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CHANGES IN THE REGULATIONS PROPOSED FOR TETRAETHYL LEAD GASOLINE

In 1926 there were published, as part of Public Health Bulletin No. 163, which contained the report of the committee on tetraethyl lead gasoline, four sets of regulations which had been formulated in accordance with the committee's recommendations. These were proposed for adoption by the several States in order to secure uniformity of control, and were the subject of consideration at the meeting of the State and Territorial health authorities with the Surgeon General on May 25, 1926. The regulations were in four series, as follows:

I. Proposed regulations for the manufacture of tetraethyl lead and the blending of the latter to make ethyl fluid.
II. Proposed regulations for mixing.
III. Proposed regulations for distribution of ethyl gasoline.
IV. Proposed regulations for automobile garages, repair shops, service stations, and filling stations.

It was stated in the above-mentioned bulletin that the regulations thus published were based on the conditions and knowledge then existent, and that changes might be advisable from time to time.

The results of the past two and one-half years have fully justified the findings of the committee. In regard, however, to that regulation in Series III which has to do with warning signs on the pumps, it has come to be felt that the latitude allowed in the form, wording, and position of the sign has left much to be desired in uniformity and effectiveness. Moreover, the question has been reconsidered as to whether the word "lead" or the word "ethyl" should be stressed. It was felt at the time when the original regulations were formulated, since there had been much discussion in the press about ethyl gasoline and its possible danger, that the warning would be more effective if all the gasoline containing tetraethyl lead were labeled "ethyl." Much of that public discussion has passed, and it is now believed that emphasis should rather be on the fact that the gasoline contains lead. Developments since the committee's report have strengthened the opinion that, so far as the gasoline is concerned, the hazard, if any, is merely that of lead.

In view of these two considerations, the Surgeon General, after obtaining the advice of the members of the original committee—Dr.

William H. Howell, chairman, Dr. A. J. Chesley, Dr. David L. Edsall, Dr. Reid Hunt, Dr. Walter S. Leathers, Prof. Julius Stieglitz, and Prof. Charles-Edward Amory Winslow—has proposed to the various State health authorities the following set of regulations to take the place of Series III dealing with the distribution of ethyl gasoline.

1. Each filling station shall keep prominently displayed on each pump which delivers motor fuel containing tetraethyl lead, a sign or signs reading as follows, in prominent heavy gothic capital letters, black on white background:

CONTAINS
LEAD
(Tetraethyl) and
Is to be Used as
Motor fuel only
Not for cleaning
or any other use
Avoid Spilling

The printed matter on the sign, not counting the enclosing border, shall measure approximately 6½ inches wide by 7½ inches high. The first line (Contains) shall be in letters ¾ of an inch high, the second (Lead) in letters 1 inch high, and the remainder in letters $\frac{7}{16}$ of an inch high. All words of the sign shall be kept clear and prominent, the entire sign to be within the limits of 5 feet and 4 feet above the ground level. Such a sign shall be maintained on the face of each side of the pump at which delivery could be made.

2. Suitable leaflets shall be available for distribution on request at all filling stations where ethyl gasoline is sold. These leaflets shall describe the possible dangers and precautions to be taken in the use of ethyl gasoline.

3. Containers of ethyl gasoline sold to consumers shall bear the following label in such a position as to be plainly legible when the container is opened:

CONTAINS
LEAD
(Tetraethyl) and
Is to be used as
Motor fuel only
Not for cleaning
Or any other use
Avoid Spilling

Though the term "ethyl gasoline" is used in paragraphs 2 and 3 of the above proposed regulations as well as in Series II, which concerns the mixing of ethyl fluid, it is understood that with the use of these new signs gasoline distributors will be relieved from the necessity of using the word "ethyl" in connection with their product, since in the term "ethyl gasoline" as used in these regulations are included all other motor fuels containing tetraethyl lead. On account of the position specified, a considerable interval of time and in some cases structural alterations in the pumps will be required before the new signs can be expected to be installed at all filling stations which are already equipped with old signs. It is believed that these new signs, expressing in as few and as quickly read words as possible the

elementary precautions considered advisable, having a uniform lettering, and placed so that they may easily be read from the driver's seat of an automobile will be more satisfactory than any specification as to the name of the gasoline, and will form an adequate protection to the motorist against this particular hazard.

COOPERATIVE RURAL HEALTH WORK OF THE PUBLIC HEALTH SERVICE IN THE FISCAL YEAR 1928[1]

By L. L. LUMSDEN, *Senior Surgeon, United States Public Health Service*

In the fiscal year ended June 30, 1928, the United States Public Health Service cooperated in demonstration projects in rural health work in 109 counties in 17 States, as follows:

Alabama.—Colbert, Franklin, Lauderdale, Lawrence, Limestone, Madison, Talladega, and Walker Counties.

Arkansas.—Garland, Jefferson, and Pulaski Counties.

California.—San Diego and Santa Barbara Counties and San Joaquin District.

Georgia.—Floyd, Glynn, Laurens, and Walker Counties.

Kansas.—Cherokee, Geary, Greenwood, Jefferson, Lyon, and Ottawa Counties.

Kentucky.—Hopkins and Mason Counties.

Louisiana.—Lafourche and Washington Parishes.

Massachusetts.—Barnstable County.

Mississippi.—Harrison, Hinds, Union, and Washington Counties.

Missouri.—Dunklin, Greene, Jackson, Marion, New Madrid, Nodaway, Pemiscot, St. Francois, and St. Louis Counties.

Montana.—Big Horn, Cascade, and Lewis and Clark Counties.

New Mexico.—Bernalillo, Chaves, Dona Ana, Eddy, Santa Fe, Union, and Valencia Counties.

North Carolina.—Edgecombe and Richmond Counties.

Oklahoma.—Oklahoma, Okmulgee, Ottawa, and Seminole Counties.

Tennessee.—Anderson, Bledsoe, Blount, Cumberland, Dyer, Gibson, Grundy, Fentress, Hamilton, Montgomery, Obion, Overton, Pickett, Rhea, Roane, Sequatchie, Shelby, Sullivan, Weakley, Washington, and Williamson Counties.

Virginia.—Accomac, Bath, Charlotte, Chesterfield, Essex, Fairfax, Greensville, Henry, Lee, Northampton, Powhatan, Prince Edward, Pulaski, Roanoke, Smyth, and Washington Counties.

West Virginia.—Berkeley, Boone, Brooke, Gilmer, Hancock, Harrison, Kanawha, Lewis, Logan, Marion, Marshall, Ohio, Preston, and Wood Counties.

[1] This report applies to work provided for with funds appropriated specifically for "special studies of and demonstration work in rural sanitation." It does not cover all cooperative activities of the Public Health Service in rural communities.

The results were thoroughly in line with the conclusions in the reports on this activity for the fiscal years 1920,[2] 1921,[3] 1922,[4] 1923,[5] 1924,[6] 1925,[7] 1926,[8] and 1927.[9]

Plan of Work

The plan of the work was similar to that carried out in each of the seven preceding fiscal years (Reprints Nos. 615, 699, 887, 964, 1047, 1118, and 1184).

The authorization for this work is in the act of February 15, 1893 (ch. 114, 27 Stat. L. 449); the act of August 14, 1912 (ch. 288, 37 Stat. L. 309); and in the annual appropriation acts. The appropriation is specifically for "Special studies of and demonstration work in rural sanitation."

The work is conducted in cooperation with State and local health authorities. It is made a part of a well-rounded comprehensive program of local health service.

Through such connection as this with county health service projects the Public Health Service can operate most economically and efficiently toward meeting its responsibility to help prevent the spread of human infection in interstate traffic. The cooperative projects also furnish most favorable opportunities for studies, by the Public Health Service, "of the diseases of man and conditions influencing the propagation and spread thereof." Thus, this rural sanitation activity serves a number of important general purposes besides those specified in the appropriating act, and though very limited as yet in extent it appears to contribute to the work of the Federal Government for the promotion of the general welfare. It operates at comparatively very low cost to promote profit in the farming industry.

The demonstration work in rural sanitation can not, under the provisions of the appropriating act, be conducted in a community unless the State, county, or municipality in which the community is located, agrees to pay at least one-half the expenses of such demonstration work. The funds provided by the State, county, and municipalities, inclusive, for support of the average demonstration project far exceed the allotment from the Federal fund, and in almost all instances the appropriation from the local official sources (county, township, or town) covers considerably more than 50 per cent of the budget.

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[2] Reprint No. 615, from Public Health Reports of Oct. 1, 1920, p. 15.
[3] Reprint No. 699, from Public Health Reports of Oct. 7, 1921, p. 17.
[4] Reprint No. 788, from Public Health Reports of Sept. 29, 1922, p. 22.
[5] Reprint No. 887, from Public Health Reports of Dec. 14, 1923, p. 24.
[6] Reprint No. 964, from Public Health Reports of Oct. 17, 1924, p. 23.
[7] Reprint No. 1047, from Public Health Reports of Oct. 23, 1925, p. 33.
[8] Reprint No. 1118, from Public Health Reports of Oct. 22, 1926, p. 37.
[9] Reprint No. 1184, from Public Health Reports of Oct. 21, 1927, p. 51.

Under this cooperative arrangement the rural sanitation work of the Public Health Service is carried out in each project by a local health force intended to be permanent and is made a part of a general program of rural health work deemed suitable to the locality. Thus, it is accomplished more economically and with more lasting effects from a demonstration standpoint than it could be if undertaken by a specialized force working a comparatively short time in the locality.

The unit for the work, as a rule, is the county, but it may be a group of townships in the same vicinity or two or three adjacent counties. Under the cooperative arrangements a good program of health work can be carried out in practically any rural county or district in the United States at a cost to the county or district easily within its means. The average cooperative demonstration project is conducted on a cost basis of less than 50 cents per capita of population served, and furnishes a striking example of efficiency with economy in public service. In many counties efficient whole-time county health service can be provided at an annual cost of less than $2 to the local taxpayer with real property assessed at $5,000 to $6,000.

An annual budget of $10,000 will provide in most sections of this country the services of a county health department force consisting of one whole-time health officer, one whole-time sanitary inspector, one whole-time health nurse, and one office clerk. Such a force can render highly effective health service in the average county with a population of about 25,000 and an area of about 500 square miles. For larger units of population larger forces are needed and should be provided, especially after the first year or two of operation.

The members of the working forces in the cooperative demonstration projects are appointed by the proper local government authorities, but the appointees must be acceptable to the cooperating official agencies—the State board of health and the United States Public Health Service. The only ground upon which the interests of the cooperating agencies are likely to meet with respect to the appointments is fitness for efficient services. With such expressed understanding, the local authorities at times may be relieved of local political embarrassment in exercising their appointing power.

All salient branches of health work, such as acute communicable disease-control measures, sanitation of private homes and public places, malaria prevention, tuberculosis control, goiter prevention, infant and maternity hygiene, venereal disease prevention, school hygiene, etc., are carried out in the projects. Attention is expected to be concentrated upon the different branches of the work in what appears to be the most advantageous sequence. The various activities can be dovetailed with one another so that every dollar invested and every unit of energy expended may yield the biggest possible return in health promotion and disease prevention. The director

of the unit, the county or district health officer or sanitary officer, is given full responsibility for the detailed execution of the work. He has from time to time and can secure at any time, advice and counsel and active assistance from specially experienced representatives of the State board of health and the United States Public Health Service.

By having all salient branches of health work for the community conducted under the direction of one head, the whole-time county health officer, who is given a status of field agent in the United States Public Health Service, and, in some of the States, that of deputy State health officer, a maximum of services can be rendered with a minimum of overhead expense, lost motion, and friction. Through good business management, the funds invested in the enterprise can be made to yield a remarkable dividend in the protection and promotion of human health and in a money saving to the community, resulting from the prevention of sickness and loss in wage earning, amounting to many times the cost of the service.

This plan of cooperative rural health work has been evolved in the course of field experience and has been tested under a wide range of local conditions. It seems applicable to all the rural districts of the United States. The provision of means for a reasonably rapid extension of this work would, according to all the evidence, prove highly advantageous from every standpoint—individual, community, State, and national.

Appropriation

The appropriation for the rural sanitation work of the Public Health Service in the fiscal year 1928 was $85,000. Against the amount appropriated was set up a budget saving of $2,000. The unexpended balance from the operations of the preceding fiscal year was $2,789.[10] Thus, $85,789 was available.

Rural health work is applicable to communities in the United States comprising about 60 per cent (or over 70,000,000) of our total population. Such communities include farm and other open-country homes, incorporated towns and villages (with populations under 2,500), and, as the county is the logical political unit for official rural health-work administration, many towns and cities with populations from 2,500 to 50,000.

Under modern conditions of transportation and travel, rural and urban health conditions react upon each other. Therefore rural

[10] The unexpended balance was due not to an excessive amount of money being available, but to temporary suspensions of the work and consequent decreased expenditure in some of the projects to which allotments had been made for the whole fiscal year 1927. Such suspensions are necessitated by various local circumstances and can not be anticipated when the contracts are made. With the existing differences between the Federal fiscal year and the fiscal years of some of the States and localities in which the work is conducted, it would not be practicable, without lessening the degree of economy striven for, to arrange contracts so that the allotment of Federal funds to every project would be expended exactly by the end of the Federal fiscal year.

health work is of importance to our entire population. The sanitary quality of the tremendous volume of raw foods now shipped daily through interstate traffic is of keen importance, for both humane and business reasons, to our public and our private interests and may be enhanced and safeguarded by reasonably adequate, coordinated, joint activities of governmental agencies—local, State, and Federal. To undertake sanitary control of traffic and travel by inspection and quarantine at our city borders and on our interstate lines now would be futile and ridiculous. The efficient local health department, in doing its local work, performs duty of state-wide and nation-wide importance with which the State and the Federal health services are concerned. Therefore it seems, from a sanitary standpoint, reasonable and proper for State and Federal agencies to encourage and help in the development and permanent maintenance of such departments.

Only about 19 per cent of our rural population is as yet provided with local health service approaching adequacy under the direction of whole-time, local (county or district) health officers.[11] Because of lack of efficient, whole-time rural health service infections of man are conveyed very frequently across interstate lines.

In our rural communities there are about 1,000,000 persons incapacitated all the time by illness, much of which is preventable; about 70 per cent of the school children are handicapped by physical defects, most of which are preventable or remediable; about 30 per cent of persons of military age are incapacitated for arduous productive labor or for general military duty, largely from preventable causes; and over 60 per cent of the men and women between 40 and 60 years of age are in serious need of physical reparation, largely as a result of preventable causes. In view of these conditions there is no room for reasonable doubt about the need for more and better rural health service in this country.

In the registration area of the United States the rural death rate in recent years has been higher than the urban for malaria, influenza, typhoid fever, and tuberculosis of the respiratory tract.

The relatively high prevalence of such communicable and preventable diseases in our rural population emphasizes the need of more efficient health service in our rural districts.

The results of efficient health service are in life saving, disease prevention, health promotion, and economic saving. The saving in dollars and cents amounts to many times over the cost of the service. Most of our rural county governments are not disposed to establish reasonably adequate county health service without an offer of financial assistance and competent counsel from some outside agency.

[11] Reprint No. 1220, from Public Health Reports of Apr. 13, 1928.

The amounts specifically appropriated by Congress for the rural sanitation work of the United States Public Health Service have been as follows:

Fiscal year	Amount	Fiscal year	Amount
1917	$25,000	1924	$50,000
1918	150,000	1925	74,300
1919	150,000	1926	75,000
1920	50,000	1927	75,000
1921	50,000	1928	85,000
1922	50,000	1929	347,000
1923	50,000		

Of the amount appropriated for the fiscal year 1929, $85,000 is available for general use and $262,000 for use in the flood counties of the Mississippi Valley.

The total for this activity in the last 10 fiscal years has been less than one forty-thousandth of the total congressional appropriation.

Expenditures

The expenditures in the fiscal year 1928, totaled $83,065.32. Of this sum, $77,628.01 was expended in allotments for direct support of cooperative projects in counties or districts, and $5,437.31 was expended for general administration, supervision of local projects, and special studies of the problem of rural sanitation.

With the increasing general interest in whole-time rural health service the demands upon the Public Health Service for cooperation far exceeded the money ($85,789) available for allotment. In view of the number and character of requests from State and local authorities for cooperation, extreme care had to be exercised to prevent an overcommitment of the funds. The balance remaining at the end of the fiscal year was $2,723.68.[12]

For the support of the work in the 109 local projects the expenditures from all sources totaled $1,117,955.78. Of this sum, $77,628.01 was allotted from the rural sanitation funds of the Public Health Service; an aggregate of $948,838.24 was derived from State, county, and municipal governmental sources; and $91,489.53 was derived from other sources, including local health associations, tuberculosis associations, local Red Cross chapters, the Rockefeller Foundation, and the Children's Bureau of the United States Department of Labor. Thus, this investment of the Federal funds appropriated for rural sanitation work was met with odds of over 13 to 1.

It is significant that organizations entering the public health field to promote or conduct some specialized activity—such as typhoid fever prevention, hookworm control, tuberculosis prevention, trachoma

[12] This balance will be reduced considerably by payment of bills yet to be received for freightage and telegraphing within the fiscal year. The reason for the balance at the end of each fiscal year is presented in footnote 10 of the report.

control, malaria control, venereal disease prevention, school hygiene, or advancement of child and maternity hygiene—realize, as a rule, after practical experience, the advantage of dovetailing their specific activities with and making them a part of a well-rounded, comprehensive program of local official health service under the immediate direction of a qualified, whole-time local health officer. Such arrangement is obviously in the interest of efficiency with economy in public health work in our rural districts.

Detailed Data

The expenditures from the different sources for support of the cooperative demonstration projects, the scope, the principal activities, and some of the results of the work are presented in the accompanying tabular statement.

In attempting to measure the efficiency of health service, consideration is to be given to the local conditions—climatic, topographical, geographical, social, economic, and other—under which the work is done, the duration, nature, and scope of the activities, the cost of the service, and the results achieved. The 109 cooperative projects listed in this tabular statement present a wide range of local conditions. From equivalent, well-directed efforts, much larger results are obtainable in one such project than in another. Considering the cost of the service, the activities and results reported, and the findings from direct surveys of the situations by representatives of the Public Health Service and the State boards of health concerned, it is apparent that in the fiscal year 1928 some of the projects were highly successful, others were not up to reasonable expectations, and the average was good. In rural health work, as in other business, the personal equation of the director of the unit is, in most instances, the main factor making for success or failure.

A careful, analytical, and comparative study of the data presented in the table should be of interest to anyone competent to make such a study, and should be of especial interest to existing and prospective whole-time county (or local district) health officers.

The total number of months of operation in the 109 projects was 1,100. Therefore, if the separate items in the column of totals of the tabular statement are multiplied by 0.011 (or $\frac{12}{10.09} \div 109$) the expenditures, activities, and results on a basis of a 12-month period for the average of these projects will be expressed.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928

Counties (or districts)	Accomac-Northampton Counties, Va.	Anderson, Tenn.	Barnstable, Mass.	Bernalillo, N. Mex.	Berkeley, W. Va.	Big Horn, Mont.	Blount, Tenn.	Boone, W. Va.
Period of work in fiscal year 1928	Feb. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Jan. 1, 1928, to June 30, 1928	Jan. 16, 1928, to June 30, 1928	Feb. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	First	Second	Seventh	Fourth	First	First	First	Second
A. EXPENDITURES								
1. Rural sanitation funds (P. H. S.)	$1,750.00	$650.00	$1,500.00	$262.50	$600.00	$1,250.00	$500.00	$275.00
2. State	2,120.29	575.04				1,248.94	2,125.00	1,953.62
3. County	3,875.00	1,382.52	4,191.72	10,744.84		1,185.11	2,581.97	3,907.11
4. Municipalities					4,004.99			
5. Other agencies	1,543.00					125.00		1,953.62
Total	9,288.29	2,607.56	5,691.72	11,007.34	4,604.99	3,809.05	5,206.97	8,089.35
B. ACTIVITIES								
1. Educational:								
(a) Lectures	73	36	71	15	46	29	11	91
(b) Attendance	3,450	1,933	2,200	1,752	1,731	1,187	232	2,074
(c) Bulletins distributed	27,550	1,363	44	1,484	740	9,293	3,720	6,046
(d) Newspaper articles	85	35	54	272	42	13	5	25
(e) Circular letters	263	303	15	633	358	365		602
(f) Health exhibits			1			2	1	17
2. Sanitary inspections:								
(a) Private premises	2,044	1,864	355	884	739	201	394	80
(b) Public premises—schools, churches, stores, camps, etc.	6	151	461	474	101	33	399	95
3. Special inspections:								
(a) Dairies	32		1,568	175	34		12	
(b) Other food-producing or food-handling places	200	93	502	394	75	70	1	13
4. Examinations:								
(a) For life-extension advice								63
(b) For marriage license						2		
(c) For work certificates (children)			46		1			
(d) For lunacy			1		7	1		4
(e) Of prisoners					102			
(f) Of food handlers	45		46	835		1		

5. Acute communicable-disease control:								
(a) Visits to cases, carriers, contacts, or suspects	100		454	2,717	1,040	80	71	657
(b) Cases or carriers isolated or quarantined	13		789	1,271	446	41	14	219
6. Venereal-disease control:								
(a) Suspects examined			5	1	46		33	18
(b) Prophylactic treatments							4	
(c) Curative treatments			20		144		152	116
7. Tuberculosis control:								
(a) Number examined	45		28	58	18		75	60
(b) Positive	25		12	32	9			7
(c) Negative	20		16	26	9		75	53
(d) Placed in institutions	13		48		3		32	4
(e) Home visits	200		182		18	12	253	58
8. Persons treated for removal of hookworm							1	
9. Persons treated for prevention or cure of goiter						2		
10. Schick tests			210					
11. Cows tuberculin tested	25		977	1,738			97	
12. Immunization:								
(a) Complete antityphoid administrations	2	112	15	22	134		461	1,608
(b) Antismallpox vaccinations	210	93	680	1,288	238		807	1,504
(c) Complete diphtheria toxin-antitoxin administrations	7,435		574	16	315		198	2,127
(d) Persons given prophylactic diphtheria antitoxin			35	86	18			22
(e) Persons given antirabic treatment			1					
13. Child hygiene:								
(a) Prenatal—								
(1) Cases given advice			129			14	12	398
(2) Examinations								1
(3) Office consultations			60					35
(4) Group conferences			20				1	
(5) Home visits	9		842			16	21	138
(6) Midwives instructed				9			2	
(b) Infant and preschool—								
(1) Babies and children examined			425	7	74	166	81	279
(2) Office consultations, mothers			69	2	12	39	112	99
(3) Group conferences with mothers			29		33	11	5	32
(4) Home visits	241		879	8	14	150	142	408
(c) School—								
(1) Children examined	2,399		4,795	2,074	1,783	969	2,849	1,267
(2) Found defective	1,682		2,464	936	1,045	749	2,454	1,106
(3) Defects found	2,000		2,839	936	2,137	1,219	2,870	2,410
(4) Consultations, parents (office and school)			321	14	46	30		131
(5) Home visits	208		1,075	105	75	115	322	145
(6) Talks to classes or drills in hygiene	210		133	5	82	28	117	209
(7) Exclusions for communicable disease	14		708	1,173	57	26	4	287
(d) Nutritional classes—								
(1) Cases attending						488	40	21
14. Antimalaria work	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)

[5] Little.

[6] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Accomac-Northampton Counties, Va.	Anderson, Tenn.	Barnstable, Mass.	Bernalillo, N. Mex.	Berkeley, W. Va.	Big Horn, Mont.	Blount, Tenn.	Boone, W. Va.
Period of work in fiscal year 1928	Feb. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Jan. 1, 1928, to June 30, 1928	Jan. 16, 1928, to June 30, 1928	Feb. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	First	Second	Seventh	Fourth	First	First	First	Second
B. ACTIVITIES—continued								
15. Laboratory examinations:								
(a) Positive	26		78	171	111		31	163
(b) Negative	104		245	1,606	104		92	69
Total	130		323	1,777	215		123	232
C. RESULTS								
1. Sanitary privies installed:								
(a) Septic or L. R. S.								
(b) Water-tight vault	1	3						4
(c) Bucket and box	10		20					
(d) Pit	2,036	1,418	95	57			163	12
Total	2,047	1,421	115	57			163	16
2. Privies restored to sanitary type	3	79	116	136	60		42	26
3. Septic tanks installed	76	7	86	5	11		7	2
4. New sewer connections	15	253		289	23		7	130
5. New water connections	20	10		289	11		35	3
6. Wells or springs improved		24	2	105	2		3	49
7. Public milk supplies radically improved			10	1			6	1
8. Public food-handling places radically improved			9	42		1	2	
9. Places producing foods for sale radically improved			4	9		7	1	
10. Dwellings effectively screened against flies and mosquitoes		338	300	589				5
11. Stables made sanitary			10	41		1		
12. Nuisances corrected	70	39	645	1,590	82	42	1	14
13. Convictions for violation of sanitary laws	12			1				24
14. Nutritional cases improved			18			205		

15. Corrections of physical defects induced:								
(a) In infants								11
(b) In preschool children							9	17
(c) In school children	1,378		1,497			3	516	330
(d) In adults				3				1

Counties (or districts)	Brooke, W. Va.	Cascade, Mont.	Chaves, N. Mex.	Cherokee, Kans.	Colbert, Ala.	Cumberland, Tenn.	Dona Ana, N. Mex.	Dunklin, Mo.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to Dec. 31, 1927	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Second	Eighth	Eighth	First	Seventh	First	Fourth	Sixth
A. EXPENDITURES								
1. Rural sanitation funds (P. H. S.)	$300.00	$1,200.00	$150.00	$2,600.00	$600.00	$650.00	$425.00	$600.00
2. State		2,760.00	250.00		4,200.00	649.98		3,137.50
3. County	8,313.17	10,867.98	3,930.45	5,090.66	6,300.11	939.70	5,617.18	4,133.54
4. Municipalities		10,867.98			3,238.05			
5. Other agencies	1,200.00	1,443.00			600.00		406.25	1,312.49
Total	9,813.17	27,138.96	4,330.45	7,690.66	14,938.16	2,239.68	6,448.43	9,183.53
B. ACTIVITIES								
1. Educational:								
(a) Lectures	9	26	40	420	108	29	4	54
(b) Attendance	788	1,555	1,020	27,202	9,499	1,905	60	4,210
(c) Bulletins distributed	4,016	37,844	1,382	13,252	4,747	5,250	416	12,530
(d) Newspaper articles	122	38	82	179	54	17	52	170
(e) Circular letters	416	9,532	84	2,213	4,558	480	587	970
(f) Health exhibits	3	6	1	26				3
2. Sanitary inspections:								
(a) Private premises	50	1,192	221	171	627	1,566	335	1,518
(b) Public premises—schools, churches, stores, camps, etc.	19	1,167	87	603	529	60	548	173
3. Special inspections:								
(a) Dairies	8	148	36	78	291		162	7
(b) Other food-producing or food-handling places	1	439	55	375	1,097	19	218	
4. Examinations:								
(a) For life-extension advice	5			83	287			93
(b) For marriage license		38			1			
(c) For work certificates (children)	1				1			
(d) For lunacy	1	1		6	21		15	32
(e) Of prisoners	8	31		27	139		19	132
(f) Of food handlers		19	13	13	92		12	

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Brooke, W. Va.	Cascade, Mont.	Chaves, N. Mex.	Cherokee, Kans.	Colbert, Ala.	Cumberland, Tenn.	Dona Ana, N. Mex.	Dunklin, Mo.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to Dec. 31, 1927	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Second	Eighth	Eighth	First	Seventh	First	Fourth	Sixth
B ACTIVITIES—continued								
5. Acute communicable-disease control:								
(a) Visits to cases, carriers, contacts, or suspects	293	1,270	393	902	322		2,053	237
(b) Cases or carriers isolated or quarantined	143	487	135	465	194		1,119	79
6. Venereal-disease control:								
(a) Suspects examined	16	179	8	36	333			53
(b) Prophylactic treatments								
(c) Curative treatments	42	261		11	651			
7. Tuberculosis control:								
(a) Number examined	19	70	1	33	37			41
(b) Positive	11	42		28	34			10
(c) Negative	8	28	1	5	3			31
(d) Placed in institutions	3	21		11	1			6
(e) Home visits	43	120	27	89	285		30	44
8. Persons treated for removal of hookworm								
9. Persons treated for prevention or cure of goiter								
10. Schick tests	1	56			6			
11. Cows tuberculin tested				264	500		4,382	
12. Immunization:								
(a) Complete antityphoid administrations	66	12	94	3,212	7,021		375	5,514
(b) Antismallpox vaccinations	842	5,736	7	2,285	16		1,018	1,412
(c) Complete diphtheria toxin-antitoxin administrations	1,124	1,357	2	2,734	294			1,276
(d) Persons given prophylactic diphtheria antitoxin	3		7	1	9		22	29
(e) Persons given antirabic treatment	5			3			4	1
13. Child hygiene:								
(a) Prenatal—								
(1) Cases given advice	69	3	13	89	49		107	70
(2) Examinations	2	2		2	3			
(3) Office consultations	7			78	5		18	
(4) Group conferences				1	1			
(5) Home visits	59	1	15	724	68		95	70
(6) Midwives instructed					22		44	
(b) Infant and preschool—								
(1) Babies and children examined	303	1,139		293	432		200	420
(2) Office consultations, mothers	167	801	29	154	1		10	181

(3) Group conferences with mothers	33	37		50	17		120	16
(4) Home visits	150	465	187	593	362		906	273
(c) School—								
(1) Children examined	2,079	7,533	2,576	3,922	3,189		106	4,025
(2) Found defective	1,511	5,825	1,515	1,369	1,670		89	3,003
(3) Defects found	2,258	4,682	1,903	2,261	2,068		112	7,029
(4) Consultations, parents (office and school)	124	251	126	636	23		10	123
(5) Home visits	165	1,081	428	537	308		103	199
(6) Talks to classes or drills in hygiene	73	104	257	618			4	
(7) Exclusions for communicable disease	129	402	73	574	371		635	121
(d) Nutritional classes—								
(1) Cases attending	10	93						675
14. Antimalarial work	(5)	(5)	(5)	(5)	(4)	(5)	(4)	(5)
15. Laboratory examinations:								
(a) Positive	56	128	122	50	304		387	46
(b) Negative	40	853	864	52	696		441	55
Total	96	981	986	102	1,000		828	101
C. RESULTS								
1. Sanitary privies installed:								
(a) Septic or L. R. S	1		3				4	
(b) Water-tight vault			1					
(c) Bucket and box						7	25	
(d) Pit	5		10	16	95	353	90	151
Total	6		14	16	95	360	115	151
2. Privies restored to sanitary type	25		13	286	193	105	166	
3. Septic tanks installed			2		26	8	41	
4. New sewer connections	61	383	4	3	30		37	
5. New water connections	60	224	1	6		35	47	
6. Wells or springs improved	2		4	2	10	12	4	
7. Public milk supplies radically improved	1		7	64	2		38	
8. Public food-handling places radically improved	1		37	18			54	
9. Places producing foods for sale radically improved			9	188			16	
10. Dwellings effectively screened against flies and mosquitoes			3	2		38	142	
11. Stables made sanitary	2		3	68	1		131	
12. Nuisances corrected	52	788	47	211	1,423	5	72	
13. Convictions for violation of sanitary laws				2				
14. Nutritional cases improved	10	52	5	54	21		86	
15. Corrections of physical defects induced:								
(a) In infants	5	29	1	12			16	
(b) In preschool children	20			49	6		29	103
(c) In school children	194	4,965	138	336	559		48	750
(d) In adults				16	9		17	

[4] Considerable.

