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Time Analysis of Public Health Nursing Service

Alameda County Health Department, 1946–1947

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Recent administrative changes and an increased budget for the Alameda County Health Department, California, led to the planning of new phases of the public health program. Since modifications in nursing services were planned and under way, it seemed advisable to measure the present scope of services in order that future increases in staff and the development of existing and additional nursing service could be conducted on a sound basis.

Alameda County Health Department serves the unincorporated area of Alameda County, and by contract, the cities of Hayward, Pleasanton, and San Leandro. A recent population estimate indicates that there are approximately 120,000 people to be served, in an area of 677.5 square miles. The population increased about 80 percent during the period 1940 to 1947. The problems of the area are both urban and rural, since the unincorporated territory surrounding the cities of San Leandro and Hayward has become predominantly urban because of the rapid population increase during and following the war. The southern and eastern parts of the county have remained a farming area, with several small trading centers.

The department evolved from the local health Centers, supported by the Red Cross and county funds, and out-patient clinics of the county hospitals, and was first organized in 1932. School nursing service has always been a part of the generalized program; bedside nursing has never been included. During the 1946–47 school year, 42 schools, with a total enrollment of about 8,400 students, were given health service by contract.

*Health officers, director, public health nursing and public health statistician, respectively. This study was conducted and analysis of the data made under two health officers, Dr. Moreland, health officer from the beginning of the study to November 1947, and Dr. Malcolm, present health officer of Alameda County, Calif.

The present professional staff includes a health officer, a director of public health nursing, 12 public health staff nurses, 5 sanitarians, 1 rodent control officer, and 1 public health statistician. Three public health nurses work from a district office located in the southern end of the county. The director supervises the activities of all the nurses and, in addition, attends to the administrative details of the nursing program.

For a number of years each nurse has written a monthly narrative report of her activities. It was found that these narratives were not uniform in content and could not be used to evaluate the nursing program. The California State Department of Public Health Quarterly Statistical Report of Activities, which had also been kept for a number of years, proved to be of very limited value since an appreciable proportion of the nursing activities were not recorded on this report. For example, time spent by nurses in the office on records or program planning and field activities that could not be classified as "admissions" or "visits" was not itemized. In addition, this report gave only the number of visits in the various services. There was a need to know the amount of time devoted to each of the major fields of nursing service.

Other nursing records that are routinely kept were examined to see if they could provide the necessary data for the analysis. It was found that none would lend themselves to the type of tabulation and analysis that was needed. Therefore, a time analysis of public health nursing activities was devised.

It was realized that the validity of a study of this type would depend upon the close cooperation of the nursing staff. Therefore, tentative plans were formulated and presented to the nurses at a staff meeting. Their suggestions and criticisms were accepted and the procedure revised accordingly. Two of the staff nurses tried out the plan for 2 days and further revision of the procedure was discussed and adopted at a second staff meeting. Printed instructions were prepared and given to each nurse. These instructions briefly listed the plan of recording time decided upon by the nurses at their staff meeting.

Since each nurse kept a daily log of her activities in order to furnish the data for the quarterly statistical report previously mentioned, it was decided to modify the daily log recording to include all the various activities of the nurses and provide for recording time (see sample daily log). Time was recorded to the nearest 5 minutes in the "remarks" column of the daily log. Time spent in travel was charged to the service which the nurse intended to perform. All "not at home" visits were listed and charged to the intended service. Each nurse was encouraged to explain any service or activity that apparently was not included in the established categories. In all

cases, these were allocated to the category which fit best. Each nurse was requested to submit her daily log at the end of each working day. Tallying and classifying of items was done as soon as possible in order that detectable errors and ambiguities in recording could be clarified with the nurse. The actual number of minutes that each nurse should have worked during each day was compared with her total recorded time for that day. Discrepancies of more than 30 minutes in any working day were queried.

DAILY REPORT

Name of Worker: Nurse 1 **County: Alameda** **Date:**

CODE	NAME	ADDRESS	REMARKS	TIME
E 16	Kiddies Play Center	61 Jones St., Hayward		60
	Fixit Garage	Foothill Blvd	Flat tire	25
D 5	Mrs. Susie Smith	3869 Beach Ave., Hayward	Prenatal	45
F 5	Jimmy Smith	do	Ringworm	5
B 4a	Walt Brown	Slumber Inn, Hayward	G. C. infection	15
D 5	Mrs. Ralph Gardener	920 Main St., Hayward	Prenatal	30
C 7	Ann Gardener	do	Tbc	10
C 7	Zany Fletcher	74391 Hanson Rd., Hayward	Tbc	25
	Jack Angill	74397 Hanson Rd., Hayward	School—not at home	10
C 7	Trixie Hope	641 Oak Ave., Hayward	Tbc contact	25
F 5	Lee Lyon	791 Oak Ave., Hayward	Hearing loss	30
E 5 (2)	Joan and Jimmie Iscotch	743 Maple Ave., Hayward	Newborn	15
D 11	Hattie Iscotch	do	Postpartum	35
	Driving to San Leandro office			20
	Daily log—time report			25
	Service records:			
	Tbc—30			
	MCH—20			
	V. D.—5			
	School—30			75
	Total			465

In order to keep the amount of clerical and nursing time required for this study at a minimum, it was decided to use four 2-week sample periods rather than a continuous time record throughout the year. The sample periods were selected to be representative of the seasonal variations in nursing activities in this department. The dates chosen were October 23 to November 2, 1946; January 13 to January 25, 1947; April 28 to May 10, 1947, and June 30 to July 12, 1947.

The service code used in the State Quarterly Statistical Report and on the daily logs indicates the major fields of nursing service—tuberculosis, school services, etc. This code was enlarged and in some cases re-defined to permit recording of all nursing activities. The following categories of service were used in the study.

FIELD SERVICE CATEGORIES

1. *Communicable Disease Services:* Includes all home visits and other field activities pertaining to the cases of communicable disease with the exception of tuberculosis and venereal disease.

2. *Venereal Disease Service:* All home visits and other field activities pertaining to venereal disease cases or contacts.
3. *Tuberculosis Service:* All home visits and other field activities for tuberculosis cases or contacts.
4. *Maternal, Infant, and Preschool Health Services:* All home visits and other health supervision activities pertaining to prenatal and postpartum cases, and to children from birth through 5 years of age (except persons with tuberculosis, venereal disease, other communicable disease, crippling defects or other morbidity).
5. *Adult Hygiene Service:* Includes all home visits and other field activities for the purpose of health supervision of well adults. Does not include service to persons with tuberculosis, venereal disease, other communicable disease, other illnesses, and crippling defects in adults under 21 years of age.
6. *Morbidity Service:* Includes all home visits and other field activities in behalf of persons who are ill for reasons other than tuberculosis, venereal disease, other communicable disease or crippling defects.
7. *Crippled Children Service:* All home visits and other field activities in behalf of handicapped children from birth to 21 years of age. This includes rheumatic fever.
8. *School Service:* Because school service includes such a variety of nursing activities, it was decided to analyze this program in more detail.

   a. *Driving to School:* Includes the time required to drive from the office, or last field visit, to the school building.

   b. *Office Nursing:* Includes the following: (1) Complete inspections given the children for the purposes of evaluating their general health; (2) Vision testing of children referred by teachers for special sight analysis; (3) Services in the school building to children referred by teacher because of a suspected health problem; (4) Planning, preparing for and assisting in immunization clinics held in the school; (5) Any service pertaining to the school lunch program, for example, interviews with cafeteria managers, nutritionists, or other general supervision of cafeterias.

   c. *School Conferences:* Includes the time spent interviewing teachers on matters relating to the school health program or individual health problems. Interviews with other school personnel or P. T. A. members. Time spent in planning the program; work on committees; or attendance at local meetings.

   d. *School Records:* Time spent on school records or other general clerical tasks in the school.

   e. *Home Visits, Child Ill*: All home visits to school children who are ill, or visits for defect follow-up or other health supervision problems.

   f. *Home Visits, Child Not Ill, or Not at Home:* Home calls to children who were absent for other reasons than health. Includes all unproductive visits where the child is not at home, the family has moved, the family is on vacation, or an incorrect address was given.

