checker. The frequent quality testing of small samples of work product is the core of all quality-quantity con-
trol plans.

This procedure would not ordi-
narily add to the supervisors' task but merely substitute one uniform syste-
matic plan of testing for the various systems of case-record review now followed by individual supervisors. Step V provides the supervisors with a common plan for using the testing schedule and interpreting the results. The detail on the quality of individual job units can be a tool for identifying areas in which defects occur in each worker's performance and for focusing the supervisory conference on the aspects in which the worker needs individual help.

Step VI: Develop a plan for sum-
murization and State agency review. —The State agency sets up a State reporting system for collecting and summarizing, by district and for the State, the results of the local super-
visory review. Step VI exploits the potential value of the results of the local supervisory review to give dis-
trictwide and Statewide pictures of the quality of work done. The State can use the data, received in sta-
tistical form, as the basis for corrective and preventive action, where necessary. The statistical analyses may also be used for establishing and reviewing quality-quantity standards.

Comparing and combining the re-
results of the review assumes that the State has some method for assuring that the quality judgments made by the various supervisors are in fact consistent. For this purpose an inde-
pendent evaluation of the supervisory review is needed to achieve a reason-
able consistency in supervisory assess-
ments of quality of work performed and in interpretation of State poli-
cies. This purpose can be achieved through a postreview of a sample of the job units reviewed by the super-
visor and a comparison of results case-by-case for consistency. The postreview does not function as a duplicate assessment of the quality of the visitor's work but rather evaluates one phase of the supervisor's job: thus it may be used in training super-
visors and in improving supervision.

Step VII: Evaluate results and ini-
tiate corrective action.—The State agency sets standards of acceptable quality and quantity performance and allocates administrative responsibil-
ity for applying standards and initiat-
ing corrective and preventive action when indicated. Reports on quantity and quality of the visitors' work may show variations among counties that might be due to such factors as geo-
graphic distribution of caseload or differences in State supervisory direc-
tion. Variations among visitors within counties may be due to varying com-
position of caseload, of quality of su-
pervision, or of visitors' competence. If the source of difficulty indicates it, action might be taken to improve the visitors' planning of their work or the supervision given; to simplify policy and procedural requirements and forms, recording, and reporting; to relieve visitors of clerical duties and to furnish modern office aids; or to transfer visitors to caseloads and jobs for which they are better fitted or, if necessary, release them from employment.

Step VII brings in a third require-
ment of quality-quantity control; ac-
tion, when standards of quality or quantity are not met, to correct the factors causing the errors. "Standards," as used in step VII, refers to definitions of the number of job units to be completed for acceptable per-
formance (quantity) and of the ex-
tent to which defects may occur among individual job units without making the overall job unacceptable (quantity).

Step VIII: Evaluate and improve 
the total plan in operation.—The State agency develops and puts into effect a plan for continuing reassessment of the job units, of the quality tests, and of the standards of acceptable quality and quantity levels and for extending the scope of quality and quantity testing. Step VIII provides the final requirement for quality-control, a continuing reevaluation of the control system and adaptation of it to chang-
ing conditions.

Definition of Quantity Units 
and Quality Aspects

The Bureau Committee on Quality-
Quantity Measurement of the Public Assistance Visitor's Job has done most of its work so far on steps I and II—the definition of job units and of expected quality (quality aspects) and the de-
velopment of questions testing the ac-
ceptability of performance (testing-
points). Certain principles and as-
sumptions basic to such definitions 
have been evolved. The work involved in these two steps is of fundamental import-
ance to the whole project. If the project is weak in the definition of the job units, the entire structure built on these definitions will be ineffective. If the quality aspects cannot be reduced to measurable terms, con-
roll of quality in the sense used in this article will not be possible.

Quantity units.—Certain criteria in defining job units are considered im-
portant for development of useful units for quantity measurement:

1. The job units should represent work, not responsibility or case move-
ment. Frequently, size of caseload has 
been used as a quantity measure. The number of cases a worker carries, however, measures his responsibility, not his work. If one visitor carries 200 cases and another 100 cases, the as-
sumption cannot be made that the first visitor does twice as much work as the second. It is necessary to know how much work is invested in each caseload before quantity comparisons can be made. For this reason, also, quantity units cannot be related to case movement—that is, any change by the client toward better social, eco-

domic, or psychological adjustment. Case movement is sometimes used as a measure of the quality of the visitor's job performance in terms of re-
result, but it is not a measure of the quantity of work performed. Case movement often seems to occur with-
out any effort on the part of the visi-
tor, and, conversely, some cases show no movement despite considerable work by the visitor. Quantity units to 

2 Case movement is not used as a measure of quality in the quality-quantity control system being described here.

Bulletin, November 1954
measure the amount of work performed by the visitor would, therefore, not be defined, for example, in terms of cases rehabilitated and removed from assistance rolls.