[5] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Dyer, Tenn.	Eddy, N. Mex.	Edgecombe, N. C.	Floyd, Ga.	Franklin, Ala.	Garland, Ark.	Geary, Kans.	Gibson, Tenn.
Period of work in fiscal year 1928	Jan. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Sept. 16, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	First	Fifth	Ninth	Fifth	Fifth	First	First	Third
A. EXPENDITURES								
1. Rural sanitation funds (P. H. S.)	$250.00	$425.00	$650.00	$300.00	$300.00	$580.00	$487.50	$500.00
2. State	1,184.99		2,249.88		2,499.97	600.00	3,975.00	5,267.65
3. County	2,149.78	6,728.81	7,387.12	7,128.09	3,861.41	1,800.00	2,499.96	6,726.15
4. Municipalities				1,650.00		4,700.00		
5. Other agencies	1,050.00				1,675.00	1,900.00		
Total	4,634.77	7,153.81	10,287.00	9,078.09	8,336.38	9,580.00	6,962.46	12,493.80
B. ACTIVITIES								
1. Educational:								
(a) Lectures	13	26	6	4	73	73	129	36
(b) Attendance	470	1,253		341	3,033	3,154	3,750	2,274
(c) Bulletins distributed	2,090	8,058	2,216	23,054	5,390	82	9,344	6,578
(d) Newspaper articles	87	160	10	69	34	49	119	149
(e) Circular letters		736	1,776		3,672	263	1,055	97
(f) Health exhibits	1	8	1			4	14	2
2. Sanitary inspections:								
(a) Private premises	1,053	58	3,879	309	1,335	757	60	1,026
(b) Public premises—schools, churches, stores, camps, etc	783	41	4,001	90	46	793	286	312
3. Special inspections:								
(a) Dairies	139	39	227	90	54	373	161	31
(b) Other food-producing or food-handling places	257	55	2,070	11	128	818	40	91
4. Examinations:								
(a) For life-extension advice					2		74	180
(b) For marriage license			98		48			
(c) For work certificates (children)	6	1	52	273			2	
(d) For lunacy			39		7	14	2	10
(e) Of prisoners	9	6	1		33	84	14	1
(f) Of food handlers	49	12				478	1	
5. Acute communicable-disease control:								
(a) Visits to cases, carriers, contacts, or suspects	164	491	1,038	683	121	711	2,410	283
(b) Cases or carriers isolated or quarantined	45	346	1,028	184	118	370	1,269	129
6. Venereal-disease control:								
(a) Suspects examined	49	1	461	38	41		16	109

(b) Prophylactic treatments	19							149
(c) Curative treatments	190		1,366	185	70			714
7. Tuberculosis control:								
(a) Number examined	111	3	109	8	47	22	19	156
(b) Positive	39	1	47	5	34	4	2	16
(c) Negative	72	2	62	3	13	18	17	140
(d) Placed in institutions		1	45		1			25
(e) Home visits	176	2	35	66	92	34	52	220
8. Persons treated for removal of hookworm			3		27	4		
9. Persons treated for prevention or cure of goiter								
10. Schick tests			331			792		267
11. Cows tuberculin tested	26			664	242	526		35
12. Immunization:								
(a) Complete antityphoid administrations	647	252	563	15,833	2,884	586	7	11,669
(b) Antismallpox vaccinations	827	521	2,504	1,248	105	521	23	339
(c) Complete diphtheria toxin-antitoxin administrations	272	267	2,220	1,074	405	193	19	801
(d) Persons given prophylactic diphtheria antitoxin		26			19	60		10
(e) Persons given antirabic treatment	2		3	4	2	6	7	2
13. Child hygiene:								
(a) Prenatal—								
(1) Cases given advice	13	47	216	63	106	31	51	52
(2) Examinations			12			10		1
(3) Office consultations	1		5		10	72	54	
(4) Group conferences	1						11	
(5) Home visits	22	16	80	149	212	54	72	93
(6) Midwives instructed		17	37	19	10	66		
(b) Infant and preschool—								
(1) Babies and children examined	45	189	929		410	200	622	123
(2) Office consultations, mothers	40	12	1	238	163	137	118	71
(3) Group conferences with mothers	8	7	119			8	20	113
(4) Home visits	122	89	210	188	625	178	125	542
(c) School—								
(1) Children examined	1,238	3,001	633	5,622	3,248	2,078	2,177	3,848
(2) Found defective	753	1,976	11	1,655	1,955	1,446	2,057	2,397
(3) Defects found	1,575	2,897	16	1,968	2,422	2,857	6,627	3,087
(4) Consultations, parents (office and school)	2	102	2	321	296	302	1,363	13
(5) Home visits	70	87	1	725	504	251	881	216
(6) Talks to classes or drills in hygiene	147	31	1		3	81	205	95
(7) Exclusions for communicable disease	20	149	697		80	273	162	41
(d) Nutritional classes—								
(1) Cases attending	1,212							238
14. Antimalaria work	(5)	(4)	(6)	(6)	(4)	(4)	(6)	(6)
15. Laboratory examinations:								
(a) Positive	51	34	153	43	98	253	30	65
(b) Negative	266	232	516	35	343	1,291	182	338
Total	317	266	669	78	441	1,544	212	403

[4] Consierable.

[5] Little.

[6] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Dyer, Tenn.	Eddy, N. Mex.	Edgecombe, N. C.	Floyd, Ga.	Franklin, Ala.	Garland, Ark.	Geary, Kans.	Gibson, Tenn.
Period of work in fiscal year 1928	Jan. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Sept. 16, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	First	Fifth	Ninth	Fifth	Fifth	First	First	Third
C. RESULTS								
1. Sanitary privies installed:								
(a) Septic or L. R. S.						15		
(b) Water-tight vault								
(c) Bucket and box							2	
(d) Pit	63		163	80	51	200		244
Total	63		163	80	51	215	2	244
2. Privies restored to sanitary type	1	29	100	39	2	46	6	9
3. Septic tanks installed	1			19	4	10		144
4. New sewer connections	94	5	45	91	41	66	11	481
5. New water connections		76		200	69	66		111
6. Wells or springs improved	1	75	19	3		21	1	
7. Public milk supplies radically improved	4	9		35	5	29		
8. Public food-handling places radically improved		20	6	39	1	76		
9. Places producing foods for sale radically improved		25	1			35		
10. Dwellings effectively screened against flies and mosquitoes				39		12		
11. Stables made sanitary	7	3				20	2	
12. Nuisances corrected	63	36	65	165	76	825	31	
13. Convictions for violation of sanitary laws						56		
14. Nutritional cases improved		75			114	36		
15. Corrections of physical defects induced:								
(a) In infants		3				2		
(b) In preschool children					3	3		1
(c) In school children	302	612			435	162		415
(d) In adults		4			1	143		

Counties (or districts)	Gilmer, W. Va.	Glynn, Ga.	Greene, Mo.	Greenwood, Kans.	Hamilton, Tenn.	Hancock, W. Va.	Harrison, Miss.	Harrison, W. Va.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Jan. 1, 1928, to June 30, 1928	Feb. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Fourth	Ninth	Ninth	First	Second	Sixth	Ninth	Fifth
A. EXPENDITURES								
1. Rural sanitation funds (P. H. S.)	$400.00	$300.00	$900.00	$1,400.00	$208.33	$400.00	$1,500.00	$300.00
2. State	4,173.14		1,185.00	75.00	1,041.65	2,617.17	1,015.33	1,400.00
3. County	4,173.13	15,827.69	5,050.80	1,690.95	6,801.61	5,592.05	21,085.84	12,047.89
4. Municipalities		3,477.45	11,882.50					
5. Other agencies		649.98	1,335.00	150.00		999.96	431.32	
Total	8,746.27	20,255.12	20,353.30	3,315.95	8,051.59	9,609.18	24,032.49	13,747.89
B. ACTIVITIES								
1. Educational:								
(a) Lectures	103	48	73	10	4	20	114	146
(b) Attendance	4,150	2,520	3,688	209	30		53,987	23,981
(c) Bulletins distributed	6,363	9,056	4,795	528	10,840	13,439	7,746	28,935
(d) Newspaper articles	61	38	121	22	65	58	315	
(e) Circular letters	4,403	729	2,234	63		366	2,938	
(f) Health exhibits	2		3				10	
2. Sanitary inspections:								
(a) Private premises	451	50,717	1,825	123	2,250	49	13,811	957
(b) Public premises—schools, churches, stores, camps, etc.	256	179	86	250	1,102	2	2,457	246
3. Special inspections:								
(a) Dairies		252	156	12	263		157	16
(b) Other food-producing or food-handling places	104	589	306	21	159		368	26
4. Examinations:								
(a) For life-extension advice	147	15	122	2		2	389	
(b) For marriage license								
(c) For work certificates (children)					60	2		
(d) For lunacy	9		35	2	46	14	3	
(e) Of prisoners	183		55	71	37	146	9	295
(f) Of food handlers		167			12		279	
5. Acute communicable-disease control:								
(a) Visits to cases, carriers, contacts or suspects	145	2,553	1,102	225	94	83	565	282
(b) Cases or carriers isolated or quarantined	99	1,042	551	401	116	64	313	344
6. Venereal-disease control:								
(a) Suspects examined	56	400	258	15	7	21	38	271
(b) Prophylactic treatments						4		
(c) Curative treatments	124	737	2,163	5		8	117	447

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Gilmer, W. Va.	Glynn, Ga.	Greene, Mo.	Greenwood, Kans.	Hamilton, Tenn.	Hancock, W. Va.	Harrison, Miss.	Harrison, W. Va.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Jan. 1, 1928, to June 30, 1928	Feb. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Fourth	Ninth	Ninth	First	Second	Sixth	Ninth	Fifth
B. ACTIVITIES—continued								
7. Tuberculosis control:								
(a) Number examined	131	98	157	32	82	7	20	340
(b) Positive	22	6	54	5	34	7	11	82
(c) Negative	109	92	103	27	48		9	258
(d) Placed in institutions	4	4	49	2	26	8	3	52
(e) Home visits	76	150	1,246	15	227	10	34	440
8. Persons treated for removal of hookworm		196					220	
9. Persons treated for prevention or cure of goiter	5		4	6			35	
10. Schick tests			655					
11. Cows tuberculin tested		33			3,479	300	474	13,000
12. Immunization:								
(a) Complete antityphoid administrations	4,641	515	13		1,222	624	276	62
(b) Antismallpox vaccinations	1,994	834	54	743	399	734	170	8,470
(c) Complete diphtheria toxin-antotoxin administrations	2,636	700	4,141	5	884	752	82	808
(d) Persons given prophylactic diphtheria antitoxin		67	9	18			13	54
(e) Persons given antirabic treatment	1		2			10	9	1
13. Child hygiene:								
(a) Prenatal—								
(1) Cases given advice	16	127	47	7		137	279	897
(2) Examinations	3	74	12	2		21	20	
(3) Office consultations	17	81	9	4	18	15	42	
(4) Group conferences		18	2		13	101	2	
(5) Home visits	18	328	43	2	22	6	237	778
(6) Midwives instructed	3	164			2		137	
(b) Infant and preschool—								
(1) Babies and children examined	93	257	359	51	29	713	2,353	297
(2) Office consultations, mothers	76	68	5	22		50	249	
(3) Group conferences with mothers		24	21		6	829	17	551
(4) Home visits	54	536	190	53	92	72	1,529	2,645
(c) School—								
(1) Children examined	1,406	1,442	1,576	2,240	7,196	3,559	9,942	9,543
(2) Found defective	1,228	839	1,270	1,161	2,073	2,137	3,275	6,072
(3) Defects found	2,224	1,177	1,805	3,332	5,374	3,727	5,485	10,529
(4) Consultations, parents (office and school)	97	874	229	66	8	632	2,453	

(5) Home visits	38	1,339	200	207	269	32	3,107	1,931
(6) Talks to classes or drills in hygiene		83	87	4	20	5		730
(7) Exclusions for communicable disease	72	311	24	187	80	33	63	151
(d) Nutritional classes—								
(1) Cases attending		504			1,807		124	
14. Antimalaria work	(6)	(4)	(6)	(6)	(6)	(6)	(4)	(6)
15. Laboratory examinations:								
(a) Positive	152	254	1,682	13		18	168	159
(b) Negative	170	1,289	2,337	46	246	40	263	159
Total	322	1,543	4,019	59	246	58	431	318
C. RESULTS								
1. Sanitary privies installed:								
(a) Septic or L. R. S	77	24	13				66	
(b) Water-tight vault	4						10	5
(c) Bucket and box	20							7
(d) Pit	38	11	2		946		109	441
Total	139	35	15		946		185	453
2. Privies restored to sanitary type	31	210	847	38		6	75	540
3. Septic tanks installed	1	238	6		40		65	2
4. New sewer connections	7		150	5	54	5		300
5. New water connections	11				3			350
6. Wells or springs improved	2		29		19		2	9
7. Public milk supplies radically improved		28	110	5	129		18	
8. Public food-handling places radically improved	1	31		23	23		47	
9. Places producing foods for sale radically improved	7	24		3	33		22	
10. Dwellings effectively screened against flies and mosquitoes	8		80		15		10	
11. Stables made sanitary			534	10	4		4	6
12. Nuisances corrected	29	58		36	1,047	225	5	580
13. Convictions for violation of sanitary laws			2				122	
14. Nutritional cases improved		102	23		239		35	2
15. Corrections of physical defects induced:								
(a) In infants		10	66			6	2	
(b) In preschool children		91	368			2		
(c) In school children	4	292	3	17	978	39	1,983	
(d) In adults								

[4] Considerable.

[6] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Hinds, Miss.	Hopkins, Ky.	Jackson, Mo.	Jefferson, Ark.	Jefferson, Kans.	Kanawha, W. Va.	La Fourche, La.	Lauderdale, Ala.
Period of work in fiscal year 1928	Nov. 16, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Oct. 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Fourth	First	Fourth	Third	Third	Second	Fourth	Ninth
A. EXPENDITURES								
1. Rural sanitation funds (P. H. S.)	$375.00	$2,427.75	$450.00	$1,375.00	$2,600.00	$300.00	$600.00	$1,075.00
2. State	1,687.07	2,280.71	3,216.66	600.00	75.00	1,773.57	1,485.02	1,724.00
3. County	11,413.65	2,887.06	14,638.94	4,137.28	7,336.89	13,831.66	1,500.00	4,725.00
4. Municipalities	11,492.11	731.64		2,860.00				585.06
5. Other agencies	2,550.43		700.00	6,634.32		1,773.57	2,326.07	6,517.03
Total	27,518.26	8,327.16	19,005.60	15,606.60	10,011.89	17,678.80	5,911.09	14,626.09
B. ACTIVITIES								
1. Educational:								
(a) Lectures	213	15	108	51	34	87	102	154
(b) Attendance	15,904	923	4,793	3,172	2,108	9,070	8,570	6,137
(c) Bulletins distributed	7,801	6,045	36,532	1,947	15,670	9,180	8,931	6,409
(d) Newspaper articles	69	137	288	127	219	51		62
(e) Circular letters	8,563		3,555	10,498	802	1,288	318	6,307
(f) Health exhibits		128	5	24	5	4		13
2. Sanitary inspections:								
(a) Private premises	21,823	2,294	367	722	31	2,581	3,828	802
(b) Public premises—schools, churches, stores, camps, etc	410	229	447	77	124	435	224	190
3. Special inspections:								
(a) Dairies	751	67	20	359	31	184	10	164
(b) Other food-producing or food-handling places	45,336	353	31	312	102	239	54	309
4. Examinations:								
(a) For life-extension advice	9			60		53	771	23
(b) For marriage license							1	2
(c) For work certificates (children)			268	5		97		30
(d) For lunacy	3	4		32	2			19
(e) Of prisoners		25		13	79	186		33
(f) Of food handlers	249	48	47	109		92	119	13
5. Acute communicable-disease control:								
(a) Visits to cases, carriers, contacts, or suspects	227	1,366	674	952	403	376	854	367
(b) Cases or carriers isolated or quarantined	180	877	455	641	515	419	151	481

6. Venereal-disease control:								
(a) Suspects examined	158	22	60	181		3	3	401
(b) Prophylactic treatments		7		41				
(c) Curative treatments	29			386		2	15	315
7. Tuberculosis control:								
(a) Number examined	15	70	80	43	82	21	1	68
(b) Positive	5	33	21	22	30	2		25
(c) Negative	10	37	59	21	52	19	1	43
(d) Placed in institutions	2		15	11	1	3		2
(e) Home visits	22	80	672	100	183	140		128
8. Persons treated for removal of hookworm	11							
9. Person treated for prevention or cure of goiter			26			566	112	
10. Schick tests				26				5
11. Cows tuberculin tested	2,544	164		1,198	3,390	5,743		746
12. Immunization:								
(a) Complete antityphoid administrations	2,848	41	24	1,161	15	4,076	1,152	3,403
(b) Antismallpox vaccinations	3,514	402	40	1,437	988	15,433	2,997	47
(c) Complete diphtheria toxin-antitoxin administrations	2,215	12	121	635	360	3,134	838	175
(d) Persons given prophylactic diphtheria antitoxin		3	5	28		74		
(e) Persons given antirabic treatment	6	5	15					2
13. Child hygiene:								
(a) Prenatal—								
(1) Cases given advice	64	130	104	146	54	1,138		39
(2) Examinations	2	1					10	2
(3) Office consultations	30	3	223	5	18			38
(4) Group conferences	4		27			43		3
(5) Home visits	179	85		145	33	222		175
(6) Midwives instructed	524		7	243				82
(b) Infant and preschool—								
(1) Babies and children examined	1,169	1,127	473	201	464	185	152	160
(2) Office consultations, mothers	277	94	155	134	236	68	6	97
(3) Group conferences with mothers	8	10	79	10	26	84		11
(4) Home visits	380	365	205	506	337	898		680
(c) School—								
(1) Children examined	7,846	3,894	7,368	6,043	3,153	9,941	3,045	3,014
(2) Found defective	4,657	3,390	5,005	4,809	2,667	6,770	2,749	1,687
(3) Defects found	8,204	7,189	7,654	7,353	5,008	8,503	6,986	2,151
(4) Consultations, parents (office and school)	435	143	449	386	275	190	35	409
(5) Home visits	514	582	255	1,268	1,054	770		1,325
(6) Talks to classes or drills in hygiene	122	127	99	25	855	635		74
(7) Exclusions for communicable disease	94	611	269	684	564	32	1	545
(d) Nutritional classes—								
(1) Cases attending	296		373					
14. Antimalaria work	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
15. Laboratory examinations:								
(a) Positive	118	44	112	149	2		4	261
(b) Negative	714	177	110	903	641		19	912
Total	832	221	222	1,052	643		23	1,173

[1] Considerable.

[2] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Hinds, Miss.	Hopkins, Ky.	Jackson, Mo.	Jefferson, Ark.	Jefferson, Kans.	Kanawha, W. Va.	La Fourche, La.	Lauderdale, Ala.
Period of work in fiscal year 1928	Nov. 16, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Oct. 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Fourth	First	Fourth	Third	Third	Second	Fourth	Ninth
C. RESULTS								
1. Sanitary privies installed:								
(a) Septic or L. R. S.		3	8			49		
(b) Water-tight vault						41		
(c) Bucket and box						123		
(d) Pit	1,759	34	14	69		391	1,266	84
Total	1,759	37	22	69		604	1,266	84
2. Privies restored to sanitary type	86	3	41	4		110	7	28
3. Septic tanks installed	158	7	110	1		11	1	36
4. New sewer connections	1,589	147	82			299	4	80
5. New water connections	79	14	353	4		299		118
6. Wells or springs improved	76	15	38	6	1	82	370	16
7. Public milk supplies radically improved	165	13	3	111	17	79		3
8. Public food-handling places radically improved		33	30	40	10	150	1	192
9. Places producing foods for sale radically improved		12	24			23	53	3
10. Dwellings effectively screened against flies and mosquitoes		3		182		184		9
11. Stables made sanitary		6	1		10	62		
12. Nuisances corrected	165	240	131	11	9	535	37	129
13. Convictions for violation of sanitary laws	4	6		1		1		1
14. Nutritional cases improved		33		33	563	103	370	
15. Corrections of physical defects induced:								
(a) In infants	118		80	10	31	23	3	4
(b) In preschool children	413	103	31	33		42	5	7
(c) In school children	1,529	227	2,636	259	1,071	622	1,371	624
(d) In adults		1	92	3		4	42	2

Counties (or districts)	Laurens, Ga.	Lawrence, Ala.	Lewis and Clark, Mont.	Lewis, W. Va.	Limestone, Ala.	Logan, W. Va.	Lyon, Kans.	Madison, Ala.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Dec. 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Seventh	Third	Seventh	First	Fifth	Seventh	Third	Ninth
A. EXPENDITURES								
1. Rural sanitation funds (P. H. S.)	$300.00	$1,749.92	$2,400.00	$512.50	$800.00	$637.50	$1,400.00	$300.00
2. State		2,312.45		1,275.19	2,500.03		75.00	2,519.99
3. County	4,500.00	4,850.11	2,894.35	2,412.77	4,844.23	12,741.27	5,369.40	7,988.31
4. Municipalities			2,894.35			900.00		6,246.63
5. Other agencies		875.00	900.00	975.21	1,300.00		1,650.00	4,140.00
Total	4,800.00	9,787.48	9,088.70	5,175.67	9,444.26	14,278.77	8,494.40	21,194.93
B. ACTIVITIES								
1. Educational:								
(a) Lectures	75	129	8	61	96	63	42	175
(b) Attendance	4,760	6,135	830	3,326	7,061	2,007	2,629	15,188
(c) Bulletins distributed	564	13,568	808	1,345	7,236	7,960	5,370	1,659
(d) Newspaper articles	410	67	185		9	74	50	97
(e) Circular letters	510	325	1,113	1,536		2,713	809	2,593
(f) Health exhibits					1	9	13	1
2. Sanitary inspections:								
(a) Private premises	190	744	46		609	2,230	77	13,724
(b) Public premises—schools, churches, stores, camps, etc.	100	250	152		365	302	398	411
3. Special inspections:								
(a) Dairies	50		52		53	317	149	186
(b) Other food-producing or food-handling places	101	93	291	10	1,588	175	54	738
4. Examinations:								
(a) For life-extension advice	44		94		102			47
(b) For marriage licenses					90			252
(c) For work certificates (children)					15			449
(d) For lunacy	11	1			20		12	10
(e) Of prisoners	44		9		16	273	53	206
(f) Of food handlers	38		34		3	146	33	96
5. Acute communicable-disease control:								
(a) Visits to cases, carriers, contacts, or suspects	111	67	1,112	79	260	547	1,528	543
(b) Cases or carriers isolated or quarantined	45	48	340	48	160	393	642	148
6. Venereal-disease control:								
(a) Suspects examined	58		12		256	348	50	283
(b) Prophylactic treatments	51							
(c) Curative treatments	42				874	1,923	64	1,253

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Laurens, Ga.	Lawrence, Ala.	Lewis and Clark, Mont.	Lewis, W. Va.	Limestone, Ala.	Logan, W. Va.	Lyon, Kans.	Madison, Ala.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Dec. 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Seventh	Third	Seventh	First	Fifth	Seventh	Third	Ninth
B. ACTIVITIES—continued								
7. Tuberculosis control:								
(a) Number examined	47		17	57	83		79	68
(b) Positive	12		16	3	21		20	32
(c) Negative	35		1	54	62		59	36
(d) Placed in institutions	12		7			18	5	4
(e) Home visits	37	187	23	17	224	198	109	228
8. Persons treated for removal of hookworm	111				1			
9. Persons treated for prevention or cure of goiter			40		1		16	
10. Schick tests			70				3	
11. Cows tuberculin tested			1,974		103	785	106	3,141
12. Immunization:								
(a) Complete antityphoid administrations	4,650	4,782	6		4,634	2,453	521	4,844
(b) Antismallpox vaccinations	217	44	1,149	50	4	2,522	1,724	505
(c) Complete diphtheria toxin-antitoxin administrations	1,485	78	671		251		455	137
(d) Persons given prophylactic diphtheria antitoxin	20		21	14	2		38	32
(e) Persons given antirabic treatment	20				29		6	
13. Child hygiene:								
(a) Prenatal—								
(1) Cases given advice	63	107	43	43	34	38	84	158
(2) Examinations	58		26		14		37	10
(3) Office consultations	62		18		2		51	44
(4) Group conferences	50		13	35			5	3
(5) Home visits	52	165	15	16	42	38	93	330
(6) Midwives instructed	44	12			70			83
(b) Infant and preschool—								
(1) Babies and children examined	94	4	524		122	315	531	341
(2) Office consultations, mothers	51		85		28		73	146
(3) Group conferences with mothers	47		50		5	36	9	44
(4) Home visits	37	775	126	37	549	1,139	73	1,387
(c) School—								
(1) Children examined	651	3,503	2,922	2,643	3,942	19,077	2,625	5,895
(2) Found defective	404	2,019	2,375	1,291	1,865	7,307	1,619	3,547
(3) Defects found	414	2,841	2,689	1,848	2,227	10,295	2,991	5,160
(4) Consultations, parents (office and school)	117		45		31	508	595	263

(5) Home visits	47	101	254	62	285	413	142	285
(6) Talks to classes or drills in hygiene	49		3	74		5	187	33
(7) Exclusions for communicable disease	49		151	47	49	66	5	32
(d) Nutritional classes—								
(1) Cases attending	390							78
14. Antimalaria work	(5)	(5)	(6)	(6)	(4)	(6)	(6)	(4)
15. Laboratory examinations:								
(a) Positive	240	77	245	1	156	301	169	1,156
(b) Negative	518	75	736	1	259	535	335	3,579
Total	758	152	981	2	415	836	504	4,737
C. RESULTS								
1. Sanitary privies installed:								
(a) Septic or L. R. S	4					1	2	
(b) Water-tight vault							5	
(c) Bucket and box						300		41
(d) Pit	83	42	4		139	35	18	85
Total	87	42	4		139	336	25	126
2. Privies restored to sanitary type	69	14	11		26	107	47	160
3. Septic tanks installed	14	8	10		4	4	13	14
4. New sewer connections	89	1	27		30	41	129	243
5. New water connections	85	6	24		51		108	163
6. Wells or springs improved	36	6	5		3	13	37	35
7. Public milk supplies radically improved	28		34		5	83	23	3
8. Public food-handling places radically improved	43	9	39	3	1	64	39	7
9. Places producing foods for sale radically improved	46		14			22	25	
10. Dwellings effectively screened against flies and mosquitoes	44				40		1	24
11. Stables made sanitary	24		6		7	21	10	
12. Nuisances corrected	55	15	33		27	360	49	382
13. Convictions for violation of sanitary laws	2		1				1	10
14. Nutritional cases improved	179						74	62
15. Corrections of physical defects induced:								
(a) In infants	66				3		3	
(b) In preschool children	103		30		4		15	10
(c) In school children	363	877	36	145	423	3,971	677	216
(d) In adults	57		1		5		2	2

