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DISTRIBUTION OF HEALTH SERVICES IN THE STRUCTURE OF STATE GOVERNMENT *

CHAPTER VIII—INDUSTRIAL HEALTH ACTIVITIES BY STATE AGENCIES

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Until rather recently, management, society-at-large, and, in fact, workers themselves accepted rather complacently the hazards of industrial employment. Development of concern for the health of employees stems, in large measure, from compensation schemes inaugurated during the early part of the present century. Since the initial, and often still the only, coverage was for accidents, it follows that major emphasis has been placed on safety. Occasionally, this interest is combined with enforcement of labor standards under the administration of labor departments. With greater frequency, insur-

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Mountin, Joseph W., and Flook, Evelyn: Distribution of health services in the structure of State government—Chapter III. Tuberculosis control by State agencies. Pub. Health Rep., 57:65 (January 16, 1942). Reprint No. 2348.

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Mountin, Joseph W., and Flook, Evelyn: Distribution of health services in the structure of State government—Chapter V. Sanitation by State agencies. Pub. Health Rep., 57:885 (June 12, 1942) and 57:917 (June 19, 1942). Reprint No. 2386.

Mountin, Joseph W., and Flook, Evelyn: Distribution of health services in the structure of State government—Chapter VI. Medical and dental care by State agencies. Pub. Health Rep., 57:1195 (August 14, 1942) and 57:1235 (August 21, 1942). Reprint No. 2395.

Mountin, Joseph W., and Flook, Evelyn: Distribution of health services in the structure of State government—Chapter VII. Maternity-child health activities by State agencies. Pub. Health Rep., 57: 1791 (November 27, 1942). Reprint No. 2425.

Succeeding chapters will be published in subsequent issues of the Public Health Reports.

ance and labor agencies work independently toward their separate objectives. As a result of the interest and research in occupational diseases by medical and health agencies, there has evolved a distinct public health category commonly referred to as industrial hygiene.

Prior to passage of the Federal Social Security Act in 1935, little progress had been made by State health departments in industrial hygiene activities. A decade ago,[1] only five departments engaged in health services for industrial workers, but, as shown by Trasko and Bloomfield,[2] within the past few years there has been a sharpening of interest in the possibilities of industrial hygiene. Availability of Federal funds through title VI of the Social Security Act for the expansion of all forms of public health endeavor has expedited translation of this interest into organized service programs. Data collected in 1940 for the purpose of preparing the current version of Public Health Bulletin No. 184 (Revised),[3] and which covers some thirty-five classes of health activity, also point to numerous other functions of official State agencies that are significant to industrial health, even though they may be associated primarily with some related field of service and do not operate under the formal designation of "industrial hygiene."

In the present article, chapter VIII of a series entitled "Distribution of Health Services in the Structure of State Government," it is proposed to describe the manner in which all agencies of State government operate for the conservation of health among persons employed in industry. As in all previous chapters, the source material covers activities pertinent to mass and individual health, whether administered by the health department or by any other State department, board, or commission. Inquiry was not extended to local units of government, to voluntary health agencies, or to the industries themselves since the objective of the study was to obtain a picture of participation by State agencies in the various health services. Description of the diverse approaches to the industrial health problem is

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[1] Ferrell, John A., Smillie, Wilson G., Covington, Platt W., and Mead, Pauline A.; International Division of the Rockefeller Foundation for the Conference of State and Provincial Health Authorities of North America: Health Departments of States and Provinces of the United States and Canada. Public Health Bulletin No. 184 (Revised). United States Government Printing Office, Washington, 1932.

[2] Trasko, V. M., and Bloomfield, J. J.: An analysis of industrial hygiene activities in State and local health departments, 1940–41. Pub. Health Rep., 57:853 (June 5, 1942).

[3] See footnote [1].

facilitated by grouping the multifarious functions of State agencies under the following headings: Regulation, promotion, education, supervision and consultation, financial aid, and direct service. No distinction is made between industrial hygiene administered as a separate entity and that which is carried on as a subsidiary issue of a related program. In other words, activity more than organization is featured, but any State agency which participates in any function directly relevant to the health of industrial workers is listed as a contributor to the complete State plan for furtherance of industrial health.

Because of the close interrelationship which exists between industrial hygiene, including safety, and workmen's compensation schemes, these two categories of activity may be regarded as the main factors of a broad plan for either preventing or lightening the individual burden of industrial injury and illness. Throughout this report industrial health measures are featured in considerable detail, while only the pertinent aspects of State compensation schemes and labor regulation programs are outlined.

AGENCIES THAT PARTICIPATE IN INDUSTRIAL HEALTH ACTIVITIES

Table 1 is constructed for the purpose of identifying, in each of the several States,[4] the units of State government that function in any way for prevention of industrial sickness and accidents and the compensation for such misfortunes which are sustained through occupation. From this tabulation it is apparent that during the survey year (1940), all States carried on some type of activity for the improvement of industrial health. To a varying degree, practically all State health departments exercise some influence for this purpose. In over one-fourth of the States, however, functions of the health department were limited to its general powers which are broad enough to include industrial health; no active programs were in operation during 1940. Thirty-eight State labor departments reported some activity directed toward the health interests of industrial employees. Industrial accident boards or commissions and departments of mines and mining also occupied relatively prominent positions in the industrial health scene, while workmen's compensation commissions of 10 States functioned in this broad field.

[4] The term "State" as used in the discussion which follows includes the States, the Territories, the District of Columbia, and the Virgin Islands.

TABLE 1.—*Official State agencies participating in industrial health activities* in each State and Territory, the District of Columbia, and the Virgin Islands***

State or Territory	Department of State government					
	Health	Labor, labor and industry, industrial relations	Industrial accident board or commission, department of industrial accidents	Workmen's compensation commission, board, or bureau	Mines and mining, bureau of mines	Other
Alabama	X	X				
Arizona	X [a]		X		X	
Arkansas	X [a]	X			X	
California	X		X [b]			
Colorado	X		X		X	
Connecticut	X	X		X		
Delaware	X [a]	X	X			
District of Columbia	X [a]					X
Florida	X [a]		X			
Georgia	X [a]	X	X [b]			
Idaho •	X		X		X	
Illinois	X	X	X [b]		X	
Indiana	X	X			X	
Iowa	X	X	X		X	
Kansas	X	X		X		
Kentucky	X	X		X [b]	X	
Louisiana	X [a]	X				
Maine •	X	X	X			
Maryland	X	X	X			
Massachusetts	X	X	X			
Michigan	X	X				
Minnesota	X	X	X			
Mississippi	X					
Missouri	X	X		X	X	
Montana	X	X	X			
Nebraska	X [a]	X		X		
Nevada	X [a]		X		X	
New Hampshire	X	X				
New Jersey	X [a]	X				
New Mexico	X	X			X	
New York	X [a]	X				
North Carolina	X	X	X			X
North Dakota	X [a]			X	X	
Ohio	X	X	X			
Oklahoma	X	X	X		X	X
Oregon	X [a]	X	X			X
Pennsylvania	X	X			X	
Rhode Island	X	X				
South Carolina	X	X	X			
South Dakota	X [a]		X			
Tennessee	X	X				
Texas	X	X	X			
Utah	X		X			
Vermont	X		X			
Virginia	X	X	X			
Washington	X	X				
West Virginia	X	X		X	X	
Wisconsin	X		X			
Wyoming	X [a]	X		X	X	
Alaska					X	
Hawaii	X	X				
Puerto Rico	X	X		X		
Virgin Islands				X		

*Activities herein described pertain to industrial hygiene as such, to associated miscellaneous services for health and safety of industrial workers, and to the closely related workingmen's compensation activities which are administered by State agencies.

**Any differences between information presented in this table and corresponding entries in table 1, chapter I, of this series are the result of combining several activities originally shown separately, or of further refinement of the data since publication of the initial article.

[a] Broad powers include health aspects of industrial employment, but no specific activities for this purpose are engaged in.

[b] The indicated agency is an autonomous unit within the department of industrial relations or the department of labor.

• The department of health is really a division (Idaho) and bureau (Maine) of public health, subordinate to the department of public welfare (Idaho) and the department of health and welfare (Maine).

It is not the practice of State governments to concentrate all health services for industrial workers within a single agency. Dual participation occurred in 17 States, triple in 24, four separate governmental units contributed to the total State effort in 8 jurisdictions, while in 1 State as many as five shared authority. Division of responsibility does not necessarily indicate duplication of services, for not all agencies listed operated either complete or balanced industrial health programs.

While table 1 is not intended to portray the manner in which each of these various agencies functions, it might be said for purposes of orientation that the labor department is concerned primarily with safety measures for the prevention of industrial accidents and with regulation of working conditions. The health department, on the other hand, focuses upon the reduction of disease incidence among industrial workers. Determining environmental factors conducive to illnesses associated with particular types of employment and recommending measures for control of these elements constitute the usual health department approach to this aspect of the total industrial health problem. Industrial commissions and workmen's compensation commissions are, on the whole, responsible for administration of workingmen's compensation laws. Departments of mines and mining, as the name implies, are especially interested in the welfare of miners. In general, the functional dispersion described herewith corresponds closely to that reported in 1938 by the Division of Labor Standards of the United States Department of Labor.[5] As stated previously, the activities of voluntary agencies and of industries are not covered by this report. It should be recognized, however, that their activities —which feature medical and nursing services—represent very important contributions to the over-all industrial health program.

THE RANGE OF STATE INDUSTRIAL HEALTH ACTIVITIES

The problems associated with industrial health are numerous and varied. Consequently, many attempts, differing widely in character, are constantly being made to solve these problems. To insure a clearer understanding of the diverse efforts for improvement of industrial health, several broad organizational categories—together with the activities most commonly ascribed to each—are listed:

Industrial hygiene.—Routine reporting and investigation of occupational diseases; determination of the extent to which certain dusts, fumes, acids, metals, solvents, or other toxic substances are present; medical examination of employees to learn the effect of environmental factors discovered; recommendation of measures to control health hazards found; and education of employers and employees regarding benefits to be derived from such recommendations.

[5] National Silicosis Conference Report on Regulatory and Administrative Phases of the Silicosis Problem. Bulletin No. 21, Part 4. United States Department of Labor, Division of Labor Standards. U. S. Government Printing Office, Washington, 1938.

Factory inspection and labor regulation.—Periodic inspection of the physical lay-out of industrial plants, with particular attention to ventilation, illumination, sanitation, and safety of mechanical devices employed; check upon hours of employment, and upon conditions under which women and children are employed; routine reporting of industrial accidents.

Employee compensation.—Arrangements for extending financial aid to persons injured or contracting certain types of illness as a result of their employment. (Payments may be made for injuries incurred, wage loss, or for medical, surgical, or hospital care required.)

In-plant medical service.—First aid; periodic physical examination; health education; and general and community medical service.