NURSING OFFICE CATEGORIES

1. *Driving to Office:* Driving time from the last visit or school to the nursing office.
2. *Records and Reports of an Administrative Nature:* Time spent in working on records or reports not directly related to any of the other services, e. g., monthly narrative report, daily log, time study, program planning, and miscellaneous clerical work.
3. *Records and Office Visits Pertaining to Cases:* The general clerical work and office conference visits pertaining to a specific service, such as tuberculosis, venereal disease, communicable disease, etc.

4. *Meetings and Conferences:* Conferences with the health officer, supervising nurse, and other staff nurses, staff meetings, institutes, and other public health nursing meetings.
5. *Clinics:* All work related to any clinic or preparation and clean-up for any clinic held by the health department.
6. *Professional Reading:* Includes all professional reading done during time on duty.

Analysis of Data

The basic data collected on the nurses' daily logs during the four sample periods were tallied in two ways (1) by time spent in each field of service and (2) by time spent in home visits. The former tabulation was made to show the relative emphasis placed on the various services; the latter to provide more detailed information concerning home nursing visits.

Analysis by Services

It was found that approximately 60 percent of all nursing time during the four sample periods was spent in the field, and about 40 percent in the nursing office (table 1). Seasonal differences are indicated by the percentage variation among the four sample periods.

Table 1. *Time in minutes of work performed by nursing staff during four 2-week sample periods*

Number of minutes	All samples		First sample		Second sample		Third sample		Fourth sample	
	Minutes	Percent	Minutes	Percent	Minutes	Percent	Minutes	Percent	Minutes	Percent
To be worked	186,225		50,550		40,875		56,915		37,945	
Total worked	184,745	100.0	50,090	100.0	40,780	100.0	56,130	100.0	37,745	100.0
Spent in nursing office	77,265	41.8	17,565	35.1	12,170	29.9	23,505	41.9	24,025	63.7
Spent in field service	107,480	58.2	32,525	64.9	28,610	70.1	32,625	58.1	13,720	36.3

Table 2. *Time spent in field services and office by each nurse during four 2-week sample periods*

Nurse	Minutes worked	Percent	Field service		Office	
			Minutes	Percent	Minutes	Percent
All nurses	184,745	100.0	107,480	58.2	77,265	41.8
Nurse 1	17,655	100.0	10,320	58.5	7,335	41.5
Nurse 2	13,620	100.0	7,555	55.5	6,065	44.5
Nurse 3	9,370	100.0	6,580	70.2	2,790	29.8
Nurse 4	15,855	100.0	8,870	55.9	6,985	44.1
Nurse 5	18,925	100.0	9,905	52.3	9,020	47.7
Nurse 6	13,295	100.0	9,630	72.4	3,665	27.6
Nurse 7	18,620	100.0	10,430	56.0	8,190	44.0
Nurse 8	11,995	100.0	6,220	51.9	5,775	48.1
Nurse 9	16,920	100.0	9,205	54.4	7,715	45.6
Nurse 10	18,160	100.0	12,175	67.0	5,985	33.0
Nurse 11	15,270	100.0	8,815	57.7	6,455	42.3
All others	15,060	100.0	7,775	51.6	7,285	48.4

During the fourth, or summer period, about 36 percent of nursing time was spent in the field, and about 64 percent in the nursing office.

The individual nurses did not vary widely in time given to field service (table 2). Two nurses averaged, during the four samples, more than 70 percent of their time in the field, while no one spent less than one-half of her time in the field.

Table 3. *Analysis of minutes of work spent in field services by the nursing staff during four 2-week sample periods*

Service	All samples		First sample		Second sample		Third sample		Fourth sample	
	Minutes	Percent	Minutes	Percent	Minutes	Percent	Minutes	Percent	Minutes	Percent
Total spent in field services	107,480	100.0	32,525	100.0	28,610	100.0	32,625	100.0	13,720	100.0
School	73,330	68.3	25,685	79.0	21,150	74.0	23,475	72.0	3,020	22.0
Tuberculosis	13,170	12.2	2,740	8.4	2,295	8.1	2,810	8.6	5,325	38.8
Venereal disease	1,080	1.0	440	1.4	70	------	315	.9	255	1.9
Other communicable disease	6,915	6.4	1,080	3.3	2,285	8.0	2,605	8.0	945	6.9
Maternal, infant, and preschool health	6,940	6.5	1,615	5.0	1,495	5.2	1,845	5.6	1,985	14.5
Adult hygiene	615	.6	130	.4	130	.5	185	.6	170	1.2
Morbidity	2,600	2.4	330	1.0	535	1.9	485	1.5	1,250	9.1
Crippled children	2,830	2.6	505	1.6	650	2.3	905	2.8	770	5.6

Analysis of time spent in field services reveals that approximately 68 percent of the field time is devoted to school health service, 12 percent to tuberculosis service, 6 percent to maternal, infant, and preschool health service, 7 percent to other communicable disease services, and 7 percent to all other services (table 3, fig. 1).

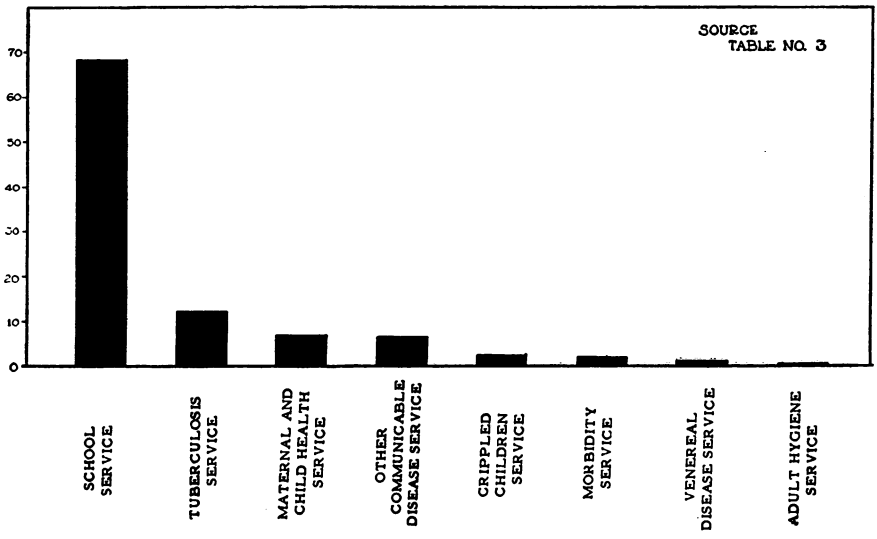

Figure 1. Percentage analysis of field service.

Variation among the nurses ranged from 85 to 52 percent of field time devoted to school health services, 6 to 22 percent for tuberculosis service, 1 to 16 percent for maternal, infant, and preschool health service, and less than 1 to 13 percent for other communicable disease services (table 4).

The demands of the school health program are clearly reflected by the variations in percentages during the four sample periods (table 3). During the summer sample, for example, only 22 percent of the field time was devoted to school health service, while 39 percent was spent in tuberculosis service, and 14 percent in maternal, infant and preschool health service. The apparent rise in percentage spent in morbidity service during the summer is probably due to erroneous

Table 4. *Percentage analysis of minutes worked by each nurse by type of field services during four 2-week sample periods*

Nurse	Minutes in field services	Percent	School	Tuberculosis	Venereal disease	Other communicable disease	Maternal, infant, preschool health	Adult hygiene	Morbidity	Crippled children
All nurses	107,480	100.0	68.2	12.2	1.0	6.5	6.5	0.6	2.4	2.6
Nurse 1	10,320	100.0	71.9	6.7	(*)	5.8	7.9	(*)	2.0	5.7
Nurse 2	7,555	100.0	61.7	14.3	(*)	13.2	3.2	1.6	2.5	3.5
Nurse 3	6,580	100.0	68.1	13.1	(*)	8.7	3.8	2.3	4.0	(*)
Nurse 4	8,870	100.0	52.5	12.4	1.3	10.9	16.4	(*)	3.5	3.0
Nurse 5	9,905	100.0	61.0	22.0	2.8	5.0	1.4	(*)	2.6	5.2
Nurse 6	9,630	100.0	85.5	6.1	(*)	4.7	2.4	(*)	1.3	(*)
Nurse 7	10,430	100.0	76.3	5.8	1.3	5.1	8.3	(*)	2.0	1.2
Nurse 8	6,220	100.0	65.5	18.2	(*)	3.8	6.3	(*)	6.2	(*)
Nurse 9	9,205	100.0	74.2	12.4	1.4	(*)	3.8	1.9	1.3	5.0
Nurse 10	12,175	100.0	65.5	9.5	(*)	10.5	9.2	(*)	3.3	2.0
Nurse 11	8,815	100.0	70.8	14.4	1.5	3.3	10.0	(*)	(*)	(*)
All others	7,775	100.0	71.2	17.5	(*)	5.6	2.7	(*)	1.6	1.4

*Percentages were not computed for individual nurses when the total time spent in any service was less than 100 minutes.

recording of school visits during the summer months. It should be pointed out here that at the time this study was made, the department had a limited venereal disease program and no clinic, and a limited maternal and child health program, and no child health conferences. Therefore, the small portion of time devoted to these services was not surprising.