[4] Considerable. [5] Little. [6] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Marion, Mo.	Marion, W. Va.	Marshall, W. Va.	Mason, Ky.	Montgomery, Tenn.	New Madrid, Mo.	Nodaway, Mo.	Obion, Tenn.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Third	Sixth	Fourth	Ninth	First	Seventh	Seventh	Third
A. EXPENDITURES								
1. Rural sanitation funds (P. H. S.)	$612.50	$300.00	$618.32	$300.00	$500.00	$600.00	$300.00	$500.00
2. State	3,254.16	1,200.00	4,366.66	2,330.21	4,806.92	2,833.97	1,629.17	2,580.00
3. County	2,421.65	12,733.83	6,802.09	3,368.23	5,678.91	3,900.00	6,365.05	6,519.81
4. Municipalities	3,730.31				1,290.00			
5. Other agencies	3,702.71		2,349.96	1,899.48		1,300.58		
Total	13,721.33	14,233.83	14,137.03	7,897.92	12,275.83	8,634.55	8,294.22	9,599.81
B. ACTIVITIES								
1. Educational:								
(a) Lectures	394	120	44	15	138	140	59	53
(b) Attendance	7,474	13,548	1,098	2,771	3,143	5,650	1,861	61
(c) Bulletins distributed	6,620	8,790	2,617	6,345	6,953	3,000	4,822	5,177
(d) Newspaper articles	36	203	170	80	115	70	68	51
(e) Circular letters	863	400	7,759	325	2,500	1,900	5,522	239
(f) Health exhibits	1	52		3	0			1
2. Sanitary inspections:								
(a) Private premises	402	535	296	551	962	205	270	3,652
(b) Public premises—schools, churches, stores, camps, etc.	158	181	149	380	788	190	171	116
3. Special inspections:								
(a) Dairies	242	150	184	118	277	25	29	203
(b) Other food-producing or food-handling places	31	95	278	1,201	313	180	42	257
4. Examinations:								
(a) For life-extension advice	34	38				175	40	112
(b) For marriage licenses								
(c) For work certificates (children)	44	32	21	16	19			
(d) For lunacy	5				33	26	19	9
(e) Of prisoners	34		24	64	198	225	56	15
(f) Of food handlers	14				4	3		
5. Acute communicable-disease control:								
(a) Visits to cases, carriers, contacts, or suspects	1,054	365	858	309	5,690	200	331	383
(b) Cases or carriers isolated or quarantined	369	473	326	133	872	125	161	520

6. Venereal-disease control:								
(a) Suspects examined	35	92	88	99	66	150		65
(b) Prophylactic treatments					44			14
(c) Curative treatments	430	270	526	518	219	847		134
7. Tuberculosis control:								
(a) Number examined	55	212	183	76	68	100	45	79
(b) Positive	34	61	102	56	15	35	5	2
(c) Negative	21	151	86	20	53	65	40	77
(d) Placed in institutions	6	33	21	1		21		
(e) Home visits	99	300	106	202	491	90	14	157
8. Persons treated for removal of hookworm								
9. Persons treated for prevention or cure of goiter	11	50	312	17			19	
10. Schick tests	4				120			
11. Cows tuberculin tested	1,326	500	1,662	733	12	115		116
12. Immunization:								
(a) Complete antityphoid administrations	18	529		99	2,601	600		2,838
(b) Antismallpox vaccinations	445	2,987	4,681	454	11,061	3	747	1,862
(c) Complete diphtheria toxin-antitoxin administrations	4	1,559	1,611	73	1,240	74		1,025
(d) Persons given prophylactic diphtheria antitoxin	7	263	15	10	37	24		25
(e) Persons given antirabic treatment	4		18	1	162	2	1	3
13. Child hygiene:								
(a) Prenatal—								
(1) Cases given advice	52	9	174	90	76	65	32	6
(2) Examinations			4	20	2	2		1
(3) Office consultations			19	67	22	42		2
(4) Group conferences			2	1	18		7	2
(5) Home visits	37	16	55	336	181	40	82	35
(6) Midwives instructed				2	12	15		5
(b) Infant and preschool—								
(1) Babies and children examined	374	107	34	1,051	85	400	187	175
(2) Office consultations, mothers	340		19	199	105	125	187	289
(3) Group conferences with mothers	31	5	2	6	490	50	28	182
(4) Home visits	371	163	67	1,758	1,296	220	82	4,498
(c) School—								
(1) Children examined	4,948	1,713	4,613	3,302	9,743	2,300	1,621	3,374
(2) Found defective	3,070	893	3,115	1,519	2,548	1,733	1,403	41
(3) Defects found	5,950	2,113	4,546	1,735	4,292	3,900	4,390	126
(4) Consultations, parents (office and school)	1,126	129	95	155	482	95	103	126
(5) Home visits	430	193	274	1,048	1,710	85	87	157
(6) Talks to classes or drills in hygiene	413	88		253	610	105	50	403
(7) Exclusions for communicable disease	111	2	216	163	587	100	43	1,140
(d) Nutritional classes—								
(1) Cases attending	107	2	252	814	390			
14. Antimalaria work	(6)	(6)	(6)	(6)	(5)	(5)	(5)	(5)
15. Laboratory examinations:								
(a) Positive	232	71	132	153	145	74	19	98
(b) Negative	696	56	174	244	237	98	22	238
Total	928	127	306	397	382	172	41	336

[5] Little.

[6] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued .

Counties (or districts)	Marion, Mo.	Marion, W.Va.	Marshall, W. Va.	Mason, Ky.	Montgomery, Tenn.	New Madrid, Mo.	Nodaway, Mo.	Obion, Tenn.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	Third	Sixth	Fourth	Ninth	First	Seventh	Seventh	Third
C. RESULTS								
1. Sanitary privies installed:								
(a) Septic or L. R. S.			7	3				
(b) Water-tight vault	13	64	3					
(c) Bucket and box	2	32	21					
(d) Pit	51	104	187	23	82	31		594
Total	66	200	218	26	82	31		594
2. Privies restored to sanitary type	45	65	6	98	110	31	28	75
3. Septic tanks installed	5	7	20	1	45	2		11
4. New sewer connection			16	85	19	50	25	176
5. New water connections		9	1	121	18	35	44	46
6. Wells or springs improved	35	7	10	33	38	32	58	24
7. Public milk supplies radically improved	9		29	2	55	1		12
8. Public food-handling places radically improved	8	34	35	1	123	5		96
9. Places producing foods for sale radically improved	4				85	8		92
10. Dwellings effectively screened against flies and mosquitoes	6			2,900	3	25		14
11. Stables made sanitary	2		15		137			68
12. Nuisances corrected	309	38	191	225	531	11	11	291
13. Convictions for violation of sanitary laws	15		1					
14. Nutritional cases improved	77		399	359	2	4	175	3
15. Corrections of physical defects induced:								
(a) In infants	3		1	20	14	145		
(b) In preschool children	2		20	92	20	170	13	7
(c) In school children	1,858	683	1,113	411	633	500	1,572	1,351
(d) In adults			6	3		250		

Counties (or districts)	Ohio, W.Va.	Oklahoma, Okla.	Okmulgee, Okla.	Ottawa, Kans.	Ottawa, Okla.	Pemiscot, Mo.	Preston, W. Va.	Pulaski, Ark.	Rhea, Tenn.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to Aug. 31, 1927	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	First	Fourth	Third	Third	Ninth	Third	Sixth	Fourth	Third
A. EXPENDITURES									
1. Rural sanitation funds (P. H. S.)	$300.00	$166.66	$1,999.99	$1,400.00	$2,150.00	$612.50	$637.50	$1,987.44	$650.00
2. State		217.12	2,499.96	75.00	3,769.96	1,625.00	6,009.36	450.00	492.11
3. County	8,119.53	250.00	5,091.47	5,592.24	4,630.00	3,392.76	7,113.90	11,911.69	1,297.92
4. Municipalities	27,410.87								
5. Other agencies						2,642.40	1,500.00		
Total	35,830.40	633.78	9,591.42	7,067.24	10,549.96	8,272.75	15,260.76	14,349.13	2,440.03
B. ACTIVITIES									
1. Educational:									
(a) Lectures	147		43	8	4	34	92	187	52
(b) Attendance	3,613		3,806	1,025	135	3,990	5,369	8,450	2,099
(c) Bulletins distributed	5,518		1,356	7,260	294	14,978	18,208	3,470	1,919
(d) Newspaper articles	174		33	117	20	41	24	16	16
(e) Circular letters	6,270		198	579	290	1,574	1,824	412	467
(f) Health exhibits	5		5	14		2	2		
2. Sanitary inspections:									
(a) Private premises	36,655	5	271	96	829	1,303	1,200	1,564	1,002
(b) Public premises—schools, churches, stores, camps, etc	839		937	185	625	142	338	357	174
3. Special inspections:									
(a) Dairies	422	1	31	11	12	4	48	102	
(b) Other food-producing or food-handling places	2,616		97		119	22	121	53	140
4. Examinations:									
(a) For life-extension advice			1	219		78		61	
(b) For marriage licenses									
(c) For work certificates (children)			2			8			
(d) For lunacy			23		27	32	4	7	
(e) Of prisoners	39				30	242	6		
(f) Of food handlers			6				59		
5. Acute communicable-disease control:									
(a) Visits to cases, carriers, contacts, or suspects	1,853	23	257	368	614	67	402	456	
(b) Cases or carriers isolated or quarantined	701	12	226	248	143	39	294	58	
6. Venereal-disease control:									
(a) Suspects examined	447		120		175	158	53	1	
(b) Prophylactic treatments									
(c) Curative treatments	3,852		543		1,032	312	82		

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Ohio, W.Va.	Oklahoma, Okla.	Okmulgee, Okla.	Ottawa, Kans.	Ottawa, Okla.	Pemiscot, Mo.	Preston, W. Va.	Pulaski, Ark.	Rhea, Tenn.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to Aug. 31, 1927	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	First	Fourth	Third	Third	Ninth	Third	Sixth	Fourth	Third
B. ACTIVITIES—continued									
7. Tuberculosis control:									
(a) Number examined	693	1	118		18	92	76	8	
(b) Positive	148	1	47		18	44	12	4	
(c) Negative	545		71			48	64	4	
(d) Placed in institutions	36		19		4	13	3	1	
(e) Home visits	2,088		223	5	30	115	33	7	
8. Persons treated for removal of hookworm									
9. Persons treated for prevention or cure of goiter						8	59		
10. Schick tests						14			
11. Cows tuberculin tested	5,270		1,140		500	43	3,737		
12. Immunization:									
(a) Complete antityphoid administrations	2	15	591	5	458	1,535	866	160	
(b) Antismallpox vaccinations	4,381		5,657	455	306	730	2,921	432	125
(c) Complete diphtheria toxin-antitoxin administrations	2,713		545	600	25	168	785	215	
(d) Persons given prophylactic diphtheria antitoxin	23		114		100	20	10	13	
(e) Persons given antirabic treatment	1		11		27	8			
13. Child hygiene:									
(a) Prenatal—									
(1) Cases given advice	156		32	56	18	46	101	8	
(2) Examinations				1		4		3	
(3) Office consultations			7	4	21	35	10	4	
(4) Group conferences	3								
(5) Home visits	160		10	60	19	35	101	44	
(6) Midwives instructed			19			1		231	
(b) Infant and preschool—									
(1) Babies and children examined	570		209	367	79	661	390	154	
(2) Office consultations, mothers	118		91	71	68	124	6	269	
(3) Group conferences with mothers	62		4	14		10		53	
(4) Home visits	1,636		95	234	79	240	942	186	
(c) School—									
(1) Children examined	1,952		2,128	1,871	1,289	2,597	5,746	2,970	
(2) Found defective	1,495		1,272	1,517	335	1,385	5,445	2,432	
(3) Defects found	2,989		1,722	2,946	2,036	1,914	10,077	3,576	
(4) Consultations, parents (office and school)	25		234	198	2	99	623	1,070	

(5) Home visits	673		221	434	38	58	923	330	
(6) Talks to classes or drills in hygiene	330		41	282	3	90	141	64	
(7) Exclusions for communicable disease	21		1,040	116	265	36	85	78	
(d) Nutritional classes—									
(1) Cases attending									
14. Antimalaria work	(5)	(5)	(5)	(5)	(5)	(4)	(5)	(5)	(5)
15. Laboratory examinations:									
(a) Positive	488	8	66	10	259	52	127	7	
(b) Negative	3,506	2	75	35	164	90	162	85	
Total	3,994	10	141	45	423	142	289	92	
C. RESULTS									
1. Sanitary privies installed:									
(a) Septic or L. R. S	2		2		3				
(b) Water-tight vault			2		12		108		
(c) Bucket and box			2		176		7	14	
(d) Pit	3	2	9		42	27	385	26	731
Total	5	2	15		233	27	500	40	731
2. Privies restored to sanitary type	42				50	17			311
3. Septic tanks installed	4		3		2	4	36	52	14
4. New sewer connections	32				45	61	264	90	85
5. New water connections	25				3	67	397	162	14
6. Wells or springs improved	75		16		1	3	176	26	29
7. Public milk supplies radically improved	18				5	1	29		
8. Public food-handling places radically improved	26		2		9		38		16
9. Places producing foods for sale radically improved	13				5	7	53		
10. Dwellings effectively screened against flies and mosquitoes	11				1	230	615		35
11. Stables made sanitary	130				13		42		
12. Nuisances corrected	343	2	32	8	300		135	61	46
13. Convictions for violation of sanitary laws			1						
14. Nutritional cases improved	72		4		49				
15. Corrections of physical defects induced:									
(a) In infants	13		1					1	
(b) In preschool children	105		20	16				14	
(c) In school children	568		134	1,935	26		1,184	1,623	
(d) In adults	5		85	2	2			48	

[4] Considerable. [5] Little. [6] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Richmond, N. C.	Roane, Tenn.	Sanitary District No. 1, Tennessee [1]	Sanitary District No. 2, Tennessee [2]	San Diego, Calif.	San Joaquin, Calif.	Santa Barbara, Calif.	Santa Fe, N. Mex.	Seminole, Okla.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Feb. 1, 1928, to June 30, 1928	Feb. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Jan. 1, 1928, to June 30, 1928
Year of cooperation	First	Third	First	First	Fourth	Sixth	Fourth	Sixth	First
A. EXPENDITURES									
1. Rural sanitation funds (P. H. S.)	$300.00	$500.00	$830.00	$500.00	$2,499.98	$1,000.00	$2,499.98	$425.00	$583.34
2. State	3,292.90	4,787.53	125.00	125.00			1,800.00		2,387.65
3. County	3,292.90	4,329.07	577.68	351.82	50,455.03	93,578.40	13,277.85	4,000.00	2,821.22
4. Municipalities		675.00					907.50		
5. Other agencies									4,099.96
Total	6,885.80	10,291.60	1,532.68	976.82	52,955.01	94,578.40	18,485.33	4,425.00	9,892.17
B. ACTIVITIES									
1. Educational:									
(a) Lectures		194	43	17	118	122	103	7	7
(b) Attendance		4,773	3,265	1,495	6,261	7,020	3,795	225	2,639
(c) Bulletins distributed	4,058	5,461	6,644	4,030	15,884	638	9,972	89	2,290
(d) Newspaper articles	25	22	51	31	24	341	366	54	85
(e) Circular letters	4,062	1	46	22	477	18,825	2,482		117
(f) Health exhibits					4	1	3		
2. Sanitary inspections:									
(a) Private premises	1,657	1,725	1,758	1,376	2,476	3,564	179	264	296
(b) Public premises—schools, churches, stores, camps, etc.	1	1,811	41	5	129	1,690	468	228	606
3. Special inspections:									
(a) Dairies	2	85			1,026	6,841	44	128	18
(b) Other food-producing or food-handling places	7	479	66		757	7,501	45	70	571
4. Examinations:									
(a) For life-extension advice	358	50				2,865	29		
(b) For marriage licenses									
(c) For work certificates (children)	153	6				7		5	
(d) For lunacy	15	5				12			
(e) Of prisoners	323	6				396		9	
(f) Of food handlers	118					239		55	
5. Acute communicable-disease control:									
(a) Visits to cases, carriers, contacts or suspects	118	239			2,854	23,701	1,255	201	75
(b) Cases or carriers, isolated or quarantined	1,857	150			1,069	692	445	291	86

6. Venereal-disease control:									
(a) Suspects examined	107	16			3	1,086	7	5	5
(b) Prophylactic treatments		6							
(c) Curative treatments	876	55				8,971	3	1	
7. Tuberculosis control:									
(a) Number examined	6	92			455	391	12	1	5
(b) Positive	1	1			7	90	7		
(c) Negative	5	91			448	301	5	1	5
(d) Placed in institutions					8	117	16		3
(e) Home visits	1	53			124	669	84	1	
8. Persons treated for removal of hookworm									
9. Persons treated for prevention or cure of goiter	3						42	3	
10. Schick tests	257					64			
11. Cows tuberculin tested		148			12,657	2,649	2,447	282	
12. Immunization:									
(a) Complete antityphoid administrations	581	5,369				341	15	107	6,937
(b) Antismallpox vaccinations	124	307			2	1,876	33	882	4,191
(c) Complete diphtheria toxin-antitoxin administrations	245	460			686	4,188	2,803	59	3,574
(d) Persons given prophylactic diphtheria antitoxin					5	31	21	10	4
(e) Persons given antirabic treatment	1					11	160	1	
13. Child hygiene:									
(a) Prenatal—									
(1) Cases given advice	407	123			50	285	71	21	103
(2) Examinations	80					190	40		
(3) Office consultations	36				2	156	55	3	40
(4) Group conferences		1							
(5) Home visits	323	375			58	371	140	18	35
(6) Midwives instructed	68					8	1	22	
(b) Infant and preschool—									
(1) Babies and children examined	631	72			601	4,402	392	19	192
(2) Office consultations, mothers	5	216			99	1,672	182	4	45
(3) Group conferences with mothers	444	364			142	25	83		
(4) Home visits		683			497	9,953	548	15	175
(c) School—									
(1) Children examined	1,702	5,707			2,630	10,782	1,884	1,182	4,743
(2) Found defective	1,280	2,917			1,966	2,608	1,729	228	3,305
(3) Defects found	1,336	4,477			2,924	4,705	4,234	259	4,135
(4) Consultations, parents (office and school)	635	161			131	1,472	357	16	88
(5) Home visits		356			2,103	17,518	1,175	19	53
(6) Talks to classes or drills in hygiene		145			538	616	310	11	100
(7) Exclusions for communicable disease	978	105			275	3,190	439	128	51
(d) Nutritional classes—									
(1) Cases attending		188			20		45		
14. Antimalarial work	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
15. Laboratory examinations:									
(a) Positive	70	12			121	1,060	91	31	4
(b) Negative	230	107			1,369	4,381	268	116	90
Total	300	119			1,490	5,441	359	147	94

[1] Sanitary district No. 1 consists of Overton, Fentress, and Pickett Counties.
[2] Sanitary district No. 2 consists of Grundy, Sequatchie, and Bledsoe Counties.
[5] Little.
[6] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Richmond, N. C.	Roane, Tenn.	Sanitary District No. 1, Tennessee	Sanitary District No. 2, Tennessee	San Diego, Calif.	San Joaquin, Calif.	Santa Barbara, Calif.	Santa Fe, N. Mex.	Seminole, Okla.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Feb. 1, 1928, to June 30, 1928	Feb. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Jan. 1, 1928, to June 30, 1928
Year of cooperation	First	Third	First	First	Fourth	Sixth	Fourth	Sixth	First
C. RESULTS									
1. Sanitary privies installed:									
(a) Septic or L. R. S			4						1
(b) Water-tight vault			4				1		
(c) Bucket and box			1						204
(d) Pit		162	847	450		1	19	20	30
Total		162	856	450		1	20	20	235
2. Privies restored to sanitary type	1,703	60				1	27	136	614
3. Septic tanks installed		10	41	4	623	2	59	5	5
4. New sewer connections	34	54			1,413	662	63	64	554
5. New water connections		38	8		1,413	554	9	40	139
6. Wells or springs improved		113	388	1			2	2	9
7. Public milk supplies radically improved		12				3	2	49	8
8. Public food-handling places radically improved		59	66				41	24	391
9. Places producing foods for sale radically improved	5	7					8	3	21
10. Dwellings effectively screened against flies and mosquitoes		184	461				1	5	17
11. Stables made sanitary		63						62	10
12. Nuisances corrected		1,198	15			614	145	134	258
13. Convictions for violation of sanitary laws	40					5	3		2
14. Nutritional cases improved	23				199		92	3	4
15. Corrections of physical defects induced:									
(a) In infants					2	33	27	1	
(b) In preschool children					28	74	111	1	
(c) In school children		1,045			508	1,401	586	20	
(d) In adults					32	352	44		

Counties (or districts)	Shelby, Tenn.[3]	St. Francois, Mo.	St. Louis, Mo.	Sullivan, Tenn.	Talladega, Ala.	Union, Miss.	Union, N. Mex.	Valencia, N. Mex.	Walker, Ala.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Apr. 1, 1928, to June 30, 1928	July 1, 1927, to May 31, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	First	Sixth	Third	First	Ninth	Second	Eighth	Fifth	Ninth
A. EXPENDITURES									
1. Rural sanitation funds (P. H. S.)	$171.67	$300.00	$600.00	$986.16	$1,100.00	$1,024.99	$425.00	$425.00	$900.00
2. State	1,428.33	1,500.00	3,000.00	226.67	3,129.13	1,515.10		575.00	2,695.00
3. County	32,927.00	3,000.00	14,245.96	970.42	5,357.14	1,180.12	4,956.40	6,645.64	5,481.77
4. Municipalities		355.35			1,150.00				
5. Other agencies	2,300.00	13,066.93	5,152.00		812.50			600.00	1,800.00
Total	36,827.00	18,222.28	23,027.96	2,183.25	11,548.77	3,720.21	5,381.40	8,245.64	10,876.77
B. ACTIVITIES									
1. Educational:									
(a) Lectures	60	29	15	1	316	7	21	10	172
(b) Attendance	10,200	1,783	2,775	250	10,275	800	595	1,070	5,988
(c) Bulletins distributed	10,139	12,704	46,108	2,755	1,715	1,860	1,304	775	1,780
(d) Newspaper articles	26	45	60	4	57	3	46		30
(e) Circular letters		1,634	25,840	2,637	3,822	1,608	484	2,524	
(f) Health exhibits	2	13	1		2	1		3	2
2. Sanitary inspections:									
(a) Private premises	13,498	208	416	1,219	2,476	594	40	239	7,530
(b) Public premises—schools, churches, stores, camps, etc.	168	103	112	1	368	59	135	165	210
3. Special inspections:									
(a) Dairies	1,508	1	19	68	176	6	125	7	256
(b) Other food-producing or food-handling places	128	2	11	1	260	82	66	13	572
4. Examinations:									
(a) For life-extension advice	6				35	7			80
(b) For marriage licenses			1		10				125
(c) For work certificates (children)	44		20		23				65
(d) For lunacy	13	1	43		8	4	5	5	49
(e) Of prisoners			508		34	2	44	170	122
(f) Of food handlers			3	36	11		100	32	106
5. Acute communicable-disease control:									
(a) Visits to cases, carriers, contacts, or suspects	2,008	2,420	2,675	162	160	26	2,443	664	265
(b) Cases or carriers isolated or quarantined	562	1,107	1,621	36	31	35	922	88	199

[3] Shelby County not operating Jan. 1, 1928, to June 4, 1928.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Shelby, Tenn.	St. Francois, Mo.	St. Louis, Mo.	Sullivan, Tenn.	Talladega, Ala.	Union, Miss.	Union, N. Mex.	Valencia, N. Mex.	Walker, Ala.
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Apr. 1, 1928, to June 30, 1928	July 1, 1927, to May 31, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928
Year of cooperation	First	Sixth	Third	First	Ninth	Second	Eighth	Fifth	Ninth
B. ACTIVITIES—continued									
6. Venereal-disease control:									
(a) Suspects examined	1	191	13		474		19	75	73
(b) Prophylactic treatments	2							20	
(c) Curative treatments		361	24		1,858		5	55	114
7. Tuberculosis control:									
(a) Number examined	1,643	16	179	98	35	5	14	31	60
(b) Positive	159	2	11	44	20	5	8	10	24
(c) Negative	1,484	14	168	54	15		6	21	36
(d) Placed in institutions	36	11	17				1		1
(e) Home visits	772	185	994	225	191	13	18	34	171
8. Persons treated for removal of hookworm									102
9. Persons treated for prevention or cure of goiter						1		54	
10. Schick tests	708	1,502	215						63
11. Cows tuberculin tested	16,450		94	340	250		1,695	400	405
12. Immunization:									
(a) Complete antityphoid administrations	7,573	67	2	78	1,816	22	14	81	1,400
(b) Antismallpox vaccinations	4,165	412	779	175	38	457	225	552	37
(c) Complete diphtheria toxin-antitoxin administrations	1,918	272	233		1,023	26		673	53
(d) Persons given prophylactic diphtheria antitoxin	12		23	20	93		1	34	204
(e) Persons given antirabic treatment	47		52		6	5			1
13. Child hygiene:									
(a) Prenatal—									
(1) Cases given advice	96	41	56	1	157	8	5	140	101
(2) Examinations	3		39		18		1	66	
(3) Office consultations	19		40		16		1	128	5
(4) Group conferences	22		21		5				33
(5) Home visits	6	63	88	1	306	8	1	78	199
(6) Midwives instructed	99					28	15	16	5
(b) Infant and preschool—									
(1) Babies and children examined	476	398	2,060	75	105	142	99	742	142
(2) Office consultations, mothers	10	413	660		54	1	69	180	36
(3) Group conferences with mothers	12		51		23	2	36	1	45
(4) Home visits	151	292	1,080		683	211	13	676	448

(c) School—									
(1) Children examined	2,278	7,833	3,936	----------	4,043	1,572	277	2,296	4,847
(2) Found defective	1,230	4,641	3,285	----------	3,325	1,270	164	598	2,478
(3) Defects found	2,011	6,455	7,738	----------	5,367	1,582	261	810	3,854
(4) Consultations, parents (office and school)	66	186	215	----------	183	11	12	227	26
(5) Home visits	684	366	1,013	----------	774	35	14	290	131
(6) Talks to classes or drills in hygiene	206	507	29	----------	21	37	2	140	5
(7) Exclusions for communicable disease	121	48	87	9	24	7	510	58	----------
(d) Nutritional classes—									
(1) Cases attending	432	----------	----------	----------	----------	----------	86	28	----------
14. Antimalaria work	(4)	(5)	(5)	(5)	(4)	(4)	(5)	(5)	(4)
15. Laboratory examinations:									
(a) Positive	361	192	58	----------	184	14	39	44	481
(b) Negative	296	540	136	2	619	26	190	66	369
Total	657	732	194	2	803	40	229	110	850
C. RESULTS									
1. Sanitary privies installed:									
(a) Septic or L. R. S	----------	----------	2	----------	----------	----------	----------	----------	7
(b) Water-tight vault	----------	----------	7	----------	----------	----------	----------	11	----------
(c) Bucket and box	----------	----------	4	----------	10	----------	----------	8	182
(d) Pit	6,112	19	22	308	76	149	9	10	422
Total	6,112	19	35	308	86	149	9	29	611
2. Privies restored to sanitary type	612	26	59	1	42	23	27	10	420
3. Septic tanks installed	247	11	26	6	2	5	3	13	2
4. New sewer connections	177	3	89	125	43	26	1	17	23
5. New water connections	98	5	4	137	51	26	5	15	27
6. Wells or springs improved	66	7	16	12	11	5	9	11	----------
7. Public milk supplies radically improved	57	----------	13	3	10	----------	89	2	3
8. Public food-handling places radically improved	----------	----------	10	----------	14	2	36	8	6
9. Places producing foods for sale radically improved	19	----------	5	----------	6	3	15	4	4
10. Dwellings effectively screened against flies and mosquitoes	32	----------	----------	----------	2	28	4	----------	25
11. Stables made sanitary	47	----------	7	----------	52	1	8	----------	----------
12. Nuisances corrected	753	16	736	----------	229	15	30	19	115
13. Convictions for violation of sanitary laws	----------	----------	----------	----------	5	----------	1	----------	----------
14. Nutritional cases improved	----------	136	11	----------	----------	----------	78	78	----------
15. Corrections of physical defects induced:									
(a) In infants	----------	2	59	----------	6	----------	1	164	25
(b) In preschool children	----------	----------	265	----------	9	4	2	186	24
(c) In school children	411	1,421	748	----------	671	295	5	292	22
(d) In adults	----------	----------	173	----------	1	1	1	381	----------

[4] Considerable. [5] Little. [6] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

Counties (or districts)	Walker, Ga.	Washington, La.	Washington, Miss.	Washington, Tenn.	Weakley, Tenn.	Williamson, Tenn.	Wood, W. Va.	14 Virginia counties	Total
Period of work in fiscal year 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to Feb. 29, 1928	Aug. 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	Jan. 1, 1928, to June 30, 1928	July 1, 1927, to June 30, 1928	July 1, 1927, to June 30, 1928	
Year of cooperation	Ninth	Seventh	Fifth	First	Third	First	Second	First to tenth	
A. EXPENDITURES									
1. Rural sanitation funds (P. H. S.)	$1,020.00	$2,100.00	$1,000.00	$286.34	$500.00	$250.00	$300.00	$3,849.63	$77,628.01
2. State		2,180.00	379.12	2,883.68	2,496.68	2,046.13	5,510.67	12,488.29	160,541.32
3. County	4,810.87	2,815.08	2,362.36	4,544.21	4,060.90	2,925.14	5,914.84	21,067.41	680,821.57
4. Municipalities		1,320.56	1,555.00				3,550.00		107,475.35
5. Other agencies			600.00	1,046.66	1,470.00				91,489.53
Total	5,830.87	8,415.64	5,896.48	8,760.89	8,527.58	5,221.27	15,275.51	37,405.33	1,117,955.78
B. ACTIVITIES									
1. Educational:									
(a) Lectures	183	72	41	95	53	83	124	634	7,473
(b) Attendance	8,524	7,686	2,652	8,012	2,404	2,229	19,650	45,389	480,099
(c) Bulletins distributed	7,454	19,785	1,007	11,555	1,848	7,179	2,930	55,139	731,655
(d) Newspaper articles	11	24	36	47	31	49	550	213	7,912
(e) Circular letters	44	1,831	577	1,722	4,676	268	1,117	5,601	192,180
(f) Health exhibits	1	6		2	3		3		440
2. Sanitary inspections:									
(a) Private premises	709	5,602	2,249	4,726	252	1,038	3,455	22,945	271,258
(b) Public premises—schools, churches, stores, camps, etc.	124	121	661	502	247	97	513	1,740	35,985
3. Special inspections:									
(a) Dairies	132	304		1,115	52	16	1,076		21,778
(b) Other food-producing or food-handling places	256	122	118	281	493	27	601	2,608	79,493
4. Examinations:									
(a) For life-extension advice		38		24		57			6,974
(b) For marriage licenses							2		670
(c) For work certificates (children)	62						349		1,935
(d) For lunacy					14	11	30		784
(e) Of prisoners			4		23	31	247		5,172
(f) Of food handlers		113		198			1,057		5,243
5. Acute communicable-disease control:									
(a) Visits to cases, carriers, contacts or suspects	151	175	130	1,238	827	88	1,245		87,355
(b) Cases or carriers isolated or quarantined	29	80	69	241	328	39	735	474	33,083

6. Venereal-disease control:									
(a) Suspects examined	5	2		1	8	70	427		8,269
(b) Prophylactic treatments	1			8			244		614
(c) Curative treatments			8	2	46	132	1,952		35,640
7. Tuberculosis control:									
(a) Number examined	15	15	1	98	88	155	92		7,894
(b) Positive	5	6	1	27	21	24	24		1,902
(c) Negative	10	9		71	67	131	68		5,992
(d) Placed in institutions	2						1		808
(e) Home visits	33	27	33	51	242	245	128		14,835
8. Persons treated for removal of hookworm		91							767
9. Persons treated for prevention or cure of goiter							153		1,545
10. Schick tests					441	154	34		5,998
11. Cows tuberculin tested	16,000	819		595	20	15,242	1,904	1,142	129,349
12. Immunization:									
(a) Complete antityphoid administrations	1,479	1,147	282	2,414	4,538	1,101	534	703	137,556
(b) Antismallpox vaccinations	3	140		3,479	2,458	596	2,777	4,180	131,940
(c) Complete diphtheria toxin-antitoxin administrations	1,763	932	360	685	557	161	2,139	19,882	96,607
(d) Persons given prophylactic diphtheria antitoxin	5	46	27	2	8		56		2,008
(e) Persons given antirabic treatment	1		1	16	5		10	94	795
13. Child hygiene:									
(a) Prenatal—									
(1) Cases given advice	41	115	40	28	19	54	284		8,454
(2) Examinations		22					279		1,100
(3) Office consultations		51					68		1,888
(4) Group conferences		28			14				504
(5) Home visits	49	100	44	58	21	79	233		9,091
(6) Midwives instructed	9	10	365		3	81	6		3,616
(b) Infant and preschool—									
(1) Babies and children examined	70	388	25	70	66	87	508		32,956
(2) Office consultations, mothers	62	273		63		16	123		10,576
(3) Group conferences with mothers	7	57		1	3	2	6		4,728
(4) Home visits	88	198	17	83	384	198	224		48,216
(c) School—									
(1) Children examined	2,178	2,888	778	2,055	1,288	1,551	416		300,910
(2) Found defective	933	2,548	391	1,523	905	1,055	162		193,023
(3) Defects found	1,171	9,383	569	2,550	1,486	1,439	288		290,685
(4) Consultations, parents (office and school)		246	233	1	17	11	82		21,415
(5) Home visits	1	465	242	104	187	197	96		54,565
(6) Talks to classes or drills in hygiene	37	69	24	90	78	94	51		11,608
(7) Exclusions for communicable disease	15	69	48	237	59	27			20,501
(d) Nutritional classes—									
(1) Cases attending		74	1,011	2,160			2		11,960
14. Antimalaria work	(3)	(4)	(4)	(3)	(3)	(3)	(3)	(4)	
15. Laboratory examinations:									
(a) Positive	21	217	159	22	51	53	225		13,334
(b) Negative	57	326	630	722	127	86	847		39,972
Total	78	543	789	744	178	139	1,072		53,306

[3] Considerable. [4] Little. [5] None.

