Basic Principles Governing Service Statistics in Public Health

The following principles should govern the collection, tabulation, analysis, and interpretation of service statistics:

Principle 1

Service statistics should serve one or more of these purposes:

Help define the health problems of the community.

Help measure extent of the program.

Help measure progress in relation to problems.

Help furnish a basis for future program planning.

Help provide data required periodically by the general public, local appropriating bodies, and State and Federal health agencies contributing financial aid.

Principle 2

Information accumulated for service statistics should meet the following tests:

Should be not only useful but actually used.

Should be valid.

Should be significant for the purpose it is supposed to serve.

Should be readily available.

Should justify the time and expense involved in its collection.

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It is recognized that accepted criteria for tests of validity and significance of certain types of information are not available at present. Establishment of such criteria is a project in itself and one which should be undertaken as early as possible in order that the importance of the utility factor could be judged against the importance of the availability factor.

Principle 3

In order to be most meaningful, service statistics should be related to baseline data. Examples are:

- Demographic information, such as population by age groups, natality, morbidity, and mortality information.
- Information regarding the housing, sanitation, nutritional, and general economic status of the community.
- Health needs of special groups.
- Information describing health facilities, services, and personnel available, under public, voluntary, and private auspices.
- Information reflecting expenditures.

Definite provision should be made for correlating baseline data with the service statistics accumulated. Too frequently, while the several bodies of information are available, there is no organized method by which they are brought together.

Principle 4

The most important concept concerning service statistics is that such statistics should, generally speaking, measure services directed to individuals and their environmental hazards, including results attained, and not attempt to measure staff activities.

Major emphasis should be placed on the number of persons served and types and amount of service received, and not on numbers of visits and inspections made or other such measures of volume of staff activities.

Principle 5

In general, activity counts should not be used for service statistics.

The gravest criticism of utilizing activity counts for service statistics is the fact that a false sense of accomplishment may be engendered in health department personnel. When so many activities are recorded, there is severe temptation to think that every minute of the working time should be tabulated as evidence that full time and attention have been accorded the job. This leads to the desire to account for every letter answered, telephone call made, and even the time spent in preparing the activities report itself.

For example, items such as meetings attended as a part of duty, newspaper articles prepared, hours spent working on records, conferences with clerical personnel, attendance at professional meetings, special meetings attended, and similar activities may have administrative value to the supervisor or the program director in evaluating the distribution of staff activities, but they do not contribute directly to the measurement or evaluation of program services.

Likewise, the effectiveness of an educational program cannot be measured by number of pamphlets distributed, films shown, talks given, and so forth. Attendance at a meeting or carrying away of literature may have no relation whatsoever to what the individual learned through contact with the health information.

These questionable types of service statistics, enumerating the multitude of activities of health personnel, arise from attempts to get quantitative indexes of how much is being done in this or that program. However, mere counts of activities, without being related to the need or unmet demand for a service, add very little to knowledge of the problem or to program planning.

For example, the important thing to know in connection with immunization is the level of immunization in the community. Counting up the number of immunizations given at specified places falls far short of giving that essential knowledge.

For measuring the amount of work done, gross counts will be meaningful only for activities expressed in standard work units, such as tuberculin tests, X-rays, clinic hours held, sputum examinations, and the like. For such activities as medical consultations, medical social work, or nursing visits, they will not be meaningful unless the content of the service is specified.

For supervision, counts of activity may be useful where work can be measured on a production basis, such as laboratory examinations made or X-ray film taken. On the other hand, when work to be evaluated is of such nature that it cannot be described in easily measurable work units, this type of information lacks validity since many factors besides numbers of activities participated in are important. A mere count of activities performed reveals neither the quality of service rendered, the time required, nor the results obtained.

For informational and budgetary purposes, such counts of activities have little meaning unless expressed in terms of progress toward a goal and of comparison with known needs and with standards for service. For determining relative emphasis placed on different segments of the program, enumeration of activities is revealing only for those parts of the program which are comparable.

As an example, a count of nursing visits or admissions for two programs cannot be considered a valid comparison of relative emphasis if one program consists of clinic and home nursing services and the other is carried out through home nursing visits alone.

The more valuable service statistics—those measuring services to individuals and the improvement of their physical environment—are based on counts of the patient load according to whatever breakdowns are significant (age, sex, race, residence, and so forth) and to the categories and amount of service received, grouped so that service is related to problem. Such data are needed for both program planning and evaluation.

For example, more useful information on

maternity services can be obtained by relating antepartum, delivery, and postpartum services to the women who were delivered within a specified period than by getting unrelated counts of the three types of services.

