

# Functional Distribution of Working Time in a State Health Department

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TO SUPPLEMENT the data obtained in a time study in five county health departments in Maryland (1), the Yale Public Health Personnel Research Project conducted a similar study in the Maryland State Department of Health. The time study in the State health department, as in the county units, sought to measure the allocation of working time to each of 21 functional categories of activity, using a technique developed by the project (2). Time studies were considered an essential part of the Yale project, which attempted to learn what public health workers actually do on the job in the belief that such information is a necessary prerequisite to any recommendations concerning recruitment, training, or utilization of personnel.

Participating in the study in the State health department were 137 professional and semi-professional workers, 88 percent of those meeting the standards set by the project (3). They were classified according to service, which is

usually but not always synonymous with professional affiliation, as follows: medical service, 12; nursing service, 10; sanitation service, 29; laboratory service, 40; secretarial service, 24; and other services, 22. Time logs were kept for 2 days each month from September 1952 through January 1953, the days of the week and the weeks of the month being staggered so that the data would be representative of the 5-month period. Information as to place in the administrative hierarchy, educational background, and salary was obtained from each worker through interviews.

## The Working Day

The average daily elapsed time on the job, on the basis of a 5-day week, was 8 hours and 22 minutes. Sixty-two minutes of this time were employed in personal activities, such as sick leave, meals, coffee hours, and rest periods, leaving an effective working day of 7 hours and 20 minutes.

The average working day for physicians, nurses, and sanitation workers was approximately 1 hour longer than that for statistics, secretarial, and laboratory personnel. There was an 80-minute spread in the length of the working day in accordance with administrative level of the workers: Program directors had the longest working day; supervisors and staff-level personnel, the shortest.

For all personnel included in the study, the working time was apportioned among four major groups of activity as follows: 30 percent

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to technical activities (usually direct service activities requiring professional or technical training); 37 percent to ancillary activities (essential but usually routine, stereotyped activities for which training can be acquired on the job or in a short training course); 21 percent to administration (program planning, management, giving and receiving supervision and education or training); and 11 percent to community relations and organization (activities with other agencies, public information and education, and giving professional education). A detailed analysis of the time spent in these activities in relation to service affiliation, administrative level, level of education, amount of public

health training, and salary is presented below and in the accompanying tables.

### Technical Activities

Sanitation personnel devoted more time than other workers to technical activities (table 1). More than 50 percent of the sanitation workers' time was spent in these activities, as compared with about 40 percent of the laboratory workers' time and less than 25 percent of the nurses' and physicians' time. Only 3 percent of the time of the secretarial personnel was spent in technical activities.

Staff-level personnel devoted almost twice as

**Table 1. Percentage of working time devoted to each of 20 activity categories, by service, in the Maryland State Department of Health**

Activity category	Service						All
	Medi- cal	Nurs- ing	Sani- tation	Labora- tory	Secre- tarial	Other	
Technical activities.....	18.6	23.3	51.5	39.4	2.6	25.1	30.2
Ancillary activities.....	13.0	13.8	16.3	47.7	80.4	31.4	37.3
Administration.....	34.3	49.5	17.6	10.0	8.9	31.7	20.9
Program planning within health department.....	13.1	6.5	5.0	3.0	.7	2.0	4.1
Giving supervision and training.....	6.2	30.4	3.8	4.3	3.5	12.8	8.0
Giving personnel supervision.....	4.6	4.8	2.8	2.2	3.2	7.4	3.8
Planning and giving individual inservice training.....	.7	18.2	.8	2.0	.1	3.0	2.8
Planning and giving group inservice training.....	.9	7.4	.2	.1	.2	2.4	1.4
Receiving supervision, education, and training.....	7.5	10.3	7.5	1.5	2.9	5.7	5.1
Supervision.....	.1	.4	1.5	.1	2.0	1.1	.9
Education and training.....	7.4	9.9	6.0	1.4	.9	4.6	4.2
Management.....	7.5	2.3	1.3	1.2	1.8	11.2	3.7
Personnel.....	2.4	1.8	.3	.6	.7	2.7	1.2
Financial.....	3.7	.3	.4	.1	.3	5.8	1.5
General services.....	1.4	.2	.6	.5	.8	2.7	1.0
Community relations and organization.....	33.6	13.1	13.4	2.3	6.6	10.0	10.6
Activities with other agencies.....	20.1	9.0	5.8	1.0	2.3	6.2	5.6
Joint program planning.....	7.5	5.2	2.9	.1	1.0	3.3	2.5
Activities with other agencies, except health departments.....	9.1	2.0	2.1	.9	1.1	1.6	2.2
Activities with other health departments.....	3.5	1.8	.8	0	.2	1.3	.9
Public information and education.....	4.1	1.2	7.0	.8	4.3	3.1	3.5
Information services.....	2.3	.6	6.6	.8	4.0	1.5	2.9
Planning mass media.....	.8	.3	0	0	.3	1.0	.3
Talks to public.....	.4	.2	.3	0	0	.6	.2
Group organization.....	.6	.1	.1	0	0	0	.1
Giving professional education.....	9.4	2.9	.6	.5	0	.7	1.5
Social activities.....	.4	.3	1.0	.3	1.6	1.7	.9