Compilation of data, by counties, on cooperative demonstration work in rural sanitation in the fiscal year 1928—Continued

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Year of cooperation	Ninth	Seventh	Fifth	First	Third	First	Second	First to tenth	
C. RESULTS									
1. Sanitary privies installed:									
(a) Septic or L. R. S.					3		163	3	466
(b) Water-tight vault		2					19		320
(c) Bucket and box							24	95	1,337
(d) Pit	94	250	230	522	149	220	259	2,798	26,347
Total	94	252	230	522	152	220	465	2,896	28,470
2. Privies restored to sanitary type	35	355	364	17	47	24	480	2,468	12,373
3. Septic tanks installed	16	29		40	13	19	143	594	3,316
4. New sewer connections	20	73	38	256	715	14	339	895	11,997
5. New water connections	28	47	48		1,710	34		1,210	9,528
6. Wells or springs improved		4		28	20	1	132	377	2,844
7. Public milk supplies radically improved	57	15		51	6		244		1,854
8. Public food-handling places radically improved	47	2	27		138		104	617	3,077
9. Places producing foods for sale radically improved	59	2		172			25		1,231
10. Dwellings effectively screened against flies and mosquitoes	69	39	345				4	939	8,063
11. Stables made sanitary	109		16	23	3		24		1,826
12. Nuisances corrected		8	732	546	68	158	2,042	1,296	22,060
13. Convictions for violation of sanitary laws				218					537
14. Nutritional cases improved		61	1,151						5,396
15. Corrections of physical defects induced:									
(a) In infants		6				2	43		1,073
(b) In preschool children		18	1	1		1	204		2,905
(c) In school children	227	110	11	101	91	418	223		53,055
(d) In adults									1,791

Sanitary Officer Projects in Virginia and Tennessee Counties

The plan of special demonstration work in rural sanitation inaugurated in Virginia in the fiscal year 1920 was carried out in 14 counties [14] in that State and in 8 counties [15] in Tennessee in the fiscal year 1928. This plan, which is described in previous reports,[16] continues to prove highly successful. It meets remarkably well the situations in rural counties in which effective health work, if done at all, must be done on a low-cost basis, and in which outdoor sanitary measures are especially needed. The cost for such service in the average county is about $2,750 a year. The county sanitary officer is engaged on a whole-time basis. He does not have to be a graduate in medicine or engineering, but he must be a trained, practical sanitarian. Along with his sanitary work, he carries out, with the active cooperation of the local physicians, most of the other activities expected of a whole-time country health officer with a medical degree.

The results accomplished in the county sanitary officer projects become more impressive from year to year. Some of these counties are now among the foremost in the list of rural counties in the United States presenting high-grade demonstrations in sanitary progress.

This county sanitary officer plan, after nine years of testing, appears to offer to the counties to which it is appropriate as large a return on the investment for county health service as any other yet tried or proposed.

The following excerpts from the annual report submitted by Scientific Assistant George S. Bote, who, as a representative of both the Public Health Service and the Virginia State Board of Health, had supervision of the country sanitary officer projects in Virginia during the fiscal year 1928, are indicative of the practical character of the county sanitary officers plan of work:

Sanitation with respect to excreta disposal continued to be one of the main objectives to be attained, and during the year 7,853 excreta disposal systems were made sanitary. Of this number, 5,385 were at places sanitated for the first time, 638 of which had never before had a privy of any kind.

A large amount of resanitation work was done, and 2,468 privies of a sanitary type, which for various reasons had become insanitary, were fixed over and again restored to a sanitary condition. The resanitation work was systematically carried out in the towns and over as many sections in the rural districts as could be reached. The repairs made ranged from replacing the lids and correcting small structural defects to digging a new pit and building a new privy complete.

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[14] Bath, Charlotte, Chesterfield, Essex, Fairfax, Greensville, Henry, Lee, Powhatan, Prince Edward, Pulaski, Roanoke, Smyth, and Washington.

[15] Anderson, Bledsoe, Grundy, Fentress, Overton, Pickett, Sequatchie, and Rhea.

[16] Reprint No. 615, from Public Health Reports of Oct. 1, 1920, pp. 10, 12; Reprint No. 699, from Public Health Reports of Oct. 7, 1921, pp. 12, 14; Reprint No. 788, from Public Health Reports of Sept. 29, 1922, pp. 14, 17; Reprint No. 887, from Public Health Reports of Dec. 14, 1923, pp. 16, 18; Reprint No. 964, from Public Health Reports of Oct. 17, 1924, pp. 18, 21; Reprint No. 1047, from Public Health Reports of Oct. 23, 1925, pp. 27, 28; Reprint 1118, from Public Health Reports of Oct. 22, 1926, pp. 31, 32. Reprint No. 1184, from the Public Health Reports of Oct. 21, 1927, pp. 35, 36.

The maintenance problem is one of the most perplexing problems with which we have to deal. As the first step toward solving it each sanitary officer has endeavored to induce the citizens to build a more durable type of sanitary privy. The double wood slab and the concrete slab types of privies, which are regarded as more permanent than the types previously advocated, were recommended and were installed in greater numbers than ever before.

Five hundred and ninety-four septic tanks with subsoil purification field systems were installed to dispose of the sewage in a sanitary manner from this number of homes which had running water and inside plumbing fixtures but were not available to a sewer line. These septic tanks were installed at both rural and suburban homes, and the number this year far exceeds that of any previous year. This indicates that the desire of the present day home owner is for more conveniences as well as for a higher type of sanitation. We will do well to keep this trend in mind in shaping our future sanitation program.

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SEWER EXTENSIONS AND CONNECTIONS

As a result of the bond issue passed last year by the town of Pulaski in Pulaski County, 27,984 feet of new sewer lines were laid during the year. These new lines enabled 340 homes which had been served by sanitary privies to be connected to the town sewer system. This provides a permanent solution of the excreta disposal problem at these homes and releases for other work the time which the sanitary officer formerly had to spend in maintaining the privies in this section in a sanitary condition.

In Roanoke County the sanitary officer continued the method adopted last year of securing part of the money for new sewer extensions from the property owners to be benefited. A total of 19,919 feet of new sewer lines were laid in the county during the year. Of this number 7,750 feet were in Salem, 1,819, feet were in Vinton, and 10,350 feet in the county outside the incorporated towns. These new lines were responsible for 98 sewer connections in Salem, 31 in Vinton, and 65 in the county, or a total of 194 sewer connections. These for the most part replace box and can privies.

In an unincorporated area known as South Salem, with a population of 810 people, an additional sewer line has been worked up. This was financed by the property owners paying one-half and the Roanoke County Board of Supervisors paying the other half of the cost. The line will be 6,754 feet long and will cost $3,990. The contract has been let and the work is now under way.

Other sewer extensions worthy of mention are 330 feet of new lines in Emporia in Greensville County, 5,474 feet in the town of Farmville, and 3,536 feet in Henry County. This makes a total of 57,243 feet—a little less than 11 miles—of sewer extensions laid during the year with a total of 895 sewer connections.

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WATER SUPPLIES

The large number of places provided with safe water supplies shows that the people are taking greater interest in having pure water to drink, and that the educational work of previous years is bearing fruit. The improvements recorded consist of 169 new wells, 158 old wells improved and made sanitary, 50 springs protected against pollution, 19 cisterns built, and 1,210 connections to city or central supplies.

As in the past, attention has been directed to the improvement of the individual, community, and municipal supplies in these counties. The routine collection of samples of water for bacteriological examination has been continued, and during

the year 1,196 samples were examined. The owners of the supplies were notified of the results of the examinations. Whenever the supply showed pollution, help and advice were given in removing the cause of the trouble and in rendering the supply safe; and this work is largely responsible for the above improvements.

The water supply of the Baptist Orphanage at Salem, in Roanoke County, continued to show pollution after repeated samples had been analyzed. The sanitary officer installed a homemade chloride of lime treatment plant on this supply and looked after its operation. Subsequent samples examined showed the water to be of good sanitary quality.

In Roanoke County 11,382 feet of new water mains were laid during the year. Most of this footage was outside the incorporated towns. It was divided as follows: 3,760 feet in Salem, 980 feet in Vinton, and 7,642 feet in the county outside incorporated towns. These new lines made possible 136 new water connections.

Due to complaints about the disagreeable taste of the water from the town supply of Pulaski, the sanitary officer set about to remedy the condition. The engineering division of the State Board of Health was called in for assistance. It was found that all of the intake pipes in the dam, with the exception of one near the bottom, were broken, and all water was being drawn from the bottom of the reservoir. It was determined that the high iron content of the water was causing the disagreeable taste. Investigation showed that to a depth of 13 feet the water in the reservoir was practically free from iron. A pump was installed and the water drawn from the iron-free area, and as soon as this was done the disagreeable taste disappeared. In January the water was drawn off the reservoir to repair the intake pipes. and while this work was in progress a temporary pumping station was set up on Peak Creek to supply the town. A chlorinating system was installed, under the supervision of the sanitary officer, to make the water safe for drinking. A close watch was kept over the operation of this system and samples of water examined at frequent intervals showed the water to be free from dangerous bacteria.

The Smyth County sanitary officer promoted some water main extensions in Marion, Chilhowie, and Henrytown and was successful in getting 4,850 feet of new mains laid.

The funds from the bond issue carried last year made possible extensive improvements at the Farmville water plant. These included a wash water tank, two new alum tanks, a 500,000-gallon storage tank, two new pumps, and a 24-inch intake line a mile long. The intake line was put in to eliminate the polluted water of Little Buffalo River. Both of the filters were rebuilt and many other minor changes made. Nearly 3 miles (14,850 feet) of water mains were laid, mostly 6 and 12 inch pipe, and 62 additional homes were tapped in and now receive their water from the town supply.

Improvements were also secured at the Hampden-Sidney College water plant. Here an electric pump was installed and the chlorinator repaired four times during the year. A mile of ditches protecting the watershed was cleaned to prevent surface pollution from reaching the source of supply.

Supervision has been maintained over the plants of the commercial concerns which sell bottled spring water. Regular visits have been made to these places for the purpose of collecting samples and to see that the bottles are washed and sterilized. Thousands of gallons of bottled water are sold locally and some is shipped out of the State. As the containers are interchanged we think that the sterilization of all bottles and corks used is a wise practice.

Compiling the footage for the year we find that 61,181 feet—about 11¼ miles—of new water mains were laid. Through making 396 individual homes supplies

safe and securing 1,210 city water connections, 1,602 places which had water of questionable quality are now assured pure water to drink.

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MOSQUITO CONTROL

An extensive mosquito-control campaign was carried on in Greensville County to reduce the incidence of malaria. An appropriation was secured from the town council of Emporia to carry on the work. The control measures consisted of drainage, oiling, and screening.

In Emporia about 6½ miles of drainage ditches and a seepage area of 2 acres were kept under control; 24,859 feet of ditches were cleaned and a regular weekly oiling schedule was maintained; 728,640 feet of ditches and 48-square acres of seepage area were sprayed during the season. It required 1,600 gallons of oil for this work, which cost $218.20. The labor for cleaning and spraying cost $439.95, which, with $9 for incidentals brings the whole cost for the entire campaign up to $667.15. There were 1,389 feet of new ditches cut in the county and 675 feet in Emporia to drain mosquito-breeding places.

One breeding place under a building was ditched and drained, one old building was torn down and the breeding place filled with three carloads of cinders, and three ponds were drained.

The manufacture of the homemade concrete pipe was continued under the plan worked out several years ago,[17] and 497 feet of 24-inch concrete pipe was made and installed in one of the large ditches in Emporia. The cost of manufacture was $332.05, or 65 cents per foot. If purchased it would have cost $1,043.70, or $2.10 per foot. The amount saved by making this pipe was $711.65 or more than the town's share of the salary of the sanitary officer for the whole year. In addition, 127 feet of 18-inch pipe were made and installed, and although smaller in diameter it cost the same to manufacture as the 24-inch pipe. If this pipe had been bought, it would have cost $152.40, or $1.20 a foot. Here is another saving of $69.85.

Screening was advocated, and reports received from the hardware dealers throughout Greensville County show that 132 rolls of 16-mesh wire (13,200 feet), 146 ready-made screen doors, and 96 ready-made screen windows were sold during the season. Many homes and stores were effectively screened against the mosquito and the fly, and there is no doubt that this screen-up work will be a factor in the prevention of malaria.

In Chesterfield County two ponds were oiled regularly, one was stocked with *Gambusia* top minnows, and 1,400 feet of ditches were dug to control mosquito breeding in certain areas in the county.

In Essex County the sanitary officer conducted an educational campaign, and $60 was raised for control measures in the town of Tappahannock. Several copious breeding places were drained and one of the ditches was regularly oiled during the season.

In the town of Marion one pond was drained and a drain tile line was laid through the bottom of the pond to prevent collection of water in the future.

Seven thousand six hundred and forty feet of cleaning was done on the ditches within the town limits of Farmville to improve the drainage and lessen mosquito breeding.

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COMMUNICABLE DISEASES

There was no unusual presence of communicable diseases in this group of counties. A few sporadic outbreaks of dysentery, some scattering cases of typhoid

[17] Reprint No. 995 from Public Health Reports of Mar. 13, 1925.

fever, and one small outbreak of smallpox occurred during the year. Prompt investigation was made of all cases reported to determine the source of infection and control measures were put into effect to prevent further spread.

It is a source of gratification to be able to report that in six of these counties *no death* from typhoid fever was reported for the calendar year 1927. These are Bath, Chesterfield, Essex, Fairfax, Prince Edward, and Pulaski. Another notable reduction in typhoid fever occurred in Lee County. The sanitation work has been in progress one and a half years and sanitary conditions have been improved in the county. In the mining sections where typhoid has been prevalent for many years, especially good results in sanitation were secured. Statistics for 1926 show 62 cases and 12 deaths, while those for 1927 show 46 cases and 5 deaths—a reduction of 16 cases and 7 deaths.

The presence of a case of typhoid fever was used as the means of stimulating typhoid vaccination, promoting sanitation, getting water supplies improved and homes screened. Special effort was put forth to get all contacts and the people living in the neighborhood of the case vaccinated, with the result that 703 people were inoculated against the disease.

The outbreak of smallpox mentioned occurred in Bath County. There were 20 cases, and quarantine and control measures were carried out by the sanitary officer under the direction of the county board of health. He was authorized by the board to do the vaccinating and visited all parts of the county as well as the schools. His report shows 1,978 successful vaccinations among the school children and citizens.

Special Features

In practically every one of the projects results deserving of special mention have been accomplished.

The following are presented as illustrative:

In Cherokee County, Kans., an energetic campaign has been conducted by the county health department for the correction of physical defects in children. Of a total of 979 children in 40 schools visited in February, 1928, 313 were found to measure up to the "9-point" standard (freedom from malnutrition and from defects of vision, teeth, throat, posture, or hearing, and with specific immunization against smallpox, diphtheria, and typhoid fever). On May 1, 1928, over 1,200 "9-point" children of this county were brought together at a picnic.

In Dunklin County, Mo., over 16,000 persons were given antityphoid immunization treatment in 1927, and very considerable progress was made in sanitation in 1926 and 1927. The number of deaths from typhoid fever reported in the county was 3 in 1927 as against 25 in 1926.

In Floyd County, Ga., 15,833 persons were given complete antityphoid administrations, 13,890 of them in the two months' period, July and August, 1927.

In Gibson County, Tenn., 11,669 persons were given complete antityphoid administrations, and sanitary methods of excreta disposal were installed in 878 homes.

In Greene County, Mo., 4,141 children were immunized against diphtheria in the fiscal year 1928.

In Harrison County, W. Va., Kanawha County, W. Va., and Montgomery County, Tenn., the numbers of persons successfully vaccinated against smallpox during the fiscal year were, respectively, 8,470, 15,433, and 11,061.

In Lewis and Clark County, Mont., during the local fiscal year, May 1, 1927, to April 30, 1928, not a death from typhoid fever, diphtheria, or scarlet fever was reported, and not a case of typhoid fever was reported. The whole-time county health department began a campaign for immunization against diphtheria in 1924 and reports that by May 1, 1928, about 90 per cent of the school children in the county (including the city of Helena) had received the toxin-antitoxin treatment.

In Mason County, Ky., a remarkable achievement, in view of the length of time campaigning for sanitation has gone on in that county, was the bringing about in the fiscal year 1928 the effective screening (against flies and mosquitoes) of 2,900 dwellings.

In New Madrid County, Mo., a health clinic conducted for three days (October 26–28, 1927) under the auspices of the county health department and with the active support of local and visiting physicians resulted in 65 successful operations upon children for removal of tonsils or adenoids or both, examination of 85 persons for eye diseases or defects, examination of chests of 40 persons suspected of having tuberculosis, and provision for hospital or other treatment to correct seriously crippling conditions of 6 children. Every practicing physician in the county brought one or more cases to this clinic. A boy who had not walked a step for two years was enabled after treatment brought about through the activities of the county health department to walk well and now goes to school regularly.

In Nodaway County, Mo., a notable increase in school attendance has occurred since the establishment of the whole-time health service in that county. The county superintendent of schools attributes the increase mainly to the activities of the county health department and presents in a printed report the following data: In the 5-year period 1917–1921, before the establishment of the whole-time health service, the total days of school attendance was 4,141,161, with a total enrollment of 38,505 pupils as against 4,567,523 total days' attendance with a total enrollment of 36,495 pupils in the 5-year period 1922–1926 during which the whole-time health service was in operation. Notwithstanding the decrease in the enrollment for the second period, the increase in total days school attendance was 426,362. In a group of six neighboring counties (Atchison, Andrew, Worth, Mercer, Harrison, and Daviess) with comparable school attendance enforcement but without whole-time county health service the average count showed for the second of these 5-year periods a loss of 790 in enrollment of pupils and a gain of only 73,357 in

days of school attendance. The economic value of the gain in school attendance resulting apparently from the activities of the whole-time county health department in cooperation with the county school department in Nodaway County is estimated by the county superintendent of schools at $31,980 a year in the period 1922–1926, The average annual cost of the whole-time county health service, comprising school hygiene and many other activities, in this 5-year period was $10,056.51.

In Ohio County, W. Va., an energetic campaign for immunization of children against diphtheria has been carried out. Within the 15 months' period ended December 31, 1927, 37,000 doses of toxin-antitoxin were administered. The records of the school nurses for four of the districts (Ritchie, Richland, Liberty, and Washington) in the county show that 82 per cent of the grade pupils have been immunized against diphtheria. In the course of the campaign the accompanying notice was distributed as a handbill and also was carried in the local newspapers in space donated by the papers "In the Interest of Public Health."

The county health officer reported in April, 1928, that over 99 per cent of the school children in this county had been found successfully vaccinated against smallpox.

In St. Louis County, Mo., a marked reduction (over 20 per cent) occurred in the infant death rate in 1927. The infant mortality rate per 1,000 living births for that year in the county was only 43.6. This reduced infant death rate appears to be attributable to improved control of communicable diseases, progress in sanitation, improved milk supplies, and the specific educational activities of the whole-time county health department and the local tuberculosis and health society working together.

In San Joaquin County, Calif., a noteworthy demonstration in well-administered, economical, comprehensive, and effective health work of a comparatively high degree of adequacy has been made. The San Joaquin local health district comprises all of San Joaquin County. The following are excerpts from a statement (A Review of Operation of the San Joaquin Local Health District, 1923–1928) submitted by Field Agent-County Health Officer J. J. Sippy, the director of this cooperative project:

HISTORICAL AND FINANCIAL

In 1920 each of the cities of Stockton, Lodi, Tracy, and Manteca maintained municipal health departments which operated in their respective corporate limits. The county of San Joaquin maintained a county health department operating in the unincorporated rural area. Each was headed by a part-time health officer—i. e., a busy physician whose major time was given to private practice and his spare time to his public-health duties. In addition, several

TOXIN-ANTITOXIN
PREVENTS DIPHTHERIA
Ask your doctor!

UNLESS YOUR CHILD HAS BEEN GIVEN TOXIN-ANTITOXIN IT IS IN MORE DANGER FROM DIPHTHERIA THAN IT IS FROM INFANTILE PARALYSIS

IN 1921 23 children DIED from diphtheria in the City of Wheeling.

IN 1926 11,000 children in Wheeling and Ohio County were given toxin-antitoxin.

IN 1927 In the nine months ending Sept. 30, 22 CASES of diphtheria had been REPORTED.

ONE of the TWENTY-TWO died.

NOT ONE of the twenty-two had been given TOXIN-ANTITOXIN.

CITY-COUNTY HEALTH DEPARTMENT

Space Donated by this Paper in the Interest of PUBLIC HEALTH

boards of education employed school nurses, as did also the county chapter of the American Red Cross and the local Tuberculosis Association. A total of 16 persons were employed full time and 6 part time in these various groups.

It is difficult to secure definite data on the expenditures of these groups, but as nearly as can be ascertained they aggregated in that year $70,897, or 88.7 cents per capita. Under the same system the expenditures in 1921 were $45,317, or 54.7 cents per capita, and in 1922, $65,855, or 76.5 cents per capita.

Despite the number of persons employed and the money expended, the county in 1921 experienced a disastrous outbreak of diphtheria, resulting in 645 cases and 43 deaths. This was concurrent with unusually high smallpox and typhoid fever rates.

Recognizing that this situation could not be blamed upon the lack of personal efficiency of local health workers, but was largely due to lack of system which resulted in incoordination and waste of effort and funds, the San Joaquin County Board of Supervisors, supported by all the representative business groups of the county, sought some method of consolidation or centralization which would eliminate this waste. The local health district act (Stats. of 1917, p. 791) provided a plan which was deemed practicable and the district was formed in accordance therewith and began its operation on March 1, 1923.

Owing to its newness, its functioning was not at first clearly understood, and, like all pioneers, it has had to withstand its share of criticism from multiple sources. However, after five years it is believed that it holds a place in public regard equal to any other department of work in the county, and it has demonstrated its apparent soundness by certain significant features.

(1) It provides for a governing board of trustees who are concerned with the operation of only one department, and not, as are city councils and boards of supervisors, with a multiplicity of departments. On this board each incorporated city has a duly appointed representative answerable to the governing body which appoints him,—namely, the city council. The rural area is also represented by an appointee of the county board of supervisors and answerable to that body. Stockton is represented by W. B. Hogan, city engineer; Lodi by Dr. J. E. Nelson, physician; Tracy, by Mrs. Gladys B. Frost, social worker, club woman, and public-health nurse; Manteca by Dr. L. E. Tretheway, physician; while the rural area is represented by C. C. Woodworth, farmer. It is generally agreed that this is a highly representative and able group, capable of keeping the department free from petty partisanship and politics. All have been personally successful, a demonstration of their business ability.

(2) It has provided a centralized group of workers in an organization which eliminates duplication and gives to every portion of the county, both urban and rural, equal public-health protection, the farmer receiving the same service as the city man, which is not usually the case. This group is headed by a full-time, experienced health officer, who can be held directly responsible for inefficiency.

(3) It has relieved our cities of the burden of separate health departments and sanitary supervision, and food and milk dealers of the expense and nuisance of inspection fees which each city formerly charged.

(4) Since the district furnishes physicians, dentists, and public-health nurses for school supervision, our boards of education in city and country schools are not now obliged to employ health workers for the control of communicable disease and promotion of physical and dental hygiene. Our county and city superintendents of schools have attributed to health-department cooperation and assistance a huge factor in an increase of average daily attendance with its increased sharing of State school funds.

(5) Despite the employment of 32 persons (as opposed to 22 in 1920) the costs of work have not proportionately increased, nor have they kept pace with the

population and assessed valuations. For the year 1923–24 the expenditure was $69,117, or 73.5 cents per capita; for 1924–25, $87,855, or 91.1 cents per capita; for 1925–26, $90,408.89, or 90.3 cents per capita; and in 1926–27, $91,816, or 89.3 cents per capita. Present fiscal expenditures (1927–28) are budgeted at $93,500, or 88.3 cents per capita, which is a lower per capita cost than in 1920 under the disorganized part-time system. (Fig. 1.)

The tax levy for this support was 10 cents on each $100 of valuation for the first three years and 9 cents the last two years. There has been accumulated a substantial contingent fund in the amount of $31,816.93 for the year ending June 30, 1927, to bridge the gap between July 1 and December 1 of each year, thus avoiding the payment of interest and discounts on warrants for current expenses during that 5-month period. In addition, the last inventory shows a property accumulation, less depreciation, of $21,445.

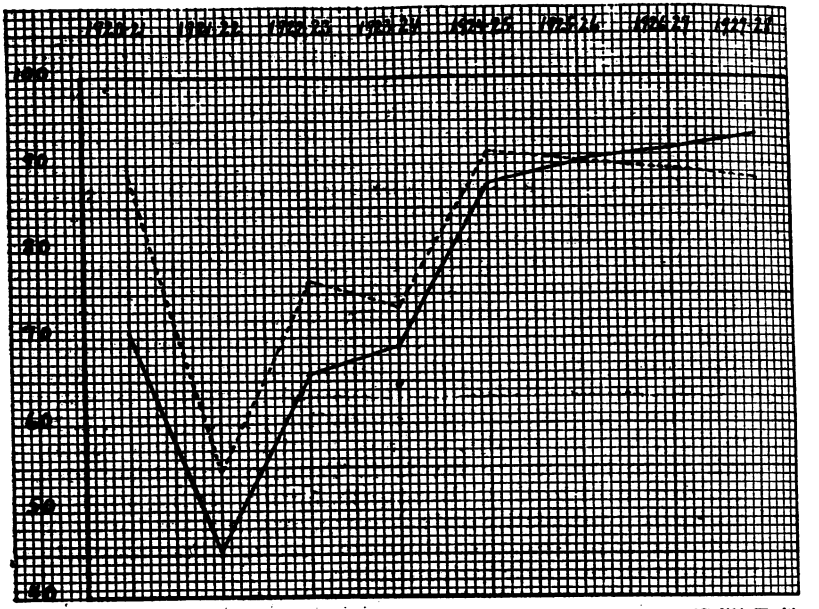

FIG. 1.—Expenditures for health conservation, 1920–1928, San Joaquin County (Calif.) Health District. (Dotted line shows "cents per capita;" solid line, "thousands of dollars")

(6) Transportation expense, on 18 district-owned small coupés, for the 4-year period ending June 30, 1927, amounted to 3.49 cents per mile for operation (which includes insurance, garage rentals, gas and oil, repairs, and tires) and 1.58 cents per mile depreciation, a total of 5.07 cents. This according to dealers constitutes a new low record for fleet operation.