Shown below is a pattern which relates service statistics for a tuberculosis screening activity to the problem, specifically, the number screened to the population concerned:

Total population screened.
Percentage of population screened.
Number of persons screened.
Number of films read.
Number of persons referred for large X-ray.
Number receiving large X-ray.
Number referred to physician.
Number of referrals completed.
Number diagnosed as active.

By such relationship of information, the number for whom rechecks were recommended, the percentage of individuals tested who had evidence of a disease, and the number confirmed by private physicians provide a guide to the validity of the test. The number for whom rechecks were recommended and completed is an indication of the adequacy of followup. Reporting on this basis makes possible good comparison of services between various areas and between selected periods of time.

Principle 6

Unduplicated counts of individuals receiving service is useful information to local health departments.

"Unduplicated counts of individuals" means counting only once, for a designated period of time, each separate health department client irrespective of the number and variety of health department services he receives. It is possible that a person receives more than one service from the department. In considering total volume of service given by the health agency, such a person would be counted several times. For some purposes this is desirable and important information. However, in planning, operating, and evaluating a public health program, it is also important to know the number and characteristics of each individual served by the health department. Consequently, arrangements should also be made for counting only once each person served by the health agency. In this connection, it is also important to know where the remainder of the community received comparable services, if any. These data can then be related to the population concerned and thus assist in measuring the extent to which public health effort is reaching all the people.

Principle 7

Service statistics as here discussed should, for the most part, be a byproduct of administrative operation of a program.

Maintenance of records and compilation and interpretation of statistics should be an integral part of program management. Case records of individuals served by the health department constitute the best source of service data in a well-conducted department.

Principle 8

To promote the use of selected information from case records, the basic record system should be so designed that pertinent items can be related without the necessity of searching through scattered sources.

The record being used should permit easy recording and review of the information it contains. One possibility of achieving this end is a single case record for each client, on which is recorded all types of service rendered by the health department. The record should also be readily accessible for review after it is filed. Such a record system must be worked out within the circumstances of individual health departments.

Principle 9

A review of the service record for each individual under health department supervision should be made regularly, at least annually, by the supervising staff.

Case record analysis can be limited to stated times: quarterly, semiannually, or annually. Periodic review reduces handling and permits

more thorough analysis. Such a review would require for each individual service:

- A plan.
- The existence of standard criteria of service (nursing, clinic, medical, social, rehabilitation, and so forth).
- A comparison of performance as revealed in the record against the plan and the criteria of service.

Periodic review of each individual service record would provide valuable leads to evaluation of the adequacy of health department service. An accumulation of unmet needs would reveal where emphasis should be put and would indicate needs for and distribution of personnel.

For example, if an analysis is made once a year of all known tuberculosis cases to determine how many tuberculosis patients are in the hospital, how many at home, the sputum status of those at home, and the number of tuberculous individuals at home who were last examined more than a year ago, attention is focused on a specific problem and on the health department's success, or lack of it, in keeping individuals under supervision.

If, in addition, records of all new tuberculosis cases are examined to determine the stage of the disease, and the age of the patient, attention will be drawn to the success of case finding.

A summary of this type of data provides appropriating bodies with a better understanding of the health department program and its needs than does the traditional count of visits, inspections, and admissions to broad categories of service. It is recognized that information from records needs to be supplemented by personal observations and knowledge of the person doing the job.

Periodic case record analysis would be less expensive and more valuable than the accumulation of a vast quantity of uninterpreted data, which is still a wide practice among public health agencies.

While compilation of service statistics by periodic case record analysis has been initiated in several places, it has not been extensively developed. Even when such types of data are collected, the resulting tabulations are too frequently not used and are not coordinated with operation of the program.

Review procedures should provide a mechanism for closing out the records of individuals no longer needing service or for determining priority of those needing service.

Principle 10

In order that only pertinent data be collected and that there be no duplication either of effort or data, health departments should have a committee for the development, review, and control of basic records, forms, and procedures.

In State health departments, the committee described above should include at least the director of local health services and representatives of the statistical unit, selected programs, and local health department. At either the State level or the local level, personnel who actually use records and interpret procedures should participate in their design and assist in establishing procedures for their use.

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The basic principles have been reproduced in mimeographed form as Document 353 of the Public Health Conference on Records and Statistics by the National Office of Vital Statistics, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D. C. They have the endorsement of the following organizations: Association of State and Territorial Directors of Local Health Services; Council of State Directors of Public Health Nursing; Statistics Section and Committee on Administrative Practice, American Public Health Association.