In other words, both the recognition and the solution of health problems encountered in industry require the combined knowledge and efforts of engineers, chemists, technicians, physicians, and nurses. Only the first three of the four major branches of industrial health activity will be discussed in this report since in-plant medical service is discharged almost exclusively by private industry and not by official State agencies. The same is true of complete medical service programs for workers and their families as supplied by a few corporations. For purposes of distinction, the term "industrial hygiene" as used throughout the discussion refers to programs specifically defined heretofore. Such programs usually represent health department activity. The phrase "industrial health activities" includes the three categories previously mentioned, namely, industrial hygiene, factory inspection and labor regulation, and employee compensation.

As in handling health services of other categories, discussion of the diversified methods by which State agencies operate for the improvement of industrial health is simplified by grouping the numerous activities of participating agencies under the broad functional headings termed regulation, promotion, education, supervision and/or consultation, financial aid, and direct service. In table 2 are listed, under each functional classification, specific measures which are employed by the designated agency of State government for the reduction or alleviation of industrial illnesses and accidents. Although arrangement of the major classifications of activity follows the standard pattern adopted for revision of Public Health Bulletin 184, the relative weight of the several items is not the same for all branches of public health endeavor. Consequently, in discussion, functions will not always be treated singly or in the same order in which they appear in the table. Rather, they will be related to the several broad organizational categories of industrial health activities mentioned earlier: Industrial hygiene, factory inspection and labor regulation, and employee compensation.

TABLE 2.—*Department of State government* responsible for specific industrial health activities** in each State and Territory, the District of Columbia, and the Virgin Islands*

Activity	State or Territory							
	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia
Promulgates and/or enforces State laws, rules, and regulations pertaining to health of industrial workers	1, 2	1[b], 3, 5	1, 2, 5	1[b], 3[c]	1[b], 3, 5	1, 2, 4	1[b], 2, 3	1[b], 6
Conducts educational programs for:								
The general public (including employers and employees in industry)	1, 2	------	------	1, 3[c]	1	1	------	------
Staff members of the State agency	1	------	------	------	1	1	------	------
Supervises and/or provides consultation service to local organizations	1, 2	------	------	1	1	1	------	------
Distributes and/or administers grants-in-aid for local industrial hygiene activities	------	------	------	1	------	------	------	------
Operates a direct service program:								
Receives reports of all accidents occurring in industry	2	3	------	3[c]	3	2[c], 4	3	------
Investigates industrial accidents as to cause	2	3, 5	------	3[c]	3	2	3	------
Receives reports of occupational diseases [e]	1[h]	------	------	1, 3[c]	------	1, 4	------	------
Investigates occupational diseases reported	------	------	------	1	------	1	------	------
Makes special studies to determine the influence of occupational conditions upon the health of workers	1	------	------	1	1	1	------	------
Furnishes to industries and/or industrial physicians direct advisory service relative to elimination of health hazards and to prevention and treatment of occupational diseases	1, 2	------	------	1[d]	1, 3	1	------	------
Provides free laboratory service to industries for analysis of materials suspected as health hazards	1	------	------	1	1	1	------	------
Routinely inspects industrial plants and mercantile establishments for—								
Sanitation	2	------	2	3[c]	3	2	2[d]	------
Heat, light, and ventilation	------	------	2	3[c]	3	2	2[d]	------
Safety	2	3[i]	2	3[c]	3	2	------	------
Checks plans for construction of industrial establishments	2	------	------	------	------	2	------	------
Routinely inspects mines for safety	2	5	5	3[c]	5	------	------	------
Makes physical examinations of industrial workers	------	------	------	------	------	------	------	------
Administers a system of workingmen's compensation for—								
Industrial accidents and occupational diseases	------	------	------	3[c]	------	4	3	------
Industrial accidents only	2	3	------	------	3	------	------	------
Administers a system of workingmen's compensation that is—								
Entirely State-operated	------	------	------	------	------	------	------	------
Entirely a private enterprise	2[l]	------	------	------	------	4	3	------
A combination (State and private)	------	3	------	3[c]	3	------	------	------
Renders additional service not covered by this classification	------	------	------	3[c]	5	------	------	------

See footnotes at end of table.

TABLE 2.—*Department of State government responsible for specific industrial health activities in each State and Territory, the District of Columbia, and the Virgin Islands*—Continued

Activity	State or Territory							
	Florida	Georgia	Idaho [a]	Illinois	Indiana	Iowa	Kansas	Kentucky
Promulgates and/or enforces State laws, rules, and regulations pertaining to health of industrial workers	1[b], 3	1[b], 2, 3[c]	1, 3, 5	1[b], 2, 5	1, 2, 5	1, 2, 3, 5	1[b], 2, 4	1, 2, 4[c], 5
Conducts educational programs for:								
The general public (including employers and employees in industry)			1	1, 2, 5[d]	1	1	1	
Staff members of the State agency			1	1, 2	1	1		
Supervises and/or provides consultation service to local organizations			1	1, 2	1, 2	1	1	
Distributes and/or administers grants-in-aid for local industrial hygiene activities								
Operates a direct service program:								
Receives reports of all accidents occurring in industry	3	3[c]	3	3[c], 5[d]	2	2, 3, 5	4	4[c]
Investigates industrial accidents as to cause	3	3[c], [d]	3	2	2	2, 5	2[d]	4[c]
Receives reports of occupational diseases [e]		1[b]	1	3[c]	2	1	1[b]	
Investigates occupational diseases reported				3[c], [d]	1[d]	1		
Makes special studies to determine the influence of occupational conditions upon the health of workers			1	1, 2	1	1	1	
Furnishes to industries and/or industrial physicians direct advisory service relative to elimination of health hazards and to prevention and treatment of occupational diseases		2[d]	1	1, 2	1	1	1, 2	
Provides free laboratory service to industries for analysis of materials suspected as health hazards			1	1, 2	1	1	1	
Routinely inspects industrial plants and mercantile establishments for—								
Sanitation		2	1[f]	2	2	1	2	
Heat, light, and ventilation		2	1[f]	2	2	1	2	
Safety		2	1[f]	2	2	2	2	2
Checks plans for construction of industrial establishments				2[f]	2			2
Routinely inspects mines for safety		2	5	5	5	5	2	5
Makes physical examinations of industrial workers			1[d]	1[d], 2[d]	1[d]			
Administers a system of workingmen's compensation for—								
Industrial accidents and occupational diseases			3	3[c]	2			4[c], [h]
Industrial accidents only	3	3[c]				3	4	
Administers a system of workingmen's compensation that is—								
Entirely State-operated								
Entirely a private enterprise	3	3[c]		3[c]	2	3	4	4[c]
A combination (State and private)			3					
Renders additional service not covered by this classification				1, 3[c]				

See footnotes at end of table.

TABLE 2.—*Department of State government responsible for specific industrial health activities in each State and Territory, the District of Columbia, and the Virgin Islands*—Continued

Activity	State or Territory							
	Louisiana	Maine a	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri
Promulgates and/or enforces State laws, rules, and regulations pertaining to health of industrial workers	1b, 2	1, 2, 3	1, 2, 3	1b, 2, 3	1, 2	1, 2, 3	1	1, 2, 4, 5
Conducts educational programs for:								
The general public (including employers and employees in industry)	------	------	------	2	1, 2	1	------	1
Staff members of the State agency	------	------	------	2	1	1	------	1
Supervises and/or provides consultation service to local organizations	------	------	------	2	1	1	------	1
Distributes and/or administers grants-in-aid for local industrial hygiene activities	------	------	------	------	1	------	------	1
Operates a direct service program:								
Receives reports of all accidents occurring in industry	------	2d, 3	3	3	2	3	------	4d
Investigates industrial accidents as to cause	------	------	3d	2	2	2	------	2, 4
Receives reports of occupational diseases c	------	1h	1, 3	2	1	1	------	1h, 4d
Investigates occupational diseases reported	------	1h	------	2	1	1	------	4d
Makes special studies to determine the influence of occupational conditions upon the health of workers	------	------	------	2	1	1	------	1
Furnishes to industries and/or industrial physicians direct advisory service relative to elimination of health hazards and to prevention and treatment of occupational diseases	------	------	2	1, 2	1, 2	1	------	1
Provides free laboratory service to industries for analysis of materials suspected as health hazards	------	------	------	2	1	1	------	1
Routinely inspects industrial plants and mercantile establishments for—								
Sanitation	2d	2	2	2	2	2	1	2
Heat, light, and ventilation	2d	2	2	2	2	2	------	2
Safety	2d	2	2	2	2	2	1	2
Checks plans for construction of industrial establishments	------	1, 2	------	2	1d	2d	------	------
Routinely inspects mines for safety	------	------	2	------	2	2	------	5
Makes physical examinations of industrial workers	------	------	------	------	------	------	1	------
Administers a system of workingmen's compensation for—								
Industrial accidents and occupational diseases	------	------	3	3	2	3	------	4
Industrial accidents only	------	2, 3	------	------	------	------	------	------
Administers a system of workingmen's compensation that is—								
Entirely State-operated	------	------	------	------	------	------	------	------
Entirely a private enterprise	------	2, 3	------	3	------	3	------	4
A combination (State and private)	------	------	3	------	2	------	------	------
Renders additional service not covered by this classification	------	------	------	------	1, 2	------	1	------

See footnotes at end of table.

TABLE 2.—*Department of State government responsible for specific industrial health activities in each State and Territory, the District of Columbia, and the Virgin Islands*—Continued

Activity	State or Territory							
	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina
Promulgates and/or enforces State laws, rules, and regulations pertaining to health of industrial workers	1, 2, 3	1[b], 2, 4	1[b], 3, 5	1, 2	1[b], 2	1, 2, 5	1[b], 2	1, 2, 3
Conducts educational programs for:								
The general public (including employers and employees in industry)	1	------	------	1	2[d]	------	2	1
Staff members of the State agency	1	------	------	1	------	------	2	1
Supervises and/or provides consultation service to local organizations	1	------	------	1	------	------	2	1
Distributes and/or administers grants-in-aid for local industrial hygiene activities	------	------	------	------	------	------	------	------
Operates a direct service program:								
Receives reports of all accidents occurring in industry	3	4	3	2	2	2	2	3
Investigates industrial accidents as to cause	------	2	3	2	2	5[d]	2	2, 3, 6[d]
Receives reports of occupational diseases [c]	1[i]	4[h]	------	1	2	1[d]	2	3[d]
Investigates occupational diseases reported	1[i]	2[h]	------	1	2	------	2	3[d]
Makes special studies to determine the influence of occupational conditions upon the health of workers	1	------	------	1	------	------	2	1
Furnishes to industries and/or industrial physicians direct advisory service relative to elimination of health hazards and to prevention and treatment of occupational diseases	1	------	------	1	------	------	2	1
Provides free laboratory service to industries for analysis of materials suspected as health hazards	1	------	------	1	------	------	2	1
Routinely inspects industrial plants and mercantile establishments for—								
Sanitation	1	2	------	2	2	2[i]	2	2
Heat, light, and ventilation	1	2	------	------	2	2[i]	2	2
Safety	3	2	3	2	2	2[i]	2	2
Checks plans for construction of industrial establishments	------	------	------	------	2	------	2	1[d], 2[d]
Routinely inspects mines for safety	3	------	5	------	2	5	2	2
Makes physical examinations of industrial workers	------	------	------	------	2[d]	------	2[d]	1
Administers a system of workingmen's compensation for—								
Industrial accidents and occupational diseases	------	------	------	------	2	------	2	3
Industrial accidents only	3	4	3	2	------	2	------	------
Administers a system of workingmen's compensation that is—								
Entirely State-operated	------	------	3	------	------	------	------	------
Entirely a private enterprise	------	4	------	2	2	2	------	3
A combination (State and private)	3	------	------	------	------	------	2	------
Renders additional service not covered by this classification	3	------	------	------	------	5	2	1

See footnotes at end of table.