**Table 2. Percentage of working time devoted to each of 20 activity categories, by administrative level, in the Maryland State Department of Health**

Activity category	High-echelon personnel						Staff-level personnel		
	Health officer	Program director and assistant program director	Administrative assistant	Consultant	Supervisor	All high-echelon personnel	Senior staff	Junior staff	All staff-level personnel
Technical activities.....	8.0	20.5	4.7	18.7	24.8	19.7	34.3	36.2	35.9
Ancillary activities.....	16.7	13.4	56.7	16.6	53.8	21.6	40.1	46.7	45.7
Administration.....	34.7	41.2	16.1	47.6	15.2	37.7	20.5	10.1	11.6
Program planning within health department.....	18.1	8.7	1.0	8.6	.2	7.3	6.1	1.7	2.4
Giving supervision and training.....	0	11.7	8.7	32.2	12.5	15.8	9.2	2.8	3.7
Giving personnel supervision.....	0	6.6	5.5	5.6	6.9	6.3	3.1	2.3	2.4
Planning and giving individual inservice training.....	0	1.7	3.2	19.2	5.0	5.9	5.8	.3	1.1
Planning and giving group inservice training.....	0	3.4	0	7.4	.6	3.6	.3	.2	.2
Receiving supervision, education, and training.....	0	9.5	.6	5.5	1.1	6.9	3.2	4.2	4.1
Supervision.....	0	.9	.3	0	.6	.6	1.4	1.0	1.1
Education and training.....	0	8.6	.3	5.5	.5	6.3	1.8	3.2	3.0
Management.....	16.6	11.3	5.8	1.3	1.4	7.7	2.0	1.4	1.4
Personnel.....	6.5	3.9	2.9	1.2	1.4	3.0	.5	.2	.2
Financial.....	10.1	5.3	2.9	0	0	3.5	.2	.5	.4
General services.....	0	2.1	0	.1	0	1.2	1.3	.8	.8
Community relations and organization.....	40.5	24.2	21.0	16.3	2.8	19.9	4.6	6.0	5.7
Activities with other agencies.....	26.1	16.2	6.6	10.3	1.1	12.7	2.5	1.8	1.8
Joint program planning.....	16.7	7.7	2.2	4.7	1.1	6.1	0	.7	.6
Activities with other agencies, except health departments.....	2.9	6.3	2.6	3.8	0	4.7	2.5	.6	.8
Activities with other health departments.....	6.5	2.2	1.8	1.8	0	1.9	0	.5	.4
Public information and education.....	13.0	3.5	15.4	1.5	.6	3.4	1.5	4.0	3.6
Information services.....	2.9	1.7	15.4	.6	0	1.9	1.3	3.8	3.4
Planning mass media.....	9.4	.6	0	.6	.6	.7	.2	.1	.1
Talks to public.....	0	.8	0	.2	0	.5	0	.1	.1
Group organization.....	.7	.4	0	.1	0	.3	0	0	0
Giving professional education.....	1.4	4.5	0	4.5	1.1	3.8	.6	.2	.3
Social activities.....	0	.6	.2	.9	3.2	1.0	.5	1.0	.9

much time as high-echelon personnel to technical activities (table 2).