During the four sample periods, approximately 40 percent of the nurses' time was devoted to nursing office activities (table 1). The unusually great amount of time spent in the office during the summer was primarily due to two factors: (1) vacations releasing a high percentage of nursing time, and (2) a lack of organized programs in the other services such as infant and preschool hygiene, venereal disease and tuberculosis.

The tabulated data collected for a more detailed analysis of nursing office activities (table 5) probably do not indicate how office time was actually spent. However, we feel that the total time spent in the

Table 5. *Analysis of minutes spent in the office by the nursing staff during four 2-week sample periods*

Office service	All periods		First sample		Second sample		Third sample		Fourth sample	
	Minutes	Percent	Minutes	Percent	Minutes	Percent	Minutes	Percent	Minutes	Percent
Spent in office	77,265	100.0	17,565	100.0	12,170	100.0	23,505	100.0	24,025	100.0
Travel to office	8,665	11.2	2,090	11.9	1,795	14.7	3,435	14.6	1,345	5.6
Administrative records and reports	23,255	30.1	5,765	32.8	4,325	35.6	5,760	24.5	7,405	30.9
Service records	15,575	20.2	3,730	21.2	1,830	15.0	4,510	19.2	5,505	22.9
Meetings and conferences during office hours	21,615	28.0	2,675	15.2	2,320	19.1	8,320	35.4	8,300	34.5
Clinics and clinic preparation	3,245	4.1	995	5.7	1,170	9.6	455	1.9	625	2.6
Professional reading	4,910	6.4	2,310	13.2	730	6.0	1,025	4.4	845	3.5

office and the travel time to the office are valid figures. It was noted, while tallying time from the daily logs that some nurses did not properly record time spent on service records or in conferences. There was a tendency to lump all office time under "records and reports of an administrative nature."

Since it was known before this time study was undertaken that a large proportion of the nursing activities (during the school year) was devoted to school health programs, a special tabulation was made for this service (table 6). About one-third of the nursing time spent in school health service was devoted to office nursing, about one-fourth to home visits, about one-sixth to conferences with school personnel, and one-eighth to school record work.

Table 6. *Analysis of minutes of work spent in school field service by nursing staff during four 2-week sample periods*

School service	All periods		First sample		Second sample		Third sample		Fourth sample	
	Minutes	Percent	Minutes	Percent	Minutes	Percent	Minutes	Percent	Minutes	Percent
Spent in school service	73,330	100.0	25,685	100.0	21,150	100.0	23,475	100.0	3,020	100.0
Travel to school	6,056	8.3	2,355	9.2	1,660	7.8	1,930	8.2	110	3.6
Office nursing	26,575	36.2	11,180	43.5	6,890	32.6	8,505	36.2	-------	------
School conferences	12,410	16.9	3,870	15.1	4,190	19.8	4,350	18.5	-------	------
School records	9,020	12.3	3,625	14.1	2,265	10.6	2,265	9.7	890	29.5
Total field visits	19,270	26.3	4,655	18.1	6,170	29.2	6,425	27.4	2,020	66.9
Child ill	16,815	22.9	3,830	14.9	5,410	25.6	5,623	24.0	1,950	64.6
Child not ill or not at home	2,455	3.4	825	3.2	760	3.6	800	3.4	70	2.3

Individual nurses varied widely in time devoted to the various school activities (table 7). Among the individual nurses percentage of time devoted to office nursing varied from 60 to 22 percent; school conferences from 6 to 43 percent; field visits from 15 to 44 percent; school record work from 5 to 20 percent. This variation may be partially explained by the varied philosophies of school superintend-

Table 7. *Percentage analysis of minutes spent in school service by each nurse during four 2-week sample periods*

Nurse	Total minutes in school	Percentages							
		Total per cent	Travel to	Office nursing	School conferences	School records	Field visits		
							Total	Child ill	Not ill
All nurses	73,330	100.0	8.3	36.2	16.9	12.3	26.3	22.9	3.4
Nurse 1	7,255	100.0	7.4	29.7	9.8	20.2	32.9	30.2	2.7
Nurse 2	4,665	100.0	8.9	43.7	15.5	5.0	26.9	24.4	2.5
Nurse 3	4,445	100.0	3.6	31.3	7.9	12.7	44.5	44.5	
Nurse 4	4,655	100.0	12.1	31.4	13.6	12.8	30.1	24.2	5.9
Nurse 5	6,045	100.0	11.5	21.8	43.3	7.4	16.0	15.0	1.0
Nurse 6	8,195	100.0	5.2	43.2	10.4	12.8	28.4	25.8	2.6
Nurse 7	7,905	100.0	7.6	20.0	39.0	10.4	23.0	18.1	4.9
Nurse 8	3,915	100.0	11.2	41.0	11.8	19.5	16.5	12.6	3.9
Nurse 9	6,755	100.0	7.6	38.7	18.0	16.1	19.6	17.3	2.3
Nurse 10	7,945	100.0	4.7	50.7	6.1	9.8	28.7	26.8	1.9
Nurse 11	6,145	100.0	17.4	25.7	12.0	11.5	33.4	23.8	9.6
All others	5,405	100.0	5.0	60.3	9.4	9.9	15.4	12.6	2.8

ents relative to work of the nurse in the school. These differences in philosophy and other factors have resulted in somewhat varied school programs. The other factors that must be considered when comparing these differences in emphasis are the background, experience and personality of the nurse serving the school.

Analysis by Home Visit

This section is devoted to the analysis of home visits made during the four sampling periods. Approximately one-quarter of the total time of the nursing staff was spent making home visits (table 8). Percentages among the individual nurses varied from 17 to 43 percent. Home visits averaged 26 minutes in length for all nurses. Averages for individual nurses ranged from 22 to 40 minutes. It must be remembered here that the time required to travel to the home was charged as time spent in the home. Since time was recorded to the

Table 8. *Analysis of total time spent in homes by each nurse during four 2-week sample periods*

Nurse	Number sample periods	Total minutes worked	Minutes spent in homes	Percent total time	Number home visits	Average number minutes per visit
All nurses	4	184,745	44,480	24.1	1,694	26.2
1	4	17,655	4,995	28.3	190	26.3
2	3	13,620	3,655	26.8	107	34.2
3	2	9,370	4,045	43.2	100	40.4
4	4	15,855	4,625	29.2	178	26.0
5	4	18,925	4,110	21.7	119	34.5
6	3	13,295	3,560	26.8	135	26.4
7	4	18,620	3,510	18.8	132	26.6
8	3	11,995	2,025	16.9	59	34.3
9	4	16,920	2,960	17.5	106	27.9
10	4	18,160	4,795	26.4	202	23.7
11	4	15,270	3,460	22.6	156	22.2
All others	3	29,430	2,740	9.3	117	23.4