TABLE 2.—*Department of State government responsible for specific industria health activities in each State and Territory, the District of Columbia, and the Virgin Islands*—Continued

Activity	State or Territory							
	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota
Promulgates and/or enforces State laws, rules, and regulations pertaining to health of industrial workers	[1b], 4, 5	1, 2, 3	[1b], [c] 3, 5, 6	[1b], 2, 3, 6	[1b], 2, 5	1, 2	1, 2, 3	[1b], 3
Conducts educational programs for:								
The general public (including employers and employees in industry)	------	1, 2, 3	[1d]	------	1, 2	1	1	------
Staff members of the State agency	------	3	1	------	1	1	1	------
Supervises and/or provides consultation service to local organizations	------	1	1	------	1	1	1	------
Distributes and/or administers grants-in-aid for local industrial hygiene activities	------	------	------	------	------	------	------	------
Operates a direct service program:								
Receives reports of all accidents occurring in industry	4	3	3	3	2	2	[3d]	3
Investigates industrial accidents as to cause	[4d]	3	2	3	2, [5d]	[2f]	3	[3d]
Receives reports of occupational diseases [g]	4	1, 3	------	[1h]	2	1	1	------
Investigates occupational diseases reported	[4d]	1, 3	------	------	[1d], 2	------	1	------
Makes special studies to determine the influence of occupational conditions upon the health of workers	------	1, 3	1	------	1, 2	1	1	------
Furnishes to industries and/or industrial physicians direct advisory service relative to elimination of health hazards and to prevention and treatment of occupational diseases	------	1, 2	1	------	1, 2	1	1	------
Provides free laboratory service to industries for analysis of materials suspected as health hazards	------	1	1	------	1, 2	1	1	------
Routinely inspects industrial plants and mercantile establishments for—								
Sanitation	[4i]	2	2	2	2	2	2, 3	------
Heat, light, and ventilation	[4i]	2	2	2	2	2	2, 3	------
Safety	[4i]	2	2	2	2	2	2, 3	------
Checks plans for construction of industrial establishments	------	2	2	------	1, 2	------	------	------
Routinely inspects mines for safety	5	2	5	------	5	[2d]	------	5
Makes physical examinations of industrial workers	------	[1d], [3d]	------	------	[1d]	[1d]	1	------
Administers a system of workingmen's compensation for—								
Industrial accidents and occupational diseases	4	3	------	------	2	2	3	------
Industrial accidents only	------	------	3	3	------	------	------	3
Administers a system of workingmen's compensation that is—								
Entirely State-operated	4	3	------	3	------	------	------	------
Entirely a private enterprise	------	------	------	------	------	2	3	3
A combination (State and private)	------	------	3	------	2	------	------	------
Renders additional service not covered by this classification	5	2	5	------	------	------	------	------

See footnotes at end of table.

TABLE 2.—*Department of State government responsible for specific industrial health activities in each State and Territory, the District of Columbia, and the Virgin Islands*—Continued

Activity	State or Territory							
	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin
Promulgates and/or enforces State laws, rules, and regulations pertaining to health of industrial workers	1, 2	1, 2, 3	1, 3	1, 3	1, 2, 3	1, 2	1, 2, 4, 5	1, 3
Conducts educational programs for:								
The general public (including employers and employees in industry)	------	1	1	1	1	------	1	1, 3
Staff members of the State agency	------	1	1	1	------	------	1	------
Supervises and/or provides consultation service to local organizations	1[d]	1	1	1	1	2	1	1
Distributes and/or administers grants-in-aid for local industrial hygiene activities	------	------	------	------	------	------	------	------
Operates a direct service program:								
Receives reports of all accidents occurring in industry	2	3	3	3	2	2	4	3
Investigates industrial accidents as to cause	2	3[d]	3	3	2	2	2	3[d]
Receives reports of occupational diseases	------	------	------	------	------	1, 2	4[d]	3
Investigates occupational diseases reported	------	------	------	------	------	2	1	1
Makes special studies to determine the influence of occupational conditions upon the health of workers	------	1	1	1	1	------	1	1
Furnishes to industries and/or industrial physicians direct advisory service relative to elimination of health hazards and to prevention and treatment of occupational diseases	------	1	1	1	1	------	1	1
Provides free laboratory service to industries for analysis of materials suspected as health hazards	------	1	1	1	1	2	1	1
Routinely inspects industrial plants and mercantile establishments for—								
Sanitation	2[d]	2	3	1	2	2	1[d], 2	3
Heat, light, and ventilation	2[d]	2	3	1	------	2	2	3
Safety	2[d]	2	3	3	2	2	2	3
Checks plans for construction of industrial establishments	1[d]	------	------	1	------	2	------	3
Routinely inspects mines for safety	2	2[h]	3	------	2	2	5	3
Makes physical examinations of industrial workers	------	------	1[d]	1	1[d]	------	1[d]	1
Administers a system of workingmen's compensation for—								
Industrial accidents and occupational diseases	------	------	------	------	------	2	4	3
Industrial accidents only	2	3	3	3	3	------	------	------
Administers a system of workingmen's compensation that is—								
Entirely State-operated	------	------	------	------	------	2	4	------
Entirely a private enterprise	2	3	------	3	------	------	------	3
A combination (State and private)	------	------	3	------	3	------	------	------
Renders additional service not covered by this classification	------	------	1	------	------	------	------	------

See footnotes at end of table.

TABLE 2.—*Department of State government responsible for specific industrial health activities in each State and Territory, the District of Columbia, and the Virgin Islands*—Continued

Activity	State or Territory				
	Wyoming	Alaska	Hawaii	Puerto Rico	Virgin Islands
Promulgates and/or enforces State laws, rules, and regulations pertaining to health of industrial workers	1[b], 2, 4, 5	5	1, 2	1, 2, 4	4
Conducts educational programs for:					
The general public (including employers and employees in industry)	----------	----------	1	----------	----------
Staff members of the State agency	----------	----------	1	----------	----------
Supervises and/or provides consultation service to local organizations	2	----------	1	----------	----------
Distributes and/or administers grants-in-aid for local industrial hygiene activities	----------	----------	----------	----------	----------
Operates a direct service program:					
Receives reports of all accidents occurring in industry	4	----------	2	4	4
Investigates industrial accidents as to cause	----------	----------	2	2	4
Receives reports of occupational diseases [e]	----------	----------	1[d], 2	1[h], 4[d]	----------
Investigates occupational diseases reported	----------	----------	1[d], 2[d]	----------	----------
Makes special studies to determine the influence of occupational conditions upon the health of workers	----------	----------	1	----------	----------
Furnishes to industries and/or industrial physicians direct advisory service relative to elimination of health hazards and to prevention and treatment of occupational diseases	----------	----------	1	----------	----------
Provides free laboratory service to industries for analysis of materials suspected as health hazards	----------	----------	1	----------	----------
Routinely inspects industrial plants and merchantile establishments for—					
Sanitation	----------	----------	1	1	----------
Heat, light, and ventilation	----------	----------	1	1	----------
Safety	2	----------	1, 2	1	----------
Checks plans for construction of industrial establishments	----------	----------	----------	----------	----------
Routinely inspects mines for safety	5	5	----------	----------	----------
Makes physical examinations of industrial workers	----------	----------	----------	----------	----------
Administers a system of workingmen's compensation for—					
Industrial accidents and occupational diseases	----------	----------	2	4	----------
Industrial accidents only	4	----------	----------	----------	4
Administers a system of workingmen's compensation that is—					
Entirely State-operated	4	----------	----------	4	----------
Entirely a private enterprise	----------	----------	2	----------	4
A combination (State and private)	----------	----------	----------	----------	----------
Renders additional service not covered by this classification	----------	----------	----------	----------	----------

*Code:
1. Health department
2. Department of labor, labor and industry, labor and factory inspection, labor statistics and law enforcement, labor and statistics, or industrial relations
3. Industrial board or commission, industrial accident board or commission, department of industrial accidents, or commissioner of industries
4. Workmen's compensation board or commission or State compensation commission
5. Department of mines and mining, bureau of mines, department of mines and minerals, State mine inspector, or State mining board
6. Other departments of State government.

**Activities herein described pertain to industrial hygiene as such, to factory and mine inspection, to certain aspects of labor regulation, and to the closely related workingmen's compensation activities which are administered by State agencies.

[a] The department of health is really a division (Idaho) and bureau (Maine) of public health, subordinate to the department of public welfare (Idaho) and the department of health and welfare (Maine).

[b] Broad powers include health aspects of industrial employment, but no specific activities for this purpose are undertaken.

[c] The indicated agency functions as an autonomous unit within the department of industrial relations or the department of labor.

[d] Under special conditions only: Upon request or complaint, for certain hazards, for special types of services, to special groups, for special studies.

[e] Duplicate copy referred by workmen's compensation commission.

[f] By analyzing reports, not by visits.

[g] No distinction is made between States which receive occupational disease reports by virtue of law, of regulation, or of voluntary arrangement.

[h] Has responsibility, but little is done.

[i] Program in beginning stage.

[j] Suggestions made, but compliance entirely voluntary.

[k] Industrial accidents and certain diseases specifically agreed upon by the employer and employee prior to coming under workmen's compensation.

[l] Voluntary system.

Industrial hygiene.—Studying the causes of illnesses among workers and recommending measures for their control form the basic elements of official industrial hygiene programs. The initial step in such programs is the requirement of central reporting of occupational diseases. About three-fifths of the States indicated some arrangement for the reporting of occupational diseases. Sometimes such reporting is required by law, sometimes by regulation, and sometimes by voluntary agreement. Almost always returns admittedly are incomplete; actually for the country as a whole only a very small fraction of the occupational disease occurrence is reported routinely to a central State agency. In several States, reporting is restricted to cases involving compensation; another requires reporting of silicosis only; and in several more where reporting presumably is required, no illnesses of an occupational nature had been reported during a 12-month period.

Practices differ with regard to the agency charged with collecting such reports. Either the health department, department of labor, industrial accident commission, or workmen's compensation commission may function as the receiving agency. However, the fact that the health department appears to have assumed leadership in this respect indicates that routine reporting of occupational illnesses is regarded as a significant factor in the organization of a State industrial hygiene service. In two-thirds of the States where occupational diseases officially are reported, the health department—either singly or in combination with one of the other agencies listed—is the governmental unit to which such reports are rendered. Since nearly 75 percent of the States receiving reports indicated that epidemiological studies are made of some of the diseases reported, it is evident that reports pertaining to occupational illnesses furnish leads for investigation of the causes of such disabilities. Unfortunately, the size of staff rarely permits follow-up of all reports.

