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## SANITATION MANUAL FOR LAND AND AIR CONVEYANCES OPERATING IN INTERSTATE TRAFFIC

A Manual for the Sanitary Control of Water Supplies, Milk and Milk Products, Eating and Drinking Facilities, Excreta Disposal, Garbage and Refuse Disposal, and other Items of Sanitation Concerned With Land and Air Conveyances (Railroad Cars, Motor Vehicles, and Airplanes) Engaged in Interstate Traffic.

This manual is designed to provide public health agencies and carriers with the necessary information upon which to base their procedures. It is requisite that each facility or procedure coming under consideration should be carefully examined with reference to its adequacy. The scope of such examination and application will vary according to the circumstances incident to the current war emergency existing in each individual case and cannot be fully specified. In general the facilities and procedures should, however, be in accordance with this sanitation manual.

This manual will be subject to periodic review and revision when indicated to be desirable for incorporation of such changes as actual experience may suggest.

### ADOPTION AND PROMULGATION

UNITED STATES PUBLIC HEALTH SERVICE,
*Washington, D. C., October 2, 1942.*

The Public Health Service hereby adopts and promulgates this Sanitation Manual for Land and Air Conveyances Operating in Interstate Traffic.

This manual is intended for use in the administration of the interstate quarantine regulations as they relate to sanitation of water supplies, milk and milk products, eating and drinking facilities, excreta disposal, garbage and refuse disposal, and other items of sanitation.

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Approved: Dec. 3, 1942.

(s) WATSON B. MILLER,
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# SANITATION MANUAL FOR LAND AND AIR CONVEYANCES OPERATING IN INTERSTATE TRAFFIC

## Section I. Sources of Water Furnished to Interstate Carrier Conveyances

Water used for drinking and culinary purposes on land and air conveyances operating in interstate traffic shall be of the quality prescribed by the Drinking Water Standards of the United States Public Health Service and shall be secured only from supplies approved in accordance with the procedure prescribed in the Interstate Quarantine Regulations of the United States, 1921, which provide as follows:

Water provided by any person, firm, company, or corporation for drinking or culinary purposes on any car, vessel, or other conveyance while engaged in interstate traffic shall be from a source which is approved by the Surgeon General of the United States Public Health Service as producing water of satisfactory sanitary quality and safety.

## Section II. Delivery of Water to Conveyance

Water provided in the manner specified in section I of this manual shall be delivered to the land or air conveyances operating in interstate traffic in accordance with the requirements of the Interstate Quarantine Regulations of the United States, 1921, which provide as follows:

Common carriers, whether persons, firms, companies, or corporations, providing water from approved supplies shall cause such water to be handled from the source of supply to the delivery to consumers in such manner that the safety or sanitary quality of such water shall not be impaired. Water cooled for drinking purposes shall be cooled in such manner that ice cannot come into contact with such water.

### ITEM 1. HYDRANTS

Water hydrants, taps, or faucets shall be properly located, constructed, and maintained to assure protection of approved drinking water against contamination.

*Public health reason.*—Proper location, construction, and maintenance of hydrants, taps, and faucets are essential to avoid contamination of water delivered to such fixtures from approved sources. Contamination may occur from toilet hopper discharges either directly or by splattering and from polluted surface drainage unless hydrants are protected by vertical or horizontal distance from sources of contamination and by suitable housing where the distance obtainable does not insure positive protection.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Hydrants are any one of the following:

(*a*) Overhead crane-type hydrants or "above the ground" water faucets with outlets sufficiently elevated to prevent their exposure to toilet waste discharges from conveyances or to other sources of contamination.

(*b*) Post hydrants or elevated faucets, with outlets at elevations above the point of discharge of toilet waste hoppers of conveyances and not exposed to other sources of contamination.

(*c*) Hydrants located not less than 6 feet from the center line of the nearest track positively protected against contamination by a suitable housing or hood and with the point of discharge at sufficient height above the ground or platform so as to be free from contamination by ordinary surface drainage. Housing or hood as referred to above may be interpreted to include the type of housing used in existing depressed hydrant installations, providing covers are of the overlapping type. In new track installations this type of hydrant shall be located not less than 7 feet from the center line of the nearest track.

