For Home Accident Prevention Programs

ACCIDENTS in the home have become increasingly important as a cause of personal injury and loss of life; therefore, State and local health departments are recognizing the need for greater attention to home accident prevention. Since preventive programs are not yet being carried out to any great extent, techniques for evaluation of services are in an early stage of development. Because of the limitations in measuring certain phases of accident prevention, attention is directed here only to those items which are measurable.

While determination of program objectives does not fall within the scope of this guide, it is recognized that a long-range objective of home accident prevention is to lower the occurrence of accidental injuries, thus reducing morbidity and mortality.

It is essential to delineate that portion of the total objectives toward which the program is being directed at any one time. For example, one phase of the program may be directed toward reduction of accidents from certain causes, another toward prevention of accidents among certain population groups such as children or the aged, another toward reduction of accidents of designated severity, and still another toward increasing the awareness of accident-producing situations. Whatever the immediate focus of the program the objective should be clearly stated.

Determination of the steps toward achieving the long-term objective of a home safety program usually leads to the organization of the program under the following general types of activity:

- Orientation and inservice training of the public health staff.
- General education of the public.
- Specific services to individuals and groups.

The job of home accident prevention belongs to all workers in the field of public health. At an early stage, program planners must enlist the help of the health educator, the statistician, and other staff service personnel. The staff should function as a part of the professional team throughout the stages of program planning, operation, and evaluation (*1*).

In evaluating any public health service it is necessary that there be a clear understanding on the part of all concerned regarding definition of terms used. Lack of such understanding leads to considerable loss of comparability of data and thus minimizes the value of evaluative studies. An effort is being made to standardize definitions and study is continuing through the Conference on Definitions of Accidents (*2–4*).

Statistical Information

Measuring Extent and Nature of Problem

For study and comparison, accident experience is best expressed in terms of both numbers and rates of death and, wherever possible, nonfatal injuries. Detailed facts about home accidents should be compiled and made available to all agencies concerned with public health.

Service Statistics Series

A series of documents on the collection, analysis, and interpretation of service statistics for various health department programs is being developed by the Working Group on Service Programs, Public Health Conference on Records and Statistics.

An introduction to the series and the basic principles governing service statistics in public health appeared in June 1956, Public Health Reports, page 519. These were followed in the July issue, page 705, by a statement on service statistics for the health supervision of infants and preschool children. Statistics on health services for children of school age was the subject of the third report, published in September 1956, page 917.

In developing this fourth report, which is a guide to statistical services in the planning, administration, and evaluation of public health services in home accident prevention, the working group had the assistance of several consultants with especial experience in programs for the prevention of home accidents.

This report was approved by the conference membership in the autumn of 1956. It was reproduced in mimeographed form as attachment A to document 370 by the National Office of Vital Statistics, Public Health Service, Department of Health, Education, and Welfare, Washington, D. C. It has the endorsement of the Statistics Section and the Committee on Administrative Practice of the American Public Health Association, the National Safety Council, and the Council of State Directors of Public Health Nursing.

In addition to assessing the extent and severity of the problem, there is need for taking stock of present activities in the field. The Proceedings of the First and Second Michigan Conferences on Home Accident Prevention (*2*) discuss facts, figures, and findings. The individuals, families, or groups served by public health and allied workers should also be studied. Analysis of the causes of accidental injuries and deaths is a means of identifying and substantiating specific problem areas (*3–6*).

The following items are suggested guides to the measurement of the problem for the purposes of emphasizing the areas in which activities might be most effective. Such measurement directs the planning of sound programs, provides the basis for needed legislation, and encourages the development of new standards through voluntary action. To be most meaningful, the suggested facts must be considered not only in themselves but also in relation to each other. These are by no means all of the facts and circumstances which may be classified for study nor does the order of their listing suggest their relative importance.

Data on area

Distribution of population by age, sex, and race.
Other descriptive information.

Data on fatal and nonfatal accidents

A complete description of the accident, the nature of the injury, and the consequences of the accident and injury will serve as a guide to measurement of the problem.

Age, sex, and race of the victim.
Activity at time of accident.
Probable cause of accident (personal or environmental factors).
Location on premises where accident occurred.
Time of day, week, or season.
Physical agent involved in accident.
Physical agent producing injury.
Manner and nature of injury.
Duration of disability.
Medical attention or hospitalization.
Wages lost, property damage, and other costs.
Medical and nursing costs.
Cause of death.
Place of death.

Data on other related factors

Sources of information such as victim, family, or neighbor.
Occupation of victim or head of household.
Physical condition of victim.
Type of home.
Location of home: urban, farm, or nonfarm.
Physical factors of general home environment.
Size of family.
Number of previous accidents.
Economic factors, if possible.
Other persons involved in accident.

Data on community knowledge and attitudes

Attitudes toward home accident prevention.
Knowledge of and attitude toward accident producing situations.
Possible ways of avoiding occurrence of similar accidents.
Suggested ways of avoiding recurrence of the accident.
Sources of health and safety information.

Because of the difficulty of measuring knowledge and attitudes little information is available. However, the bureau of maternal and child health of the New Jersey Department of Health has conducted a study designed to obtain data relating to these subjects (*7*).

Sources of Data

There are many limitations to be considered in determining sources of data for planning and administering a program. Questions which must be answered are (*2*): How reliable are the sources? Are they valid? Do they assure completeness of information?

Following are some suggested sources of data on fatal and nonfatal accidents.

Fatal accidents

- Death certificates supplemented by data collected with the National Office of Vital Statistics Home Accident Fatality Report or a similar epidemiological report.
- Hospital or emergency room reports if arrangements are made for the inclusion of detailed information about the accident.
- Reports of the medical examiner following inquiry into the circumstances of the accident.