(7) The method of bookkeeping permits of segregation of costs for any division or piece of work, and since the beginning all expenditures have been budgeted as is now demanded by the Boggs County budget act passed by the last legislative assembly. All purchases are made through the county purchasing agent, who has been good enough to act in the same capacity for the district.

(8) All in all, the district affairs are conducted in the same manner as is any private business. In fact, the opinion is hazarded that few private and corporate businesses are conducted any more economically or efficiently.

RESULTS

The test of efficiency of public-health work is reduction in death and sickness rates. As an index of this accomplishment, the following principal rates for the years 1922 (the year before the district was organized) and 1927 (after five years of operation) are shown in contrast: [18]

	1922	1927
Crude death rate (per 1,000 population)	14. 4	12. 17
Infant death rate (per 1,000 living births)	73. 7	61. 7
Maternal death rate (per 1,000 living births)	20. 6	6. 7
Diarrhea and enteritis death rate (in infants under 2 years, per 100,000 population)	33. 3	10. 7
Typhoid death rate (per 100,000 population)	16. 2	2. 9
Diphtheria death rate (per 100,000 population)	19. 5	2. 9
Tuberculosis death rate (per 100,000 population)	191. 5	139. 8

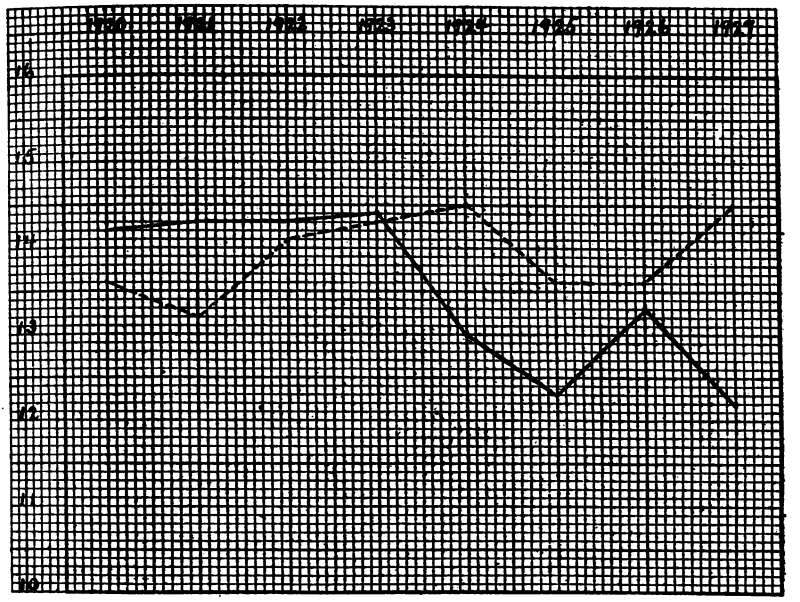

FIG. 2.—Deaths from all causes per 1,000 population, 1920–1927, inclusive. (Solid line represents the San Joaquin County (Calif.) Health District rate; dotted line, the California State rate)

Comment.—(1) The reduction in the crude death rate from an average of 144 per 10,000 persons (which average had prevailed for a decade previously and excluding the influenza epidemic year) to 121 per 10,000 in 1927 meant a difference of 230 funerals in one year, and on a conservative basis of 10 cases for each death, of 2,300 cases of bedfast illness. If each funeral entails an expense of $200 (the advisory committee on burial survey found an average cost in 36 States of $363), and each illness an average expense of $100 for medical and hospital care and loss of time and wages, this constitutes a saving of $276,000 to citizens, or three times the annual cost of the department. (Fig. 2.)

(2) The infant death rate, despite a large Mexican and oriental population, has shown steady reduction over the entire district. The city of Stockton alone

[18] Stockton State Hospital population and deaths excluded.

has shown more radical improvement. For the years 1916–1920, an average city rate of 85 was maintained; from 1921 to 1925 this average dropped to 71, in 1926 to 60.3, and in 1927 to 48.3—a rate comparable to coast cities with reputed more favorable climates. To this fall and also to the decline in deaths from diarrhea and enteritis, the registration of 3,500 to 4,000 babies and preschool children each year in five health centers where mothers may bring them for free examination and feeding advice has no doubt contributed, as does also the improvement in milk supplies. (Fig. 3.) General public education and prenatal instruction of expectant mothers has resulted in fewer deaths of mothers in childbirth.

(3) Typhoid fever, which was perennial in island districts and which gave to these districts an unsavory reputation as a living place, has been so greatly reduced that delta landowners are now able to say to colonists that residence

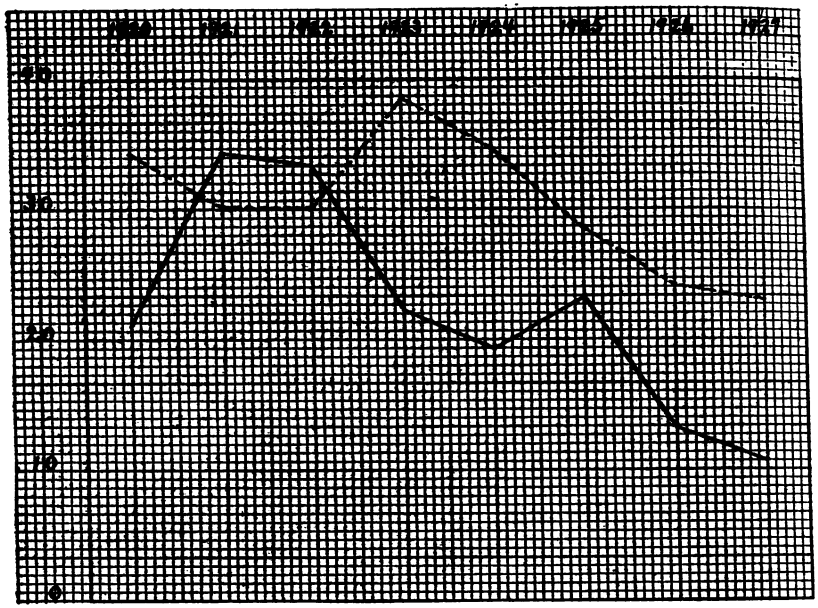

FIG. 3.—Deaths per 100,000 population from diarrhea and enteritis in infants under 2 years of age, 1920–1927, inclusive. Solid line represents the San Joaquin County (Calif.) Health District rate; dotted line the California State rate)

in these districts is no more prejudicial to health than in other rural districts. (Fig. 4.)

(4) Diphtheria, once a reproach to the county, has declined so markedly that San Joaquin County is now being quoted in the literature and moving-picture films of a large industrial insurance company as an example of what can be done in diphtheria elimination. The fact that Stockton, a city of over 50,000 population, completed three years without a death from the disease received nation-wide publicity.

(5) The only death rate in which the district can take little pride is that of tuberculosis; and while reduction has been shown and the present rates compare fairly well with the California State rate (140.7 in 1927), there is not the improvement in comparison to preventive effort put forth. It emphasizes the great

need for more advanced facilities in treatment, and it is felt that the new Bret Harte Sanatorium will go far toward supplying this need.

(6) Not only has there been reduction in deaths, but an actual lengthening of life. The percentage of deaths in those who lived past the half-century mark has increased each year, from 49.9 per cent in 1923 to 57.2 in 1927. As might be expected from a concerted community effort to conserve infant and child life, the greatest reduction of deaths under 50 years occurred in the first decade of life (17.5 per cent in a 5-year period). The greatest increase of deaths in any 10-year age group occurred in those between the ages of 70 to 79 (39.8 per cent in five years). This approaches normal existence. (Fig. 5.)

OTHER ACTIVITIES

(1) The sanitary division reports that 95 per cent of all meat in the county is sold under inspection. Market milk supplies are rated by the State department

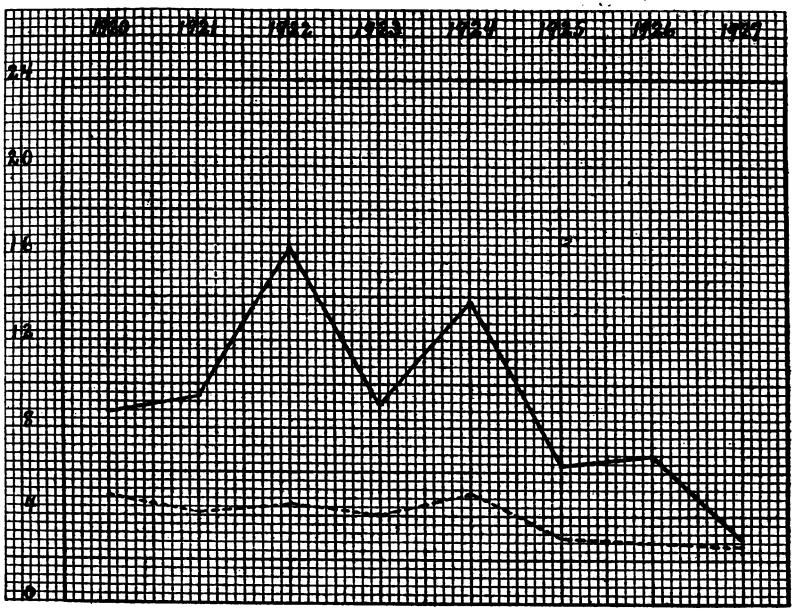

FIG. 4.—Deaths per 100,000 population from typhoid fever, 1920–1927, inclusive. (Solid line represents the San Joaquin County (Calif.) Health District rate; dotted line, the California State rate)

of agriculture as among the highest in quality. An average of 18,000 visits of inspection of every variety are made by the six members of that division every year.

(2) Public health nursing includes every kind of service. Twelve field nurses last year made over 36,000 home and school visits in the control of communicable disease, sickness relief, and health instruction.

(3) The laboratory not only serves physicians and their patients in diagnosis and treatment of contagious diseases but also is constantly engaged in supervision of milk, food, and water supplies, and is called upon frequently by livestock owners for diagnosis of anthrax and rabies. Vigilance in this last phase has prevented stock epidemics and losses. An average of 10,000 specimens are examined each year.

(4) The division of children's dentistry in four years (the present fiscal year is not tabulated) served 20,608 children (largely rural) and performed 45,000 operations, such as cleanings, extractions, fillings, and other treatments, all free charge. The total cost of the division for the period was $27,175. There was rendered, on a minimum estimate, $56,500 worth of service, an average of of $2.52 to each child. The cost averaged $1.24 per child and 56¼ cents per operation.

(5) The district health-center activities require no special analysis. Free immunization and vaccinations against diphtheria, smallpox, typhoid fever, and other diseases each year return to the public fully one-third of the entire cost of the department. Social-hygiene or venereal-disease clinics administer over 10,000 treatments a year and the value of these alone approximate the annual cost of the department. Accessibility and public knowledge of these clinics doubtless contribute to a low venereal-disease incidence, shown by a recent survey

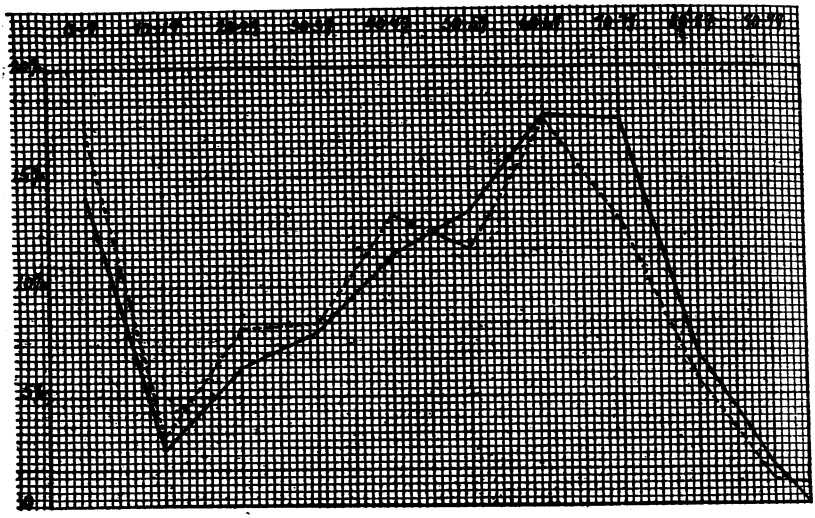

FIG. 5.—Comparison of all deaths by 10-year age groups for the years 1923 and 1927, in the San Joaquin County (Calif.) Health District. (Dotted line is for the year 1923; solid line, for the year 1927)

to be only 37½ per cent of the average throughout the United States. Included in the list of extensive activities of these centers are infant-feeding and well-baby conferences, preschool and school-children conferences, mental-hygiene work, diagnostic chest clinics, crippled children activities, and others.

(6) The health department is so coordinated with social relief, the juvenile court, the general hospital, children's home, day nurseries, and other social agencies as to facilitate all these lines of endeavor and to simplify public-welfare costs.

It is conceded that public-health service does cost money—so do fire and police departments. While the latter two serve to some extent as life-savers, it must be admitted that they are more largely concerned with the protection of property. Property can be replaced; human life can not. San Joaquin citizens believe in health conservation as a matter of economy as well as of humanitarianism.

General Progress in Rural Health Work

Progress in the development of whole-time rural (county) health service in the United States continued in the fiscal year 1928. According to data[19] collected by the rural sanitation office from the State health departments, the number of counties or equivalent divisions provided with local health service reaching all rural sections thereof, under the direction of whole-time county or district health officers, was 414 at the beginning of the calendar year 1928, as compared with 337, 307, 280, 250, 230, 202, 161, and 109 at the beginning of the calendar years 1927, 1926, 1925, 1924, 1923, 1922, 1921, and 1920, respectively. The gain of 305 within this 8-year period, though much less than it might have been had means been provided for a larger degree of cooperation from the Federal and State official agencies, is significant.

The prospects are good for a better rate of progress in this vitally important field in the next eight years. Our public-health administrators generally now appear convinced that local official health service under the direction of a whole-time local health officer is the most essential element in the development of an adequate system of effective and economical public health service in the United States, and that most of the work of the Federal and State health agencies should be conducted with and through such local health departments. The principle of cooperative rural health work appears sound in theory and is successful in practice. State health departments in increasing number from year to year are obtaining authorization and appropriations to enable them more nearly to do their due and proportionate part in the development and maintenance of whole-time county health service.

The progress made in the construction of good public roads, in the provision of improved public school facilities, and in other important governmental enterprises in our rural communities generally within the last 25 years furnishes a basis of optimism for an increased rate of development from now on in efficient, economical, whole-time official county health service in this country.

It appears at this time that of all the fields of activity in which governmental and other agencies may operate for the promotion of the welfare of our people no other field offers greater net advantages than does that of rural health service. In view of the results accomplished in the demonstration projects and the needs of the situation, there is reason to expect a more active and constructive interest in the development and maintenance of well-balanced comprehensive whole-time county health service than has been manifested heretofore. With a marked increase in such service, there would no longer

[19] Reprint No. 1220 from Public Health Reports of Apr. 13, 1928.

be an excuse for the numerous makeshifts or expedients in rural health work programs which, though comparatively expensive and ineffective, are now supported by many of our public-health minded citizens.

During the flood disasters in the Mississippi Valley in the spring and summer of 1927, the advantages of previously operating whole-time county health departments were definitely demonstrated. In the flood-stricken counties provided with such departments the whole-time health officers, as a rule, performed with remarkable promptness and efficiency in the organization of working forces and in the carrying out of measures for both immediate and postflood sanitary protection of the stricken people. The contrast between this work in the minority of the counties which had whole-time county health departments and in those not so provided stood out sharply. Since the flood, cooperating agencies, including the United States Public Health Service, the Rockefeller Foundation, and the State health departments directly concerned, have undertaken to develop whole-time county health departments in the (approximately) 90 flood-stricken counties which did not have such organizations at the time of the flood. This undertaking has been attended with a number of practical difficulties, such as obtaining comparatively small appropriations from the hard-pressed county governments for the support of the budgets and securing promptly satisfactory personnel to fill the positions in the county health departments for which financial provision has been made.

Notwithstanding the difficulties of development, a large majority (over three-fourths) of the so-called "flood counties" are now provided with whole-time health service under the direction of whole-time county health officers. In the average project the work is being carried out with a good degree of efficiency and with results remarkably appreciated by the citizens generally of the counties immediately benefited. In the summer of 1928, flood disasters again occurred in the Mississippi Valley. They reached about 25 per cent of the area flooded in 1927 and in many of the communities were even more devastating than those of the preceding year. The flood disasters of the summer of 1928 were given comparatively little general publicity. One reason for this may have been the organized local health service which could perform more promptly, more efficiently, and much more economically than was possible for the emergency health force provided to help in the sanitary situation in this same region in 1927.

From all the evidence now at hand, the prophecy is made that if the health service now established in these flood counties be continued even at its present grade of efficiency for the next five years the net

economic gain from this health service will more than offset the economic loss from the Mississippi Valley flood of 1927.

It seems, from some points of view, that the cooperating agencies—the United States Public Health Service, the Rockefeller Foundation, and the several State health departments directly concerned—in bringing about by intensive persuasive efforts and by substantial financial assistance the establishment of a large number of whole-time county health service units in the "flood region" of the Mississippi Valley, have incurred a certain degree of responsibility and have developed an opportunity for the promotion generally of permanent progress in effective economical county health work. Most of the counties in this region are now, and for several years yet will be, but little if any better off, with respect to tax receipts and taxable resources, than they were in the summer of 1927. Unless the cooperating agencies continue to give substantial assistance to these projects for at least two or three years longer a discontinuance of the now effective health service in a large proportion of the projects seems inevitable. Such a failure would be in the nature of a disaster to the present residents of these counties, it would result in the loss of a service of a sort essential to the proper protection of the health and efficiency of the large force of laborers to be engaged for a period of years in the Federal Government's program of flood-control work in the Mississippi Valley, and it would tend to impede general progress in the development of efficient, economical, whole-time rural health service throughout the United States.

Whole-time county health departments as usually organized, in order to be satisfactorily effective in time of disaster, must be in full operation before the disaster. They can not, as a rule, be organized and put on an operating basis of high efficiency within a few days or even a few weeks to meet an unusual critical situation. In view of the preventable-disease disaster with which all the populated counties of the United States not provided with efficient health service are frequently or constantly visited, there appears ample cause for the employment of every reasonable and feasible means to bring about an increased rate of development of efficient whole-time county health service in every section of the United States.

Summary

The 109 cooperative projects in the fiscal year ended June 30, 1928, yielded results exceeding in value manyfold the cost of the work. Among the activities and results presented in the tabular statement (pp. 3156 to 3188), to which especial consideration may be given, are the following:

1. Public lectures presenting the principles and details of sanitation to over 480,099 persons.

2. Over 271,258 sanitary inspections of premises, with explanation of findings to occupants or owners of the properties.

3. Physical examination of over 300,910 school children of whom 193,023 were found to have incapacitating physical defects, with notification to parents or guardians of the defects found.

4. Exclusion from public schools of 20,501 children affected with communicable diseases—such as diphtheria, scarlet fever, measles, whooping cough, scabies, and pediculosis—or presenting evidence of being carriers of the contagions of such diseases. This was brought about through active cooperation of school-teachers with the county health departments, and it must have been a very considerable factor in preventing widespread infection.

5. Fifty-three thousand and fifty-five recorded treatments effecting correction of incapacitating physical defects among school children. These were brought about by written notification, to parents or guardians, of defects found, follow-up visits to homes of the children, making available proper clinical facilities, securing active cooperation of the local medical and dental professions, and other activities of the county or district health departments.

6. Bringing about treatments for correction of serious physical defects in 1,073 infants and 2,905 preschool children.

7. Treatments to correct iodine deficiency in 1,545 persons in endemic goiter districts.

8. Eighty-seven thousand three hundred and fifty-five visits to homes of cases of communicable disease to advise and show the afflicted households how to prevent spread of the infections.

9. Eleven thousand four hundred and eighty-three visits by health nurses or health officers to prenatal cases to advise and assist expectant mothers in carrying out hygienic and physiological measures making for healthy mothers and healthy babies.

10. Instruction of 3,616 midwives in cleanly and careful methods.

11. Thirty-two thousand nine hundred and fifty-six infants and children of preschool age examined and over 48,216 home visits by health nurses or health officers to demonstrate hygienic measures for the promotion of the health and the protection of the lives of infants.

12. One hundred and thirty-seven thousand five hundred and fifty-six persons given immunization injections for protection against typhoid fever.

13. One hundred and thirty-one thousand eight hundred and forty persons vaccinated against smallpox.

14. Ninety-six thousand six hundred and seven children treated with toxin-antitoxin mixture for immunization against diphtheria.

15. One hundred and twenty-nine thousand three hundred and forty-nine cows tuberculin tested, with elimination of reactors from

herds, to prevent communication of bovine tuberculosis to persons through the medium of milk.

16. Seven hundred and sixty-seven persons were treated effectively for relief from hookworm disease and for the prevention of the spread of the infection.

17. Marked reduction in the spread of malaria in hundreds of localities, with an aggregate population of several hundred thousand.

18. Thirty-five thousand six hundred and forty treatments to rid persons of venereal disease infection and prevent the spread of the infection.

19. Special examination of 7,894 persons for tuberculosis, of whom 1,902 were found with an active tubercular process and were advised to place themselves in the care of private physicians and to carry out hygienic measures. Eight hundred and eight of the positive cases were sent to institutions maintained in whole or in part for the treatment of tuberculosis.

20. Thirty-three thousand and eighty-three cases of dangerous communicable diseases quarantined to prevent the spread of infection in the local community, the State, and throughout the country.

21. The installation of 28,470 sanitary privies and 3,316 septic tanks at dwellings where previously there had been either insanitary privies or no toilets of any sort.

22. Twelve thousand three hundred and seventy-three privies repaired so as again to be of sanitary type.

23. Eleven thousand nine hundred and ninety-seven homes connected for the first time with sanitary sewers.

24. Nine thousand five hundred and twenty-eight homes provided with safe water supplies in place of contaminated water supplies.

25. Radical improvement of 1,854 public milk supplies (the milk from which was being distributed to a considerable extent through the channels of interstate commerce) to prevent the spread, through milk and milk products, of such infections as typhoid fever, scarlet fever, diphtheria, tuberculosis, septic sore throat, and infant diarrhea.

26. Six thousand nine hundred and seventy-four adult persons (most of them over 40 years of age) examined and advised about measures to conserve their health and prolong their lives.

Such activities and results indicate that the plan of the work is both comprehensive and effective. Considered from both a public health and an economic standpoint, the total result of such work stands in importance to our national welfare second to none other obtainable from equivalent investment of public funds.

PUBLIC HEALTH ENGINEERING ABSTRACTS

The New Factories Bill. C. Raimes. *Journal of the Royal Sanitary Institute*, vol. 48, No. 10, April, 1928, pp. 577–580. (Abstract by Leonard Greenburg.)

This contribution discusses briefly some of the provisions of the new factories bill which is expected to come before the next session of the British Parliament. It is expected that the provisions of this bill will make conditions in British factories more congenial and solve to some extent the strained relations between capital and labor. In general, according to the author of this paper, it seeks to remove from the control of the local authority much work which he has conducted since 1901.

The local authorities will continue to exercise certain rights of entry, in particular in the preparation, manufacture, and packing of food. This responsibility rests largely with the local authorities. It is to be noted, however, that if this bill becomes law it will be the first piece of legislation which has removed any premises except crown buildings from the control of the local authorities.

One section of the bill deals with the amount of cubic space required per worker and increases the requirements from 250 to 400 cubic feet. It also provides that only 14 feet of ceiling might be considered in making this computation.

The heating standard required by the new legislation is 60° F. The installation of thermometers is a requirement of the law. Ventilation is dealt with by the requirement that "a constant supply of fresh air is to be provided in each workroom." Lighting is discussed in one section of the new law. It is required that windows and skylights be kept clean.

It would appear that there is considerable overlapping of the work of the factory inspector and the sanitary inspector, a fact emphasized by Mr. Raimes. It seems obvious also from the contents of this paper that certain of the items in the legislation might with advantage be more clearly defined, such, for example, as "sufficiently lighted and ventilated" and "conveniently accessible."

The Anopheles Density Index in Malaria Research and Control Work. W. V. King. *Southern Medical Journal*, vol. 21, No. 9, September, 1928, pp. 763–767. (Abstract by M. A. Barber.)

The author calls attention to the value, in any malaria investigation, of the *Anopheles* density index and gives directions as to the proper method of obtaining such index. In the vicinity of the field station of the Bureau of Entomology at Mound, La., the numbers of *Anopheles* found under the houses of tenants on cotton plantations afford a good basis for determining density indices. The author illustrates, by a series of charts and tables which exhibit the anopheline density, indices of several plantations near Mound for different months of the year and for various years. A remarkable fall in the density of the region is recorded for the three years following 1923, a diminution due to droughts. The highest monthly index occurs in July. The flood of 1926 destroyed much of the aquatic vegetation in the lakes near Mound, and it may be some years before the normal production of *Anopheles* is reestablished there.

Further Results in Mosquito Proofing Barracks. J. B. Hanafin. *Journal of the Royal Army Medical Corps*, vol. 51, No. 2, August, 1928, pp. 127–130. (Abstract by Arthur P. Miller.)

Data are first presented to show the difference in admissions for malaria among troops occupying mosquito-proofed barracks and those occupying nonproofed ones, both groups of barracks being at the same station—namely, Lahore Cantonments. As an example of the data, from the British infantry living in nonproofed barracks in 1924 there were taken 236 cases of malaria, an admission rate of 482.62 per 1,000; of the same group living in proofed buildings in 1927, 13 admissions were made, giving a comparable rate of 45.61. In making this

comparison it is stated that the malaria incidence at Lahore in 1927 was relatively low. Substantially the same data are produced for the troop cantonment at Amritsar.

The author cites the advantages of screening as (1) freedom from annoyance of biting insects and from the inconvenience of mosquito nets and (2) better utilization of the breeze produced by fans because of less interrupted access to the body. On the other hand, the disadvantages are given as (1) original and upkeep cost limits application and (2) slight interference with ventilation.

This article is a continuation of one which appeared in the October, 1927, issue of the *Journal*.

Salt Marsh Mosquitoes: Some Phases of the Problem in Southern States, T. H. D. Griffitts. *Southern Medical Journal*, vol. 21, No. 9, September, 1928, pp. 767–769. (Abstract by M. A. Barber.)

Certain kinds of mosquitoes, although not carriers of disease, may so "irritate, pester, torment, worry, depopulate and almost devastate" mankind and his possessions that their destruction should be promoted in every way by sanitary authorities. Among the most troublesome are the salt-marsh mosquitoes of the South Atlantic and Gulf coasts of the United States. Congress has made appropriations for preliminary mosquito surveys of the salt marshes of these coasts and these appropriations have been continued through the fiscal year of 1928. The author is in charge of these surveys, with headquarters at Biloxi, Miss. He has followed the plan of making a thorough study of the bionomics of marsh mosquitoes in certain typical localities, and has supplemented this study by more or less rapid surveys over the whole coastal region. Of the various methods of control investigated, that of a chemical poison directed against the eggs or larvæ of the mosquitoes seems to offer the best hope of success.

Studies on the Bionomics of American Anopheles. The Alimentation of Anopheline Larvæ and its Relation to their Distribution in Nature. Mark F. Boyd and Helen Foot. *Journal of Preventive Medicine*, vol. 2, No. 3, May, 1928, pp. 219–242. (Abstract by J. H. O'Neill.)

This article presents a study of the relation of the distribution of anopheline larvæ in different collections of water and of the character and kind of food materials available. Results of examination of intestinal contents of larvæ and comparisons of these findings and of the presence of certain plankton in water from which larvæ were collected are given in great detail.

In spite of the fact that the larvæ of *A. quadrimaculatus* are characteristically found in the water of ponds of situations with an imperceptible current, while the larvæ of *A. punctipennis* are similarly found in water which is in motion, the studies indicate that these species do not differ in the food elements which they withdraw from the water or upon which they subsist. The conclusion is drawn that the distribution of *A. quadrimaculatus* and *A. punctipennis* is not controlled by nutritional factors, and that other causes, perhaps of a thermal character, exercise an important influence.

Discovery of Anopheline Breeding Places. Anon. *The Lancet*, No. 5465, vol. 214 (No. 21 of vol. 1, 1928), May 26, 1928, pp. 1080–1081. (Abstract by W. L. Havens.)

The detection of breeding places of anopheline vectors is very difficult in a malarial area. The late Dr. S. T. Darling, from an examination of enlarged spleens in children, found the incidence highest near the river and mosquito larvæ were found in pools in the low land adjacent to the river. Recent investigations lend no weight to the belief that the percentage of male anopheles in any shelter has a relationship to its distance from breeding places.