Workers who had a bachelor's degree tended to devote somewhat more time to technical activities than those without a degree (table 3), but workers with either a graduate degree or undergraduate training in public health devoted less time to these activities than did those who had not had such training (table 4).

Salary was not directly associated with time spent in technical activities (table 5).

#### Ancillary Activities

Laboratory workers devoted appreciably more time to ancillary activities than did any other professional workers (table 1). They spent almost 50 percent of their time in these activities,

whereas the medical, nursing, and sanitation workers were similarly engaged only 13 to 16 percent of the time. Secretarial personnel spent 80 percent of their time in ancillary activities.

Almost 50 percent of the time of staff-level personnel and slightly more than 20 percent of the time of workers in the high administrative echelons was absorbed by ancillary activities (table 2). Among high-echelon personnel, supervisors appeared to be particularly burdened with these tasks.

About 60 percent of the time of workers without a college degree and 16 percent of the time of those with a college degree was spent in performing ancillary activities (table 3). An essentially similar relationship existed with respect to public health training (table 4).

Salary increased as participation in ancillary activities decreased (table 5).

#### Administration

The 21 percent of the time of all personnel spent in performing administrative duties was apportioned among the four major categories as follows: 4 percent to intramural program planning, another 4 percent to management, 8 percent to giving supervision and inservice training, and 5 percent to receiving supervision, education, and training. As previously reported (1), the personnel in the five county health departments in Maryland spent 17 percent of their time in administration, the difference stemming from less participation in management and giving supervision and training.

Medical personnel, who devoted 34 percent of their time to administration, greatly exceeded the average (table 1). However, nurses spent even more time than medical personnel in administration, since half of their time was devoted to such activities. This extensive participation by nurses in administration was mainly a reflection of the fact that they devoted 25 percent of their time to giving individual and group inservice training, a percentage which was 12 times as large as that for the laboratory personnel and which exceeded that for the medical and sanitation personnel to an even greater extent. The percentage of time devoted to administration by the sanitation personnel was slightly below the average, while the laboratory

**Table 3. Percentage of working time spent in each of 20 activity categories, by level of education, in the Maryland State Department of Health**

Activity category	Less than bachelor's degree	Bachelor's degree	Graduate degree
Technical activities.....	23.4	41.1	33.0
Ancillary activities.....	60.5	15.8	17.5
Administration.....	8.7	32.6	30.7
Program planning within health department.....	1.3	4.6	7.9
Giving supervision and training.....	3.4	14.6	10.2
Giving personnel supervision.....	2.7	3.2	5.8
Planning and giving individual inservice training.....	.6	9.6	1.5
Planning and giving group inservice training.....	1.1	1.8	2.9
Receiving supervision, education, and training.....	2.5	6.8	7.8
Supervision.....	1.2	.7	.7
Education and training.....	1.3	6.1	7.1
Management.....	1.5	6.6	4.8
Personnel.....	.5	1.4	2.1
Financial.....	.4	3.5	1.7
General services.....	.6	1.7	1.0
Community relations and organization.....	6.4	9.1	17.9
Activities with other agencies.....	1.5	6.1	11.3
Joint program planning.....	.9	2.9	4.7
Activities with other agencies, except health departments.....	.5	2.6	4.3
Activities with other health departments.....	.1	.6	2.3
Public information and education.....	4.9	1.4	3.0
Information services.....	4.7	1.4	1.2
Planning mass media.....	.2	0	.7
Talks to public.....	0	0	.8
Group organization.....	0	0	.3
Giving professional education.....	0	1.6	3.6
Social activities.....	1.0	1.2	.6

and secretarial personnel spent about half the average percentage of time in these pursuits.