(2) Hydrants whether of types (*a*), (*b*), or (*c*) embody certain essentials to permit satisfactory operation and prevent contamination, such as:

(*a*) Substantial and simple construction permitting quick opening of the valve, ready repairs, and maintenance in a clean condition.

(*b*) The provision of outlets of ample size to furnish an adequate quantity of water and equipped with a type of coupling permitting quick attachment or removal of the hose.

(*c*) Adequate facilities for removal of waste water. In the case of frost-proof hydrants provided with weep holes, such drainage must be provided as to prevent surface or waste water from rising to the weep hole elevation.

(*d*) Location to minimize the possibility of accidents and contamination.

(*e*) Post hydrants terminating in downward bends or goosenecks.

(3) Hydrants used for supplying drinking and culinary water to conveyances are not located in areas or places where there are other water supply facilities furnishing water of unsafe, doubtful, or unknown sanitary quality, and when hydrants located in toilet rooms, wash rooms, or similar places where danger of contamination may exist or develop are not used for watering purposes.

Hydrants located within bus garages, airplane hangars, etc., and used to supply drinking and culinary water to land and air conveyances should be protected from contamination by such precautionary

measures as may be indicated by existing conditions, as exemplified by the specifications for the protection of water buckets outlined in item 3 of this section of the manual.

ITEM 2. WATER HOSE

Hose lines used for the delivery of water from hydrants to conveyances shall be of satisfactory material, shall be properly handled and used only for this purpose. They shall be equipped with adequate protective devices. They shall not be left in gutters.

*Public health reason.*—Prevention of contamination of the hose is essential in order that it may deliver safe water to the conveyance. Proper construction, maintenance, and, particularly, operation are all important in preventing contamination.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Hose lines for the delivery of water from hydrants to storage tanks of land or air conveyance equipment have the following essential features:

(*a*) Suitable size and construction and proper maintenance.

(*b*) Nozzle of smooth suitable material fitting with a tight joint both the pressure and gravity water system filling pipes.

(*c*) A simple hard disc or guard placed approximately 8 inches from the nozzle end and, where the hose ends are subject to dragging, on the hydrant end also.

(2) The hose is not left on the ground, when not in use, unless the ends are protected in a suitable housing, or

(3) The hose is drained and hung in special lockers or wound on reels provided for that purpose when not in use.

(4) In moving the hose from place to place the ends of the hose are not allowed to drag.

(5) Water hose conforms to the specifications of the Association of American Railroads, or the equivalent, and the hydrant end of the hose is provided with a type of coupling permitting quick attachment and removal of the hose by a simple motion and this connection is protected by a rigid disc approximately 6″ in diameter and fitted 8″ from the hydrant end of hose.

Before attaching hose, the hydrant should be flushed briefly. Immediately after connecting the hose and before using any water from the hose it should be thoroughly flushed. It should be used for no other purpose.

It is recognized that the usual type of hose nozzle in use, which consists of a metal pipe or hose guarded by a 6″ metal disc, is not ideally suited for use in all instances and for this reason the employees should exercise extreme care in keeping the nozzle end of the hose

out of danger from pollution by its being thrown under the cars or pulled along the ground. The type of hose nozzle which will permit filling the water systems through the tapered nipple, in use on many railroad cars, and which can also be used in filling pressure water tanks has advantages. The operator should in all cases flush the end of the nozzle thoroughly before using the hose to fill either the overhead tanks or the pressure water tanks.

ITEM 3. WATER BUCKETS

Buckets used for the delivery of water from hydrants to conveyances shall be of satisfactory material and construction, shall be properly handled, and used only for this purpose.

*Public health reason.*—A clean bucket is necessary to deliver safe water. Proper construction, maintenance, and handling are important in preventing contamination and, therefore, in protecting the public health. Buckets will not be properly cleaned unless they are constructed so as to make cleaning easy and unless they are kept in good repair.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Buckets which are used for delivering water for drinking and culinary purposes from water hydrants or faucets to the water tanks or coolers of conveyances have tight-fitting complete covers which are kept closed when not in use, and are not used for any other purpose.