Nonfatal accidents

- Sample surveys of homes.
- Surveys through schools, industries, service and social organizations.
- Hospital, clinic, and physician's reports, and poison information centers.
- Epidemiological reports collected by public health nurses, sanitarians, or others as a special project (*8*).

Measuring Effectiveness

Home accident prevention programs are not uniform; they vary with the nature of the problem and the staff available. Therefore, the following suggestions need to be adapted accordingly.

Many of the items suggested for use in evaluation need not be collected and analyzed continuously. Periodic studies, especially of newly developed programs, are a valuable aid to program evaluation and revision.

Evaluation of home accident prevention programs has two major aspects:

- Evaluation of the entire program in relation to the long-range objectives.
- Evaluation of specific activities and services of the program in relation to the immediate objectives.

To be of maximum value, evaluation should be performed periodically. It should be followed by reexamination of the program in terms of both immediate and long-range objectives. Unsatisfactory progress indicates a need to replan the program and possibly to redefine objectives (*9*).

Long-Term Effect of Community Program

Collection and analysis of the following data may help gauge the effectiveness of an accident prevention program in achieving its ultimate goal:

- Trend of death rates from home accidents with respect to such factors as manner of injury, object involved, age, race, and sex.
- Indexes of change in nonfatal injuries by data from hospitals, emergency rooms, or, in some cases, from area surveys.

Caution must be used in drawing conclusions from the data. Evidence of change within a given area should not in itself be considered an adequate measure of the program's effectiveness. Comparisons with changes in a comparable area that does not have a preventive program help to strengthen the evidence regarding the effect of the program.

Effect of Health Department Services

A record of the number of activities, the time spent on them, and whatever measurable work is done does not necessarily indicate the health department's contribution to a communitywide program. It is necessary to supplement the records of the number of activities by some study of the content of the

services and the extent to which they have accomplished their purpose.

Staff orientation and inservice training

Measurable activities in staff training might include a series of lectures and demonstrations for local health department staffs by persons with special competence in home accident prevention. Material presented would include current statistics indicating the problem and reasons for integrating home accident activities with all public health work. This might be preceded and followed by written tests and field practice to determine the information level of the staff. Orientation of the staff to the use of techniques in reducing home accidents would be a part of this inservice training.

Public education activities

Public education by health authorities would include classes, lectures, exhibits, radio programs, and printed matter. This is a difficult area for which to establish objective indexes of accomplishment. However, a few suggestions for gauging increased knowledge and change in habit patterns might be measured by before and after quizzes, the use of checklists, and by counting requests for services and materials. Records of the number of requests will be more meaningful if they include a study of the characteristics of the groups being reached, with age, sex, and occupation indicated.

Because allied agencies are active in the educational phase of home accident prevention, it is difficult to pinpoint the effectiveness of health department work per se (*10*). The most valid study of the effect of materials used through mass media (radio, television, posters, pamphlets) might be made by the national agencies that develop the material (*11*, *12*). Results of such evaluation should be available to local health departments for use in determining the educational medium to be used.

Another indication of the value of health department activities is in the number of second requests for speakers, literature, and consultation. This, of course, measures only requests for assistance, not the effect of it.

Specific services to individuals and groups

Recording of hazards, dangerous practices, and their correction (or continuation) may be included in activity reports, either routinely or by special arrangement. These records will provide evidence of home accident prevention services given to individuals or groups. To stimulate the correction of hazards, a health worker may distribute, for example, calendars for recording home accidents or Christmas tree tags with fire prevention instructions (*13*). He measures the effectiveness of these activities by counting the number of homes in which the calendars or tags are used. The number may not be the same as that of the homes to which the materials were sent.

Services to groups include such activities as lectures, program guidance, and panel participation.

The amount of time devoted by public health personnel in teaching home accident prevention should be measured for a short period. For example, periodic spot checks of the accident prevention content of the records of nurses and sanitarians may prove useful.

Records which need not be kept continuously but would prove valuable over a selected period of time concern referrals of individuals to specialized services and corrections effected. Suggested as examples are referrals of persons to clinics or private physicians because of poor vision or other physical handicaps, including congenital malformations and emotional disturbances.

A record of referrals and cooperative effort between groups active in home accident prevention adds meaningful evaluative information. The next logical step is the recording of the followup activities and their results. Records of referrals of environmental hazards may be those to:

- Gas companies for checking and correcting leakage, inadequate venting, or faulty operation.
- Electric companies for overloading, faulty equipment, or short circuits.
- Other fuel suppliers for inspection and correction of oil or coal furnaces and heaters.
- Municipal fire department for testing extinguishers, advice in correcting fire hazards.

• Municipal building department for advice in correcting structural defects.

• Manufacturers of household equipment, appliances, and furnishings.

Builders and contractors are among other groups offering a field for activity. In connection with new housing site inspections, recommendations for safe building and the number actually carried out provide a clue to the effectiveness of this field of work (*14*).

Studies

The 8 State and 4 local demonstration programs in home accident prevention, sponsored by grants from the W. K. Kellogg Foundation, have had accelerated experience in this field which may provide resources on special studies and service statistics (*15*). Baseline values of morbidity and mortality, activity counts, and service statistics of program activities were obtained by various methods in these demonstration programs. For additional reference and further information, health officers of the following departments or the directors of the home accident prevention programs may be contacted: local health departments—Cambridge (Mass.), Mansfield (Ohio), San Jose (Calif.), Kalamazoo (Mich.); State health departments—California, Georgia, Kansas, Kentucky, Maryland, Massachusetts, North Carolina, Oregon.

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