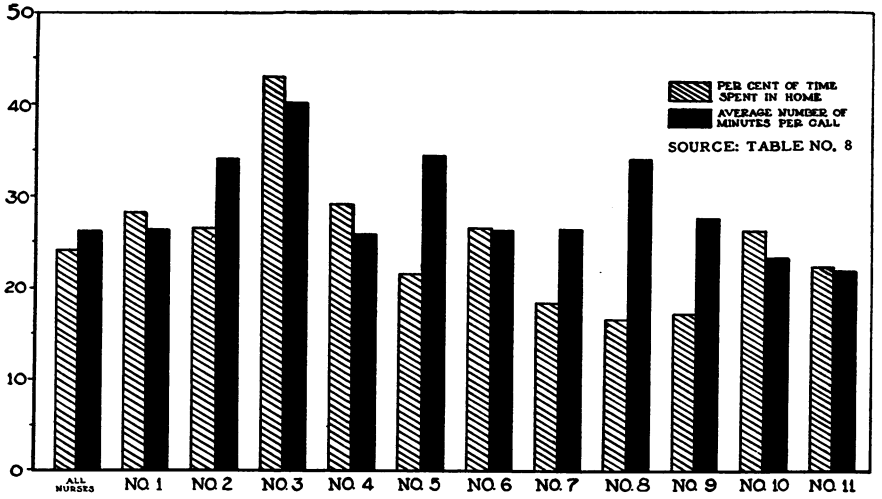

Figure 2. Percent of time spent in home calls and average number of minutes per call for each nurse.

nearest 5 minutes, only a rough estimate can be made of the average travel time per home call. In districts with concentrated population, travel time is negligible, in other districts travel time might average 15 to 20 minutes per call. Analysis of "not at home" calls (table 9) would indicate that travel time for all visits would probably average at least 10 minutes per home visit.

Table 9. ***Analysis of not at home visits made by the nursing staff during four 2-week sample periods***

	Total visits	Total minutes	Average number minutes per visit	Number of minutes per visit							
				5	10	15	20	25	30	35	40
Total not at home visits	310	4,075	13.1	48	126	74	38	13	9	1	1
School not at home visits	109	1,390	12.8	18	49	23	11	6	2	----	----
Other not at home visits	201	2,685	13.4	33	77	51	27	.7	7	1	1

According to the instructions given for coding activities in the State Quarterly Statistical Report, when more than one type of service is given in a home, each service is credited with a "home call." Because of this system of recording, a tally was made of the time spent in each type of service given in the home (table 10). The nurses had been instructed, when they recorded more than one type of service per home call, to estimate the time spent in each service, rather than the total time spent in the home. Morbidity service took the highest number of minutes per call. Calls of this type are generally emergencies. It has been the practice for many years for the public

health nurse to make preliminary home calls to the indigent ill requesting the services of a county doctor. Most of the morbidity calls recorded during the four sample periods were for this purpose. Home calls to render tuberculosis service were longer than for any other service, except morbidity; an average of 33 minutes was spent per home call in this service. School service calls averaged 23 minutes.

The median time recorded both for total time in the home, and for service calls in the home was 20 minutes (table 10). Errors in the recording of time are apparent. Some of the nurses tended to record home calls to the nearest 10 minutes, instead of to the nearest 5 minutes, consequently the mean or average is probably more accurate than the median figure.

Table 10. *Analysis of minutes spent in home visits by type of service given by nursing staff during four 2-week sample periods*

	Total in home	Services in home								
		Total	Tuberculosis	Venereal disease	Maternal, child health	School	Adult health	Morbidity	Crippled children	Communicable disease
Number minutes	44,480	44,480	10,330	575	5,885	16,835	560	2,185	2,485	5,625
Number visits	1,601	1,694	314	22	219	747	25	66	85	216
Average number minutes per visit	27.8	26.2	32.9	(*)	26.9	22.5	(*)	33.1	33.1	26.0
Length of visit:										
5	19	25	5		7	7	3			3
10	139	177	13	4	27	111	4	3	3	12
15	196	233	21	2	23	129	6	8	12	32
20	344	382	48	6	44	209	2	8	13	52
25	198	204	35	1	24	88	2	7	11	36
30	289	294	66	4	40	113	2	15	17	37
35	89	87	22	1	12	26	2	3	10	11
40	118	109	40	1	14	25	1	8	10	10
45	61	59	12	1	7	16	1	5	4	13
50	48	39	15	1	9	8	1	1	1	3
55	17	17	9		3			1		4
60	39	35	11		5	11	1	3	3	1
65	14	11	7		2	1		1		
70	13	11	6	1		1		1	1	1
75	5	1	1							
80	4	3			1	2				
85 plus	8	7	3		1			2		

*Averages were not computed where total number of visits was less than 50.

The average number of minutes spent in tuberculosis home visits ranged from 41 to 37 minutes among th nurses (table 11). The range for maternal, infant, and preschool health visits was 22 to 35 minutes.

For the purposes of illustration of one valuable feature of this study, a summary of the data recorded during the sample periods by two nurses is given.

Nurse 3 was employed by the department during the middle of the school year, and participated in the third and fourth sample periods, one during the school year, and one during the summer. She was assigned to a district of high economic level. She gave nursing service to a school with an enrollment of approximately 900 students. The

population of her district is estimated roughly at 8,000 to 10,000. This nurse spent 70 percent of her time in field service, and 30 percent of her time in the nursing office. About 68 percent of her field time was devoted to school health service, 13 percent to tuberculosis service, 9 percent to other communicable disease service, and 10 percent was devoted to all other services. Analysis of her reported school activities reveals that she spent 45 percent of her school time in home calls, 31 percent in office nursing, 8 percent in school con-

Table 11. *Average time spent in services in the home for each nurse during four 2-week sample periods*

Nurse	Number of sample periods	Average number of minutes per service visit								
		All services	Tuberculosis service	Communicable disease	Venereal disease	Maternal, child health	School service	Adult health	Morbidity	Crippled children
All nurses	4	26.3	32.9	26.0	(*)	26.9	22.6	(*)	33.1	29.2
1	4	24.7	33.1	21.9	(**)	34.8	21.6	(**)	23.5	25.9
2	3	31.0	34.8	29.4			29.1			
3	2	35.8	41.2	37.0		23.3	34.3			
4	4	24.5	26.8	26.2		25.9	19.8			26.7
5	4	32.9	40.2	27.0			28.1		25.9	35.9
6	3	26.4	28.2	24.7			25.3			
7	4	25.1	30.6	28.3		30.3	21.2			
8	3	29.8	33.4				23.1		28.5	
9	4	25.3	34.5			26.7	19.2			
10	4	23.4	31.6	21.8		26.7	19.7			
11	4	22.0	29.3	22.8		21.9	19.4			
All others	3	21.9	30.0	27.3		15.9	14.6			

*Average number of minutes per service visit was not calculated where total number of visits was less than 50.

**Average number of minutes per service visit was not calculated for individual nurses where the total number of visits was less than 10.

ferences, and 13 percent in school record work. She spent 43 percent of her total time making home visits. Her average number of minutes per call was 40.

Nurse 9 had a rural area of approximately 6,000 population. She gave nursing service to 4 elementary schools with a total enrollment of about 800 students. She spent about 54 percent of her total time in the field, and about 46 percent in the nursing office. Approximately 74 percent of her field time was devoted to school health service, 12 percent to tuberculosis service, 5 percent to crippled children services, and 9 percent to all other services. Analysis of her school health service time reveals that 39 percent was devoted to office nursing, 20 percent to field visits, 18 percent to school conferences, and 16 percent to school records. She spent only 18 percent of her total work time making home calls. Her home calls averaged 28 minutes in length.

A summary for each nurse similar to these two examples, when considered with other data, offers an aid in evaluating the work of the nurse in her district. Other factors that would have to be considered

in such an analysis might be the following: (1) composition of the population along with economic and social data of the district; (2) mortality and natality rates in the district; (3) incidence of communicable disease, and other morbidity, and (4) nursing case load analysis. These data and the time analysis could then be weighted in relation to the subjective evaluation of a nurse's training, professional growth, and approach to the problem of her district.

Summary

A well-rounded public health program should include public health nursing services to all age groups, with particular emphasis in the fields of maternal and infant health, the health of the preschool and the school child. In addition, the groups with special need, such as those having tuberculosis, venereal disease, other communicable diseases, crippling defects, or mental health problems should receive assistance from the public health nurse. This time study offers statistical weight to the observation that at present the public health nursing program of this department is grossly weighted with school health service. The notable lack of organized programs for venereal disease control and for maternal, infant, and preschool health are definitely pointed out by this study. Immediate expansion of nursing service in fields other than school health is essential for a well-rounded program. The rapid population growth of the area indicates that the total time devoted to school health service cannot be decreased and will, undoubtedly, have to be increased to meet the larger enrollments and provide services to new schools being planned.