Special plant investigations, made for the purpose of determining the presence and influence of various occupational conditions upon the health of workers, are a paramount feature of formally organized industrial hygiene units. Both laboratory analysis of materials suspected as being health hazards and engineering determinations of the concentration of such substances are made. State personnel do not rely wholly upon reports of occupational illnesses for initiation of industrial health investigations, however. Many are made in response to requests from plant owners or managers. The third, and largest, group originates within the official State industrial hygiene unit and serves an effective promotional and educational purpose. Investigations of the last classification are apt to be of a survey nature and cover numerous establishments of similar type, thus permitting comparative evaluations. Twenty-seven State health departments, four departments of labor, and one industrial commission engage in

special studies designed to determine and, ultimately, to reduce occupational health hazards, or to relieve various types of conditions detrimental to health or efficiency.

The more common categories of occupational illnesses are respiratory affections, conjunctivitis, dermatoses, and systemic poisonings. These are known to occur with greater frequency in some industries than in others. Consequently, it is among such establishments that State industrial hygiene units conduct quantitative and qualitative studies with reference to the presence and concentration of poisonous dusts, gases, metals, solvents, acids, and other toxic materials which are contributive to particular types of illness or other physical ailments among workers. Moreover, in plant surveys made by State industrial hygiene units, consideration is given also to illumination, temperature, humidity, excessive noise, ventilation, overcrowding, sanitary facilities, accommodations for bathing and change of clothes, safety devices, and orderliness of workrooms. Consideration of such items as part of a special survey or study is not to be confused with routine factory inspection which will be discussed later in the report.

In order that accurate findings might be assured, use of certain standardized engineering and laboratory equipment is essential for portions of each investigation. According to individual needs and resources, apparatus designed for purposes of making chemical and engineering determinations of environmental factors relative to health has been purchased by State agencies for carrying on studies of occupational health hazards. Some of this equipment is stationary, and some is portable in character.

Physical examination (including appropriate X-ray and laboratory tests) of the workers is sometimes one factor of the complete study of a plant; however, less than one-third of the States reported the inclusion of physical examination of industrial workers as an element in their broad plan of industrial health study. This service is more likely to be rendered by the employer, perhaps with some assistance or supervision from the State health agency.

After a particular set of findings is revealed as a result of plant investigations such as those described, recommendations are made by the State personnel to plant operators for improvement of ventilating and exhaust systems, reduction of humidity or dampness, installation of safety devices, or, in brief, elimination of any health hazard found. Insofar as is feasible, follow-up visits are made to determine the degree to which industries comply with the recommendations made. Owing to limited personnel, however, follow-up service is less extensive than is desirable.

Attention is now focused upon one of the most important functions of State industrial hygiene units, namely, that of providing advisory

and consultative aid. Occasionally, when sufficient data are available, reports of findings from aforementioned surveys are distributed among similar industrial establishments in order that all of them might benefit thereby. In addition to offering engineering advice regarding elimination of environmental health hazards, members of the State staff serve as consultants to industrial physicians and nurses with respect to treatment of occupational diseases.

Closely allied with a State's advisory function, yet broader in scope, are its educational activities. Whereas advice usually is given to solve a problem already recognized, educational measures are designed to help employers and employees anticipate and forestall such problems before they occur or to awaken interest in hazards hitherto unnoted. Educational methods employed are of two distinct types, one for reaching the general public (including both industrial and labor groups) and one for training professional personnel engaged in industrial health work. Among the more usual forms of popular education are distribution of literature; radio talks; lectures to labor unions, groups of industrialists, service clubs, and safety clubs; preparation of articles for technical and trade journals; and exhibits. Intramural postgraduate courses, symposiums, staff conferences, laboratory demonstrations, in-service apprenticeship to experienced personnel, factory inspection schools, lectures to medical societies, and publication of articles in medical journals constitute the educational measures arranged for professional personnel—primarily physicians, chemists, engineers, and nurses. In the physicians' groups, efforts are made to reach general practitioners who may do industrial work on a part-time basis as well as physicians specializing in industrial medicine; besides, any practicing physician may, in the course of his rounds, find illnesses traceable to peculiar occupational hazards. As a result of the educational activities of State agencies, there is an increasingly keen realization among labor, industry, specialists in industrial health, and the public-at-large of potential health hazards associated with particular manufacturing processes or other industrial pursuits. Likewise, there is better understanding of the services available through the State industrial hygiene unit and a correspondingly greater desire to take advantage of the services offered.

Administration of official industrial hygiene services is apt to be direct in character. That is, transactions of the State agency customarily are made directly with the industry scheduled for routine inspection or requesting assistance with some specific problem. At the same time, when requested to do so, the State staff is accustomed to providing consultation service to local authorities who, in turn, maintain close contact with the industries in their several jurisdictions. For particular problems, 28 State health departments and 7

departments of labor reported offering consultatory aid to local officials.

The fact that only 3 States distribute grants-in-aid (funds or personnel) for the partial support of industrial health activities at the local level further emphasizes the point that State agencies are prone to work directly with the industries involved.

Factory inspection and labor regulation.—That industrial health activities carried on by State agencies are not limited to the technical activities of official industrial hygiene units is manifest from the fact that all States have enacted legislation for the limitation of employment insofar as women and children are concerned. Maximum daily and weekly hours of labor permitted, provision for rest periods, and prohibition of night work are a few of the employment regulations significant to the health of employees. Further discussion of such control is included in chapter VII.[6] Other regulatory measures affecting industrial health apply chiefly to assignment of power of inspection and to reporting requirements regarding industrial accidents and occupational diseases.

In the main, power of entry for inspectional purposes is delegated to the department of labor or industrial commission, since this is the situation which exists in nearly three-fourths of the States. Provisions for the safety of workers (including structural details of the work rooms, mechanical devices employed, stairways, and fire escapes) appear to receive foremost consideration in inspections made by departments of labor and industrial commissions. In the 39 States where inspection of industrial establishments is the full responsibility of such agencies, notation of provisions for safety is reported by all but 1. General sanitation ranks second, appearing on the inspection schedules of all but 4 States of the group, while 7 of them made no mention of checking miscellaneous environmental conditions such as heat, light, and ventilation.

In only 8 jurisdictions is the health department charged with any routine inspectional responsibility, and in all but 3 of these such responsibility is shared with another agency. When division of authority occurs, it is usually on a basis of particular items to be observed, sanitation being the most frequent concern of the health department. The more prominent aspects of industrial sanitation are drinking water supplies, methods of disposing of industrial wastes and sewage, toilet accommodations, and hand-washing facilities. Nine State health departments which have no inspectional authority still exert regulatory control by virtue of establishing the standards of sanitation which are enforced by the labor department or industrial commission.

It should be emphasized at this point that routine factory inspections differ markedly from plant investigations or special studies in

[6] See text footnote*

two respects. First, procedures followed in making a detailed study of the health hazards associated with an industrial plant are far more technical, thorough, and time-consuming than those employed for making inspections. Second, inspectional activity is a means of exercising regulatory authority over selected aspects of industrial operations, while special investigations are made entirely with the consent, if not upon the request, of the plant involved.

Through approval of construction plans for new or remodeled industrial establishments, many violations of industrial health standards can be avoided. Personnel of the labor department or industrial commission check building plans prior to construction in 13 States; in 3, the health department performs this service; and in 3, the two agencies collaborate. Five of the States listed do not require approval of plans regularly, but the service is afforded on a request basis or under other special circumstances.

In 37 States, mines as well as manufacturing and mercantile establishments are inspected periodically by State personnel. Fifteen departments of labor, 4 industrial commissions, and 18 special departments of mines and mining are responsible for such inspections. Occasionally, the health department supplements the mining inspectional service of the agency officially responsible.

Routine reporting of occupational accidents is required more commonly than reporting of industrial morbidity. All but 5 of the States either by law or regulation require that some unit of government shall be notified of accidents occurring in the pursuit of industrial employment. True, a few of these States limit their reporting requirements to accidents which involve compensation, while others require reports only of those resulting in a specified period of disability, which varies from State to State. Collection of reports is a function of the industrial accident commission in 22 States, the department of labor in 13, and the workmen's compensation commission in 9. In the 4 remaining jurisdictions which require reporting of industrial accidents, miscellaneous practices are followed.

That these reports serve a real purpose as control devices is indicated by the fact that all but 3 States which receive reports use them as a basis for investigating the causes of industrial accidents. Rarely are investigations made of all accidents reported, of course; selectivity is influenced by type, frequency of occurrence, seriousness, or fatality. For the most part, investigations are made by the same agency that receives the reports. Occasionally, however, the industrial commission and workmen's compensation commission refer their reports to the department of labor for investigation. In a few other States reports of mining accidents are referred to the department of mines and mining for determination of the cause.

Employee compensation.—As previously indicated, the industrial

health movement, for the most part, had its origin in compensation schemes devised for the purpose of spreading, over affected groups and over an extended period of time, the financial burden of industrial accidents. Consequently, it is appropriate that some consideration be given to the health aspects of these organized arrangements for compensating industrial employees for injuries suffered, wage loss, and expenses incurred for medical, surgical, or hospital care. Workmen's compensation systems are usually administered independently of other types of industrial health activities, although the several programs are closely related in interest. Whereas in the early plans only accidents were compensable, a number of States more recently have extended their provisions to include compensation for selected occupational illnesses as well.

In 1940, some sort of official program of workmen's compensation operated in all but 4 jurisdictions. However, the District of Columbia system is administered by a Federal and not a State agency; therefore, it is not included in the present discussion. Arkansas, Louisiana, Mississippi, and Alaska reported no State-administered scheme of employee compensation. In 23 of the jurisdictions, compensation covers industrial accidents only. In the remaining 25, selected occupational illnesses as well as accidents are compensable. There is a tendency to restrict the list of compensable illnesses to toxicological conditions. Silicosis and other selected respiratory conditions are also recognized by some States as compensable disabilities arising out of employment. Even in the States which do not have arrangements for compensation of industrial illnesses as such, opinions and decisions frequently have been given awarding payment for conditions termed illness as a result of accidental injury and latent disease aggravated by accident. Thus it appears that, indirectly, occupational disease is recognized as a legitimately compensable disability more commonly than is indicated by the number of States which specifically encompass selected diseases in their compensation laws.

Industrial commissions or industrial accident boards are charged with administration of workmen's compensation activities in half of the States. In the other half, responsibility is divided between workmen's compensation commissions and labor departments. Workmen's compensation schemes operate according to statutory terms and vary markedly as to the amount of official control that is imposed.

In addition to approving settlements, adjudicating disagreements, and, in some instances, awarding benefits, a few States have developed uniform plans for providing medical and hospital service to injured employees. Outstanding in this respect is the Ohio program. Here the industrial commission has a medical division to which is attached a staff of physicians who act as consultants to private practitioners, examine cases when indicated, and review all cases of

industrial accidents and diseases reported. Verification of the degree of disability (including inspection of all X-ray plates submitted) and approval of all medical bills must be given by the commission before payment is made. The medical division contracts with individual hospitals to supply care for injured employees at a specified per diem rate. The patient is free to select his physician, but fee schedules are established for the various types of medical service and for braces and other appliances. While few medical programs associated with State workmen's compensation activities are so highly organized as this, most of them do include uniform benefit schedules.