DEATHS DURING WEEK ENDED NOVEMBER 17, 1928

Summary of information received by telegraph from industrial insurance companies for the week ended November 17, 1928, and corresponding week of 1927. (From the Weekly Health Index, November 21, 1928, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Nov. 17, 1928	Corresponding week, 1927
Policies in force	72, 210, 265	69, 548, 945
Number of death claims	12, 618	13, 622
Death claims per 1,000 policies in force, annual rate	9. 1	10. 2

Deaths from all causes in certain large cities of the United States during the week ended November 17, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, November 21, 1928, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Nov. 17, 1928		Annual death rate per 1,000 corresponding week, 1927	Deaths under 1 year		Infant mortality rate, week ended Nov. 17, 1928 [2]
	Total deaths	Death rate [1]		Week ended Nov. 17, 1928	Corresponding week, 1927	
Total (68 cities)	7,292	12.5	12.3	689	682	55
Akron	46			8	3	87
Albany [3]	42	18.2	16.1	4	1	82
Atlanta	77	15.8	17.4	9	7	
White	40		12.5	2	4	
Colored	37	(4)	28.9	7	3	
Baltimore [3]	229	14.4	15.6	25	20	79
White	172		13.3	14	12	56
Colored	57	(4)	29.0	11	8	172
Birmingham	60	14.1	14.6	7	10	60
White	32		12.6	4	7	55
Colored	28	(4)	17.9	3	3	68
Boston	229	15.0	14.9	17	32	47
Bridgeport	37			0	9	0
Buffalo	144	13.5	14.8	15	13	64
Cambridge	29	12.1	10.9	1	4	18
Camden	28	10.8	14.1	2	1	32
Canton	10	4.5	5.1	2	0	48
Chicago [3]	689	11.4	11.4	69	57	59
Cincinnati	136	17.2	19.7	11	15	66
Cleveland	182	9.4	8.8	18	15	49
Columbus	95	16.7	11.8	4	6	37
Dallas	48	11.5	11.3	8	11	
White	37		10.8	5	10	
Colored	11	(4)	15.2	3	1	
Dayton	55	15.6	13.0	8	5	132
Denver	95	16.9	11.9	18	9	
Des Moines	31	10.7	8.4	2	1	33
Detroit	307	11.6	9.2	50	27	77
Duluth	24	10.7	6.4	0	1	0
El Paso	33	14.6	13.3	2	5	
Erie	32			4	3	82
Fall River [3]	29	11.3	11.0	1	2	17
Flint	24	8.4	5.5	3	4	38
Fort Worth	26	8.1	8.3	1	2	
White	22		8.0	1	2	
Colored	4	(4)	10.6	0	0	
Grand Rapids	35	11.1	7.4	2	1	30
Houston	66	(4)		5	6	
White	48			3	3	
Colored	18			2	3	
Indianapolis	111	15.2	16.0	6	10	46
White	90		15.7	5	9	44
Colored	21	(4)	18.6	1	1	61
Jersey City	69	11.1	12.3	8	8	60
Kansas City, Kans	30	13.3	8.9	0	4	0
White	21		8.1	0	2	0
Colored	9	(4)	12.3	0	2	0
Kansas City, Mo	75	10.0	13.9	3	12	21

(Footnotes at end of table.)

Deaths from all causes in certain large cities of the United States during the week ended November 17, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927—Continued.

City	Week ended Nov. 17, 1928		Annual death rate per 1,000 corresponding week, 1927	Deaths under 1 year		Infant mortality rate, week ended Nov. 17, 1928 [2]
	Total deaths	Death rate [1]		Week ended Nov. 17, 1928	Corresponding week, 1927	
Knoxville	27	13.4	7.7	4	4	87
White	24		5.2	4	3	97
Colored	3	(4)	25.6	0	1	0
Los Angeles	268			16	14	46
Louisville	94	14.9	9.4	7	8	59
White	67		8.8	6	5	57
Colored	27	(4)	12.8	1	3	69
Lowell	25	11.9	13.2	2	10	42
Lynn	20	9.9	8.5	4	2	101
Memphis	70	19.2	17.8	8	5	94
White	38		13.5	5	1	94
Colored	32	(4)	25.5	3	4	94
Milwaukee	110	10.6	9.6	16	12	71
Minneapolis	94	10.8	14.2	7	12	42
Nashville	52	19.6	20.1	7	4	110
White	33		16.3	7	2	149
Colored	19	(4)	29.5	0	2	0
New Bedford	31	13.6	7.9	3	1	65
New Haven	23	6.4	6.8	2	4	28
New Orleans	169	20.6	15.6	11	16	53
White	95		12.9	5	6	36
Colored	74	(4)	23.2	6	10	87
New York	1,342	11.7	12.0	121	119	49
Bronx Borough	158	8.7	9.6	14	16	42
Brooklyn Borough	420	9.5	10.8	39	44	39
Manhattan Borough	561	16.7	16.4	52	49	62
Queens Borough	148	9.1	8.4	10	9	40
Richmond Borough	55	19.1	10.7	6	1	108
Newark, N. J	84	9.3	12.2	9	16	46
Oakland	71	13.5	13.1	7	5	76
Oklahoma City	41			8	0	
Omaha	45	10.6	11.2	4	9	46
Paterson	33	11.9	9.4	6	2	104
Philadelphia	516	13.1	14.4	49	57	66
Pittsburgh	157	12.2	16.7	27	13	88
Portland, Oreg	55			2	3	21
Providence	72	13.1	9.5	9	5	78
Richmond	41	11.0	14.1	4	6	52
White	23		11.9	3	4	61
Colored	18	(4)	19.7	1	2	37
Rochester	83	13.2	10.4	7	5	57
St. Louis	212	13.1	13.0	7	19	23
St. Paul	56	11.6	10.8	3	7	29
Salt Lake City [3]	34	12.9	10.0	7	1	114
San Antonio	48	11.5	15.3	9	11	
San Diego	37	16.2	21.7	7	4	133
San Francisco	178	15.9	10.7	5	2	31
Schenectady	22	12.3	14.0	1	1	31
Seattle	76	10.4	11.3	3	1	31
Somerville	25	12.7	7.2	3	2	104
Spokane	35	16.8	13.4	1	2	26
Springfield, Mass	28	9.8	10.6	1	2	16
Syracuse	48	12.6	11.1	3	3	36
Toledo	83	13.9	8.5	4	2	38
Trenton	28	10.5	20.6	6	0	102
Washington, D. C	159	15.1	13.3	9	10	51
White	104		10.6	5	7	41
Colored	55	(4)	21.4	4	3	74
Waterbury	13			2	2	58
Wilmington, Del	28	11.4	14.4	3	5	79
Worcester	40	10.6	10.1	0	6	0
Yonkers	15	6.5	11.9	3	3	68
Youngstown	39	11.7	8.6	4	3	53

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.
[3] Deaths for week ended Friday, Nov. 16, 1928.
[4] In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

PREVALENCE 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

CURRENT WEEKLY STATE REPORTS

These reports are preliminary and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended November 17, 1928, and November 19, 1927

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 17, 1928, and November 19, 1927

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927
New England States:								
Maine	9	5	2	6	66	51	1	0
New Hampshire	1	----	13	----	13	----	0	----
Vermont	2	----	----	----	75	----	0	0
Massachusetts	94	135	5	8	380	311	2	3
Rhode Island	22	15	----	----	58	----	0	1
Connecticut	25	46	2	10	115	30	0	0
Middle Atlantic States:								
New York	207	365	[1] 16	[1] 15	367	173	21	0
New Jersey	145	201	10	11	78	46	2	1
Pennsylvania	200	289	----	----	622	444	1	0
East North Central States:								
Ohio	117	111	18	5	206	36	5	1
Indiana	46	75	10	9	39	13	0	0
Illinois	226	237	26	15	116	45	9	4
Michigan	95	129	3	4	38	90	4	4
Wisconsin	20	37	51	11	73	60	6	2
West North Central States:								
Minnesota	23	48	----	1	22	1	0	3
Iowa	19	15	----	----	----	3	0	0
Missouri	84	74	4	7	76	11	7	3
North Dakota	8	3	----	----	6	11	1	0
South Dakota	4	1	1	1	1	10	1	0
Nebraska	46	17	----	4	2	3	0	0
Kansas	47	42	----	4	7	36	0	0
South Atlantic States:								
Delaware	1	2	----	----	1	11	0	0
Maryland [2]	47	48	14	28	28	45	0	0
District of Columbia	73	18	1	3	----	1	0	0
West Virginia	43	35	4	8	25	12	1	1
North Carolina	188	133	----	----	31	611	0	0
South Carolina	102	73	1,008	495	3	159	0	0
Georgia	39	43	100	89	46	37	1	0
Florida	22	37	----	2	----	----	0	1
East South Central States:								
Kentucky	49	----	----	----	----	----	0	----
Tennessee	41	70	25	53	----	103	1	0
Alabama	109	93	152	80	24	12	0	2
Mississippi	32	51	----	----	----	----	1	1

[1] New York City only.

[2] Week ended Friday.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 17, 1928, and November 19, 1927—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927
West South Central States:								
Arkansas	19	31	102	78	1	8	2	0
Louisiana	25	40	42	15	29	12	0	0
Oklahoma [3]	100	132	58	53	5	59	0	1
Texas	64	108	43	60	15	8	2	0
Mountain States:								
Montana	3	1	33	----	49	1	3	1
Idaho	1	2	----	----	5	1	1	0
Wyoming	7	4	----	----	1	8	0	0
Colorado	31	30	----	----	4	1	2	2
New Mexico	4	10	2	----	----	11	0	0
Arizona	10	23	----	----	----	8	1	0
Utah [2]	2	10	25	5	2	1	0	3
Pacific States:								
Washington	17	13	3	----	26	86	4	2
Oregon	20	16	52	17	13	17	0	0
California	109	183	3,192	11	11	66	1	7

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927
New England States:								
Maine	1	3	23	41	3	0	2	1
New Hampshire	0	----	24	----	0	----	0	----
Vermont	0	2	15	1	0	0	0	0
Massachusetts	0	30	182	247	0	0	12	14
Rhode Island	0	3	17	16	0	0	0	0
Connecticut	1	6	36	69	0	0	0	5
Middle Atlantic States:								
New York	9	15	276	309	2	5	32	45
New Jersey	0	3	74	127	0	0	14	8
Pennsylvania	3	21	252	389	0	0	35	39
East North Central States:								
Ohio	8	27	228	246	14	9	18	20
Indiana	0	7	101	114	7	41	7	4
Illinois	2	17	302	283	26	37	18	28
Michigan	3	11	237	213	26	7	8	14
Wisconsin	1	5	158	141	28	17	5	0
West North Central States:								
Minnesota	9	6	99	148	3	0	2	3
Iowa	2	4	69	37	14	19	0	2
Missouri	1	6	96	75	13	75	24	18
North Dakota	2	1	37	46	0	12	5	0
South Dakota	3	5	11	52	3	3	1	1
Nebraska	0	4	70	50	20	11	1	5
Kansas	1	2	0	83	24	20	8	6
South Atlantic States:								
Delaware	0	0	6	1	0	0	2	1
Maryland [2]	0	2	41	50	0	0	16	21
District of Columbia	2	0	11	23	0	1	2	2
West Virginia	4	13	70	56	3	6	20	20
North Carolina	1	1	148	140	5	11	8	20
South Carolina	1	3	19	46	3	8	15	34
Georgia	0	0	42	28	0	0	12	14
Florida	0	0	11	7	0	1	0	2
East South Central States:								
Kentucky	2	----	99	----	0	----	16	----
Tennessee	0	8	52	59	2	2	21	30
Alabama	0	0	53	36	3	0	19	13
Mississippi	0	1	23	35	1	11	10	5

[1] New York City only.
[2] Week ended Friday.
[3] Figures for 1928 are exclusive of Oklahoma City and Tulsa and for 1927 are exclusive of Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 17, 1928, and November 19, 1927—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927	Week ended Nov. 17, 1928	Week ended Nov. 19, 1927
West South Central States:								
Arkansas	0	4	32	17	0	3	14	10
Louisiana	0	1	28	18	5	3	15	9
Oklahoma [1]	0	2	60	43	26	40	33	28
Texas	1	6	38	66	10	6	6	25
Mountain States:								
Montana	2	2	52	22	31	6	1	0
Idaho	0	3	4	15	7	14	0	0
Wyoming	0	0	24	20	19	1	0	2
Colorado	0	2	20	47	2	12	2	2
New Mexico	0	3	11	7	0	0	0	8
Arizona	0	0	1	10	1	0	3	2
Utah [1]	0	1	13	8	13	45	1	1
Pacific States:								
Washington	8	11	49	32	18	11	4	4
Oregon	1	33	24	22	58	38	2	5
California	4	26	148	169	8	8	4	15

[1] Week ended Friday.
[2] Figures for 1928 are exclusive of Oklahoma City and Tulsa, and for 1927 are exclusive of Tulsa.

Report for Week Ended November 3, 1928

RHODE ISLAND

	Cases
Diphtheria	19
Influenza	5
Measles	11
Scarlet fever	12

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
May, 1928										
New Hampshire	0	6	41	----	----	----	0	58	0	0
September, 1928										
Hawaii Territory	2	35	129	----	11	----	0	11	0	6
October, 1928										
Arkansas	0	116	181	1,086	18	102	3	123	2	76
Louisiana	1	127	35	203	31	35	0	54	5	83
Maryland	1	149	31	1	76	----	20	166	0	128
Minnesota	7	144	7	----	142	1	42	354	5	35
New Hampshire	0	4	37	----	----	----	3	36	0	4
New York	110	632	----	20	806	----	124	661	2	411
Ohio	22	453	59	5	361	----	44	780	41	141
Tennessee	4	311	123	288	9	24	3	206	5	240
West Virginia	1	142	41	----	63	----	31	287	10	122
Wyoming	0	17	----	----	5	----	0	93	22	3

September, 1928

Hawaii Territory:	Cases
Chicken pox	1
Conjunctivitis	12
Hookworm disease	4
Impetigo contagiosa	1
Leprosy	7
Mumps	9
Plague	2
Tetanus	1
Trachoma	10
Whooping cough	10

October, 1928

Actinomycosis:	
Maryland	1
Chicken pox:	
Arkansas	44
Louisiana	5
Maryland	110
Minnesota	747
New York	1,008
Ohio	1,188
Tennessee	58
West Virginia	119
Wyoming	86
Dengue:	
Louisiana	1
Dysentery:	
Louisiana	2
Maryland	17
Minnesota	1
New York	11
Ohio	1
Tennessee	12
German measles:	
Maryland	5
New York	77
Ohio	20
Wyoming	1
Hookworm disease:	
Arkansas	3
Louisiana	17
Impetigo contagiosa:	
Maryland	19
Lead poisoning:	
Ohio	25
Leprosy:	
Minnesota	1
Lethargic encephalitis:	
Maryland	2
Minnesota	4
New York	22
Ohio	2
Tennessee	2
Mumps:	
Arkansas	31
Louisiana	1
Maryland	65
Mumps—Continued	Cases.
New York	355
Ohio	188
Tennessee	14
Wyoming	23
Ophthalmia neonatorum:	
Louisiana	1
Maryland	2
New York	1
Ohio	102
Tennssee	6
Paratyphoid fever:	
Arkansas	1
New York	4
Ohio	4
Tennessee	4
Puerperal fever:	
New York	3
Ohio	3
Rabies in animals:	
Maryland	9
New York	8
Rabies in man:	
Louisiana	1
Ohio	1
Septic sore throat	
Maryland	4
New York	6
Ohio	74
Tetanus:	
Louisiana	7
Maryland	4
New York	10
Ohio	2
Trachoma:	
Arkansas	6
New York	3
Ohio	16
Tularæmia:	
Wyoming	1
Typhus fever:	
New York	2
Undulant fever:	
Maryland	1
New York	3
Ohio	1
Vincent's angina:	
Maryland	10
New York	65
Wyoming	2
Whooping cough:	
Arkansas	57
Louisiana	24
Maryland	311
Minnesota	138
New York	1,033
Ohio	717
Tennessee	74
West Virginia	69
Wyoming	8

PATIENTS IN INSTITUTIONS FOR THE CARE OF EPILEPTICS, APRIL TO JUNE, 1928

Reports for the second quarter of the year 1928 have been received by the Public Health Service from 11 institutions for the care and treatment of epileptics, located in 11 States. The total number of

patients in these institutions on June 30, 1928, including those on parole or otherwise absent, but still on the books, was 7,582.

The first admissions were as follows:

	Male	Female	Total
April	45	43	88
May	71	42	113
June	52	26	78
Total	168	111	279

This table is a continuation of the table which appears on page 1863 of the PUBLIC HEALTH REPORTS of July 13, 1928, as the same institutions are included in both tables.

Of the new admissions during the three months, 60.2 per cent were males, and 39.8 per cent females, giving a ratio of 151 males per 100 females. During the three months 111 patients were discharged, 75 males and 36 females. Seventy-three male patients and 53 female patients died. The annual death rates, based on the estimated number of patients on the books the middle of May, were—Males, 73.9 per 1,000; females, 60.3 per 1,000; persons, 67.5 per 1,000.

There was a steady increase in the number of patients on parole during the first six months of the year. On January 31, 1928, 5.1 per cent of the total number of patients were paroled, while on June 30, 7.4 per cent were reported on parole.

The following table shows, for the 11 institutions, the numbers of patients in hospitals and on parole, and the percentage of the total on parole at the end of each month.

Epileptics in 11 hospitals and on parole from these hospitals, January to June, 1928

	Jan. 31, 1928	Feb. 29, 1928	Mar. 31, 1928	Apr. 30, 1928	May 31, 1928	June 30, 1928
Patients in hospitals:						
Male	3,656	3,670	3,685	3,688	3,679	3,664
Female	3,324	3,348	3,364	3,373	3,383	3,357
Total	6,980	7,018	7,049	7,061	7,062	7,021
Patients on parole:						
Male	242	255	252	267	322	360
Female	130	130	137	154	165	201
Total	372	385	389	421	487	561
Total patients on books:						
Male	3,898	3,925	3,937	3,955	4,001	4,024
Female	3,454	3,478	3,501	3,527	3,548	3,558
Total	7,352	7,403	7,438	7,482	7,549	7,582
Per cent of total patients on parole:						
Male	6.2	6.5	6.4	6.8	8.0	8.9
Female	3.8	3.7	3.9	4.4	4.7	5.6
Total	5.1	5.2	5.2	5.6	6.5	7.4

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 98 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 31,140,000. The estimated population of the 94 cities reporting deaths is more than 30,940,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended November 10, 1928, and November 12, 1927.

	1928	1927	Estimated expectancy
Cases reported			
Diphtheria:			
43 States	2,450	2,903	----
98 cities	916	1,257	1,256
Measles:			
42 States	1,713	2,231	----
98 cities	430	564	----
Poliomyelitis:			
43 States	107	320	----
Scarlet fever:			
43 States	3,110	3,107	----
98 cities	981	877	949
Smallpox:			
43 States	267	429	----
98 cities	20	93	27
Typhoid fever:			
43 States	469	597	----
98 cities	57	88	78
Deaths reported			
Influenza and pneumonia:			
94 cities	614	654	----
Smallpox:			
94 cities	0	1	----
Houston, Tex	0	1	----

City reports for week ended November 10, 1928

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1919 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Population July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases, reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND									
Maine:									
Portland	76,400	2	2	1	1	1	26	2	1
New Hampshire:									
Concord	[1] 22,546	0	0	0	0	0	0	0	1
Manchester	84,000	0	4	0	0	0	0	0	1
Vermont:									
Barre	[1] 10,008	0	0	0	0	0	0	2	
Burlington	[1] 24,089	3	0	0	0	0	0	1	0
									0

[1] Estimated, July 1, 1925.

City reports for week ended November 10, 1928—Continued

Division, State, and city	Population July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases, reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND—con.									
Massachusetts:									
Boston	787,000	44	48	17	3	0	1	2	13
Fall River	131,000	2	4	1	0	0	105	0	0
Springfield	145,000	3	4	10	0	0	34	3	2
Worcester	193,000	7	7	1	0	0	1	0	4
Rhode Island:									
Pawtucket	71,000	0	1	0	0	0	0	0	1
Providence	275,000	0	11	10	0	0	7	0	4
Connecticut:									
Bridgeport	(2)	2	9	8	1	1	0	0	4
Hartford	164,000	0	8	5	0	0	0	23	3
New Haven	182,000	7	2	0	0	0	1	0	3
MIDDLE ATLANTIC									
New York:									
Buffalo	544,000	21	19	12	1	1	3	3	11
New York	5,924,000	99	168	103	22	11	58	28	137
Rochester	321,000	7	10	3	-------	0	7	6	1
Syracuse	185,000	13	8	2	-------	0	8	0	8
New Jersey:									
Camden	131,000	1	10	7	0	0	1	0	1
Newark	459,000	36	13	36	3	1	2	15	6
Trenton	134,000	1	4	1	0	0	0	1	1
Pennsylvania:									
Philadelphia	2,008,000	65	78	39	0	8	3	2	30
Pittsburgh	637,000	55	40	20	0	3	0	11	17
Reading	114,000	12	4	0	0	0	5	0	3
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	411,000	7	18	15	0	2	0	0	13
Cleveland	960,000	120	66	19	5	2	34	9	16
Columbus	285,000	10	15	1	1	1	2	0	6
Toledo	295,000	129	16	2	0	0	5	0	3
Indiana:									
Fort Wayne	99,900	3	5	2	0	0	0	0	0
Indianapolis	367,000	115	13	3	0	0	0	0	4
South Bend	81,700	7	3	1	0	0	1	0	0
Terre Haute	71,900	0	3	1	0	0	0	0	1
Illinois:									
Chicago	3,048,000	148	96	144	9	4	24	2	38
Springfield	64,700	8	3	0	0	0	0	0	0
Michigan:									
Detroit	[3] 1,242,044	147	83	59	2	1	8	18	24
Flint	136,000	23	13	0	0	0	0	0	6
Grand Rapids	156,000	20	5	3	0	1	2	2	0
Wisconsin:									
Kenosha	52,700	9	3	0	0	0	1	0	0
Milwaukee	517,000	137	32	8	5	3	13	3	8
Racine	69,400	20	2	0	0	0	2	0	0
Superior	[1] 39,671	0	1	2	0	0	0	0	2
WEST NORTH CENTRAL									
Minnesota:									
Duluth	113,000	21	2	0	0	0	0	16	1
Minneapolis	434,000	157	34	9	0	0	10	14	9
St. Paul	248,000	48	18	2	0	0	0	2	6
Iowa:									
Davenport	[1] 52,469	3	2	0	0	-------	0	0	-------
Des Moines	146,000	0	6	1	0	-------	0	0	-------
Sioux City	78,000	13	3	1	0	-------	1	21	-------
Waterloo	36,900	11	0	4	0	-------	0	10	-------
Missouri:									
Kansas City	375,000	13	12	4	0	0	7	7	5
St. Joseph	78,400	3	3	1	0	1	0	0	4
St. Louis	830,000	37	15	51	0	0	1	2	-------
North Dakota:									
Fargo	[1] 26,403	16	0	0	0	0	0	0	0
Grand Forks	[1] 14,811	0	0	0	0	-------	0	0	-------

[1] Estimated, July 1, 1925. [2] No estimate made. [3] Special census.

City reports for week ended November 10, 1928—Continued

Division, State, and city	Population July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
WEST NORTH CENTRAL—continued									
South Dakota:									
Sioux Falls	[1] 30,127	0	0	1	0	----	0	0	----
Nebraska:									
Omaha	216,000	7	10	33	0	0	1	1	5
Kansas:									
Topeka	56,500	24	3	2	0	0	2	0	0
Wichita	92,500	0	8	1	0	0	0	0	2
SOUTH ATLANTIC									
Delaware:									
Wilmington	124,000	0	3	0	0	0	12	0	3
Maryland:									
Baltimore	808,000	33	36	14	6	0	2	17	17
Cumberland	[1] 33,741	2	1	0	0	0	6	0	0
Frederick	[1] 12,035	0	0	0	0	0	0	0	0
District of Columbia:									
Washington	528,000	7	23	44	0	0	4	0	6
Virginia:									
Lynchburg	[3] 38,493	3	4	9	0	0	0	2	0
Norfolk	174,000	7	6	2	0	0	1	1	3
Richmond	189,000	1	23	27	0	0	0	0	0
Roanoke	61,900	0	6	12	0	0	0	0	0
West Virginia:									
Charleston	50,700	5	3	2	0	0	0	0	1
Wheeling	[1] 56,208	5	4	0	0	1	6	18	0
North Carolina:									
Raleigh	[1] 30,371	1	3	7	0	1	0	0	2
Wilmington	37,700	0	1	0	0	0	0	0	0
Winston-Salem	71,800	3	6	8	0	0	0	0	1
South Carolina:									
Charleston	74,100	0	2	2	17	1	0	0	1
Columbia	41,800	0	2	0	0	0	0	1	1
Greenville	[1] 27,311	1	2	0	0	0	0	0	0
Georgia:									
Atlanta	[2]	1	12	9	33	1	1	1	5
Brunswick	[1] 16,809	----	0	----	----	----	----	----	----
Savannah	94,900	0	3	0	5	0	0	0	0
Florida:									
Miami	[3] 131,286	0	2	1	0	0	2	2	0
St. Petersburg	[3] 47,629	----	0	----	----	0	----	----	0
Tampa	102,000	0	3	2	0	0	0	0	2
EAST SOUTH CENTRAL									
Kentucky:									
Covington	58,500	0	3	1	0	0	0	0	1
Louisville	311,000	3	9	2	2	0	1	1	6
Tennessee:									
Memphis	177,000	4	14	9	0	0	0	0	4
Nashville	137,000	2	7	4	0	2	0	0	6
Alabama:									
Birmingham	211,000	2	8	15	10	3	0	1	6
Mobile	66,800	0	2	3	1	0	0	0	5
Montgomery	47,000	0	3	2	1	----	0	0	----
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	[1] 31,643	1	2	1	0	----	0	0	----
Little Rock	75,900	0	4	3	0	1	0	1	0
Louisiana:									
New Orleans	419,000	0	13	14	4	2	0	0	14
Shreveport	59,500	2	2	2	0	0	1	0	0
Oklahoma:									
Oklahoma City	[2]	0	6	11	6	1	0	0	3
Tulsa	133,000	6	6	26	0	----	0	1	----
Texas:									
Dallas	203,000	4	18	34	3	3	0	0	2
Fort Worth	159,000	1	----	13	0	0	0	2	2
Galveston	49,100	0	0	0	0	0	1	0	0
Houston	[1] 164,954	0	7	7	0	1	0	0	3
San Antonio	205,000	0	5	7	0	2	0	1	3

[1] Estimated, July 1, 1925. [2] No estimate made. [3] Special census.

City reports for week ended November 10, 1928—Continued

Division, State, and city	Population, July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
MOUNTAIN									
Montana:									
Billings	[1] 17,971	2	0	0	0	0	0	0	1
Great Falls	[1] 29,883	69	1	0	0	0	17	0	0
Helena	[1] 12,037	2	0	0	0	0	1	0	0
Missoula	[1] 12,668	0	0	0	0	0	0	0	0
Idaho:									
Boise	[1] 23,042	0	0	0	0	0	0	0	0
Colorado:									
Denver	285,000	18	15	8	--------	1	1	19	6
Pueblo	43,900	3	4	0	0	0	0	0	1
New Mexico:									
Albuquerque	[1] 21,000	1	0	0	0	0	0	0	1
Utah:									
Salt Lake City	133,000	72	4	0	0	2	1	15	1
Nevada:									
Reno	[1] 12,665	0	0	0	9	0	0	0	2
PACIFIC									
Washington:									
Seattle	[2]	23	7	2	0	--------	0	3	--------
Spokane	109,000	71	3	5	0	--------	13	0	--------
Tacoma	106,000	10	4	1	0	0	0	23	2
Oregon:									
Portland	[1] 282,383	24	11	11	0	1	13	2	2
California:									
Los Angeles	[2]	15	49	16	98	0	1	12	25
Sacramento	73,400	4	2	3	4	0	1	17	3
San Francisco	567,000	12	18	4	716	12	2	4	7

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	2	9	0	0	0	0	0	1	0	3	17
New Hampshire:											
Concord	0	0	0	0	0	1	0	0	0	0	8
Manchester	1	7	0	0	0	1	0	0	0	0	14
Vermont:											
Barre	0	0	0	0	0	0	0	0	0	0	3
Burlington	1	2	0	1	0	0	0	0	0	0	2
Massachusetts:											
Boston	47	36	0	0	0	13	2	2	0	14	216
Fall River	3	4	0	0	0	0	0	1	0	7	21
Springfield	5	8	0	0	0	1	0	0	0	4	28
Worcester	9	8	0	0	0	0	0	0	0	3	45
Rhode Island:											
Pawtucket	1	1	0	0	0	1	0	0	0	0	14
Providence	7	7	0	0	0	1	0	0	0	8	55
Connecticut:											
Bridgeport	7	0	0	0	0	1	0	0	0	4	37
Hartford	5	2	0	0	0	0	0	0	0	1	40
New Haven	6	1	0	0	0	1	1	0	0	2	55
MIDDLE ATLANTIC											
New York:											
Buffalo	20	13	0	0	0	10	0	0	0	19	153
New York	101	84	0	0	0	92	19	12	2	32	1,367
Rochester	6	0	0	0	0	1	1	0	0	10	62
Syracuse	9	3	0	0	0	2	0	1	0	39	56

[1] Estimated, July 1, 1925. [2] No estimate made.