The time analysis of the school health program (table 7) reveals a wide variation in emphasis among the nurses. There is need for more planning and coordination between health department administrative personnel and school administrative personnel so that the public health nursing time spent in the schools may be used to the best advantage. Coordinated administrative action should help to reduce the use of public health nursing time for screening students, minor first aid, extensive record keeping, and verification of student illness. Reduction in the amount of nursing time devoted to these activities would permit a school health program that would concentrate on the health of the child, his family, and the community.

Another value of a study of this type is that it points the way for additional administrative evaluation and study of the various activities of the nursing staff. This analysis did not materially assist in evaluating office activities and record keeping practice. A method other than a time study should be used for this phase of the evaluation. A wide variation in the percentage of time devoted to making home

visits and in the length of time spent in the home was found. Further evaluation of home visits will require more supervision for the nursing staff, and more administrative action.

We feel that a time analysis of professional services based on sampling periods makes unnecessary the routine collection of detailed quantitative data about nursing service which has heretofore been deemed necessary for the evaluation of a nursing program in a local health department. The data that we have collected enabled us to determine what the activities of the nursing staff are in terms of the amount of time devoted to each of the major fields of public health nursing. It has offered an opportunity to objectively determine whether professional time is utilized to fulfill the aims of nursing service in a well-rounded public health program.

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Isolation of *Brucella abortus* From Hogs

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It is a general belief that *Brucella abortus* is not pathogenic for swine. Huddleson states, "No one has reported the isolation of *Br. abortus* from naturally infected swine (*1*). Attempts to infect hogs experimentally with *Br. abortus* likewise have been virtually unsuccessful (*2*).

Br. suis is regarded as the etiological agent of the infection in swine, but it is known that these animals are also susceptible to *Br. melitensis*. In the United States, Borts, McNutt and Jordan (*3*) isolated *Br. melitensis* from 12 hogs in 1946. They believed this to be the first such instance in this country. Huddleson (*1*) classified only 2 strains as *Br. melitensis*. among 132 strains of Brucella isolated from hogs in the United States.

In view of the lack of similar species specific resistance to Brucella in other animals, this apparent resistance of swine to *Br. abortus* would appear anomalous. Accordingly, during the course of an investigation of the incidence of brucellosis in swine by use of cultural methods, we were led to adopt a procedure favorable to the recovery of *Br. abortus* should it be present.

The purpose of the present paper is to report the recovery of *Br. abortus* from naturally infected hogs.

Procedure

Submaxillary lymph nodes were obtained, in a program of routine weekly sampling, from hogs slaughtered in one of the large packing plants in Chicago. This program has now extended over a period of 6 months. Specimens were obtained from the carcass immediately after the initial Bureau of Animal Industry inspection of head glands. The nodes were removed with sterile instruments and placed in individual sterile screw-capped glass jars. These samples were then returned to the laboratory and promptly cultured. Each node was removed from its container, trimmed of fat, well seared in a flame, sectioned, and the cut surface directly streaked on the surface of Trypticase-Soy agar medium. Sterile instruments were used throughout and resterilized between use on individual specimens. The inoculated plates were incubated at 37° C. in an atmosphere of 10 percent added carbon dioxide.

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Results

Br. abortus has been recovered from the lymph nodes of eight hogs. Isolations were made during four different weeks well scattered over the period of sampling. In addition to *Br. abortus* and *Br. suis*, *Br. melitensis* has also been isolated repeatedly.

Plates streaked with nodes from which Brucella was not recovered have in most instances been practically sterile. Plates yielding Brucella have uniformly contained numerous colonies, or even confluent growth. This, together with the rigid technique employed, can leave no question but that the Brucella recovered were from the sampled hogs.

All eight strains of *Br. abortus* adhered to the differential characteristics of the species. Identification was established by carbon dioxide requirement, hydrogen sulfide production, growth on differential dye plates, and the use of specific absorbed typing sera. Each strain was inoculated into guinea pigs. In every instance characteristic infection resulted, with production of agglutinins and recovery of *Br. abortus* in culture at postmortem examination.

Comment

The demonstration of the occurrence of *Br. abortus* in swine is of considerable practical importance. Its bearing upon the brucellosis control program in domestic animals is self-evident. Likewise, it may clarify some points in the epidemiology of the disease in man.

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INCIDENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED APRIL 9, 1949

A total of 32,909 cases of measles was reported, as compared with 31,905 last week and a 5-year (1944–48) median of 25,842. The 5 geographic areas reporting increases are as follows (last week's figures in parentheses): Middle Atlantic 8,290 (6,725), East North Central 3,803 (3,539), West North Central 2,091 (2,012), South Atlantic 4,995 (4,855), East South Central 1,896 (1,569). The 10 States reporting more than 600 cases and showing increases are as follows: Connecticut 1,570 (last week 979), New York 3,319 (2,825), New Jersey 1,822 (1,663), Pennsylvania 3,149 (2,237), Ohio 678 (576), Michigan 678 (611), Wisconsin 2,075 (1,951), North Carolina 1,243 (979), Kentucky, 686 (250), Alabama 699 (634). The total for the year to date is 315,965, as compared with a 5-year median of 225,048 reported for the same period last year. Twice in the past 13 years the peak of weekly incidence of measles was reported in the second week of April, four times in May, and once in the first week of June.

The incidence of influenza declined from a total of 3,068 cases last week to 2,658 for the current week. The corresponding 5-year median is 2,148. The total to date is 58,429 cases, the corresponding 5-year median is 177,855.

Of 41 cases of poliomyelitis reported for the week, 7 occurred in Florida, 5 in Texas, and 4 each in Mississippi and California. For the 3 weeks since March 19, the average week of seasonal low incidence, 135 cases have been reported, as compared with 78, the median for the corresponding 3-week periods of the past 5 years.

During the week 3 cases of "Q" fever were reported, in Idaho, 3 cases of smallpox, in Mississippi, and 2 cases of Rocky Mountain spotted fever, 1 each in Illinois and Tennessee, and 1 case of anthrax was reported, in New York.

Deaths recorded during the week in 93 large cities in the United States totaled 9,352, as compared with 9,650 last week, 9,568 and 10,050, respectively, for the corresponding weeks of 1948 and 1947, and a 3-year (1946–48) median of 9,607. The total to date is 135,995, as compared with 140,253 for the corresponding period last year. Infant deaths totaled 600 as compared with 645 last week and a 3-year median of 698. The cumulative figure is 9,118, as compared with 9,584 for the same period last year.

Telegraphic case reports from State health officers for week ended April 9, 1949

(Leaders indicate that no cases were reported)

Division and State	Diphtheria	Encephalitis, infectious	Influenza	Measles	Meningitis, meningococcal	Pneumonia	Poliomyelitis	Rocky Mountain spotted fever	Scarlet fever	Smallpox	Tularemia	Typhoid and paratyphoid fever [d]	Whooping cough	Rabies in animals
NEW ENGLAND														
Maine	1		1	361		5			9				5	
New Hampshire			2	80					3					
Vermont				237	1				4				2	
Massachusetts	3	1		1,001					164				71	
Rhode Island				262		8			[c] 3				8	
Connecticut	11		6	1,570		61			49				1	
MIDDLE ATLANTIC														
New York	4	4	[b]	3,319	8	313	1		[c] 293			2	150	14
New Jersey	2		4	1,822	5	91			174			9	54	5
Pennsylvania	8		[b]	3,149	6		2		247				94	1
EAST NORTH CENTRAL														
Ohio	7		5	678	6	91			342				73	21
Indiana	7		1	219	1	16			64		2	1	25	17
Illinois			5	153	5	105	1	1	129		1		28	
Michigan [a]			6	678	4	51			345	[f]			19	
Wisconsin	1	1	26	2,075	1	10	1		79			1	24	1
WEST NORTH CENTRAL														
Minnesota	9			221	4	9	3		33			1	2	
Iowa				73		1	3		28				1	7
Missouri	4		4	298	3		1		23			1	2	
North Dakota	1		14	43					5				3	
South Dakota				28		11			2					
Nebraska			13	180					12					
Kansas	2			1,248		20			23	[f]			10	
SOTUH ATLANTIC														
Delaware				55					18				1	
Maryland [a]	3		1	751	2	29			48				10	
District of Columbia	2			130		26			13				2	
Virginia	3		249	1,163		116	1		20				19	4
West Virginia	2		15	174	1	2	2		15				20	
North Carolina	1			1,243	1				15				31	
South Carolina	4		471	578	2	193	3		1		1	3	16	8
Georgia	3	1	27	575		27			12		3	1	1	8
Florida	2		4	326	2	30	7		10		3	4	4	1