Of particular interest is the observation that, unless all transactions are completed by the State agency, few jurisdictions have full records either of the volume and kind of cases compensated or of disbursements for payment of claims. This situation arises from variations in payment procedures. For instance, in some States only contested cases of private insurance companies come to the attention of the State agency; moreover, agreements reached under self-insurance systems are rarely reported to the State. Actually, the amount of money spent for medical, surgical, or hospital care is an item of particular significance to this study, but segregation of awards for these particular purposes frequently was not made in State accounts.

A brief summary of the data presented leads to the following disclosures. In 1940, practically all States were carrying on some type of activity for the improvement of industrial health, though scarcely more than two-thirds of them operated industrial hygiene programs formally organized as such. State responsibility for better health among industrial workers is distributed among health departments, labor departments, and industrial boards or commissions. Workmen's compensation commissions also function in a closely related capacity. Reduction of industrial accidents and prevention of occupational illnesses are the two objectives upon which State endeavors hinge. Law enforcement is the oldest tool to be used for these purposes. Labor departments and industrial commissions are usually supported in their efforts by having specific regulatory authority for correction of certain conditions detrimental to the health of those employed in industry, while all State health departments have broad powers which permit intervention in industrial establishments if health conditions warrant such action. In addition to regulatory control, educational activities and advisory aid represent major features of industrial hygiene programs administered by State health departments. Recommendations by State personnel for elimination of occupational health hazards are based upon findings gleaned partially from routine factory inspection and disease reports, but more particularly from special investigation of plants in which reported accidents

and illnesses occur. Such investigations involve study of precautions taken for safety and detailed laboratory and engineering determinations of the presence and concentration of dusts, fumes, vapors, and poisonous substances to which workers are exposed. A few labor departments and industrial commissions offer educational and advisory service, likewise.

EXPENDITURES FOR INDUSTRIAL HEALTH SERVICES

Translation of State health services to industry into terms of the cost of such services provides the best available index to the relative efforts of the several States toward lightening the burden of industrial accidents and occupational illnesses. However, in this as in other health fields, it is not possible to isolate and assess all public services that contribute to the health of industrial employees since they are residents of the community and participate in such general health measures as the community affords. In table 3 are recorded gross and per capita expenditures of each State for industrial hygiene activities as such, plus related industrial health functions which largely consist of factory inspection for safety and sanitation and of regulation of employment conditions for women and children. Gross expenditures have then been shown in relation to the labor force [7] of each State. Insurance benefits and the cash value of medical services attached to compensation schemes have been omitted from this table for reasons that are discussed later.

Insofar as could be determined, aggregate expenditures by the country as a whole for State industrial health services falling within the classifications mentioned (industrial hygiene programs organized as such, plus miscellaneous activities affecting the health of industrial workers—such as inspection of factories for sanitation and safety, inspection of mines, regulation of working conditions for women and children, and the like) exceed 4½ million dollars. In nearly a dozen States, however, accounting practices of the agency concerned did not permit segregation of expenditures for purposes pertaining to this discussion. Since the States which failed to supply expenditure data represent about 8 percent of the total labor force of the United States, it is roughly estimated that the complete expenditure figure would be in the neighborhood of 5 million dollars. However, all analysis of fiscal information will be based upon the $4,681,000 actually reported. Of this amount, less than 10 percent is charged to industrial hygiene programs of State health departments. Thus it is demonstrated clearly that although there has been remarkable growth in formally organized industrial hygiene units of State health departments during recent years, the financial support given technical services designated

[7] Employment Status of Persons 14 Years Old and Over. Series P-8, Sixteenth Census of the United States—1940. United States Department of Commerce, Bureau of the Census.

TABLE 3.—*Approximate total annual expenditures* and expenditures per member of the labor force** by all official State agencies for industrial health services*** in each State and Territory, the District of Columbia, and the Virgin Islands*

State or Territory	Approximate total annual expenditure* for industrial health services***	Labor force in 1940**	Approximate annual expenditure* per member of the labor force** for industrial health services***
Total	$4,681,000	52,789,499	[a] $0.096
Alabama	33,900	1,017,188	.033
Arizona	18,800	180,247	.104
Arkansas	(b)	678,859	(b)
California	306,500	2,948,427	.104
Colorado	43,500	421,493	.103
Connecticut	95,900	770,008	.125
Delaware	(b)	114,260	(b)
District of Columbia	(b)	344,033	(b)
Florida	(b)	786,804	(b)
Georgia	23,500	1,225,705	.019
Idaho	16,800	191,196	.087
Illinois	495,000	3,360,823	.147
Indiana	47,200	1,331,378	.035
Iowa	32,700	957,869	.034
Kansas	26,200	669,815	.039
Kentucky	(b)	998,700	(b)
Louisiana	5,200	884,164	.006
Maine	(b)	330,421	(b)
Maryland	31,500	767,091	.041
Massachusetts	192,500	1,844,260	.104
Michigan	66,300	2,125,877	.031
Minnesota	43,900	1,101,464	.040
Mississippi	4,000	808,462	.005
Missouri	57,300	1,521,086	.038
Montana	24,600	224,994	.109
Nebraska	15,000	501,013	.030
Nevada	15,000	47,979	.313
New Hampshire	17,900	206,919	.087
New Jersey	97,400	1,857,340	.052
New Mexico	4,900	177,908	.028
New York	917,100	5,962,199	.154
North Carolina	23,500	1,333,773	.018
North Dakota	4,100	235,661	.017
Ohio	432,800	2,765,687	.156
Oklahoma	28,900	804,582	.036
Oregon	35,000	453,382	.077
Pennsylvania	907,100	3,986,000	.228
Rhode Island	36,900	321,644	.115
South Carolina	10,200	730,780	.014
South Dakota	(b)	239,826	(b)
Tennessee	8,500	1,071,904	.008
Texas	22,100	2,454,924	.009
Utah	38,700	181,244	.214
Vermont	10,100	141,407	.071
Virginia	38,000	1,031,289	.037
Washington	(b)	716,501	(b)
West Virginia	306,200	634,957	.482
Wisconsin	125,000	1,227,552	.102
Wyoming	21,300	100,409	.212
Alaska	(b)	(c)	(b)
Hawaii	(b)	(c)	(b)
Puerto Rico	(b)	(c)	(b)
Virgin Islands	(b)	(c)	(b)

* Expenditures for the health services considered represent index rather than absolute amounts. Because of variations in fiscal periods, figures cover the most recent year for which information was available at the date of interview. In some instances, because of overlapping and interweaving of activities, estimates were accepted in the absence of precise expenditure records.

** Labor force includes all employed persons 14 years of age or over plus those engaged in public emergency work and those seeking employment.

*** Insofar as they could be separated, figures for industrial health services cover industrial hygiene programs organized as such, plus miscellaneous activities affecting the health of industrial workers—such as inspection of factories for sanitation and safety, inspection of mines, regulation of working conditions of women and children, and the like.

[a] This figure represents the average expenditure per worker in the 41 States which supplied cost data. It is based upon the labor force of these 41 States which totals 48,580,095 persons, or 92 percent of the labor force of the entire United States.

(b) Information not available for industrial health activities as such.

(c) Information not available.

as such nowhere approaches that accredited to other governmental units for functions characterized chiefly as factory inspection for safety and sanitation and regulation of employment conditions significant to health. Moreover, if an absolutely complete expenditure record were attainable, the difference between the two categories of service probably would be more pronounced than is here indicated, since expenditures for miscellaneous industrial health services are more apt to be interwoven with activities beyond the scope of this study than are those for industrial hygiene programs administered as separate entities. It will be recalled, of course, that 4 departments of labor and 1 industrial commission afford technical services of much the same nature as those offered by industrial hygiene units of State health departments.

From the standpoint of individual States supplying cost data, expenditures ranged from $4,000 in Mississippi to over $900,000 in New York and Pennsylvania. When totals are converted to cost per worker,[8] however, Tennessee, Texas, and Louisiana, as well as Mississippi, occupy low positions, each having an expenditure of less than one cent per person employed or seeking employment. Largely because of its outlay for mine inspection, which represents 80 percent of the total in this State, West Virginia ranks highest, with a corresponding expenditure of 48 cents. To a large extent, differences among the States in expenditures for industrial health services are determined by the State's ability to purchase service. This association is manifest from arraying the States according to wealth (as measured by per capita income [9]), dividing them into quarters, and computing for each quarter the median annual expenditure per worker for industrial health services. Medians so determined are as follows: Highest quarter, $0.136; second quarter, $0.077; third quarter, $0.038; and lowest quarter, $0.018. Thus it is seen that the State occupying the median position in the wealthiest quarter spends seven and one-half times as much per member of the labor force as does the State holding a corresponding place in the poorest quarter.

Exploration of geographic [10] influence upon disbursements of State agencies for improvement of industrial health points to appreciably greater outlays in the Northeastern and Western groups of States than in either the Southern or Central portion of the country. At the

[8] Employed persons 14 years of age or over plus those engaged in public emergency work and those seeking employment.

[9] Martin, John L., National Income Division, Department of Commerce: Income Payments to Individuals by States, 1929-39. Survey of Current Business, October 1940.

[10] The established geographic areas with the States contained therein are as follows:

Northeastern: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, and the District of Columbia.

Southern: Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

Central: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

Western: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

same time, because all but two States of the wealthiest quarter are located in either the Northeastern or Western area, it is strongly suggested that wealth is the primary factor and location the secondary, or incidental, one governing industrial hygiene expenditures.

Of particular interest is the source from which money expended for State industrial health activities is derived. Ninety-one percent of the aggregate sum was appropriated by State legislative bodies, while 7 percent was made up from Federal grants-in-aid (title VI of the Social Security Act), and fees accounted for most of the remaining 3 percent. When consideration is restricted to industrial hygiene programs budgeted as such, however, Federal aid assumes a much more significant proportion. Of approximately 422 thousand dollars expended through formally organized industrial hygiene units in State health departments, the Federal Government contributed 76 percent and the State only 24 percent.

Precise information regarding disbursements by State agencies for the health phases of workmen's compensation is scarce and scattered. Effort was made to obtain cost figures for benefits paid from State-operated insurance funds for medical, surgical, and hospital care of employees injured in industry or suffering from occupational illnesses contracted as a result of their employment. Inasmuch as private insurance carriers rarely report to the State agency the total amounts awarded as benefits for specific purposes, only those States administering systems which provide for compensation entirely through a State-operated fund could supply complete records of benefits distributed for medical, surgical, and hospital care. For these 8 States, namely, Nevada, North Dakota, Ohio, Oregon, Washington, West Virginia, Wyoming, and Puerto Rico, the annual compensation awards for the medical services listed exceed 8¼ million dollars. Since this group appears to be fairly representative of the country as a whole, it seems safe to estimate that for all States this figure would reach nearly 55 million dollars. Additional data supplied by 5 (North Dakota, Ohio, Oregon, Washington, and Puerto Rico) of the 8 States under discussion suggest that the benefits referred to represent roughly 28 percent of the total compensation awards, which, in addition to medical benefits, include death benefits, wage loss, and awards for total and partial and for temporary and permanent disability. The range of this percentage for the 5 States extends from 18 to 40. Nearly the entire sum paid out of the State compensation fund as benefits is derived from premiums.