City reports for week ended November 10, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
MIDDLE ATLANTIC—continued											
New Jersey:											
Camden	4	5	0	0	0	0	0	0	0	8	18
Newark	13	7	0	0	0	7	1	1	1	20	86
Trenton	1	2	0	0	0	4	0	0	0	0	37
Pennsylvania:											
Philadelphia	65	45	0	0	0	21	6	0	2	47	474
Pittsburgh	39	33	0	0	0	9	1	1	2	10	176
Reading	2	3	0	0	0	0	0	0	0	9	34
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	13	18	0	0	0	6	0	0	0	8	141
Cleveland	27	15	0	0	0	12	2	1	0	62	195
Columbus	10	6	0	0	0	6	1	0	0	1	87
Toledo	13	7	0	0	0	3	1	0	0	15	71
Indiana:											
Fort Wayne	2	0	0	0	0	1	1	0	1	0	30
Indianapolis	12	14	2	0	0	5	1	4	0	9	77
South Bend	4	1	0	0	0	2	0	0	0	2	17
Terre Haute	4	2	1	0	0	1	0	0	0	0	15
Illinois:											
Chicago	95	95	1	4	0	46	5	1	1	70	661
Springfield	3	17	0	0	0	0	0	0	0	3	19
Michigan:											
Detroit	67	103	1	0	0	27	3	1	0	103	290
Flint	10	13	0	1	0	1	1	0	0	7	19
Grand Rapids	9	8	0	5	0	0	0	0	0	22	39
Wisconsin:											
Kenosha	1	6	0	0	0	0	0	0	0	4	11
Milwaukee	18	54	1	1	0	7	0	0	0	44	122
Racine	4	0	0	0	0	1	1	0	0	10	12
Superior	3	4	0	0	0	1	0	0	0	0	20
WEST NORTH CENTRAL											
Minnesota:											
Duluth	7	16	0	0	0	0	0	0	0	0	15
Minneapolis	44	15	1	1	0	3	1	0	0	19	104
St. Paul	19	15	4	1	0	5	1	0	0	26	51
Iowa:											
Davenport	0	0	0	0	-------	-------	0	0	-------	1	-------
Des Moines	11	19	1	0	-------	-------	0	0	-------	0	30
Sioux City	3	1	0	0	-------	-------	0	0	-------	4	-------
Waterloo	2	25	0	0	-------	-------	0	0	-------	4	-------
Missouri:											
Kansas City	11	12	1	0	0	11	1	0	0	11	89
St. Joseph	4	2	1	0	0	1	0	0	0	0	26
St. Louis	34	22	0	1	0	13	3	2	0	26	198
North Dakota:											
Fargo	3	3	0	0	0	1	0	0	0	1	4
Grand Forks	1	1	0	0	-------	-------	0	0	-------	1	-------
South Dakota:											
Sioux Falls	3	3	0	0	-------	-------	0	0	-------	0	2
Nebraska:											
Omaha	5	5	2	0	0	1	0	0	0	0	54
Kansas:											
Topeka	3	8	1	0	0	0	0	0	0	4	14
Wichita	6	6	0	0	0	0	1	0	0	5	27
SOUTH ATLANTIC											
Delaware:											
Wilmington	4	0	0	0	0	1	1	0	0	0	24
Maryland:											
Baltimore	17	18	0	0	0	9	4	2	0	47	215
Cumberland	1	1	0	0	0	0	0	1	1	0	9
Frederick	0	2	0	0	0	0	0	0	0	0	2

City reports for week ended November 10, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
SOUTH ATLANTIC—continued											
District of Columbia:											
Washington	17	13	0	0	0	12	2	1	0	47	144
Virginia:											
Lynchburg	1	3	0	0	0	0	0	2	0	0	9
Norfolk	3	0	0	0	0	1	0	0	0	2	----
Richmond	10	6	0	0	0	3	0	1	0	5	39
Roanoke	3	2	0	0	0	0	0	0	0	0	15
West Virginia:											
Charleston	2	2	0	0	0	1	0	0	1	4	16
Wheeling	3	1	0	0	0	1	0	0	0	1	20
North Carolina:											
Raleigh	2	0	0	0	0	1	0	0	0	0	13
Wilmington	1	2	1	0	0	0	0	0	0	0	8
Winston-Salem	3	7	0	0	0	1	0	0	0	2	15
South Carolina:											
Charleston	1	2	0	0	0	2	1	1	0	0	32
Columbia	1	2	0	0	0	0	0	0	0	0	18
Greenville	2	1	0	0	0	1	0	0	0	3	5
Georgia:											
Atlanta	6	15	1	0	0	7	1	----	----	1	77
Brunswick	0	----	0	----	----	----	0	----	----	----	----
Savannah	1	2	0	0	0	0	0	1	1	0	39
Florida:											
Miami	1	0	0	0	0	2	0	0	0	0	24
St. Petersburg	0	----	0	----	0	1	0	----	0	----	11
Tampa	1	2	0	0	0	3	0	0	0	0	34
EAST SOUTH CENTRAL											
Kentucky:											
Covington	3	2	0	0	0	0	0	0	0	0	28
Louisville	6	9	0	0	0	2	1	0	0	2	90
Tennessee:											
Memphis	6	5	0	0	0	8	2	0	0	0	70
Nashville	3	2	0	0	0	3	2	1	2	5	46
Alabama:											
Birmingham	4	11	1	0	0	5	0	5	0	12	65
Mobile	1	0	0	0	0	0	0	0	0	0	23
Montgomery	1	3	0	0	----	----	0	0	----	0	----
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	1	1	0	0	----	----	1	0	----	0	----
Little Rock	2	12	0	0	0	2	0	0	0	0	----
Louisiana:											
New Orleans	5	12	0	0	0	10	2	4	0	0	146
Shreveport	2	1	0	0	0	0	1	0	1	0	20
Oklahoma:											
Oklahoma City	2	3	0	0	0	1	1	0	0	0	32
Tulsa	2	0	0	2	----	----	0	0	----	3	----
Texas:											
Dallas	6	7	0	0	0	1	1	5	0	2	45
Fort Worth	2	5	0	4	0	2	0	0	0	2	30
Galveston	0	3	0	0	0	0	0	1	0	0	9
Houston	3	4	0	1	0	3	0	0	0	0	50
San Antonio	2	4	0	0	0	7	1	0	0	1	57
MOUNTAIN											
Montana:											
Billings	0	0	0	0	0	0	0	0	0	1	7
Great Falls	1	1	1	0	0	2	0	0	0	0	11
Helena	0	0	0	0	0	0	0	0	0	0	8
Missoula	1	1	1	0	0	0	0	0	0	0	8
Idaho:											
Boise	0	0	0	0	0	0	0	0	0	0	6
Colorado:											
Denver	10	5	0	0	0	10	0	0	0	2	66
Pueblo	1	0	0	0	0	1	1	2	0	0	13

City reports for week ended November 10, 1928—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
MOUNTAIN—contd.											
New Mexico:											
Albuquerque	1	2	0	0	0	4	0	0	0	0	13
Utah:											
Salt Lake City	2	2	0	1	0	0	1	1	0	0	24
Nevada:											
Reno	1	1	0	0	0	0	0	0	0	0	7
PACIFIC											
Washington:											
Seattle	9	3	2	1	----	----	2	0	----	12	----
Spokane	8	6	4	0	----	----	0	0	----	2	----
Tacoma	2	3	1	4	0	1	0	0	0	2	22
Oregon:											
Portland	9	6	4	16	0	5	1	0	0	0	69
California:											
Los Angeles	19	20	3	0	0	35	2	1	0	57	260
Sacramento	2	23	1	0	0	1	0	0	0	6	26
San Francisco	11	11	0	1	0	8	1	0	0	11	167

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Maine:									
Portland	1	0	0	0	0	0	0	0	0
Massachusetts:									
Boston	1	0	0	0	0	0	2	1	0
Rhode Island:									
Providence	0	0	0	0	0	0	1	2	0
Connecticut:									
Hartford	0	0	0	0	0	0	0	1	0
MIDDLE ATLANTIC									
New York:									
New York	17	6	4	0	0	0	8	5	1
New Jersey:									
Newark	0	0	2	0	0	0	0	0	0
Pennsylvania:									
Philadelphia	1	0	0	0	0	0	0	0	0
EAST NORTH CENTRAL									
Ohio:									
Cleveland	2	3	0	0	0	0	1	2	1
Indiana:									
Fort Wayne	0	0	0	0	0	0	0	1	0
Illinois:									
Chicago	6	1	1	0	1	1	1	2	0
Michigan:									
Detroit	2	3	0	0	0	0	1	0	0
Wisconsin:									
Milwaukee	1	2	0	0	0	0	0	0	0
Racine	0	0	1	1	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Minneapolis	1	1	0	0	0	0	0	0	0
St. Paul	0	0	0	0	0	0	0	1	1
Iowa:									
Des Moines	0	0	0	0	0	0	0	2	0

City reports for week ended November 10, 1928—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
WEST NORTH CENTRAL—con.									
Missouri:									
St. Louis	1	0	0	0	0	0	1	1	0
North Dakota:									
Fargo	1	0	0	0	0	0	0	2	0
Grand Forks	0	0	0	0	0	0	0	1	0
Nebraska:									
Omaha	1	0	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Virginia:									
Norfolk	0	0	0	0	1	0	0	0	0
Roanoke	0	0	0	0	0	2	0	0	0
North Carolina:									
Winston-Salem	0	0	0	0	0	2	0	0	0
South Carolina:									
Charleston [1]	0	0	0	0	1	0	0	0	0
Georgia:									
Savannah [2]	0	0	0	0	4	1	0	0	0
Florida:									
Tampa	0	0	0	0	0	1	1	0	0
EAST SOUTH CENTRAL									
Alabama:									
Birmingham	0	0	0	0	1	0	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Little Rock	0	0	1	0	0	0	0	0	0
Louisiana:									
New Orleans	0	0	0	0	1	1	0	0	0
Texas:									
Dallas	0	0	0	0	1	1	0	0	0
Galveston	0	0	0	0	0	1	0	0	0
Houston	0	0	0	0	0	1	0	0	0
San Antonio	0	0	0	0	0	0	0	1	0
MOUNTAIN									
Montana:									
Billings	0	0	0	0	0	0	0	1	0
Missoula	2	1	0	0	0	0	0	0	0
Colorado:									
Denver	1	1	0	0	0	0	0	0	0
Utah:									
Salt Lake City	0	1	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle	0	0	0	0	0	0	0	2	0
Spokane	2	0	0	0	0	0	0	2	0
Tacoma	0	0	0	0	0	0	0	2	0
Oregon:									
Portland	0	0	0	0	0	0	0	2	0
California:									
San Francisco	0	0	0	0	0	1	0	0	0

[1] Dengue: 3 cases at Charleston, S. C. [2] Typhus fever: 1 case at Savannah, Ga.

The following table gives the rates per 100,000 population for 101 cities for the 5-week period ended November 10, 1928, compared with those for a like period ended November 12, 1927. The population figures used in computing the rates are approximate estimates as

of July 1, 1928 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 31,657,000 in 1928 and 31,050,000 in 1927. The 95 cities reporting deaths had nearly 30,961,000 estimated population in 1928 and nearly 30,370,000 in 1927. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, October 7 to November 10, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	Oct. 13, 1928	Oct. 15, 1927	Oct. 20, 1928	Oct. 22, 1927	Oct. 27, 1928	Oct. 29, 1927	Nov. 3, 1928	Nov. 5, 1927	Nov. 10, 1928	Nov. 11, 1927
101 cities	116	144	[2] 125	170	131	195	[3] 140	213	[4] 153	[5] 215
New England	124	128	145	123	156	135	90	114	122	160
Middle Atlantic	83	123	84	142	98	190	110	225	109	204
East North Central	111	138	[2] 133	199	154	232	169	261	169	253
West North Central	136	119	127	129	158	139	[3] 145	194	210	160
South Atlantic	198	202	235	193	179	191	226	184	[4] 243	189
East South Central	190	157	190	167	155	259	170	152	180	208
West South Central	208	252	196	265	172	294	220	318	272	294
Mountain	44	197	62	152	27	99	71	99	71	278
Pacific	79	154	72	219	66	151	64	141	79	[5] 224

MEASLES CASE RATES

101 cities	32	50	[2] 39	54	52	70	[3] 58	77	[4] 73	[5] 96
New England	69	133	179	186	244	191	338	242	402	342
Middle Atlantic	27	53	19	64	25	72	33	72	42	124
East North Central	31	17	[2] 24	21	41	18	39	29	57	27
West North Central	49	14	76	22	49	34	[3] 68	14	43	16
South Atlantic	37	69	32	45	63	106	46	132	[4] 56	135
East South Central	10	127	10	51	0	203	10	233	5	76
West South Central	0	54	0	37	8	21	8	21	8	12
Mountain	53	18	71	72	124	63	80	9	177	18
Pacific	18	57	41	50	43	91	15	78	43	[5] 76

SCARLET FEVER CASE RATES

101 cities	115	96	[2] 110	117	114	145	[3] 125	148	[4] 164	[5] 150
New England	138	130	152	151	117	212	131	200	175	205
Middle Atlantic	57	63	69	73	57	97	69	110	95	110
East North Central	153	108	[2] 137	127	151	166	172	173	223	177
West North Central	140	174	138	137	214	247	[3] 197	164	253	186
South Atlantic	135	90	114	161	107	168	116	159	[4] 143	182
East South Central	234	81	130	147	120	137	140	167	160	152
West South Central	96	87	72	79	76	124	136	149	176	103
Mountain	80	108	88	278	62	143	62	179	88	152
Pacific	97	97	151	136	179	97	148	141	169	[5] 117

SMALLPOX CASE RATES

101 cities	1	6	[2] 3	7	2	7	[3] 1	18	[4] 4	[5] 16
New England	0	0	0	0	2	9	0	0	0	0
Middle Atlantic	0	0	0	0	0	0	0	0	0	0
East North Central	2	5	[2] 3	0	3	0	0	6	7	4
West North Central	0	26	2	42	2	51	[3] 2	158	6	156
South Atlantic	0	2	0	7	0	0	2	14	[4] 0	5
East South Central	0	0	0	5	5	5	5	0	0	0
West South Central	4	4	0	0	4	0	4	4	4	4
Mountain	9	72	62	72	0	45	0	36	9	27
Pacific	5	16	10	21	15	16	5	18	15	[5] 3

[1] The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1928, and 1927, respectively.
[2] South Bend, Ind., not included.
[3] St. Joseph, Mo., not included.
[4] Brunswick, Ga., not included.
[5] Seattle, Wash., and Spokane, Wash., not included.

Summary of weekly reports from cities, October 7 to November 10, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927—Continued

TYPHOID FEVER CASE RATES

	Week ended—									
	Oct. 13, 1928	Oct. 15, 1927	Oct. 20, 1928	Oct. 22, 1927	Oct. 27, 1928	Oct. 29, 1927	Nov. 3, 1928	Nov. 5, 1927	Nov. 10, 1928	Nov. 11, 1927
101 cities	22	19	[2] 18	20	18	17	[3] 13	19	[4] 9	[5] 15
New England	16	16	7	16	16	19	7	16	9	16
Middle Atlantic	20	16	23	15	18	12	11	20	7	15
East North Central	11	18	[2] 7	16	10	13	5	7	5	9
West North Central	16	22	10	22	14	16	[3] 18	24	4	28
South Atlantic	35	27	40	32	40	22	32	31	[4] 16	20
East South Central	55	30	30	30	50	46	35	35	30	5
West South Central	28	29	8	29	24	37	20	58	40	33
Mountain	88	63	53	81	27	27	18	36	27	9
Pacific	26	8	13	16	13	16	5	5	3	[5] 7

INFLUENZA DEATH RATES

95 cities	7	6	[2] 10	9	10	8	[3] 9	9	[4] 13	8
New England	9	2	2	5	5	0	2	5	5	2
Middle Atlantic	4	8	7	7	8	4	5	8	12	9
East North Central	7	3	[2] 7	5	5	5	10	9	9	5
West North Central	2	2	8	12	8	6	[3] 6	10	2	2
South Atlantic	4	7	5	11	11	13	11	7	[4] 7	16
East South Central	10	11	31	27	5	43	21	16	26	16
West South Central	29	13	21	13	12	17	25	25	37	17
Mountain	9	9	62	18	44	27	18	18	27	18
Pacific	17	3	27	14	54	10	27	7	41	0

PNEUMONIA DEATH RATES

95 cities	79	71	[2] 102	77	86	91	[3] 86	89	[4] 91	104
New England	64	95	126	86	74	65	90	63	80	95
Middle Atlantic	94	72	124	75	92	92	83	87	105	113
East North Central	67	49	[2] 87	66	79	82	79	93	77	89
West North Central	43	60	51	64	41	68	[3] 69	62	65	75
South Atlantic	91	106	109	70	110	87	93	115	[4] 74	117
East South Central	105	48	94	133	131	117	131	117	146	144
West South Central	78	68	74	85	82	187	119	89	90	127
Mountain	115	117	62	143	124	143	97	117	97	143
Pacific	54	83	98	100	98	97	88	100	125	100

[2] South Bend, Ind., not included.
[3] St. Joseph, Mo., not included.
[4] Brunswick, Ga., not included.
[5] Seattle, Wash., and Spokane, Wash., not included.

Number of cities included in summary of weekly reports, and aggregate population of cities of each group, approximated as of July 1, 1928 and 1927, respectively

Group of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases		Aggregate population of cities reporting deaths	
			1928	1927	1928	1927
Total	101	95	31,657,000	31,050,300	30,960,700	30,369,500
New England	12	12	2,274,400	2,242,700	2,274,400	2,242,700
Middle Atlantic	10	10	10,732,400	10,594,700	10,732,400	10,594,700
East North Central	16	16	7,991,400	7,820,700	7,991,400	7,820,700
West North Central	12	10	2,683,500	2,634,500	2,566,400	2,518,500
South Atlantic	21	21	2,981,900	2,890,700	2,981,900	2,890,700
East South Central	7	6	1,048,300	1,028,300	1,000,100	980,700
West South Central	8	7	1,307,600	1,280,700	1,274,100	1,227,800
Mountain	9	9	591,100	581,600	591,100	581,600
Pacific	6	4	2,046,400	1,996,400	1,548,900	1,512,100

FOREIGN AND INSULAR

THE FAR EAST

Report for the week ended November 3, 1928.—The following report for the week ended November 3, 1928, was transmitted by the eastern bureau of the health section of the secretariat of the League of Nations, located at Singapore, to the headquarters at Geneva.

Plague, cholera, or smallpox was reported at the following ports:

PLAGUE

India.—Bombay, Rangoon.
Madagascar.—Tamatave.

CHOLERA

India.—Calcutta, Madras, Bombay.
Siam.—Bangkok.

SMALLPOX

India.—Bombay, Madras, Negapatam, Calcutta.
French India.—Pondicherry.
Dutch East Indies.—Belawan Deli, Batavia, Pontianak, Samarinda.
China.—Hong Kong, Shanghai.

CANADA

Provinces—Communicable diseases—Week ended November 10, 1928.—The department of pensions and national health reports cases of certain communicable diseases from six Provinces of Canada for the week ended November 10, 1928, as follows:

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Alberta	Total
Influenza	14						14
Lethargic encephalitis				1	1		2
Poliomyelitis			2	4		3	9
Smallpox			40	4	14		58
Typhoid fever		1	14	4	2		21

Quebec Province—Communicable diseases—Week ended November 10, 1928.—The bureau of health reports cases of certain communicable diseases for the week ended November 10, 1928, as follows:

Disease	Cases	Disease	Cases
Chicken pox	56	Poliomyelitis	2
Diphtheria	62	Scarlet fever	132
German measles	3	Smallpox	40
Influenza	42	Tuberculosis	44
Measles	41	Typhoid fever	14
Mumps	30	Whooping cough	8

Quebec Province—Smallpox—November 14, 1928.—An outbreak of mild smallpox was reported November 14, 1928, in Chicoutimi, Quebec Province, Canada. Several cases of this disease have also been reported from the regions of Montmagny County and St. Maurice, as well as from the town of Beauceville, but the provincial board of health has stated that the epidemic is well under control, although the disease is so mild that it is difficult to make patients and contacts realize how serious it may be.

CANARY ISLANDS

Laguna, Tenerife—Plague.—On October 26, 1928, four cases of plague were reported at Laguna, Island of Tenerife, Canary Islands.

CHINA

Plague—Shansi Province, Fengchow—October 13, 1928.—An outbreak of bubonic plague was reported at Fengchow, Shansi Province, October 13, 1928.

An article in the local press refers to the outbreak as of a particularly virulent type, with many deaths in the villages on both sides of the Yellow River.

EGYPT

Dengue fever—October, 1928.—It was reported October 19, 1928, that the city of Cairo was suffering from a severe epidemic of dengue fever, the disease having been carried over from Greece. The public health bureau has taken every precaution to prevent the spread of the fever and, in particular, has waged an active campaign against mosquitoes. It would seem that the epidemic had been mainly confined to Cairo, reports from Alexandria and other cities indicating that they have almost entirely escaped.

The health section of the secretariat of the League of Nations reports cases of dengue fever in Egypt for a part of the month of October, as follows:

Place	Date	Cases	Place	Date	Cases
	1928			*1928*	
Alexandria	Oct. 7–27	26	Ismailia	Oct. 1–14	11
Cairo	1–21	1,295	Port Said	1–14	23
Damietta	8–20	9	Provinces of Egypt	1–21	548

ITALY

Communicable diseases—July 30–August 12, 1928.—During the two weeks ended August 12, 1928, communicable diseases were reported in the Kingdom of Italy as follows:

Disease	July 30–Aug. 5		Aug. 6–12	
	Cases	Communes affected	Cases	Communes affected
Anthrax	91	64	89	55
Cerebrospinal meningitis	8	7	7	6
Chicken pox	71	47	33	27
Diphtheria	230	145	199	136
Dysentery	38	24	31	23
Lethargic encephalitis	2	2	4	4
Measles	1,030	284	836	209
Poliomyelitis	18	16	21	18
Scarlet fever	221	108	184	87
Smallpox			3	3
Typhoid fever	1,042	491	1,171	514

LATVIA

Communicable diseases—September, 1928.—During the month of September, 1928, communicable diseases were reported in Latvia as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	4	Poliomyelitis	1
Diphtheria	36	Puerperal fever	2
Dysentery	3	Scarlet fever	77
Erysipelas	11	Tetanus	2
Influenza	13	Trachoma	18
Leprosy	5	Typhoid fever	133
Measles	27	Whooping cough	38
Mumps	14		

SWITZERLAND

Vital statistics, 1926.—According to the Swiss Federal Bureau of Vital Statistics, in 1926, 23,285 males and 23,167 females died in Switzerland. The following table shows the deaths from the principal causes:

Deaths in Switzerland from Principal Causes, 1926

Cause	Males	Females	Cause	Males	Females
Accident	1,496	466	Communicable diseases—Con.		
Alcoholism (chronic)	387	83	Scarlet fever	12	15
Appendicitis	240	191	Tuberculosis	2,626	3,098
Cancer	2,654	2,702	Whooping cough	90	128
Communicable diseases:			Diabetes	146	213
Diphtheria	60	55	Diseases of the liver (mostly resulting from alcohol)	240	81
Influenza	372	426	Heart disease	2,324	3,248
Measles	68	64	Hernia	98	114
Meningococcus meningitis	21	11	Pneumonia	1,495	1,531
Poliomyelitis	12	4	Suicide	791	236
Puerperal fever		142			

VIRGIN ISLANDS

Communicable diseases—October, 1928.—During the month of October, 1928, communicable diseases were reported in the Virgin Islands as follows:

St. Thomas and St. John:	Cases	St. Croix:	Cases
Dengue	6	Dengue	3
Malaria	1	Diphtheria	1
Pellagra	1	Syphilis (secondary)	11
Syphilis (secondary)	1	Uncinariasis	5

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, health section of the League of Nations, and other sources. The reports contained in the following table 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

[C indicates cases; D, deaths; P, present]

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928 1	8	15	22	29	October, 1928 6	13	20	27	Nov. 3, 1928
Ceylon: Colombo	C					1											
	D					1											
China:																	
Canton	C	2		1	2	8	4		1							1	
	D	2		1	2	8	2		1								
Kwantung—Darien	C										3						
	D										1						
Shanghai	C						3	1	1								
	D									3			1	1	1		
Swatow	C				3	7											
Dutch East Indies: Java—Batavia	C						1										
India	C	21,279	32,564	30,177	31,346	44,240	52,786	9,449	9,032	7,617	6,168						
	D	11,877	20,432	20,162	20,114	23,216	26,967	5,046	4,895	4,272	3,518						
Bassein	D	51	41	40	8												
Bombay	C	3		1		6	9	3	2	1		9	4				
	D	3				11	5	2	2			2	3	2			
Calcutta	C	664	446	552	462	206	93	17	16	17	18	21	12	8			
	D	442	428	410	323	133	51	7	10	13	10	12	9	6	12	25	
Madras	C	10	22	27	29	72	555	65	49	25	10	57		23	17		
	D	4	18	16	21	31	271	34	33	15	6	27	25	12	9	31	
Madras Presidency	C	1,483		1,314	878												
	D	812		675	460												
Moulmein	D			1													
Negapatam	C										1						
	D		2		13		3		1	5	1	1					
Rangoon	C	22	23	7	14	1	13			1	1						
	D	16	15	5	9	1	8			1	1		1		1		
Tuticorin	C	10	110				1				1				1		
	D	9	71														
Vizagapatam	D					7	31	5									

India (French):																		
Chandernagor	C	7				2	7		2	1					16			
	D	6				1	3		1	1					7			
Karikal	C		1				30	14	13	11	3	4	4	1				
	D		1				21	8	9	7	2	3	4	1				
Pondicherry Province	C	1	8			3	114	49	20	35	28	18	3	5	5	4		
	D	1	8			3	60	23	17	18	14	10	1	3	5	4		
Indo-China (see also table below):																		
Pnompenh	C					5	2	1			2							
	D					5	2	1			1							
Saigon	C	96	116	15	6	2			2									
	D	59	76	9	1	1			1									
Tourane	C				1													
	D				1								1					
Japan: Osaka	C																	
Kwangchow-Wan (see table below).																		
Persian Gulf:																		
Island of Henjam	C					1												
Jask	C					1												
Philippine Islands:																		
Bulacan Province—																		
Malolos	C					1												
Paombong	C						1											
Cagayan Province	C					1												
	D						1											
Ballesteros	C					1	2											
	D					1												
Pamplona	C				1													
	D				1													
Sanchez-Mira	C				4													
	D				2													
Cebu (port)	C					1												
Ilocos Norte Province	C					1												
	D					1												
Manila	C					4	1											
Pangasinan Province—Bayambang	C					1												
	D					1												
Surigao Province—Surigao	C					1	3											
	D					1	2											
Siam	C	291	349	202	203	163	40	2	1	11	7	4	2					
	D	218	234	127	144	123	18			9	5	3		3	4	9	5	
Ayudhaya	C				2		29			1				2	4	8	3	
	D				1		26			1				1			1	
Bangkok	C	60	74	50	7	9	4	1	1		3	1	2	1				
	D	33	35	26	4	3					1			1				
Dhannapuri	C									3								
	D									3							9	
Smudsagara	C																5	
	D																	
Trad	C				1													
Straits Settlements: Singapore	C	2	1															
	D	2	1															

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

[C indicates cases; D, deaths; P, present]

CHOLERA—Continued

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928: 1	8	15	22	29	October, 1928: 6	13	20	27	Nov. 3, 1928
On vessel:																	
S. S. Glenapp, at Yokohama, from Shanghai	C										P						
S. S. Hawaii Maru at Singapore from Saigon, French Indo-China	C	11															
	D	7															
S. S. Kambangan at Batavia from Jeddah via Sabang and Palembang	C						1										
S. S. Tairea at Penang from Madras via Negapatam	C						P										

Place		January–March, 1928	April–June, 1928	July, 1928: 1–10	11–20	21–31	August, 1928: 1–10	11–20	21–31	September, 1928: 1–10	11–20	21–30	October, 1928: 1–10	11–20
Indo-China (French) (see also table above):														
Annam	C	389	128	8	5	3		4	7	2	2		4	5
Cambodia	C	312	418	92	25	38		19	19	15		1	6	19
Cochin-China	C	1,407	1,666	65	55	33		13	15	15	9	4	6	26
Tonkin	C	1	43	5	1	1		2						
Kwangchow-Wan	C		16		1				1					

PLAGUE

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928 1	8	15	22	29	October, 1928 6	13	20	27	November, 1928 3	10	17
Algeria (see also table below):																			
Algiers	C		1														2		
Oran	C			1	2									1					
Philippeville	C													2					
Arabia: Aden	C	651	224	7	1														
	D	529	191	9	1														
Argentina:																			
Avellaneda	C			1															
	D			1															
Buenos Aires [1]	C			6	1														
	D			3	2														
Catamarca Province— Recreo	C																	P	
Cordoba Province	C		5																
Canada Honda	C																	15	9
Entre Rios	C				5														
Loreto	C			3															
Rosario	C			1		1													
Santa Fe	C				9	1													
Santiago del Estero	C				10	1						7							
Suardi	C			2															
Azores: St. Michaels Island	C	3	5	1	1					1	1	1							
	D	2	2	1	1														
Belgian Congo: Djugu Ituri	C															2			
Bolivia: Valle Grande	C						P												
Brazil:																			
Bahia	C	28	6	3															
	D	21	6	3															
Rio de Janeiro	C	3																	
	D	3																	
British East Africa (see also table below):																			
Mombasa	C									1		1	1		1				
	D									1		1	1						
Tanganyika	C					6	1	4		4									
	D		10			29	1	4		4									
Uganda	C			84	105			13	61	28		18							
	D			70	85			13	37	24		17							