EAST SOUTH CENTRAL														
Kentucky	2	1		686	5	18			30				9	6
Tennessee	2		92	407	4	88		1	16				14	
Alabama	2		170	699	1	38	1		13			1	5	9
Mississippi [a]	2		47	104	1	22	4		2	3	1		1	
WEST SOUTH CENTRAL														
Arkansas	2		127	966	2	53			1		1	2	9	2
Louisiana	2		6	99	4	29			2			3	2	
Oklahoma	1		47	445	2	53			8			3	7	4
Texas	20		1,120	2,799	7	357	5		34		4	2	90	33
MOUNTAIN														
Montana			16	50	1		1		12		2			
Idaho			11	114		12	1		[c] 11			1		
Wyoming				38	1	8			1					
Colorado	1		18	307	1	21			8				6	
New Mexico			1	159		15			8				2	
Arizona	2		99	170		18			11				2	
Utah [a]	1		1	105		2			6				38	
Nevada				1										
PACIFIC														
Washington	2		17	475	1	2			32				17	
Oregon			3	428		25			15				37	
California	7	1	29	2,167	5	31	4		[c] 103			3	21	8
Total	126	9	2,658	32,909	87	2,007	41	2	2,496	3	18	38	936	
Median, 1944–48	214	6	2,148	25,842	158		28		3,951	12	10	61	2,019	
Year to date 14 weeks	2,368	109	58,429	315,965	1,197	33,874	1,057	15	39,752	[1] 26	374	588	14,196	
Median, 1944–48	4,001	112	177,855	225,048	2,706		485	6	48,492	137	256	634	30,757	
	(27th)		(30th)	(35th)	(37th)		(11th)		(32nd)	(35th)		(11th)	(39th)	
Seasonal low weeks ends	July 10		July 31	Sept. 4	Sept. 18		Mar. 20		Aug. 14	Sept. 4		Mar. 20	Oct. 2	
Since seasonal low week	7,482		94,699	368,358	2,041		135		62,450	[1] 41		128	24,229	
Median, 1943–48	11,567		275,576	259,994	4,210		78		87,063	213		158	56,123	

[a] Period ended earlier than Saturday.
[b] New York City and Philadelphia only, respectively.
[c] Including cases reported as streptococcal infection and septic sore throat.
[d] Including paratyphoid fever, reported separately, as follows: New Jersey 9; South Carolina 1; Florida 1; Alabama 1; California 2; salmonella infections, not included, were reported as follows: Massachusetts 1.
[1] Deductions: Week ended March 19, 2 cases reported as smallpox, Michigan and Kansas, 1 each. Change of diagnosis.
"Q" Fever: Idaho, 3 cases.
Alaska: Influenza 1; measles 1; streptococcal sore throat 2.
Territory of Hawaii: Influenza 3; measles 211; lobar pneumonia 1; poliomyelitis 1.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended March 19, 1949.—During the week ended March 19, 1949, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		35	1	170	687	37	50	106	243	1,329
Diphtheria			1	16	1	1				19
Dysentery:										
Amebic								1		1
Bacillary				1						1
German measles				262	61	1	229	16	3	572
Influenza		111			18	8	7			144
Measles		115	44	99	466	227	180	289	217	1,637
Meningitis, meningococcal				1	1	2		2		6
Mumps		32	3	118	348	60	35	28	80	704
Poliomyelitis						1	2			3
Scarlet fever		2		116	114		3	17	24	276
Tuberculosis (all forms)		10	15	84	39	12	3	17	51	231
Typhoid and paratyphoid fever				3		1				4
Undulant fever				1	2	2		1		6
Venereal diseases:										
Gonorrhea		4	5	68	54	17	24	20	72	264
Syphilis		6	7	59	33	16	8	9	27	165
Whooping cough		20		90	7	7	6			130

GOLD COAST

Cerebrospinal meningitis.—Information dated April 4, 1949, states that 2,309 new cases of cerebrospinal meningitis with 142 deaths have been reported in the Northern Territories during the period March 10–26. The total to date in that area is stated to be 7,689 cases, 563 deaths. In Ashanti 15 new cases with 1 death had been reported.

NEW ZEALAND

Notifiable diseases—4 weeks ended February 26, 1949.—During the 4 weeks ended February 26, 1949, certain notifiable diseases were reported in New Zealand as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Cerebrospinal meningitis	7		Poliomyelitis	90	1
Diphtheria	11		Puerperal fever	6	
Dysentery:			Scarlet fever	77	
Amebic	4		Tetanus	1	
Bacillary	6		Trachoma	2	
Erysipelas	12	1	Tuberculosis (all forms)	164	41
Food poisoning	43		Typhoid fever	5	1
Malaria	2		Undulant fever	1	

MADAGASCAR

Notifiable diseases—February 1949.—Notifiable contagious diseases were reported in Madagascar and Comoro Islands during February 1949 as follows:

Disease	February 1949			
	Aliens		Natives	
	Cases	Deaths	Cases	Deaths
Beri-beri			9	0
Bilharziasis	3	0	112	0
Cerebrospinal meningitis			9	4
Dysentery:				
Amebic	12	0	232	5
Bacillary			4	0
Erysipelas			13	0
Influenza	26	0	1,734	24
Leprosy			37	0
Malaria	386	6	35,308	356
Measles	7	0	177	0
Mumps	4	0	122	0
Plague			16	15
Pneumonia, broncho			240	57
Pneumonia, pneumococcic			276	80
Poliomyelitis	1	0	1	0
Puerperal infection			12	2
Tuberculosis, pulmonary	6	1	111	18
Trachoma			1	0
Typhoid fever	6	1	23	9
Whooping cough	4	0	225	8

NICOBAR ISLANDS (INDIA)

Influenza.—An outbreak of influenzal broncho-pneumonia is reported to have occurred in Car Nicobar Island, Nicobar Islands, during the months of February and March, 1949. A total of 232 cases are stated to have been admitted to hospitals, and 10 deaths to have occurred. A report dated March 17, states that the epidemic is considered to be nearly over.

NORWAY

Notifiable diseases—December 1948.—During the month of December 1948, cases of certain notifiable diseases were reported in Norway as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	3	Mumps	670
Diphtheria	45	Pneumonia (all forms)	3,739
Erysipelas	412	Poliomyelitis	10
Gastroenteritis	2,203	Rheumatic fever	118
Gonorrhea	321	Scabies	2,579
Hepatitis, epidemic	116	Scarlet fever	584
Impetigo contagiosa	2,781	Syphilis	73
Influenza	13,307	Tuberculosis (all forms)	380
Laryngitis	14,088	Weil's disease	1
Malaria	2	Whooping cough	1,065
Measles	3,593		

REUNION ISLAND

Poliomyelitis.—During the period January 11–February 28, 1949, 92 cases of poliomyelitis with 15 deaths were reported in Reunion Island. The peak of incidence is stated to have occurred in the week ended February 19, when 26 cases were reported. Latest telegraphic information received up to March 10, indicated that the outbreak was nearing its end. For the period March 1–10, only 4 cases were reported.

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From consular reports, international health organizations, medical officers of the Public Health Service, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

(Cases)

NOTE.—Since many of the figures in the following tables are from weekly reports, the accumulated totals are for approximate dates.