DISCUSSION

Expansion during the past few years in the industrial hygiene activities of State health departments denotes an awakening interest in the problem of disabilities of industrial employees incurred through

employment and the possibilities of reducing such illnesses and accidents through elimination of hazards associated with particular industries. At the same time, an indication for further development of organized programs lies in the apportioning of total appropriations for industrial health activities. Less than 10 percent is assigned to health department programs, while more than 90 percent is allotted to miscellaneous activities, chiefly inspectional services.

To a varying degree, all States have taken some steps toward raising the health standards of industrial workers. In some, measures are limited to stipulation of working hours and to regulation of conditions of employment for women and children. In others, State authority extends to control of sanitation and safety of industrial establishments. Periodic inspections and suggestions for correction are, in the main, relied upon for rectifying conditions deemed dangerous. When necessary, legal action may be resorted to in securing corrections. Activities of a third group of States are broadened still further and include educational and advisory service to industries regarding elimination of health hazards, detailed technical investigations of the presence and concentration of toxic dusts, gases, fumes, and other substances conducive to physical disability of employees, and recommendations for removal of the hazardous conditions found.

For the most part, departments of labor and industrial commissions are charged with inspectional power and operate in accordance with the legal authority with which they are vested. Efforts are concentrated upon reduction of industrial accidents rather than upon prevention of occupational illnesses. Another indication of the more widespread interest shown in industrial accidents is the fact that all but 5 jurisdictions require central reporting of accidents sustained through employment, while only 33 require that illnesses so contracted shall be reported to a State agency. Health department activities, unlike those of labor departments and industrial commissions, are concerned chiefly with illness prevention. In two-thirds of the States where occupational illnesses are reportable, the health department—either singly, or jointly with another State agency—is the receiving agency, but in no instance are reports of industrial accidents forwarded thereto. It is the established policy for health departments to initiate industrial hygiene activities on a voluntary basis and to expand them by virtue of increasing requests from industry for the type of service offered.

While medical and nursing care constitute extremely important elements in plans for industrial health service, arrangements for such care and for dispensary facilities are usually made by each individual employer and not by an administrative agency of State government.

Certain aspects of workmen's compensation schemes, particularly arrangements for medical, surgical, and hospital care of beneficiaries of

the system, are closely allied with other health measures for industrial workers. However, administration of workingmen's compensation activities is usually carried on as a separate enterprise in State governmental organization. Industrial accidents are covered by State-wide compensation plans in all but 5 jurisdictions, but occupational illnesses are compensable in only 25.

State wealth, geographic position, and industrial development are all factors which appear to have a bearing upon a State's expenditure for industrial health services. Inasmuch as there is interrelationship among these factors, it is difficult to distinguish between direct and indirect influence. It is estimated that, in all, approximately 5 million dollars are expended annually by State agencies for the purpose of lowering illness and accident rates, since 41 States, including 92 percent of the total labor force, reported a disbursement of over 4½ million dollars. This represents, for the 41 States supplying fiscal data, an average cost per worker of $0.096, or a corresponding cost of $0.052 in the median State. Figures quoted are exclusive of State expenditures for workmen's compensation activities, only part of which are pertinent to this study.

DEATHS DURING WEEK ENDED DECEMBER 26, 1942

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Dec. 26, 1942	Corresponding week 1941
Data from 87 large cities of the United States:		
Total deaths	8,774	8,246
Average for 3 prior years	8,670	
Total deaths, first 51 weeks of year	428,750	423,756
Deaths per 1,000 population, first 51 weeks of year, annual rate	11.8	11.6
Deaths under 1 year of age	589	533
Average for 3 prior years	505	
Deaths under 1 year of age, first 51 weeks of year	29,730	26,906
Data from industrial insurance companies:		
Policies in force	65,273,961	64,769,523
Number of death claims	9,015	9,268
Death claims per 1,000 policies in force, annual rate	7.2	7.5
Death claims per 1,000 policies, first 51 weeks of year, annual rate	9.1	9.3

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

REPORTS FROM STATES FOR WEEK ENDED JANUARY 2, 1943

Summary

Current reports, as compared with the low figures for the preceding week, show increases for all of the nine common communicable diseases included in the following table. However, for diphtheria, poliomyelitis, typhoid fever, and whooping cough they are lower than for the second preceding week. Cumulative figures for 52 weeks for all of these diseases except measles and meningococcus meningitis are below the comparable 5-year median, and the 52-week total for only meningococcus meningitis (3,774) is above the comparable period of 1941.

Meningococcus meningitis reports for the week, totaling 187 cases, included 19 cases in New York (12 in New York City), 12 each in Oregon and California, and 10 each in Pennsylvania, Maryland, and Colorado. The total for the week is larger than reported for the corresponding week in any year since 1930 when 215 cases were reported.

A total of 3,440 cases of influenza was reported for the current week, about 50 percent more than for the preceding week. About 69 percent of the total was reported in three States: Texas (1,254), South Carolina (674), and Virginia (432). The next highest report was 194 cases in Alabama.

The total of 62 reported cases of smallpox includes delayed reports in Pennsylvania where 55 cases have been reported since the middle of November. Seven cases were reported in Texas and 5 each in Ohio and Indiana.

A total of 5,786 cases of measles for the current week is a 44 percent increase over the preceding week's figure, but only very slightly above the comparable 5-year median. Greatest numbers were re-

ported in Pennsylvania (1,362), New York (762), and Connecticut (411).

There were 50 cases of poliomyelitis reported, as compared with 36 for the preceding week and a corresponding 5-year median of 35. Texas reported 16 cases. No other State reported more than 3 cases.

Scarlet fever, typhoid fever, and whooping cough reports, while showing slight increases for the week, are all below their respective 5-year medians and comparable reports for last year.

Other reports for the current week are 158 cases of dysentery, 11 amebic, 95 bacillary (66 in Texas), and 52 unspecified (44 in Arizona); 36 cases of tularemia, and 67 of typhus fever.

The death rate for 88 cities was 14.1 per 1,000 population, as compared with 12.3 for the preceding week and a 3-year average of 12.8. The cumulative rates for 52 weeks were 11.8 for 1942 and 11.6 for 1941.

Telegraphic morbidity reports from State health officers for the week ended January 2, 1943, and comparison with corresponding week of 1942 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none were reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1937–41	Week ended—		Median 1937–41	Week ended—		Median 1937–41	Week ended—		Median 1937–41
	Jan. 2, 1943	Jan. 3, 1942		Jan. 2, 1943	Jan. 3, 1942		Jan. 2, 1943	Jan. 3, 1942		Jan. 2, 1943	Jan. 3, 1942	
NEW ENG.												
Maine	0	2	2	-------	1	4	23	174	37	6	0	0
New Hampshire	0	0	0	-------	4	-------	49	18	12	1	0	0
Vermont	0	0	0	-------	-------	-------	265	5	24	0	0	0
Massachusetts	4	9	3	-------	-------	-------	392	166	180	6	1	1
Rhode Island	[4] 0	3	0	-------	-------	-------	[4] 3	28	0	[4] 7	0	0
Connecticut	0	0	0	11	2	6	411	53	50	3	1	0
MID. ATL.												
New York	14	19	26	[1] 15	[1] 7	[1] 12	762	253	319	19	5	5
New Jersey	0	3	15	21	13	19	150	83	83	8	3	1
Pennsylvania	16	25	25	6	-------	-------	1,362	1,010	1,010	10	1	5
E. NO. CEN.												
Ohio	15	21	25	9	13	35	42	90	90	5	0	0
Indiana	2	1	13	17	71	35	82	13	13	4	0	0
Illinois	19	34	36	24	15	20	84	50	50	8	3	2
Michigan [3]	15	10	10	8	2	2	99	59	172	4	2	1
Wisconsin	1	0	0	45	23	30	217	0	223	0	0	0
W. NO. CEN.												
Minnesota	1	2	1	-------	-------	2	6	151	67	0	0	0
Iowa	3	4	8	-------	3	7	33	85	85	1	0	0
Missouri	11	3	8	1	5	29	7	18	18	6	1	1
North Dakota	2	7	3	15	2	12	3	31	10	0	1	0
South Dakota	1	2	2	1	-------	1	97	0	2	0	1	0
Nebraska	2	3	2	-------	-------	-------	106	11	3	3	0	0
Kansas	5	2	8	1	9	9	62	137	64	2	0	0
SO. ATL.												
Delaware	0	2	0	-------	-------	-------	4	7	2	0	0	0
Maryland [3]	2	8	6	4	10	16	8	166	11	10	3	1
Dist. of Col.	1	4	2	4	-------	5	4	6	2	1	0	0
Virginia	14	14	30	432	273	195	47	121	121	7	4	2
West Virginia	1	5	12	18	10	19	1	270	43	1	1	1
North Carolina	26	29	29	26	26	18	16	427	306	5	0	1
South Carolina	7	12	10	674	459	459	2	58	33	3	0	0
Georgia	4	14	10	65	58	124	14	76	8	2	0	0
Florida	6	5	5	1	13	13	4	9	9	0	2	2
E. SO. CEN.												
Kentucky	6	4	6	25	-------	22	51	6	13	2	2	3
Tennessee	1	7	8	18	32	42	14	228	68	0	0	1
Alabama	13	12	17	194	134	371	2	32	41	3	1	1
Mississippi [3]	9	11	11	-------	-------	-------	-------	-------	-------	2	0	1
W. SO. CEN.												
Arkansas	14	12	15	108	93	192	34	77	44	5	3	0
Louisiana	9	8	9	10	6	10	9	3	3	2	2	1
Oklahoma	8	8	14	93	210	126	42	51	4	1	0	0
Texas	50	48	39	1,254	1,319	444	27	336	67	3	6	2
MOUNTAIN												
Montana	1	0	0	15	3	15	69	41	6	3	1	0
Idaho	2	0	0	2	-------	5	38	11	11	0	0	0
Wyoming	0	0	0	55	8	8	2	4	2	1	2	0
Colorado	6	11	8	42	47	47	32	401	92	10	0	0
New Mexico	1	0	1	1	-------	5	0	34	34	1	0	0
Arizona	2	2	2	119	104	104	10	28	9	0	0	0
Utah [3]	0	1	1	55	7	8	334	45	45	3	0	0
Nevada	0	0	-------	-------	-------	-------	29	0	-------	1	0	-------
PACIFIC												
Washington	3	0	2	3	3	2	393	22	22	4	0	0
Oregon	2	1	1	18	14	40	296	52	29	12	0	0
California	24	20	20	30	99	38	49	813	191	12	1	1
Total	323	388	497	3,440	3,098	3,098	5,786	5,759	5,759	187	47	43
52 weeks	[4] 15,559	17,008	24,086	109,167	423,251	292,271	[4] 505,861	866,609	374,854	[4] 3,774	2,039	2,039