The most extensive participation in both program planning and management occurred in the

medical service, followed by the nursing, sanitation, and laboratory services, in that order. The percentage of time devoted to receiving supervision, education, and training was in excess of the average in the nursing, medical, and sanitation services and below the average for laboratory and secretarial workers.

High-echelon personnel devoted almost four times as much time to administration as did staff-level personnel (table 2). This ratio prevailed, in general, for the several categories of administration; it was highest for giving supervision and training and lowest for receiving supervision, education, and training.

Time devoted to administration was positively associated with level of education and with formal public health training. Workers with a bachelor's degree or a graduate degree devoted more than three times as much time as those without a college education to administration, with somewhat similar ratios prevailing for each of its major categories (table 3). Similarly, personnel with a graduate degree or undergraduate training in public health devoted 3 to 4 times as much time to administration as those without formal public health training (table 4). The somewhat higher percentage for personnel with undergraduate public health training than for those with a graduate degree in public health results from the fact that the former devoted a greater proportion of their time to giving supervision and inservice training. Graduates in public health, on the other hand, spent much more of their time in program planning and in personnel, financial, and general services management.

Workers in the highest salary bracket devoted more time than those in any other bracket to administration as a whole and to each of its major categories, with the exception of giving supervision and inservice training (table 5). In this category, personnel in the second highest salary bracket spent the most time.

#### Community Relations and Organization

Of the 11 percent of the time devoted to community relations and organization, 6 percent was spent in activities with other agencies; 4 percent, in public information and education; and 2 percent, in professional education.

**Table 4. Percentage of working time spent in each of 20 activity categories, by level of public health training, in the Maryland State Department of Health**

Activity category	No formal public health training	Undergraduate education	Graduate degree
Technical activities-----	31.8	14.1	18.9
Ancillary activities-----	39.9	5.6	19.6
Administration-----	17.3	68.9	42.9
Program planning within health department-----	3.2	8.0	14.0
Giving supervision and training-----	5.7	52.4	16.0
Giving personnel supervision-----	3.5	.3	9.1
Planning and giving individual inservice training-----	1.4	43.1	2.2
Planning and giving group inservice training-----	.8	9.0	4.7
Receiving supervision, education, and training--	5.0	7.5	5.7
Supervision-----	1.0	1.1	.1
Education and training--	4.0	6.4	5.6
Management-----	3.4	.9	7.2
Personnel-----	.9	.8	4.3
Financial-----	1.5	0	1.6
General services-----	1.0	.1	1.3
Community relations and organization-----	10.1	11.2	17.0
Activities with other agencies-----	5.0	8.4	12.4
Joint program planning--	2.1	4.6	6.5
Activities with other agencies, except health departments-----	2.1	1.9	3.6
Activities with other health departments--	.8	1.9	2.3
Public information and education-----	3.6	1.7	3.2
Information services--	3.0	1.3	1.4
Planning mass media-----	.3	.4	.8
Talks to public-----	.2	0	.6
Group organization-----	.1	0	.4
Giving professional education-----	1.5	1.1	1.4
Social activities-----	1.0	.3	.7

Medical personnel were engaged in community relations and organization one-third of the time (table 1). They devoted 20 percent of their time to activities with other agencies and

**Table 5. Percentage of working time spent in each of 20 activity categories, by annual salary level, in the Maryland State Department of Health**