[1] Eleven plague-infected rats were reported at Buenos Aires, Argentina, from July 1 to Oct. 25, 1928.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928 1	8	15	22	29	October, 1928 6	13	20	27	November, 1928 3	10	17
Canary Islands:																			
Arrecife	C			1															
	D			1															
Lanzarote Village	C			1				1											
Las Palmas	C	4									2			1	1				
	D										1				1				
Palma Island	C						7												
	D						3												
Teneriffe	C								5						2				
	D								3										
Laguna	C															4			
Ceylon:																			
Colombo	C	7	1	4	2			1	1	1					2	1			
	D	5	1	2	2			1	1	1					1	1			
Jaffna	C														2				
	D														2				
China:																			
Amoy	C			5		P													
Hong Kong	C		2		1	1													
	D				1														
Mongolia—																			
Chien Chia Tien	C							P	P	P	P	P							
Tungliao	C								30	130	60	57	53	70	13	11	6		
Urga	C									P									
Shansi—																			
Fengchow	C													P					
Dutch East Indies:																			
Celebes—Makassar	C														1				
	D														1				
Plague-infected rats												4				2			
Java—																			
Batavia and West Java	C	80	47	65	61	32	46	2	17	15	15	12							
	D	80	47	65	61	32	46	2	17	15	15	12							
Plague-infected rats		3	7	9	4	2	2												

East Java and Madura	C	4	4			1	2		1											
	D	4	4			1	2		1											
Kedoe Residency	C		4			P														
Surabaya Residency	C	1	1										1							
	D	1	1										1							
Ecuador (see also table below):																				
Alausi	C			1																
Egypt:																				
Alexandria	C			1		2	1	1	1											
	D			2					1											
Amrieh District	C						26	4	1	1	5	1		P	1					
	D							2	2		1			P	1			1	1	
Assiout Province	C					2	2	1							1			1	1	
	D					1		1							1					
Beheira	C						2		3		2				1					
	D								1		1				1					
Beni-Suef	C		12	79	25	25	6	5	6	5										
	D		3	27	9	5	2	1	4											
Cairo	C						1											1		
	D																	1		
Dierout	C																			
	D																			
Girga	C							1	3	1										
	D							1	3											
Maghagha District	C		1																	
	D		1																	
Menufia	C			11														6	1	
	D			2																
Minieh Province	C		48	76	76	13														
	D		9	17	24	3														
Port Said	C					1	5													
	D							1												
Sidi Barani	C					12	10													
	D					8	1													
Suez	C	14	5	3			2													
	D	13	1																	
Plague-infected rats		2																5		
Tanta	C			1		2	2													
	D			1																
Greece:																				
Athens and Piræus	C										2	2	2	1					1	1
Corfu	C				15		1	1												
	D				3															
Patras	C					1	1		1											
	D					1														
Hawaii Territory: Hawaii:																				
Hamakua District—																				
Hamakua—Plague-infected rats				1			1													
Honokaa	D									1	1									
Plague-infected rats				1						1	3									
Kukuihaele	D						1													
Plague-infected rats						1														
Kukaiau—Plague-infected rats							3													
Paauilo	D					1	1													

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928 1	8	15	22	29	October, 1928 6	13	20	27	November, 1928 3	10	17
India	C	26,079	18,518	3,272	367	587	1,936	593	694	887	1,180	.....	.....	.....	.....	.....	.....	.....	.....
	D	20,907	17,074	3,183	345	340	1,037	292	299	457	525	.....	.....	.....	.....	.....	.....	.....	.....
Bassein	D	22	13	8	14	3	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bombay	C	69	43	39	14	1	8	.....	.....	6	1	1	.....	.....	4	1	.....	.....	.....
	D	61	69	38	8	1	6	.....	1	5	.....	1	.....	.....	.....	.....	.....	.....	.....
Plague-infected rats		.....	.....	.....	.....	.....	7	.....	7	13	.....	.....	.....	.....	13	.....	.....	.....	.....
Calcutta	D	2	.....	.....	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Madras Presidency	C	62	21	12	54	123	217	79	162	.....	76	88	.....	.....	.....	.....	.....	.....	.....
	D	48	12	6	25	51	105	36	75	.....	36	42	.....	.....	.....	.....	.....	.....	.....
Rangoon	C	30	16	14	31	43	28	4	7	2	4	.....	2	.....	.....	.....	.....	.....	.....
	D	26	14	15	28	39	26	3	7	1	4	.....	1	4	.....	.....	.....	.....	.....
Vizagapatam	D	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indo-China (see also table below):																			
Pnompenh	C	.....	.....	.....	.....	4	1	1	3	2	.....	.....	.....	1	.....	.....	.....	.....	.....
	D	.....	.....	.....	.....	4	1	1	2	1	.....	.....	.....	1	.....	.....	.....	.....	.....
Saigon	C	.....	.....	.....	5	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	D	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plague-infected rats		.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iraq:																			
Baghdad	C	5	11	13	9	1	.....	.....	.....	1	3	.....	.....	.....	.....	2	1	1	.....
	D	5	6	3	4	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	1	1	.....	.....
Plague-infected rats		.....	4	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dulaim Liwa	C	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kwangchow-Wan (see table below).																			
Madagascar (see also table below):																			
Tamatave	C	.....	.....	1	20	3	8	1	2	3	3	7	3	1	2	3	3	.....	.....
	D	.....	.....	.....	8	7	.....	.....	1	2	1	6	3	1	.....	.....	2	.....	.....
Nigeria (see also table below):																			
Lagos	C	7	17	28	43	53	51	14	9	14	23	28	20	23	17	24	.....	.....	.....
	D	6	18	28	42	52	52	14	9	14	22	28	20	23	17	21	.....	.....	.....
Plague-infected rats		.....	8	55	57	23	.....	.....	.....	.....	62	45	46	.....	.....	.....	.....	.....	.....
Paraguay: Asuncion	C	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....
	D	.....	.....	.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Peru (see table below).																				
Portugal: Lisbon	C				1															
Senegal (see also table below):																				
Thies and vicinity	C	8		72	52															
	D	4		40	40															
Siam	C	33	27	15	6	10														
	D	30	13	11	7	8														
Ayudhaya	C				2	2														
	D				1	2														
Bangkok	C	1	4																	
	D	1	2																	
Nagara	C			1	2															
Straits Settlements:																				
Ipoh	C										2									
	D										2									
Singapore	C	1																		
	D	1																		
Syria (see table below).																				
Tunisia Bengardane region	C	8																		
	D	6																		
Turkey:																				
Adalia	C					1									1					
Constantinople	C															1				
Union of South Africa: Orange Free State	C	5				P	P													
	D	5																		
Union of Socialist Soviet Republics:																				
Astrakhan—																				
Axary District	C				3															
	D				2															
Kirghiz District	D										54									
Krasnoiarsk District	D							1												
Chita District	C								1									7		
Ural Government	C																	7		
	D																			
On vessel:																				
S. S. Tymeric, at Barbados, from New Orleans	C			1																
S. S. Automedon, at Penang, Straits Settlements	C															P				

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

Place		January–March, 1928	April–June, 1928	July, 1928	August, 1928	September, 1928	October, 1928	November, 1928
Algeria (see also table above):								
Algiers	C	-------	1	------	------	------	------	------
British East Africa (see also table above):								
Kenya	C	65	86	97	144	15	3	------
	D	-------	5	------	34	------	------	------
Uganda	C	-------	------	176	152	128	------	------
	D	-------	------	151	141	98	------	------
Ecuador: Guayaquil	C	• 20	6	------	------	3	------	------
	D	8	2	------	------	------	------	------
Plague-infected rats		75	5	7	------	27	------	------
Indo-China (see table above)	C	12	36	7	2	5	2	------
Kwangchow-Wan	C	18	27	------	------	------	------	------
Madagascar (see also table above)	C	940	199	45	65	------	------	------
	D	864	184	33	61	------	------	------
Ambositra Province	C	202	68	4	3	------	------	------
	D	191	35	4	3	------	------	------
Antisirabe Province	C	281	68	11	------	------	------	------
	D	279	67	11	------	------	------	------
Itasy Province	C	55	1	------	------	------	------	------
	D	49	1	------	------	------	------	------
Majunga	C	-------	------	------	2	------	------	------
	D	-------	------	------	2	------	------	------
Moramanga Province	C	56	4	2	11	------	------	------
	D	55	4	2	10	------	------	------
Tamatave	C	-------	23	10	12	------	------	------
	D	-------	14	9	7	------	------	------
Tananarive Province	C	348	78	24	51	------	------	------
	D	292	82	23	51	------	------	------
Nigeria (see also table above)	C	41	91	53	------	------	------	------
	D	41	89	53	------	------	------	------
Peru	C	93	25	5	------	------	------	------
	D	23	6	2	------	------	------	------
Lima	C	6	4	------	------	------	------	------
	D	-------	2	------	------	------	------	------
Senegal (see also table above)	C	30	448	318	43	199	------	------
	D	17	246	164	32	127	------	------
Baol	C	-------	13	17	68	73	10	------
	D	-------	7	10	38	40	6	------
Cayor	C	-------	-------	40	46	20	17	------
	D	-------	-------	25	15	8	6	------
Fatick	C	-------	-------	------	------	------	35	------
	D	-------	-------	------	------	------	20	------
Rufisque	C	-------	46	18	2	1	38	------
	D	-------	31	7	------	1	9	------
Thies	C	-------	345	103	151	106	46	------
	D	-------	237	64	119	78	28	------
Tivaouane	C	-------	325	84	9	------	------	------
	D	-------	175	70	------	------	------	------
Syria: Beirut	C	-------	1	5	------	------	1	1

PLAGUE RATS ON VESSELS

Steamship *Sicily* at Liverpool from Buenos Aires and Rosario, June 8, 1928, seven plague-infected rats.

SMALLPOX

[C indicates cases; D, deaths; P, present]

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928 1	8	15	22	29	October, 1928 6	13	20	27	November, 1928 3	10
Algeria	C	3	12															
Algiers	C	5	4	5	15	3	8			2				2	2			
Oran	C	12	17	5	4	8	5							20	1			
Angola (see table below).																		
Arabia: Aden	C				11		1	1										
	D						1											
Brazil (see also table below):																		
Pernambuco (Recife)	D			1														
Rio de Janeiro	C	1				1												
	D	1																
British East Africa: Kenya—Mombasa	C	2	1									1						
British South Africa:																		
Northern Rhodesia	C	67	628	195	15	48	310	150	122	71	39							
	D	9	51	17	1	5	23	7	7	7	1							
Southern Rhodesia	C	7	24	13	36	22	17			2	3		3	5				
	D		10		4	4												
Canada:																		
Alberta	C	47	12	44	9	3	25	6							4	1		
Calgary	C	1																
Edmonton	C	7	3			4												
British Columbia—Vancouver	C	17	24	11	4	11			1	2	2	8	5	3				
Manitoba	C		7	4	10	4									1			14
New Brunswick	C			1	7		5											
Ontario	C	83	50	41	33	11	5	1	2					10	5	5		4
Kingston	C		3			2	1				1					1		
Ottawa	C	26	4	6	1		1	1	5						2	2	1	2
Sarnia	C															1		
Toronto	C	9	11	12	3	1												
Quebec	C	112	83	78	81	62	27	9	7	9	3	14	11	19	31	20	9	40
Montreal	C	9	9	3	11	5	2	6	2	4					4	7	1	2
Quebec	C	10	23	47	52	44	12	3	2	5	3	2	3	4	3	3		
Sherbrooke	C	3			4													
Saskatchewan	C	33	52	23	16		6		3					1		6		
Moose Jaw	C	7	3	1		1					2							
Regina	C	3	8	1	1						1							
Ceylon: Colombo	C	1																
	D	1																

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928 1	8	15	22	29	October, 1928 6	13	20	27	November, 1928 3	10
China:																		
Amoy	C	6	9	3					P									
Antung	C		3															
Canton	C	7	2	2														
Chefoo	C	P		P	P	P	P	P										
Foochow	C	P	P		P	P	P		P		P		P					
Hong Kong	C	32	25	30	14	11	19	2	3	2	2		6	1	6	7	6	
	D	19	26	23	19	5	16	1	1	5			3	4	1	6		
Manchuria—																		
Changchun	C		4	6		1												
Fushun	C				6	1	2			1								
	D					1												
Harbin	C	7	10	27	31	11					1							
Kwantung—																		
Dairen	C	15	16	35	48	21	3				1					1		
	D	8			20	12	3						1					
Port Arthur	C					1	1											
	D						1											
Mukden	C	1	4	3	6					2				1				
	D				1													
Pensihu	C				1													
	D				1													
South Manchuria Railway Zone	C				5													
Shanghai—																		
Foreigners only	C	7	3	11	7	2	2	1	1					1	2			
Including natives	D	9	9	19	11	10	2							1	2	3	1	
Tientsin	C	23	17	9	14	1					1			4				
Chosen (see table below.)																		
Curacao (alastrim)	C					2												
Dominican Republic: Santo Domingo	C	2	1															

Dutch East Indies:																		
Balikpapan	C					7												
	D					2												
Belawan Deli	C				11	4	9		5	5			8		1	1		
	D				3	1	3			2			3			1		
Borneo—																		
Pontianak	C						5	1	1	1	1	1		1				
	D						2					1						
Samarinda	C											3						
Java—																		
Batavia and West Java	C	5	1	2		2	6				1	2		1	1			
	D											1			1			
East Java and Madura	C		2		2	3	6			3	2							
	D		2			3	1			1								
Surabaya	C						6			3	1		1		1	1		
	D						1											
Sumatra—																		
Medan	C	7	2	10	4	5	9	2	5			5	8					
	D	5	3	5		2	3					1	3					
Palembang	C					1												
Ecuador (see table below).																		
Egypt	C	52	12	1														
	D	33	7	1														
Behera Province	C					1												
France (see table below).																		
Gold Coast (see table below).																		
Great Britain:																		
England and Wales	C	1,341	1,344	1,199	1,146	681	492	102	123	92	113	94	130	162	128	148	122	
Birmingham	C	1	1		2	1					1							
Bradford	C	19	14	17	10	2			1						1			
Bristol	C	12	17	10	2		2											
Cardiff	C	5	3	2													5	
Castleford	C	36	69	24	18	14	10	1	2	1	1	4	1	1	2			
Hull	C				1	24	15	6	3	1	3	2	3	1	1	1		
Leeds	C	14	1		8	1	1	4	1		1					1		
London	C	17	42	25	96	19	9		2	3	3	4	5		3	4	4	
Manchester	C	14	8	5	1				3			1						
Newcastle-on-Tyne	C	9	4	12	6	28	2						1					
Nottingham	C	13	17	20	3	6	10	1	6	2	6	1	1	2	1	1		
Plymouth	C						6	1		1	1	2						
Sheffield	C	1	14	4	2	2	1			1	3							
Stoke-on-Trent	C	12	32	24	14	5	8											
Weymouth	C					1												
Scotland—																		
Arbroath	C						4		2	1					3			
Dundee	C							1										
Greece (see table below).																		
Hedjaz	C			6	14	18	1											
	D			2	1	6	1											
India	C	28,034	30,436	21,489	13,497	9,981	6,218	1,233	975	1,226	1,119							
	D	5,540	6,672	5,046	3,700	2,758	1,733	293	252	303	268							
Bassein	C		1															

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928 1	8	15	22	29	October, 1928 6	13	20	27	November, 1928 3	10
India—Continued.																		
Bombay	C	218	200	136	71	67	28	4	3	4	3	7	2	12	3	5	------	------
	D	120	118	78	46	33	21	3	3	2	3	7	------	4	1	2	------	------
Calcutta	C	134	171	130	61	52	22	4	5	3	1	------	4	------	3	------	------	------
	D	104	130	101	50	35	17	3	4	3	1	------	3	------	1	------	------	------
Karachi	C	1	2	3	------	3	------	------	------	------	------	------	------	------	1	------	------	------
	D	------	1	1	------	2	------	------	------	------	------	------	------	------	------	------	------	------
Madras	C	183	169	59	85	39	43	19	23	29	19	13	21	18	25	31	------	------
	D	29	38	18	10	18	10	5	7	------	9	6	5	7	5	5	------	------
Moulmein	C	------	------	------	1	9	9	4	------	------	------	------	------	2	------	------	------	------
	D	------	------	------	1	6	4	1	------	------	------	------	------	------	------	------	------	------
Negapatam	C	------	7	8	19	26	35	7	9	15	15	19	2	7	23	7	------	------
	D	------	3	1	7	4	9	3	1	3	3	4	1	1	5	2	------	------
Rangoon	C	320	167	36	30	7	2	------	------	------	------	------	------	------	------	------	------	------
	D	102	79	13	6	4	1	------	------	------	------	------	------	------	------	------	------	------
Tuticorin	C	------	------	3	------	------	------	------	------	------	------	1	------	2	------	------	------	------
Vizagapatam	C	3	2	3	8	3	1	------	9	5	------	------	------	1	------	------	------	------
	D	------	------	1	3	3	1	------	------	3	------	------	------	------	------	------	------	------
India (French):																		
Chandernagor	C	5	5	------	------	1	2	4	5	------	------	------	------	2	2	------	------	------
	D	1	1	------	------	1	1	------	2	------	------	------	------	2	2	------	------	------
Pondicherry Province	C	18	36	32	13	12	62	24	18	32	18	23	26	30	32	34	------	------
	D	18	36	23	13	12	45	31	14	28	14	17	18	18	20	27	1	------
Indo-China (see also table below):																		
Pnompenh	C	------	------	------	------	------	2	4	8	3	4	4	8	6	10	12	------	------
	D	------	------	------	------	------	2	3	5	3	4	1	5	2	2	2	------	------
Saigon	C	------	------	------	------	------	------	------	------	------	1	1	1	------	1	2	------	------
	D	------	------	------	------	------	------	------	------	------	------	------	------	------	------	2	------	------
Iraq:																		
Baghdad	C	5	5	16	16	24	7	5	7	10	12	9	9	8	12	10	7	9
	D	4	3	6	10	15	2	2	5	3	7	3	3	3	5	8	1	4
Basra	C	5	4	3	2	6	4	------	1	------	------	6	1	9	7	3	9	9
	D	2	2	3	2	2	2	------	1	------	------	2	------	------	7	4	7	8

Italy	C			1	6													
Leghorn	C	1																
Palermo	C	5	10	6	10	4	6											
Ivory Coast (see table below).																		
Jamaica (outside Kingston) (alastrim)	C	13	4	2	3	1	1	1	1	1		2						
Japan:																		
Kobe	C			11														
Nagoya	C		6	2		1												
Osaka	C				4													
Tokyo City	C	15	8	2														
	D	1	1															
Tokyo Prefecture (outside city)	C	24	1	1														
	D	1	2															
Yokohama	C		2	3														
	D			1														
Latvia (see table below).																		
Malta: Valetta	C											1						
Mexico (see also table below):																		
Acapulco	C			2														
	D			2														
Jalisco (State)	C	P	P		21													
Guadalajara	D	2	12	13	10	9	7	1		2					1			
Manzanillo	D	1																
Mazatlan	D			3	2		3											
Mexico City and surrounding territory	C		1	2		3	2				1		1					
	D				1		1	1										
Reynosa	C					1												
Saltillo	D			2	2											1		
San Luis Potosi	D										1		2				1	
Torreon	D												1					
Morocco (see table below).																		
Nigeria (see also table below):																		
Lagos	C	1			1													
Southern Provinces	C	93			51													
	D	35			12													
Persia (see table below).																		
Poland	C	1	9	1	3	2												
	D		1															
Portugal (see also table below):																		
Lisbon	C	5	6	7	7	8	1											
	D					1	1											
Oporto	C		1															
Senegal (see also table below): Dakar	C	29	16	29	8													
	D	20	8	7														
Siam	C	28	10	8	3	1	3	1							3			
	D	4	3	1	1		2											
Bangkok	C		1															
	D			1														
Spain: Valencia	C	2																
Straits Settlements: Singapore	C	1	3		1						1	1	1					
Sudan (Anglo-Egyptian)	C	332	160	168	206	144	252	56	35	10	51	30	19	38	2	37	14	4
	D	100	32	20	37	35	34	7	6	3	18	6	6	7		5	7	1

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CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928 1	8	15	22	29	October, 1928 6	13	20	27	November, 1928 3	10
Sudan (French) (see table below).																		
Syria (see table below).																		
Taiwan: Keelung	C				1													
Tunisia: Tunis	C	4	6	3	2	8	5			1								
Union of South Africa:																		
Cape Province	C						P			P		P						
Natal	C	P			1													
Orange Free State	C	P		P	P	P						P						
Transvaal	C		P	P	P		P	P		P	P	P						
Union of Socialist Soviet Republics (see table below).																		
Upper Volta	C	2	9				50		P					10				
	D						8											
Venezuela: Maracaibo	D						1											
On vessel:																		
S. S. Arendskerk at Singapore, from Amoy, China	C	P																
S. S. Kashgar at Kobe, from Shanghai	C		P															
S. S. Remna at Penang, from Negapatam	C			P														
S. S. Theseus, from Jeddah to Penang	C					1												
S. S. Tjiloboet at Hong Kong, from Shanghai	C		P															
S. S. Yarmouth at Kingston, Jamaica, from Habana, Cuba	C	1																
S. S. Victoria at Nome, Alaska	C				8													

Place		January-March, 1928	April-June, 1928	July, 1928			August, 1928			September, 1928			October, 1928	
				1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20
Indo-China (see also table above)	C	426	197	8	3	15	44	21	6	27	29	17	57	------
Ivory Coast	C	------	7	------	4	5	------	------	------	2	------	1	------	1
	D	------	------	------	------	2	------	------	------	------	------	------	------	------
Senegal (see also table above)	C	------	110	------	------	------	------	------	------	4	------	------	2	------
	D	------	16	------	------	------	------	------	------	------	------	------	------	------
Dakar	C	------	43	------	------	------	------	------	------	------	------	------	------	------
	D	------	15	------	------	------	------	------	------	------	------	------	------	------
Sudan (French)	C	15	54	------	17	------	------	------	55	------	------	P	P	------
	D	------	6	------	------	------	------	------	33	------	------	------	------	------
Syria:														
Aleppo	C	1	3	------	------	------	------	4	------	------	------	------	------	------
Beirut	C	75	26	4	1	------	------	------	------	------	------	------	------	------
	D	2	------	------	------	------	------	------	------	------	------	------	------	------
Damascus	C	14	------	------	------	------	------	------	------	------	------	------	------	------

Place		January-March, 1928	April, 1928	May, 1928	June, 1928	July, 1928	August, 1928	September, 1928
Angola	C	47	7	1	------	------	------	------
Congo	C	36	------	------	------	------	------	------
Cuanza-Norte	C	1	------	------	------	------	------	------
Cuanza-Sul	C	10	------	------	------	------	------	------
Brazil (see also table above):								
Porto Alegre	C	1	------	------	------	------	2	1
Chosen	C	48	20	152	49	------	------	------
	D	16	6	38	21	------	------	------
Seoul	C	1	------	------	------	------	------	------
Ecuador: Guayaquil	C	35	19	31	11	35	38	22
	D	1	------	------	------	------	------	1
France	C	34	6	15	10	10	6	3
Gold Coast	C	4	------	------	------	------	------	------
Greece	C	36	1	22	31	9	3	6
	D	4	------	1	2	1	------	------

Place		January-March, 1928	April, 1928	May, 1928	June, 1928	July, 1928	August, 1928	September, 1928
Latvia	C	1	------	------	1	1	------	------
Mexico (see also table above)	D	1,064	336	622	------	------	------	------
Morocco	C	132	19	25	10	55	1	4
Nigeria (see also table above)	C	592	173	194	372	1,059	------	------
	D	84	46	53	57	159	------	------
Persia	D	7	------	------	------	------	------	------
Portugal (see also table above)	C	258	------	98	74	82	------	24
	D	30	------	9	3	10	------	2
Union of Socialist Soviet Republics:								
Railways, etc	C	59	------	------	------	------	------	------
Other territories in Europe	C	1,717	------	------	------	------	------	------
Transcaucasus, Siberia, and Central Asia	C	25	------	------	------	------	------	------
Ukraine	C	27	------	------	------	------	------	------

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

TYPHUS FEVER

[C indicates cases; D, deaths; P, present]

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	July 29–Aug. 25, 1928	Week ended— September, 1928 1	8	15	22	29	October, 1928 6	13	20	27	Nov. 3, 1928
Algeria:																	
Algiers	C	9	4	13	32	3	10	1	1					1			
	D		2		6												
Oran	C	4	11	4	7	16	4				2			1			
	D		1		1												
Bulgaria	C		26		16	P	8	2	2	2		5	1	1	1		
	D				2		2										
Sofia	C	20	1	20	14	1			3								
	D				6												
Chile:																	
Iquique	C					1											
	D					1											
Talcahuano	C	1															
Valparaiso	C				3	2											
	D				1												
China:																	
Manchuria—																	
Harbin	C		2	16	23												
Kwantung	C		17	293	539	431	60		1		2	2					
South Manchuria Railway Zone	C				10	6											
Tientsin	C			2	2		1										
Chosen (see table below).																	
Czechoslovakia (see table below).																	
Egypt	C	2	3	11	7												
	D	1	1	2	3												
Alexandria	C					1	2	1		1							
	D						1	1									
Assiout Province	C				2	2	2						1				
Assouan Province	C				2		1										
	D						1										
Behera Province	C	29	32	43	7	2											
	D		7	7	2												
Cairo	C	2	4			1	1										
	D	1	4			1	1										
Dakalieh	C				1	1											
Gharbieh Province	C	23	14	5	4	1											
	D		5		3												

Keneh Province	C	5	38		1													
	D		7		1													
Menoufieh Province	C		28	9	5						1							
	D		3	3	2						1							
Port Said	C					2	8			1	1						1	
Suez	C			1		4	4		1		5	1	3					
	D			1														
Great Britain: London County	C				2													
Greece: Pirsæus	C				1													
Hungary: Budapest	D				2	2												
Ireland:																		
Belfast	C			2	1													
	D				1													
Irish Free State	C		1	4														
Cork County	C		1															
Dublin	C								3	1	1							
Galway County—Oughterard	C					10												
Kerry County—																		
Cahirciveen	C						1											
Tralee	C										1	7						
Japan (see also table below):																		
Hiogo	C				1													
Miyagi	C											2						
Yamagata	C			2	2	2												
Latvia (see table below).																		
Lithuania (see table below).																		
Mexico (see also table below):																		
Durango	D					1												
Guadalajara	D			1		4												
Mexico City, including municipalities in Federal District	C	12	8	19	14	10	10	7	1	1	6	2	3	2	2	6	2	
	D	3	1	2		3	3	1						1				
Monterey	D	1																
Morocco	C	748	591	280	214	153	44				3		1					
Palestine	C	7	6	4	8	9	14	2	2	3	3	4	5	1	1	2	1	
Peru (see table below).																		
Poland	C	382	144	226	134	96	55	17	19	10	19	12	8	4	7			
	D	25	12	17	6	5						2	2					
Portugal: Oporto	C					1			1									
Rumania	C	141	142	99	80	33	16	5	3	3	1	2						
	D	11	12	8	11	1	1	1	1	1								
Syria: Aleppo	C				2		1											
Tunisia	C	18	19	7	7		1	7										
Menzel	C																1	
Sfax	C											11						
Union of South Africa:																		
Cape Province	C		P	P	P	P	P	P		P	P	P						
Natal	C		P	3	P	P				P	1	P						
Orange Free State	C		P	P	P	P												
Transvaal	C			1		P	P											
Union of Socialist Soviet Republics (see table below).																		
Yugoslavia (see table below).																		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

TYPHUS FEVER—Continued

[C indicates cases; D, deaths; P, present]

Place		January–March, 1928	April–June, 1928	July, 1928	August, 1928	September, 1928	October, 1928
Chosen	C	896	633	5	------	4	------
	D	88	75	2	------	------	------
Chemulpo	C	2	2	------	------	------	------
Gensan	C	1	------	------	------	------	------
	D	1	------	------	------	------	------
Seoul	C	10	46	5	------	------	------
	D	1	6	2	------	------	------
Czechoslovakia	C	25	------	------	------	------	------
Greece: Athens	C	4	33	6	------	------	1
	D	------	5	1	------	------	------
Japan	C	------	21	------	------	------	------
Latvia	C	27	7	------	------	------	------
Lithuania	C	223	162	12	15	------	------
	D	22	7	4	2	------	------
Mexico (see also table above)	D	46	------	------	------	------	------
Peru:							
Arequipa	D	2	1	1	------	------	------
La Oroya	C	P	------	------	------	------	------
Turkey	C	17	15	6	4	6	------
	D	1	2	------	2	------	------
Union of Socialist Soviet Republics:							
Railways, etc	C	199	------	------	------	------	------
Transcaucasus, Siberia, and Central Asia	C	17	------	------	------	------	------
Ukraine	C	1,476	------	------	------	------	------
Other territories in Europe	C	5,167	------	------	------	------	------
Yugoslavia	C	34	45	12	------	6	------
	D	3	5	3	------	------	------

YELLOW FEVER

Place		Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	July 1–28, 1928	Week ended— August, 1928				September, 1928					October, 1928				November, 1928		
							4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17
Belgian Congo: Matadi	C		2	2																		
Brazil:																						
Aracaju	D			2																		
Bahia	C				4						1								1			
	D								1		1		1									
Pernambuco (Recife)	C				1																	
Rio de Janeiro	C			2	48	40	6	4	4			4	4	1	3	3						
	D			2	22	26	1		2	1	1	2	3	2	2	2						
Sao Felix	C				P																	
Dahomey:																						
Grand Popo	C				3																	
	D				2																	
Ouidah Military Camp	D																					1
Gambia: Bathurst	C																			2		
Gold Coast	C			2																		
Ivory Coast	C				1																	
	D				1																	
Abidjan	C				1																	
Ferkes-Sedougou	D					1	1															
On vessel: S. S. Bernini, at Santos, Brazil	C																4					
	D																1					