(2) Buckets are of adequate capacity and substantially constructed of metal and each bucket has a spout of sufficient size extending from the side of the bucket to permit rapid emptying.

(3) Buckets are kept clean and the exterior only is painted white and labeled *"For Drinking Water Only,"* are thoroughly flushed each time before using, and when not being used are stored in cabinets or cupboards used solely for this purpose.

The cabinets should be painted white on the inside, provided with secure locks, and kept clean and free of dust. For convenience, water buckets may be kept on ice carts, provided the storage compartment complies with these specifications and is entirely separated from the ice. Whenever the buckets are filled, their contents should be immediately supplied to the conveyance water tanks or coolers and they should not be kept in unprotected locations where they may be exposed to contamination for appreciable periods of time.

ITEM 4. HANDLING OF ICE

The methods of production, storage, delivery, and use of ice for the cooling of drinking water and for food preservation purposes in connection with the operation of land and air conveyances shall be carried out in a sanitary manner.

*Public health reason.*—Contaminated ice may cause disease, particularly if used in contact with the drinking water. Where ice and water are not normally in direct contact, there is still a considerable hazard if the ice is contaminated, principally through improper or careless handling, leaks in the cooler compartments, improper construction of coolers, or improper use of ice by passengers.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Ice is produced, stored, and handled at all times in a manner to assure freedom from contamination and the ice storage plant is provided with a suitable self-draining platform, drinking water hydrant, and hose for washing the ice. The following equipment, painted white, is desirable for handling the ice when considerable quantities are used: a cart of such construction as to permit ready cleaning, a pail of metal or other hard material with handle and reinforced bottom to be kept in a special locker, and an ice pick.

(2) Care is taken in the bulk storage of ice to see that floor drains are kept open at all times, that there is free drainage to the outlets, and that doors leading to storage rooms for ice are kept closed.

(3) Ice used from bulk storage for icing coolers is withdrawn in ample time to be washed thoroughly before being placed in the ice carts provided for the purpose, and open platforms, with slatted bottoms, are provided for cracking and chipping ice.

(4) Lids on the ice carts are kept closed until ice is removed and ice carts are built so as to drain and with space sufficient to house the bucket used in carrying ice into the cars.

(5) Ice carts and buckets are painted white on the outside, stencilled with the word "Ice" and used only for handling ice.

(6) If natural ice is used, approval of the source of supply by the State health agency concerned is obtained so that ice derived from polluted sources will not be used. In the use of manufactured ice, care is taken to obtain it from a reliable producer who can give satisfactory assurance that sanitary methods are employed in its manufacture.

(7) Ice is not used for the precooling of drinking water in constant temperature bottles or in other containers in which the water and ice are in contact, except when ice cubes are placed in individual glasses where food or drink is served.

(8) Other suitable means of precooling water, such as obtaining it from an electrically operated water cooler, are employed in instances where precooling is used.

### Section III. Sanitary Facilities at Terminals and Yards

Places where land and air conveyances are serviced, such as depots, coachyards, terminals, bus stations, and airplane landing fields, shall

be provided with all sanitary facilities essential to the protection of public health.

ITEM 1. GENERAL

Equipment and facilities of adequate nature and extent shall be provided so that water, ice, foods, and the cleaning of conveyances shall be handled or carried out under acceptable conditions.

*Public health reason.*—Good housekeeping is essential to health. Proper equipment, facilities, and cleanliness at carrier terminals, stations, and coachyards tend to eliminate such diseases as may be borne by water, food, milk, ice, flies, insects, and rodents.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

Places where drinking water and foods are handled contain all necessary equipment for:

(*a*) Cleaning the conveyances.

(*b*) Removing the wastes.

(*c*) Furnishing water, ice, food, and other supplies as needed, and for providing essential servicing facilities. These facilities should be so arranged as to expedite the performance of the carrier's operations in an economic, safe, and sanitary manner.

