Program Distribution of Working Time in Health Departments

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EARLY in the Yale Public Health Personnel Research Project, a time study was conducted in the State health department and in eight selected local health departments in Michigan. The study was intended to determine the distribution of time according to (*a*) programs, (*b*) professional and administrative activities, and (*c*) persons with whom activities were carried on. The method used did not fulfill all these objectives, but it was possible to analyze the data for program distribution of time, in a fashion similar to that used by Milne and his co-workers in Mississippi (*1*). Moreover, the experience in Michigan contributed to the development of another time study method, as reported in a separate article (this issue of *Public Health Reports*, p. 570).

The Study Method

The time log used for this study was a simple instrument. It consisted of six blank columns: a narrow left-hand column headed "When: Time Started," a broad center column headed "What, With Whom, and How," and four narrow right-hand columns headed "Travel," "Reports and Records," "Correspondence," and "Telephone." Instruction sheets included several sample time logs and suggestions for keeping the record. Each activity was to be reported by recording its starting time, its general nature in a one- or two-word summary, what was done, its purpose, how it was done, and with whom it was done. Time spent in travel, in reading and writing reports and records, in correspondence, and in telephone conversations for each activity was to be entered in the appropriate right-hand column. Activities were to be recorded to the nearest 5 minutes.

All full-time professional and semiprofessional personnel with the exception of secretarial and clerical workers performing routine tasks only and the staff of the State biological laboratory were eligible to participate in the study. When a number of workers in the same professional category in the same health department were performing essentially the same activities—school nurses with almost identical assignments, for example—only one of these workers was asked to keep a time record. The time allocations of this worker were then multiplied by the number of workers in the group.

Of 185 eligible workers in the State health department, 108 (58 percent) participated either directly or through a representative. This relatively low percentage resulted from the fact that only 29 percent of the laboratory personnel participated, as compared with 80 percent or more of the personnel in the other

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services. With one exception, the laboratory participants were all workers in branch laboratories, the central laboratory having declined to participate in the study.

Of 181 eligible workers in the eight local health departments, 166 (92 percent) participated either directly or through a representative. The percentage of participating personnel in all services except the medical service was high, and even in the medical service 57 percent participated.

Thus, the eight local health departments are adequately represented in the sample, but the State health department sample is definitely biased by the exclusion of a major portion of the laboratory service.

The participants were asked to keep the time log daily for one week during the fall and winter months of 1951–52. It was felt that one week would be sufficient length of time to test the method used, which was the primary purpose of the study in Michigan. Recently, Milne and his associates (*1*) have reported, on the basis of a time study in Mississippi, that a reasonably accurate estimate of the distribution of time can be obtained from a 1-week sample, provided that an unusual week, such as one during the summer months, is not chosen.

Approximately one-third of the time of both State and local health department personnel could not be identified with a program, a proportion somewhat greater than the 29 percent of "interrelated time" found in the Mississippi study. It is believed that a truly discriminating instrument would yield a smaller residue of time which would defy program identification. The time log used in this study would appear to be less efficient than the daily time sheet with checklist used in the Mississippi study.

The time not identified with any specific program was allocated to specific programs according to the distribution of program-specified time. This was done for each service in the State and local health departments separately. The results are, therefore, comparable with the results that Milne reported for Mississippi on the basis of the distribution of "interrelated time according to the percentage distribution of total identified time." It is recognized that the validity of this procedure for allocating uncategorized time can be questioned, especially when it involves such a sizable proportion of the total time. However, in the absence of more accurate data, this would appear to be the only practical expedient. The results are shown in tables 1 and 2.

Table 1. Percentage of total working time devoted to specified program areas in the Michigan Department of Health [1]

Program areas	Medical service	Nursing service	Sanitation service	Statistics service	Laboratory service	Administration service	Other services	All services
Number in service	10	13	27	8	90	16	21	185
Number participating in study	8	11	22	8	26	14	19	108
Acute communicable disease	2.9	2.3	0	52.7	19.3	1.7	2.8	12.4
Cancer	1.0	0	0	3.0	5.5	.1	.1	2.9
Chronic disease	17.8	.2	0	0	.2	.2	1.4	1.2
Civil defense	2.8	0	0	20.5	0	1.7	1.6	1.4
Crippled children	.3	0	0	0	0	0	.3	.1
Dental hygiene	20.2	11.6	.1	.8	0	0	25.4	4.8
Environmental sanitation	1.0	0	35.1	0	3.1	35.4	2.9	10.1
Heart	.3	0	0	0	0	0	.2	.1
Industrial hygiene	.2	8.2	63.9	0	19.0	25.1	.3	21.4
Maternal and child health	32.0	.1	0	17.7	.9	4.8	48.9	8.9
Mental hygiene	.3	6.7	0	0	0	0	.8	.6
School health	3.9	6.2	.7	0	0	1.8	11.5	2.2
Tuberculosis	17.3	18.5	.2	5.3	17.3	19.6	2.6	12.9
Venereal disease	.1	46.2	0	0	34.7	9.6	.2	21.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Estimate on basis of the allocation of uncategorized time to program areas according to distribution of program-specified time.