Place	January–December 1948	January–February 1949	March 1949—week ended— 5	12	19	26
AFRICA						
Egypt	1					
Cario	1					
ASIA						
Burma	46	1				
Akyab	5					
Bassein	1			1		
Moulmein	1					
Rangoon	2					
China:						
Hupeh Province	3					
Wuchang	3					
Kaingsi Province	[1] 9					
Kiangsu Province	2					
Shanghai	1					
India	178,203	20,970	1,904	[2] 372	[2] 437	235
Ahmadabad	77					
Allahabad	[3] 6		1			
Alleppey	1					
Bombay	[3] 49	1				
Calcutta	[3] 7,985	1,180	104	137	136	234
Cawnpore	157				6	1
Cocanada	15					
Colachel	12					
Cuddalore	36	1	1			
Jodhpur	[3] 56					
Kilakarai	21					
Lucknow	48					
Madras	1,177	9				
Masulipatam	33					
Nagpur	74					
Negapatam	19	15	2	1		
New Delhi	26					
Raj Samand	6					
Tuticorin	16	13	1			
Vizagapatam	1					
India (French):						
Chandernagor	21					
Karikal	309	55				
Pondicherry	[4] 425	100				
Yanaon	2					
India (Portuguese)	29					

See footnotes at end of table.

CHOLERA—Continued

Place	January—December 1948	January—February 1949	March 1949—week ended— 5	12	19	26
ASIA—continued						
Indochina (French):						
Annam	[5] 49					
Cambodia	1,355	6			4	
Cochinchina	597				1	
Bien Hoa	1					
Chaudoc	2					
Cholon	29					
Giadinh	23					
Longxuyen	7					
Mytho	56					
Rachgia	133					
Saigon	136					
Laos	[6] 32					
Tonkin	20					
Pakistan	[4] 44,160	7,014	[7] 431	[7] 146	[7] 86	[7] 218
Chittagong	52	40		1	1	
Karachi	7					
Lahore	415	4				1
Siam	44					
Syria	3					

[1] Suspected. [2] Preliminary figures. [3] Includes imported cases. [4] Corrected figure. [5] Includes suspected cases, also 4 deaths reported as cases in December 1948. [6] Includes 12 deaths reported as cases in February 1948. [7] In Eastern Bengal Province only.

PLAGUE

(Cases)

AFRICA						
Basutoland		[1] 7				
Belgian Congo	23	2				1
Costermansville Province	[2] 12					
Stanleyville Province	11	2				1
British East Africa:						
Kenya	39	1				
Tanganyika	319	[3] 11				
Ethiopia [4]						
Madagascar	240	39		[5] 5		
Tamatave	1					
Tananarive	33	1				
Rhodesia, Northern	21	2				
Union of South Africa	[6] 54	[7] 18				
ASIA						
Burma [8]	1,114	260				
Mandalay	18	1				
Rangoon	19	1	1			
China:						
Chekiang Province	[9] 30			3		
Wenchow	14			3		
Fukien Province	350					
Foochow	4					
Kiangsi Province	[7] 66					
Kwangtung Province	116	([10])				
Yunnan Province	149					
India	25,678	9,071	2,490	[11] 474	[11] 352	[12] 28
Indochina (French):						
Annam	267	33	9	1	7	
Cambodia	6	9	1	5	1	1
Cochinchina	45	4	1	1		
Laos	5	3				
Mountain Area South-Indochina	23					
Java	3,107					
Pakistan	11					
Siam	135	87	21	14	10	
EUROPE						
Portugal: Azores	17	2				

See footnotes at end of table.

PLAGUE—Continued

Place	January—December 1948	January—February 1949	March 1949—week ended— 5	12	19	26
SOUTH AMERICA						
Argentina	12					
Buenos Aires Province	9					
Brazil	224					
Alagoas State	22					
Bahia State	158					
Ceara State	16					
Pernambuco State	28					
Ecuador	40					
Chimborazo Province	1					
Loja Province	39					
Peru	79					
Ancash Department	6					
Cajamarca Department	13					
Lambayeque Department	4	4				
Libertad Department	1					
Lima Department	40					
Piura Department	15					
Venezuela:						
Aragua State	7					
OCEANIA						
Hawaii Territory: Plague-infected rats [13]	5					

[1] Reported Jan. 29, 1949, in Mohale's Hoek District. [2] Includes 1 case of pneumonic plague. [3] Reported during the period Feb. 5–19, 1949, with 9 deaths. [4] Correction: Later information states that the 9 cases of plague reported in Shoa Province, Ethiopia, July 12–19, 1948 (see Public Health Reports, Jan. 28, 1949, p. 116), proved to be bronchopneumonia. [5] Mar. 1–10, 1949. [6] Includes 4 cases of pneumonic plague. [7] Includes suspected cases. [8] Includes imported cases. [9] Corrected figure. [10] Correction: Later information states that report of 6 cases of pneumonic plague in Canton, Kwangtung Province, China, Feb. 1–10, 1949 (see Public Health Reports, Mar. 25, 1949, p. 396), was in error. [11] Preliminary figures. [12] In Cawnpore only. [13] Plague infection was also reported in Hawaii Territory as follows: Under date of Feb. 27, 1948, in a mass inoculation of tissue from 19 rats; on Mar. 12, 1949, in a mass inoculation of tissue from 10 rats; on Mar. 16, 1949, in a mass flea inoculation of 29 fleas from trapped rats.

SMALLPOX

(Cases)

(P=present)

AFRICA						
Algeria	397	64				
Angola [1]	605					
Basutoland	3					
Bechuanaland	2					
Belgian Congo [1]	3,144	379	41			
British East Africa:						
Kenya	148	7				
Nyasaland	5,136	337	26	102	11	16
Tanganyika [1]	1,389	101				
Uganda	215	9				
Cameroon (French) [1]	6	8				
Dahomey	474	115		[2] 17		[3] 7
Egypt [4]	479	40	6	7		
Eritrea	9					
Ethiopia	25					
French Equatorial Africa	16					
French Guinea	136	1				
French West Africa: Haute-Volta	441	10		[2] 18		
Gambia	27	1	1		1	
Gold Coast	1,559					
Ivory Coast	[5] 833	50		[2] 19		
Libya	279					
Mauritania	2					
Mauritius	[6] 1					
Morocco (French)	36	5		[2] 1		
Mozambique	380	42				
Nigeria	4,397					
Niger Territory	421	27		[2] 20		
Portuguese Guinea		1				
Rhodesia:						
Northern	774	4				
Southern	1,763					
Senegal	8	6		[2] 7		
Sierra Leone	202	38			3	

See footnotes at end of table.

SMALLPOX—Continued

Place	January—December 1948	January—February 1949	March 1949—week ended— 5	12	19	26
AFRICA—continued						
Sudan (Anglo-Egyptian) [1]	1,464	23		1	3	
Sudan (French)	21	46		[2] 10		[3] 12
Swaziland	6					
Togo (British)	24					
Togo (French)	119	25		[2] 3		
Tunisia	544					
Union of South Africa	498	6	1	1	P	
ASIA						
Arabia	8	[7] 14	4	3	6	2
Bahrein Islands		[4] 32		2		2
British North Borneo	1					
Burma [4]	3,043	235	21	23	19	17
Ceylon [4]	22					
China [4]	4,134	389	12	[8] 62	5	26
India	[5] 60,619	10,558	2,086	1,271	1,447	236
India (French)	6	1				
India (Portuguese)	195	69				
Indochina (French)	4,097	1,517	148	176	108	6
Iran	1,195	117		1		
Iraq [4]	1,770	209	5	6	16	6
Israel		2				
Japan	[9] 29	4	3		8	
Java [4]	2	335	([10])			P
Korea		135				
Lebanon [4]	180	109	2			
Macao Island: **Macao**	11					
Malay States (Federated) [4]	546	34	6	2		
Manchuria	79					
Pakistan [4]	12,470	895	18	4	7	3
Palestine	8					
Philippine Islands: Mindoro Island	[11] 272	1				
Portuguese Timor			1			
Siam [4]	541	35	1		1	
Sumatra [4]	1,695	27			4	[6] 3
Straits Settlements: **Singapore**	13				[6] 1	
Syria	905	180	20		5	
Transjordan [4]	62	66	6	1	3	15
Turkey: **Izmir**	4					
(See also Turkey in Europe.)						
EUROPE						
France	3					
Germany	3					
Greece	8					
Italy [4]	11	2				
Portugal	80	2	1			
Spain	19					
Canary Islands	9					
Turkey	48	58	2	2	1	1
NORTH AMERICA						
British Honduras [1]	3					
Cuba: Habana					[6] 1	
Guatemala	2					
Mexico	985	3	1	1	1	
SOUTH AMERICA						
Argentina	54					
Bolivia	31					
Brazil [1]	755	50	1			
Chile	8					
Colombia	6,356	257	1			
Ecuador [1]	3,869	283	2	3	3	
Paraguay [1]	113					
Peru [1]	4,341	387				
Trinidad	[12] 12					
Venezuela [1]	5,141	233	30	7	76	

[1] Includes alastrim. [2] Mar. 1–10, 1949. [3] Mar. 11–20, 1949. [4] Includes imported cases. [5] Corrected figure. [6] Imported. [7] In the port of Makalla, Aden Protectorate. [8] Includes 49 cases reported Mar. 1–10, 1949. [9] Through week ended Dec. 25, 1948. [10] On Mar. 3, 1949, a press report in Batavia stated that an estimate of 1,000 cases of smallpox had been reported in Batavia and vicinity during the outbreak which began early in January. [11] Includes 1 case reported in Baguio City, Luzon Island. [12] Alastrim.