Desirable sanitary facilities of a railway coachyard are: Suitable platforms with gutters and water lines; adequate drainage provisions; hydrants; hose, buckets, and storage facilities for them; ice house or car, ice carts, pails, and storage facilities; sewer connections, soil cans, and storage facilities; garbage cans with cleaning and storage shed, waste car and loading platform and incinerator where necessary; commissary with loading platform; service equipment for employees, including lockers, toilets, washrooms, drinking fountains, and lunchrooms. The coachyard should be kept clean, free of water puddles, fecal matter, and rubbish.

In the instance of other types of conveyances, such as motor busses and airplanes, similar sanitary facilities should be provided, subject to such limitations as the extent and nature of the traffic may indicate.

ITEM 2. WASTES DISPOSAL

Satisfactory facilities for the disposal of garbage, refuse, and trash shall be provided.

*Public health reason.*—Collections of garbage, refuse, and trash may furnish food stuffs for rats and other vermin and may serve as places of harborage therefor. In addition these wastes may accumulate to such an extent as to become a nuisance.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Garbage is stored in covered rat-proof metal cans and disposed of daily by city collection or incineration.

(2) Such covered garbage cans, when filled and prior to collection, are stored in a separate, all enclosed room or building provided with a concrete floor, suitable can-washing and drainage facilities, and loading platform.

(3) All combustible waste matter is incinerated or otherwise disposed of without creation of a nuisance or public health hazard.

(4) Other refuse is removed as quickly as possible to a sanitary dump ground or fill and a suitable loading platform is provided for handling such refuse where necessary.

(5) Terminals, coach yards, and servicing areas are kept free from rubbish by daily policing.

### ITEM 3. IMPURE WATER SUPPLIES

Water of unsafe, doubtful, or unknown sanitary quality shall not be permitted for drinking or culinary purposes in any coach yard, station, bus terminal, airplane field, hangar, or room where land or air conveyances are serviced or maintained.

*Public health reason.*—The water supply should be of safe sanitary quality in order to be suitable for drinking and to avoid the contamination of food and utensils.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

Water of safe sanitary quality is provided in coachyards, stations, bus terminals, or airplane fields and hangars, etc.

However, where an existing impure water supply is used for cleaning, boiler feed, or fire purposes there must be no physical connection with the drinking water system and the outlets from the polluted supply shall be so located that there will be little danger of its accidental use for domestic purposes. The outlets shall be differentiated distinctly from drinking water hydrants, provided with fittings unsuited for drinking water hose connections, and posted with permanent signs warning that the water is "Unfit to Drink." Under no circumstances shall the impure supply have outlets or connections adjacent to drinking water hydrants.

### ITEM 4. PLATFORMS AT SERVICING AREAS

Places or areas where land or air conveyances are serviced or handled, including the furnishing of water and food supplies, should

have satisfactory and adequately drained platforms or ground surfaces of impervious or hard packed materials kept in good repair and in a clean condition.

*Public health reason.*—Properly constructed platforms which are in good repair can be easily cleaned and kept in that condition. Platforms having an impervious surface can be cleaned more easily than those constructed of wood or other pervious or easily disintegrated material. Clean platforms are conducive to good health and sanitation.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Platforms are available to all tracks of permanent railway coachyards, at bus garages and terminals, at airplane fields and hangars, and similar places, and preferably are constructed of concrete or other impervious or hard surfaced materials and maintained in a clean condition.

(2) Drainage facilities are adequate to carry off all wash and surface waters.

(3) Suitable protection against rodents is provided.

### ITEM 5. EXCRETA DISPOSAL AT TERMINALS AND YARDS

In places or areas where land and air conveyances are serviced, maintained, cleaned, or occupied by passengers at a terminal or yard, operations shall be so conducted as to avoid fecal contamination of these areas.

It is believed that the ultimate solution of this problem will be the discharge of all fecal wastes from the conveyance to a tank or tanks under the body of the conveyance and disposal of these wastes from such tanks to sewer system inlets in a sanitary manner. While there are many difficulties and technical problems involved in the development of such procedures, the carriers and other agencies concerned should endeavor to work for this goal by experin ıtal installations and an engineering study of the problem.