Table 2. Percentage of total working time devoted to specified program areas in eight local health departments in Michigan [1]

Program areas	Medical service	Nursing service	Sanitation service	Laboratory service	Administration service	Other services	All services
Number in service	14	104	31	7	17	8	181
Number participating in study	8	102	29	7	14	6	166
Acute communicable disease	15.5	11.8	1.3	12.6	15.9	0.6	10.2
Cancer	0	0	0	0	0	.9	0
Chronic disease	.4	1.2	0	.1	0	0	.7
Civil defense	.7	.5	.3	0	0	0	.4
Crippled children	.5	4.9	0	0	1.2	3.2	3.1
Dental hygiene	1.6	1.5	0	0	.2	20.2	1.9
Environmental sanitation	5.0	0	91.9	48.9	33.5	29.4	22.5
Heart	0	.3	0	0	0	0	.2
Industrial hygiene	0	0	0	.1	.4	0	.1
Maternal and child health	37.4	19.0	0	1.8	19.0	3.5	15.8
Mental hygiene	1.8	2.3	0	.1	0	26.6	2.6
School health	12.8	42.6	6.5	0	1.8	15.5	27.4
Tuberculosis	21.0	15.3	0	10.2	22.3	0	12.9
Venereal disease	3.3	.6	0	26.2	5.8	.2	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Estimate on basis of the allocation of uncategorized time to program areas according to distribution of program-specified time.

Allocation of Time to Programs

In the State health department, 21 percent of the time is devoted to industrial hygiene, and a similar proportion of the time to venereal disease control. Ten to fifteen percent is spent in each of the following programs: environmental sanitation, acute communicable disease control, tuberculosis control, and maternal and child health, including school health. Dental hygiene and the chronic diseases, including cancer and heart disease, each accounts for 5 percent of the time. One percent of the time is devoted to mental hygiene, and 1 percent to civil defense.

In the local health departments, the greatest emphasis is on health programs for children. Thus, 27 percent of the time is devoted to school health; 16 percent to maternal and child health; and 3 percent to crippled children. Furthermore, it can be assumed that children are the major recipients of services in the programs for acute communicable disease control and for dental and mental hygiene. Ten percent of the time of personnel in local health departments is devoted to the former, and 2 percent to each of the latter programs. Environmental sanitation absorbs 22 percent of the time. There is practically no industrial hygiene activity on the local level. About 13 percent of the time is devoted to tuberculosis control, and 2 percent to venereal disease control. Chronic diseases, including heart disease and cancer, account for 1 percent of the time.

Discussion

The authors do not possess the intimate knowledge of the situation in Michigan that would be necessary to evaluate the distribution of time shown by this study. Nevertheless, there appear to be a number of findings that call for investigation. It would seem, for example, that insufficient attention is being given to mental health and to the noninfectious diseases and disabilities of adult life.

The emphasis placed on any health department program is determined by such factors as the nature and magnitude of the problem, the knowledge and ability to do something about it, the need for organized social action for control, the interests and desires of individuals in authority and pressure groups, the availability of funds, and the dictates of tradition. It can be accepted as axiomatic that

all institutions, good and bad, manifest a lag in meeting the problems for which they are responsible. In this respect, the difference between good and bad is one of degree only. The question thus becomes, "How far behind are we?"

An efficient health department must repeatedly reexamine and reevaluate its program in terms of total community needs and total community facilities. Even in the absence of concrete evidence, it can be assumed that there is room for improvement in any program. One way to measure what is being done in health departments is by the time-study method. The time study, however, gives only an incomplete picture, at best. It must be supplemented by much qualitative information about the program and complemented by a knowledge of the community and its health needs.

Summary

As part of the Yale Public Health Personnel Research Study, a time study was conducted in the State health department and eight local health departments in Michigan. The data obtained from time logs kept daily for one week could be analyzed only for program distribution of time. It was found that major emphasis was on such programs as environmental sanitation and maternal and child health, orthodox programs hallowed by tradition.

REFERENCE

(*1*) Milne, J. A., Rice, M. E., Hozier, J. B., Taranto, G. B.: Time study of public health activities in Mississippi. Pub. Health Rep. 68: 378–390, April 1953.

Child Health Standards for Paints

Standards to minimize hazards to children from residual surface coating materials were approved February 16, 1955, by the American Standards Association.

The specifications cover liquid coatings, such as paint, enamel, and lacquer, that are to be used to paint children's toys or furniture or the interior surfaces of homes. They are intended to reduce the danger of poisoning that may occur if this coating is chewed off and swallowed by children.

The standards specify that paint and other coatings should not contain lead compounds with a lead content in excess of 1 percent of the total weight of the solids, including pigments and drier. The coatings should not contain compounds of antimony, arsenic, cadmium, mercury, selenium, or barium (when soluble by stirring for 10 minutes with 5 percent hydrochloric acid at room temperature) introduced as such in the formulation of such coatings.

Coatings complying with this standard may be marked: "Conforms to American Standard Z66.1–1955, for use on surfaces which might be chewed by children."

The standards were developed by the Sectional Committee on Hazards to Children, organized by the American Standards Association under the sponsorship of the American Academy of Pediatrics.