(2) The job unit should be based on the purpose of a worker's activity and not on the activity itself. Measures of quantity of work have sometimes been based on such activities as home visits, office visits, and collateral visits. Activity units provide no logical basis for quality tests, which are derivable from the purpose of an activity. No judgment can be made, for example, on how well a home visit was conducted (or even whether it should have been made) unless it is known which of many possible purposes the visit was intended to serve.

The purposes of job units, on the other hand, are built into their definitions, so that activities in carrying out a job unit can be quality-tested in relation to the purposes implicit in that unit.

(3) The job unit should be identifiable in time. The worker must know when he is working on a unit and when the unit is completed. If the time spent on the unit is identifiable, weighting can be objectively derived for combining different types of job units to obtain overall quantity measures.

(4) Actual time per unit must be reasonably small. If the units are so large that frequently more than one visitor works on a single unit, the agency cannot measure either the quantity or quality of the individual visitor's work. Even when completed by one visitor, moreover, large units give only a crude measure of quantity unless measured over long periods of time, thus making any control procedures less effective. Large units result in the completion of relatively few units and thereby reduce and eliminate the applicability of sampling techniques and place a heavy review burden on supervision. It is difficult to set a priori limits on the size of the unit; they must be set, ordinarily, in relation to individual agency policy and practice.

(5) Working time must be fairly similar among units of the same type. The time spent on any single type of job unit must be reasonably similar in amount. This provision does not mean that there can be no variation in the time taken by an individual worker or among workers to do the job unit. It does mean that the time should be comparable to the extent that if one worker does 35 units, for example, and another worker 30 units, the agency can be assured that the first worker has done more work than the second.

Job units that might comply with these criteria are, for example, determination of initial eligibility for assistance, work in connection with a change in circumstance that may affect eligibility, and complete redetermination of eligibility. These units may be set up separately by program or by case characteristics (such as cases with and without responsible relatives or with or without property) if the time per unit differs significantly among programs and types of cases.

Quality aspects and testing-points.

Once quantity measures are defined, the agency can proceed to definition of quality aspects and testing-points related to specific job units. Two criteria are important:

1. The quality aspects (including testing-points) must be explicitly defined, in measurable terms.

2. The quality aspects must be characteristics of the job unit, not the worker. Quality standards must apply to actions and decisions relating to the job units; they should not apply to the personality or thought-processes of the worker. The quality-quantity control system is not set up to test the type of person the worker is but to test how good a job he did. Thus, the system does not test the subjective aspects of the worker's behavior—the worker's inner state of mind, or his "awareness"—but tests the objective aspects, or what the worker does as a result of that "awareness." What the worker does is measurable; what he thinks or is "aware of" is not measurable except as it is reflected in action or decision.

After the quality aspects of a job unit have been defined, the next step is to develop quality testing-points. These testing-points are phrased in the form of questions that can be answered "Yes" or "No" as to the appropriateness of what the worker did and how he did it. The agency gets these testing-points by asking itself, "How can we know whether this given quality aspect has been acceptably handled for any individual job unit?" It is in this area of getting expected quality defined objectively and specifically that the social workers on the Bureau committee say the method offers its greatest challenge to the social worker field. They indicate that it is a difficult but potentially rewarding experience to translate concepts and methodology of social work into measurable terms. Until the attempt is made to use the definition of quality in testing performance, the difficulties in present policies and performance standards in public assistance agencies as a basis for specific action or decision by the worker are not apparent.

Examples of quality aspects and testing-points, drawn from a relatively simple task of a public assistance visitor in investigating eligibility for old-age assistance—the task of establishing age—are the following: Among the quality aspects of this duty might be that "the worker and client jointly determine factual and pertinent evidence that is necessary to establish age. In doing this, the worker helps the client assume as much responsibility as possible; he selects from possible sources for proof of age, the simplest source and the one most readily available to the client, or at the client's request, he makes the selection from sources available to himself." The testing-point on this aspect might be "Was securing evidence of age a joint process between client and worker?" Another quality aspect might be "Evidence used in establishing age is pertinent, consistent, complete, and reliable"; and the quality testing-point, "Is birthdate substantiated?" A third quality aspect might be "The worker helps the client to establish age with a minimum of activity and difficulty"; and the quality testing-point, "Was all activity in establishing age necessary?" From these examples, it can be seen that the quality aspects tell the worker what to do and how to do it, and they tell the tester what to look for in the worker's performance. The quality testing-point tells the reviewer what he is testing in the worker's performance. In working out the Social Security
quality aspects and testing-points, the agency clarifies for itself what it really requires from its workers and learns where policy or procedure needs expansion, clarification, or correction.