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended January 2, 1943, and comparison with corresponding weeks of 1942 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended—		Median 1937–41	Week ended—		Median 1937–41	Week ended—		Median 1937–41	Week ended—		Median 1937–41
	Jan. 2, 1943	Jan. 3, 1942		Jan. 2, 1943	Jan. 3, 1942		Jan. 2, 1943	Jan. 3, 1942		Jan. 2, 1943	Jan. 3, 1942	
NEW ENG.												
Maine	0	0	0	14	22	20	0	0	0	0	1	0
New Hampshire	0	0	0	16	3	3	0	0	0	0	0	0
Vermont	0	1	0	9	12	9	0	0	0	0	0	0
Massachusetts	1	0	0	311	283	124	0	0	0	1	1	1
Rhode Island	0	1	0	[4] 14	6	6	0	0	0	0	1	0
Connecticut	0	1	0	29	30	43	0	0	0	0	0	0
MID. ATL.												
New York	1	6	2	285	332	364	0	0	0	2	4	4
New Jersey	2	3	0	60	97	114	0	0	0	0	1	3
Pennsylvania	1	2	0	180	211	258	[3] 34	0	0	2	7	7
E. NO. CEN.												
Ohio	0	2	1	225	236	328	5	0	1	2	6	4
Indiana	2	0	0	78	79	117	5	6	6	0	1	1
Illinois	3	3	3	141	172	309	1	0	3	2	2	3
Michigan [3]	3	3	0	160	193	271	0	0	0	2	9	6
Wisconsin	1	2	1	183	145	157	0	0	5	0	2	1
W. NO. CEN.												
Minnesota	0	0	1	68	47	98	0	1	19	0	0	1
Iowa	2	0	0	50	40	82	1	1	12	0	0	0
Missouri	0	0	0	57	46	51	1	14	14	3	2	2
North Dakota	0	0	0	12	11	11	0	0	0	0	0	0
South Dakota	0	0	0	22	27	23	0	0	3	0	0	0
Nebraska	2	0	0	19	20	21	1	0	1	0	0	0
Kansas	1	1	0	60	66	71	0	0	0	0	0	0
SO. ATL.												
Delaware	0	0	0	11	21	12	0	0	0	0	0	0
Maryland [3]	0	0	0	29	53	35	0	0	0	1	4	3
Dist. of Col	0	0	0	26	11	10	0	0	0	1	1	1
Virginia	0	0	0	50	30	39	0	0	0	5	12	6
West Virginia	1	0	0	28	54	48	0	0	0	0	3	1
North Carolina	0	0	0	98	70	50	1	0	0	0	1	1
South Carolina	1	0	0	11	11	9	0	0	0	2	1	1
Georgia	2	1	0	41	36	19	0	0	0	2	6	6
Florida	0	0	1	13	0	10	0	0	0	1	4	3
E. SO. CEN.												
Kentucky	1	0	1	41	89	58	1	0	0	1	2	0
Tennessee	0	2	0	21	49	37	0	0	0	0	3	2
Alabama	0	0	0	25	25	37	0	0	0	2	1	2
Mississippi [3]	1	1	1	16	26	10	0	0	0	1	0	0
W. SO. CEN.												
Arkansas	0	2	2	9	9	17	1	1	5	2	0	2
Louisiana	0	3	0	11	5	8	0	0	0	4	3	6
Oklahoma	0	0	0	15	22	23	3	1	3	1	7	2
Texas	16	0	0	51	48	48	7	1	3	6	3	9
MOUNTAIN												
Montana	0	1	0	10	22	22	0	0	0	0	2	0
Idaho	0	0	0	17	8	8	0	0	0	0	0	0
Wyoming	1	1	0	46	6	6	0	0	0	0	3	0
Colorado	1	0	0	41	25	30	0	0	8	1	0	1
New Mexico	1	0	0	13	5	12	0	0	0	3	0	3
Arizona	1	0	0	6	6	6	1	0	0	1	0	0
Utah [3]	1	0	0	68	26	15	0	0	0	0	0	0
Nevada	0	0	------	1	5	------	0	0	------	0	0	------
PACIFIC												
Washington	0	0	0	42	67	48	0	0	2	0	0	0
Oregon	3	0	0	9	10	19	0	0	1	2	1	1
California	1	3	3	116	105	120	0	0	3	1	4	4
Total	50	39	35	2,858	2,922	3,497	62	25	118	51	96	104
52 weeks	4,193	9,090	9,090	[4] 126,853	127,735	162,052	863	1,356	9,574	6,703	8,395	12,736

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended January 2, 1943—Continued

Division and State	Whooping cough		Week ended Jan. 2, 1943								
	Week ended—			Dysentery			Encephalitis, infectious	Leprosy	Rocky Mt. spotted fever	Tularemia	Typhus fever
	Jan. 2, 1943	Jan. 3, 1942	Anthrax	Amebic	Bacillary	Unspecified					
NEW ENG.											
Maine	89	11	0	0	0	0	0	0	0	0	0
New Hampshire	15	12	0	0	0	0	0	0	0	0	0
Vermont	44	24	0	0	0	0	0	0	0	0	0
Massachusetts	184	110	0	0	1	0	0	0	0	0	0
Rhode Island	[4] 13	31	0	0	0	0	0	0	0	0	0
Connecticut	50	47	0	1	0	0	0	0	0	0	0
MID. ATL.											
New York	349	407	0	0	12	0	4	0	0	0	0
New Jersey	131	148	0	0	0	0	0	0	0	0	0
Pennsylvania	188	167	0	0	0	0	0	0	0	1	0
E. NO. CEN.											
Ohio	104	116	0	0	0	0	2	0	0	1	0
Indiana	10	24	0	0	0	0	0	0	0	4	0
Illinois	123	178	0	0	2	0	0	0	0	9	0
Michigan [2]	351	461	0	3	4	0	0	0	0	0	0
Wisconsin	116	206	0	0	0	0	0	0	0	2	0
W. NO. CEN.											
Minnesota	30	21	0	2	0	0	0	0	0	0	0
Iowa	26	11	0	0	0	0	2	0	0	1	0
Missouri	13	7	0	0	0	0	0	0	0	0	0
North Dakota	16	9	0	0	0	0	0	0	0	0	0
South Dakota	7	2	0	0	0	0	1	0	0	0	0
Nebraska	2	11	0	0	0	0	0	0	0	0	0
Kansas	28	85	0	0	0	0	2	0	0	3	0
SO. ATL.											
Delaware	2	0	0	0	0	0	0	0	0	0	0
Maryland [3]	55	15	0	0	0	0	0	0	0	1	0
Dist. of Col	13	23	0	0	0	0	0	0	0	0	0
Virginia	10	44	0	0	0	8	0	0	0	5	0
West Virginia	13	37	0	0	0	0	0	0	0	0	0
North Carolina	76	110	0	0	1	0	0	0	0	0	7
South Carolina	33	45	0	0	0	0	0	0	0	0	5
Georgia	4	7	0	1	0	0	0	0	0	1	15
Florida	6	10	0	1	2	0	0	0	0	0	6
E. SO. CEN.											
Kentucky	4	46	0	0	0	0	0	0	0	3	0
Tennessee	19	17	0	0	0	0	1	0	0	0	0
Alabama	44	3	0	0	0	0	0	0	0	1	9
Mississippi [2]			0	0	0	0	0	0	0	0	0
W. SO. CEN.											
Arkansas	17	4	0	0	2	0	0	0	0	0	0
Louisiana	9	0	0	0	0	0	0	0	0	2	2
Oklahoma	13	7	0	0	0	0	0	0	0	0	0
Texas	163	64	0	1	66	0	1	0	0	0	23
MOUNTAIN											
Montana	18	14	0	0	0	0	0	0	0	0	0
Idaho	2	3	0	0	0	0	0	0	0	0	0
Wyoming	1	5	0	0	0	0	0	0	0	1	0
Colorado	10	13	0	0	1	0	0	0	0	0	0
New Mexico	18	9	0	0	0	0	1	0	0	0	0
Arizona	7	9	0	0	0	44	0	0	0	0	0
Utah [2]	37	47	0	0	0	0	0	0	0	0	0
Nevada	6	0	0	0	0	0	0	0	0	0	0
PACIFIC											
Washington	17	78	0	0	0	0	0	0	0	0	0
Oregon	7	23	0	0	0	0	0	0	0	0	0
California	139	111	0	2	4	0	2	0	0	1	0
Total	2,632	2,832	0	11	95	52	16	0	0	36	67
52 weeks	[4] 177,916	207,843									

[1] New York City only.
[2] Period ended earlier than Saturday.
[3] Total of 55 cases reported in Pennsylvania to date; figure for week ended Jan. 2 includes delayed reports.
[4] Delayed report from Rhode Island for the week ended Dec. 19,1942, shows instead, of figures previously published, 3 cases of diphtheria; 4 measles; 5 meningitis meningococcus; 10 scarlet fever; 40 whooping cough.