TYPHUS FEVER [a]

(Cases)

(P = Present)

Place	January–December 1948	January–February 1949	March 1949—week ended— 5	12	19	26
AFRICA						
Algeria	202	20				
Basutoland	10	2				
Belgian Congo [1]	251	16	3			
British East Africa:						
Kenya [1]	71					
Zanzibar	1					
Egypt	325	27	8		1	2
Eritrea	48	16	2	2		
Ethiopia	336					
French Equatorial Africa	1					
Gambia: **Bathurst**	1					
Gold Coast [1]	10					
Libya [1]	501	33	8	13	3	4
Madagascar: **Tananarive** [2]	7	2				
Morocco (French)	82	6		[3] 1		
Morocco (International Zone)	5					
Morocco (Spanish) [1]	8					
Mozambique [1]	3					
Nigeria [1]	7					
Rhodesia (Southern)	[2] 1					
Senegal	[2] 4					
Sierra Leone	[2] 18					
Somalia	2					
Tunisia [1]	627	5				
Union of South Africa [1]	430	8	2	2		
ASIA						
Burma	7					
Ceylon		2				
China [1]	194					
India	3	6				
India (Portuguese)	11	5				
Indochina (French) [1]	73					
Iran [1]	149	25				
Iraq [1]	222	6	6	1		
Japan	488	58	2		2	
Java	3					
Korea		23				
Lebanon		1				
Malay States (Federated)	3					
Manchuria	38					
Pakistan	22	6	31			
Palestine [1]	12	[4] 100				
Philippine Islands [1]	[5] 5	1				
Straits Settlements: **Singapore** [1]	[6] 20					
Syria [1]	66					
Transjordan	70	5			2	4
Turkey (see Turkey in Europe).						
EUROPE						
Albania	15					
Belgium				1		
Bulgaria	[7] 763	54				
Czechoslovakia	9	1	1			
France	5	1				
Germany:						
British Zone	8					
French Zone	12					
United States Zone	2					
Great Britain:						
Cyprus	[2] 1					
England and Wales	[2] 2					
London	[2] 2					
Ireland (Northern)	[2] 2					
Malta	[2] [7] 24	1				
Greece [1]	[8] 347	19			1	1
Hungary	61	5	6			
Italy [1]	138	14				
Sicily	27	9				
Netherlands	[2] 1					
Poland	405	45				
Portugal	8	1			1	
Azores: **Ponta Delgada**	3					
Maderia Islands: **Funchal**	1					

See footnotes at end of table.

TYPHUS FEVER—Continued

Place	January—December 1948	January—February 1949	March 1949—week ended— 5	12	19	26
EUROPE—continued						
Rumania [1]	22,211	220	12			
Spain	21	1				
Turkey	405	56	4	2	2	6
Yugoslavia [1]	633	56				
NORTH AMERICA						
Costa Rica [2]	38	7	1			
Cuba [2]	24					
Guatemala	181					
Jamaica [2]	20	2	1	2		
Mexico [1]	1,128	24				
Panama Canal Zone [1]	13					
Panama Republic	7					
Puerto Rico [2]	38	2				
SOUTH AMERICA						
Argentina	21					
Bolivia	[8] 93					
Brazil [1]	14	1		1		
Chile [1]	609	5	5	7	9	
Colombia [1]	3,234	[9] 256				
Curacao [2]	22	3				
Ecuador [1]	463	63	2			
Peru	1,667	2				
Venezuela [1]	187	4		1	1	
OCEANIA						
Australia [2]	173	19	1	2		
Hawaii Territory [2]	22	3				
Honolulu	3					
New Caledonia	1					

*Reports from some areas are probably murine type, while others include both murine and louse-borne types.

[1] Includes murine type. [2] Murine type. [3] Mar. 1-10, 1949. [4] Approximate number reported Feb. 21, 1949, in outbreak in Hebron and Bethlehem districts. [5] Includes suspected cases. [6] Includes nonresident and imported cases. [7] Corrected figure. [8] Includes 9 deaths reported as cases in Cochabamba Department in March 1948. [9] Jan. 1-31, 1949.

YELLOW FEVER

(C—cases; D—deaths)

AFRICA							
Belgian Congo:							
Stanleyville Province	D		4		[1] 1		
Gold Coast:							
Kumasi	D	1					
Accra	D	2					
Ivory Coast:							
Gagnao	D	1					
Sudan (French):							
Sebekoro	D	1					
NORTH AMERICA							
Panama:							
Pacora	C		[2] 8				
SOUTH AMERICA							
Argentina	D	1					
Cerro Azul, Misiones Territory	D	1					
Bolivia: [3]							
Brazil	D	3					
Bahia State:							
Ilheus City, Itajuipe	D	1					
Ubaitaba County	D	1					
Rio Grande do Sul State:							
Sao Luiz Gonzaga	D	[4] 1					
British Guiana	D	1					

See footnotes at end of table.

YELLOW FEVER—Continued

Place		January–December 1948	January–February 1949	March 1949—week ended— 5	12	19	26
SOUTH AMERICA—continued							
Colombia	D	19					
Antioquia Department:							
Maceo	D	4					
Yolomba	D	1					
Boyaca Department:							
Campohermoso	D	1					
Caldas Department:							
La Dorado	D	1					
Samana	D	1					
La Victoria	D	1					
Cundinamarca Department:							
Medina	D	7					
Intendencia of Meta:							
Cumaral	D	1					
Restrepo	D	1					
San Martin	D	1					
Peru: [5]							
Loreto Department:							
Nauta, Loreto Province	D	1					
San Martin Department:							
Saposoa, Saposoa Province	D	1					
Venezuela:							
Bolivar State:							
Boatanamo, Tumeremo County	D	1					

[1] Reported Mar. 6, 1949, in Titule Region. [2] Includes 5 fatal cases confirmed, 3 nonfatal cases, not confirmed. [3] Delayed report: During the months of April and May 1947, 5 cases of yellow fever were reported in Bolivia, distributed as follows: Santa Cruz Department—Nuflo de Chavez 1, Concepcion 1, Cercado 1 La Paz Department—Province of Sud Yungas, Chulmani 1, Province of Nor Yungas, Coroico 1. [4] Suspected. [5] Delayed report: On July 23, 1948, 1 death from yellow fever was reported to have occurred in Tingo Maria, Huanoco Department, Peru, in the month of November 1947.

DEATHS DURING WEEK ENDED APR. 2, 1949

[From the Weekly Mortality Index, issued by the National Office of Vital Statistics]

	Week ended Apr. 2, 1949	Corresponding week, 1948
Data for 94 large cities of the United States:		
Total deaths	9,819	9,742
Median for 3 prior years	9,742	
Total deaths, first 13 weeks of year	128,641	132,853
Deaths under 1 year of age	654	682
Median for 3 prior years	677	
Deaths under 1 year of age, first 13 weeks of year	8,696	9,039
Data from industrial insurance companies:		
Policies in force	70,499,503	71,109,393
Number of death claims	13,318	12,329
Death claims per 1,000 policies in force, annual rate	9.9	9.1
Death claims per 1,000 policies, first 13 weeks of year, annual rate	9.8	10.5

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