Selecting quantity units and quality aspects for testing—It is not necessary to test quality and quantity of all job units specified or even to test all quality aspects of the job units selected for testing. On the other hand, it is desirable to specify job units to cover all the defined services of the agency that visitors are expected to provide, even though there is no intention of specifying the quality aspects for all these job units. In defining job units that are not currently to be measured quantitatively or qualitatively, somewhat less care may be exercised, with respect to the comparability of such units, in assessing the amount of work and difficulties in doing an acceptable job. Similarly, it is desirable to specify all quality aspects of each job unit to be tested, even though there is no current intention to develop quality testing-points for all these aspects. If the agency specifies all job units and defines all quality aspects of tested units, the area of quality and quantity not being measured will be clearly recognized. With such clear recognition of the uncovered areas, on a plan of gradual development, the areas that are measured can be extended over a period of time in a coordinated plan.

Some quality aspects can be clearly set forth in terms of a desirable characteristic of performance and yet pose difficulties in testing because of lack of readily accessible sources of information on performance. It is important that the source of information should be such that it can be counted on to supply a valid basis for judgment. The handiest and most economical source for quality testing the job units of the public assistance visitor is, obviously, the case record. It is natural, therefore, that the work of the Bureau committee to date has been in terms of quality aspects that might feasibly be tested by case record review. It is possible, however, to develop other sources of information—such as tape, wire, or disc recordings of interviews.

Form of Quality Measurement

There appear to be three main alternatives as to the form in which quality measures related to job units are to be expressed as (1) a simple dichotomy of defective or nondefective; (2) a count of defectives; and (3) some type of scoring or rating scale.

Under the first alternative, the quality of a job unit is judged as either poor or good, defective or non-defective. The dividing line between poor and good could be fixed in a number of ways. A unit could be classified as poor quality, for example, if any defect was found, regardless of the number of defects and their nature—major or minor. On the other hand, the classification could represent an overall judgment as to whether the job unit was handled acceptably or unacceptably and thus might ignore a single minor error.

Under the second alternative, the judgments of poor quality versus good quality are made, not for the job unit as a whole, but for each of a series of testing-points covering all the various pertinent aspects of quality. Each testing-point is classified as acceptable or not acceptable, and the quality measure for the job unit is the number of testing-points found with defects. In this alternative, the relative importance of various quality aspects can be indicated by the number of separate testing-points developed for the aspect.

The third alternative of a score or rating scale attempts to reflect in the quality measure both the number of defects and the relative seriousness of each defect. A classification by number of defects may be turned into a rating of quality by weighting the defects before combining them in a single score. A scoring of quality implies refinement in quality distinctions. That refinement may be illusory, however, if weights must be set arbitrarily and the quality distinctions made by the testers are not in fact as fine as the scale. There is, moreover, the practical consideration that scoring complicates considerably the task of quality evaluation.

The Bureau committee is proceeding on the assumption that, in the project they are working on, the quality of a job unit is to be measured in terms of number of defects—that is, the second alternative. This choice is based on a conservative evaluation of the degree to which reliable, objective judgments of the quality of the public assistance visitor's work can be made.

Statistical Techniques and Implications for Standard-Setting

The statistical techniques of quality control were worked out in relation to industry. These techniques are applicable in any field—public assistance as well as others—if quality can be defined in objective terms. The basic statistical tools used in quality-quantity control are frequency distributions and sampling methods, as well as the tool unique to quality control, the Shewhart control chart. The basic assumption underlying quality control is the theory of probability. The statistical tools used will not be discussed here. The implications of the basic theory of probability in setting quality-quantity standards, however, need some discussion.

The quality-quantity control approach starts from the assumption that exact duplication is an impossibility, so that any realistic standard of quantity and quality must accept an inescapable variation from one work period or one work unit to another. The most precise machines that man has been able to construct cannot make two simple items (for example, faucet washers) precisely alike. A human being working with other human beings can hardly do better in duplicating performance exactly. From the quality-quantity control point of view, there are two kinds of variability: (1) the variability in quality and quantity of work done under a fairly constant set of conditions, and (2) the variability in quality and quantity of work done when the basic conditions themselves are changing. The value of the statistical methods used in quality-quantity control comes from the distinction they make possible between the two types of variation, by means of the laws of probability.