WEEKLY REPORTS FROM CITIES

City reports for week ended December 19, 1942

This table lists the reports from 87 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
Atlanta, Ga	0	0	8	1	2	0	2	0	8	0	0	4
Baltimore, Md	4	0	3	4	1	4	25	0	19	0	0	58
Barre, Vt	0	0	-----	0	12	0	0	0	0	0	0	0
Billings, Mont	1	0	-----	0	0	0	1	0	0	0	0	1
Birmingham, Ala	0	0	4	0	2	0	3	0	2	0	0	0
Boise, Idaho	0	0	-----	0	0	0	0	0	1	0	0	0
Boston, Mass	0	0	-----	0	26	2	14	1	66	0	0	33
Bridgeport, Conn	0	0	-----	0	0	1	1	0	2	0	0	0
Brunswick, Ga	0	0	-----	0	0	0	0	0	0	0	0	0
Buffalo, N. Y	0	0	-----	2	89	0	7	0	21	0	0	22
Camden, N. J	1	0	-----	0	3	0	3	0	2	0	0	2
Charleston, S. C	1	0	33	0	0	0	1	0	1	0	0	2
Charleston, W. Va	1	0	-----	0	0	0	0	0	1	0	0	0
Chicago, Ill	15	1	4	1	59	1	34	0	53	0	1	71
Cincinnati, Ohio	1	0	2	0	8	0	5	0	16	0	0	12
Cleveland, Ohio	0	0	5	1	0	1	10	0	34	0	1	64
Columbus, Ohio	0	0	-----	0	1	0	0	0	15	0	0	3
Concord, N. H	0	0	-----	0	0	0	0	0	1	0	0	0
Cumberland, Md	0	0	-----	0	1	0	0	0	0	0	0	0
Dallas, Tex	1	0	-----	0	0	0	1	0	1	0	0	5
Denver, Colo	10	0	19	1	6	0	11	0	6	0	0	9
Detroit, Mich	2	0	-----	2	4	1	30	0	30	0	0	129
Duluth, Minn	0	0	-----	0	1	0	0	0	0	0	0	2
Fall River, Mass	1	0	-----	0	1	0	1	0	6	0	0	17
Fargo, N. Dak	0	0	-----	0	0	0	1	0	3	0	0	3
Flint, Mich	3	0	-----	0	1	0	0	0	7	0	0	9
Fort Wayne, Ind	1	0	-----	0	0	0	2	0	0	0	0	0
Frederick, Md	0	0	-----	0	0	0	0	1	0	0	0	0
Galveston, Tex	1	0	-----	0	0	0	1	2	0	0	0	0
Grand Rapids, Mich	0	0	1	0	1	0	3	0	2	0	0	3
Great Falls, Mont	0	0	-----	0	0	0	0	0	6	0	0	0
Hartford, Conn	0	0	-----	0	1	0	3	0	2	0	0	2
Helena, Mont	0	0	-----	0	0	0	0	0	0	0	0	0
Houston, Tex	1	0	-----	0	0	0	4	1	2	0	0	5
Indianapolis, Ind	0	0	-----	1	11	0	8	0	9	0	1	3
Kansas City, Mo	0	0	-----	0	2	1	4	0	25	0	0	4
Kenosha, Wis	0	0	-----	0	0	0	0	0	5	0	0	0
Little Rock, Ark	0	0	-----	0	0	0	4	0	0	0	0	0
Los Angeles, Calif	2	0	14	1	8	1	10	3	21	0	0	17
Lynchburg, Va	0	0	-----	0	0	0	1	0	1	0	0	0
Memphis, Tenn	0	0	5	3	1	0	4	0	5	0	0	9
Milwaukee, Wis	0	0	1	1	58	0	3	0	58	0	0	23
Minneapolis, Minn	0	0	-----	0	1	0	5	1	16	0	0	16
Missoula, Mont	0	0	-----	0	0	0	0	0	0	0	0	0
Mobile, Ala	1	0	2	4	0	0	3	0	0	0	0	0
Nashville, Tenn	0	0	-----	0	5	0	1	0	2	0	0	1
Newark, N. J	0	0	5	0	9	1	6	0	7	0	0	13
New Haven, Conn	0	0	-----	0	1	0	0	0	1	0	1	8
New Orleans, La	1	0	2	1	0	0	10	0	0	0	0	2
New York, N. Y	19	9	12	3	14	14	66	1	156	0	2	81
Omaha, Nebr	2	0	-----	0	0	0	7	0	1	0	0	1
Philadelphia, Pa	1	0	2	0	556	4	39	0	63	0	0	110
Pittsburgh, Pa	1	0	2	1	1	1	11	0	16	0	1	16
Portland, Maine	0	0	-----	0	1	1	3	0	1	0	0	10
Providence, R. I	1	1	1	2	0	2	4	0	6	0	0	27
Pueblo, Colo	0	1	-----	0	0	0	0	0	3	0	0	0
Racine, Wis	0	0	-----	0	9	0	0	0	10	0	0	2
Reading, Pa	0	0	-----	0	9	1	1	0	0	0	0	16
Richmond, Va	1	0	-----	0	0	0	3	0	1	0	0	3

City reports for week ended December 19, 1942—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
Roanoke, Va	0	0	------	0	0	0	0	0	1	0	0	0
Rochester, N. Y	0	0	------	0	5	0	7	0	3	0	0	10
Sacramento, Calif	3	0	------	0	1	0	5	0	11	0	1	2
Saint Joseph, Mo	0	0	------	0	0	0	8	0	0	0	0	0
Saint Louis, Mo	2	0	3	0	2	2	13	0	12	0	0	3
Saint Paul, Minn	0	0	------	1	1	0	3	0	2	0	0	23
Salt Lake City, Utah	0	0	------	0	150	0	3	0	4	0	0	19
San Antonio, Tex	2	0	2	3	0	0	5	7	6	0	0	0
San Francisco, Calif	0	0	------	0	1	2	12	0	5	0	0	11
Savannah, Ga	0	0	4	3	0	0	5	0	0	0	0	0
Seattle, Wash	2	0	------	2	17	0	7	0	4	0	0	8
Shreveport, La	0	0	------	0	0	0	6	0	0	0	0	0
South Bend, Ind	0	0	------	0	1	0	0	0	1	0	0	0
Spokane, Wash	1	0	------	0	38	0	2	0	4	0	0	1
Springfield, Ill	0	0	------	1	1	0	5	0	1	0	0	23
Springfield, Mass	0	0	------	0	7	0	4	0	83	0	0	5
Syracuse, N. Y	0	0	------	1	0	0	2	0	1	0	0	32
Tacoma, Wash	0	0	------	0	99	0	2	0	0	0	0	1
Tampa, Fla	0	0	2	1	0	0	6	0	0	0	0	0
Topeka, Kans	0	0	------	0	19	0	1	0	1	0	0	0
Trenton, N. J	0	0	1	1	0	0	2	0	3	0	0	1
Washington, D. C	1	1	3	0	2	2	12	0	14	0	1	14
Wheeling, W. Va	0	0	------	0	0	0	0	0	0	0	0	0
Wichita, Kans	0	1	------	0	2	0	3	1	7	0	0	3
Wilmington, Del	0	0	------	0	0	0	2	0	0	0	0	1
Wilmington, N. C	0	0	------	0	0	0	4	0	1	0	0	2
Winston-Salem, N. C	0	0	------	0	0	0	3	0	2	0	0	5
Worcester, Mass	0	0	------	0	2	0	11	0	12	0	0	23

Anthrax.—Cases: Wilmington, Del., 1.
Dysentery, amebic.—Cases: Atlanta, 3; Detroit, 1; Los Angeles, 1.
Dysentery, bacillary.—Cases: Baltimore, 9; Buffalo, 7; Detroit, 1; Los Angeles, 7; New York, 9.
Leprosy.—Cases: New Orleans, 1.
Tularemia.—Cases: Indianapolis, 1.
Typhus fever.—Cases: Atlanta, 3; Charleston, S. C., 1; Dallas, 2; Galveston, 1; Nashville, 1; New Orleans, 1; New York, 1; Savannah, 2.

Rates (annual basis) per 100,000 population for the group of 87 cities included in the preceding table (estimated population, 1942, 33,986,378)

Period	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
		Cases	Deaths						
Week ended Dec. 19, 1942	12.89	21.48	6.44	192.24	75.02	136.85	0.00	1.38	154.19
Average for week 1937–41	18.45	39.38	[1] 5.86	[2] 184.51	[1] 62.04	150.71	2.02	3.26	166.52

[1] 3-year average, 1939–41.
[2] 5-year median.

PLAGUE INFECTION IN TACOMA, WASHINGTON

Under dates of December 21 and 22, 1942, plague infection was reported proved in fleas and tissue from rats, *R. norvegicus*, collected in Tacoma, Washington, as follows: In a pool of 12 fleas from 1 rat taken December 2; in tissue from 1 rat taken December 10; in a pool of 139 fleas from 330 rats taken December 9 and December 11.

TERRITORIES AND POSSESSIONS

Hawaii Territory

Plague (rodent).—Rats proved positive for plague have been reported in Hamakua District, Island of Hawaii, T. H., as follows: Week ended December 5, 1942, 2 plague infected rats in Kapulena area and 2 plague infected rats in Paauhau area. Week ended December 12, 1942, 1 plague infected rat in Honokaa area, and 6 plague infected rats in Paauhau area.

Panama Canal Zone

Notifiable diseases—October 1942.—During the month of October 1942, certain notifiable diseases were reported in the Panama Canal Zone, and terminal cities, as follows:

Disease	Panama		Colon		Canal Zone		Outside the Zone and terminal cities		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Chickenpox	19		11		2		3		35	
Diphtheria	12		8		[1] 12		5		37	
Dysentery (amebic)	6	1	1				2		9	1
Dysentery (bacillary)	1				3		1		5	
Malaria [2]	20	1	4		460		166	4	650	5
Measles	5				22				27	
Meningitis, meningococcus			1						1	
Mumps	4						1		5	
Paratyphoid fever					2				2	
Pneumonia		4		5	27			4	[3] 27	13
Tuberculosis		21		12	6	1		5	[3] 6	39
Typhoid fever	2		4						6	

[1] Includes 2 carriers.
[2] Includes 173 recurrent cases.
[3] Cases reported in the Canal Zone only.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended December 5, 1942.—During the week ended December 5, 1942, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis		2		2	5		1	1		11
Chickenpox		23		90	405	126	117	22	111	894
Diphtheria		22	7	24	2	5	1		1	62
Dysentery				2						2
Encephalomyelitis				1						1
German measles		1		11	12		1	3	7	35
Influenza		16			1	7			14	38
Lethargic encephalitis				1						1
Measles		1		69	105	6	46	2	10	239
Mumps		58	1	247	548	57	54	38	207	1,210
Pneumonia		27			11				24	62
Poliomyelitis			1	1		1				3
Scarlet fever		18	6	42	95	8	15	47	35	266
Tuberculosis		8	6	54	47	5	15		34	169
Typhoid and paratyphoid fever			3	4	1					8
Undulant fever					2					2
Whooping cough		13	1	113	128	41	5	5	20	326
Other communicable diseases		19		4	246	33			3	305

EGYPT

Infectious diseases—Second quarter 1942.—During the second quarter of 1942, certain infectious diseases were reported in Egypt as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	1		Mumps	451	5
Cerebrospinal meningitis	60	31	Plague	2	
Chickenpox	319	4	Pneumonia	2,012	1,690
Diphtheria	574	288	Puerperal septicemia	91	68
Dysentery	1,088	171	Rabies	13	13
Erysipelas	992	106	Scarlet fever	6	1
Influenza	4,202	77	Tetanus	107	85
Jaundice, epidemic	1		Tuberculosis	1,781	1,057
Leprosy	130	24	Typhoid fever	1,989	326
Lethargic encephalitis	1	1	Typhus fever	11,679	2,540
Malaria	4,130	13	Undulant fever	3	1
Measles	4,883	1,958	Whooping cough	870	60

Vital statistics—Second quarter 1942.—Following are the numbers of births and deaths for the second quarter of 1942 for all localities of Egypt having a health bureau:

Number of live births	56,082
Births per 1,000 population	40.4
Deaths, all causes	65,047
Deaths per 1,000 population	46.9
Deaths under 2 years of age	20,288
Deaths under 2 years of age per 1,000 live births	362

REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual prevalence, only those places are included which had not previously reported any of the above-mentioned diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.

A cumulative table showing the reported prevalence of these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

(Few reports are available from the invaded countries of Europe and other nations in war zones.)

Yellow Fever

Bolivia.—Yellow fever has been reported in Bolivia as follows: Chuquisaca Department, May 1942, 1 death; La Paz Department, June 1942, 7 cases, 3 deaths; Santa Cruz Department, April 1942, 6 cases, 4 deaths, May 1942, 12 cases, 7 deaths.

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