Activity category	\$2,000-\$2,999	\$3,000-\$3,999	\$4,000-\$5,999	\$6,000 and over
Technical activities.....	23.6	36.9	34.6	23.1
Ancillary activities.....	71.2	46.0	15.8	16.5
Administration.....	3.4	11.4	31.7	39.4
Program planning within health department.....	0	.7	7.5	9.5
Giving supervision and training.....	.6	5.3	15.9	9.3
Giving personnel supervision.....	.6	4.0	3.3	7.0
Planning and giving individual inservice training.....	0	.6	9.6	.5
Planning and giving group inservice training.....	0	.7	3.0	1.8
Receiving supervision, education, and training.....	1.8	3.3	6.0	9.2
Supervision.....	1.0	1.1	.8	.5
Education and training.....	.8	2.2	5.2	8.7
Management.....	1.0	2.1	2.3	11.4
Personnel.....	.2	.5	.9	3.4
Financial.....	.6	.3	.5	6.5
General services.....	.2	1.3	.9	1.5
Community relations and organization.....	1.3	4.1	16.8	20.2
Activities with other agencies.....	.5	1.5	7.7	14.2
Joint program planning.....	.1	.9	2.4	7.7
Activities with other agencies, except health departments.....	.4	.5	3.9	4.5
Activities with other health departments.....	0	.1	1.4	2.0
Public information and education.....	.8	2.4	7.3	3.0
Information services.....	.7	2.2	6.3	1.9
Planning mass media.....	.1	.2	.4	.6
Talks to public.....	0	0	.5	.3
Group organization.....	0	0	.1	.2
Giving professional education.....	0	.2	1.8	3.0
Social activities.....	.3	1.3	1.2	.6

10 percent to giving professional education. Nursing and sanitation personnel devoted about 13 percent of their time to community relations and organization, the nurses concentrating on activities with other agencies and the sanitation personnel, on public information and education. A relatively minute percentage of the time of laboratory personnel was devoted to community relations and organization. Secretarial personnel spent 7 percent of their time in these activities, more than half of it in public information.

High-echelon personnel spent four times as much time as staff-level workers in community relations and organization (table 2). The time spent by each of these two groups in public information and education was approximately the same, but the former spent considerably more time in activities with other agencies and in professional education.

Participation in community relations and organization increased with level of education and extent of public health training (table 3 and 4). The exception to this general finding was the relatively small percentage of time that workers with a bachelor's degree and those who had received undergraduate public health training devoted to public information and education.

Salary level was also positively associated with the extent of participation in community relations and organization (table 5). This held true for each of the major categories in this group, except public information and education. Workers in the second highest salary bracket were engaged in giving information to the public to a much greater extent than those in the other salary brackets.

### Summary and Discussion

Summarizing the data obtained in the time study in the Maryland State Department of Health, it can be seen that roughly one-third of the working time was devoted to technical activities; one-third, to ancillary activities; and one-third, to administration and community activities. This distribution is essentially similar to that found in the five county health departments in Maryland, but there were minor differences, as might be expected.

State health department personnel devoted

somewhat less time to technical activities and somewhat more time to administration than did the county personnel. Since a local health department has primary responsibility for direct health services, it would logically devote relatively more time than a State health department to direct service, or technical, activities.

On the other hand, the State health department, probably because of its larger and more complex organizational structure, devoted more time than did the local units to management. It also devoted more time to the training of personnel, principally because of its training programs for local workers.

Another interesting difference was in the apportionment of time to public and professional education. The county units were involved in public education to a much greater extent than the State health department; the State health department, however, devoted three times as much time as the county health departments to professional education.

As a general pattern, it was found that the extent of participation in administration and community activities in the State health department was positively associated with position in the administrative hierarchy, level of education, and public health training, in much the same fashion as was found in the county health departments. In another part of the Yale study, it will be shown that only infrequently are per-

sonnel adequately prepared for these duties in their general college education or in their education in public health.

The various services differed considerably as to the amount of time that they devoted to many of the functional activities. Sometimes, as in the case of the laboratory service, differences appeared to be the natural outcome of the duties of the service. More often, however, differences did not appear to be related inherently to the fundamental character of the responsibilities.

The whole question of the relative importance of the several types of activity currently performed by health departments is a question that warrants serious consideration. The Yale study served merely to report existing practices, as a basis for further study.

#### REFERENCES

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## Supply of Rhesus Monkeys

As result of negotiations, the United States Mission to India and the United States Embassy in India have secured the agreement of the Government of India to permit for the period ending June 30, 1956, the continued exportation of rhesus monkeys for medical research and production of antipoliomyelitis vaccine. All needs must be certified by the United States Government through the Public Health Service.

Information concerning Public Health Service procedure and Certificate of Need forms may be secured from: National Institutes of Health, Room 1012, Building T-6, Bethesda 14, Md.