The pattern of the inevitable variability in quality and quantity of per-
formance is predictable from knowledge of the pattern of chance variability. If basic working conditions remain the same, the average level of quality and quantity will vary as a random sample would vary, taken out of a universe of that quality and quantity. This type of variation is inevitable unless conditions are changed; that is, unless the worker, the testing, or working methods are improved. If the quality and quantity of job units completed goes outside the pattern of chance variability, an assignable cause is present. If the cause of substandard quality or quantity can be found, a basis for removing the cause and improving performance is available.

When quality and quantity are "under control," whatever the level of work, variations around the average level are those due to chance and not to any assignable cause. The elimination of assignable causes of erratic fluctuation is described as bringing a process "under control."

This is the area in which quality-quantity control claims to have made a special and unique contribution to administrative methods. Other types of approach to quality and quantity are faced with something of a dilemma. One approach, for example, is to define quality and quantity standards in absolute terms, with all deviations regarded as problems that the agency and the worker have a responsibility to eliminate. When this approach is used, an agency that keeps itself informed as to what is actually going on is in a state of constant emergency, with a problem in every tested aspect of administration. An alternative approach recognizes variability in its quality-quantity standards but runs the risk of complacently accepting inefficient administration for lack of a criterion distinguishing between variation that is consistent with good administration and variation that is inconsistent with it. One of the great advantages that industry has found in quality-quantity control comes not only from the fact that it points out the need for special administrative action when it is needed but—just as important—it tells when the administrative process should be let alone.

Under quality-quantity control, each error in a job unit is noted as a defect, but the overall standard of quality and quantity (maximum number of defects allowable or number of job units to be completed for standard work) is applied to the average of the worker's performance.

Because quality and quantity have to be variable, it follows that no public assistance visitor could hope to meet a standard that assumed absolute uniformity in performance. Quality-quantity control methods are grounded on the principle that performance standards, to be most effective, need to be achievable. Part of any quality-quantity control standard, therefore, is an allowance within controlled limits for variability or error in the performance of the individual work units. In practical application, the approach is based on the well-tested assumption that greater reliability in work performance will be achieved if variability and error are explicitly accepted and held within controlled limits than if no error is considered acceptable. An approach that assumes as an objective the elimination of all error or deviation must reject statistical methods, and especially sampling methods, as entirely inappropriate to the objective. For the quality-quantity control approach, on the other hand, sampling methods become an important tool for getting administrative efficiency and economy.

Once the standards are set, a worker must meet both the quantity and the quality standards to do acceptable work. The worker who does more work than the quantity standard prescribes but whose work is substandard in quality cannot be said to be performing acceptably. Similarly, the worker who does above-standard work in quality but falls below standard in quantity is not performing acceptably. To maintain controlled administration, an agency must retrain, reassign, or release the small group of workers who may fail to meet standards for the job to which they are assigned. It is therefore important that both the quantity and quality standards be realistic and achievable. To be achievable, in addition to allowing for variability, the quality and quantity standards must be related to each other so as to ensure their feasibility in terms of both the educational and professional backgrounds of the visitors and the cost of the standards.

There is no point, for example, in setting standards so high that only highly qualified professional social workers can meet them, if the majority of the agency staff has no social work training at all. On the other hand, both quality and quantity standards must be realistic in terms of what the agency is willing or able to pay for administration. It would be unrealistic for an agency to set a high quality standard and at the same time to expect its workers to make frequent reinvestigations and provide a wide range of other services to an unusually large caseload. Either the agency must cut the scope of its job and its quality standards, or it must cut the quantity standards—either by reducing the number of reinvestigations and other services or by hiring more workers. Under a quality-quantity control system, therefore, an agency must accept the limitations in scope and quality of performance imposed by the quantity standards imposed by the relationship of the size of staff to the work to be performed. In addition, measurement data from the system will enable State agencies to explain to State legislatures what quality and quantity standards are feasible within available appropriations and how cuts or increases in the funds allowed will affect the standards.

Conclusion

This article has summarized the committee thinking to date on the application of methods of statistical quality-quantity control to measurement of the public assistance worker's job. It has not attempted to cover all the principles of the methodology being developed or all the problems involved in adapting the methods to the public assistance field. A large question remains, for example, as to the adequacy of case records as the source of information for testing performance and as to the development of other sources. Members of the Bureau committee working on the project, however, believe that the objective is achievable. Some of the problems relating to the initial steps of the project have been solved. In the next year, the committee plans to develop methodology and principles for the remaining steps.