Until developments along this line of study provide practical methods of handling conveyance wastes, acceptable practices will be: (1) the use of water-tight flexible connections between toilet hoppers and sewers, (2) use of paved parking areas with adequate drains to sewers together with flushing of the wastes in the areas to these drains prior to watering the coaches, (3) adequate policing to prevent use of toilets when the land conveyance is in the terminal or yard together with the use of soil cans set in toilet hoppers or attached to toilet hopper outlets during cleaning or flushing operations. Adequate equipment for the cleaning of soil cans and the disposal of their contents in a sanitary manner shall be provided. The water system

must be protected against contamination during the soil can cleaning operation.

*Public health reason.*—Proper excreta disposal has long been recognized as an essential public health measure. It is necessary that wastes be disposed of in a sanitary manner and that all excreta disposal facilities and equipment be kept separate from all other equipment and facilities. Excreta, improperly disposed of, constitutes a nuisance and a public health menace. Insertion of water pipe or hose in the soil can may, by reason of back siphonage, result in fecal matter or polluted water being drawn into the water supply system.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Flexible connections between toilet hopper discharge lines and sewer inlets are water-tight connections.

(2) Soil cans are of an open top design to fit car hopper outlets closely, made of durable, water-tight, rust-resisting material, designed so that they can be easily inspected and cleaned, and have sufficient capacity.

(3) The contents of the soil cans are disposed of preferably through special manholes connecting with sewers and the contents of soil cans are not dumped on the ground or left exposed or accessible to flies or insects.

(4) Soil cans are not cleaned at hydrants used for drinking water supplies.

(5) Suitable apparatus for cleaning soil cans after each usage is provided at places where cars are occupied, serviced, maintained or cleaned, kept separate from other cleaning apparatus, used only for this purpose and distinctly labeled so as not to be used for other purposes.

(6) The cans are cleaned by flushing for at least three minutes, and until no dirt is visible, with water at a nozzle pressure of at least twenty pounds per square inch and at the water main temperature. A steam connection should be provided to assist when necessary in removing contents adhering to the can. Cleaning shall be accomplished remote from water or food servicing operations, preferably at least 100 feet.

(7) A brush or cloth is not used because of the possibility of dispersing fecal matter.

(8) The cans are stored separate from other equipment in a special rack or locker when not in use, preferably as stated in last sentence in paragraph 6.

(9) Persons handling soil cans wash their hands thoroughly with soap and warm water before engaging in work connected with the handling of food, drinking water, or ice.

(10) The water supply line used for soil can cleaning is equipped with a back flow prevention device recommended or approved by the American Standards Association,[1] or when the discharge end of the line or hose is equipped with a guard of sufficient size and of such design as to prevent the insertion of the line or hose into the can.

(11) If paved parking areas are used, the entire area on which toilet wastes may be discharged or splashed is paved with concrete or equivalent impervious material.

(12) Drains connected to sewers are provided in the paved area at frequent intervals and the area sloped toward the drains so that the entire paved surface can be easily flushed to them.

(13) The paved areas are flushed clean of the discharges from the toilet hopper outlets promptly upon completion of coach cleaning and prior to watering of coaches in the area.

### ITEM 6. WATER COOLER CLEANING EQUIPMENT

There shall be suitable facilities for the cleaning and flushing of the open-type removable water coolers in instances where equipment of this type is in use.

*Public health reason.*—Removable coolers and constant temperature bottles should be cleaned at regular intervals to avoid the accumulation of unsightly deposits. Constant temperature bottles should be subjected to effective bactericidal treatment after cleaning to eliminate any possibility of bacterial contamination.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Removable coolers, now in use in certain types of conveyances, are removed once each month for thorough cleaning and in the interim flushed thoroughly at the end of each round trip or seven-day period without removal from the conveyance.

When coolers are removed for thorough cleaning this should be done on a platform equipped with water and steam facilities, and protected against dust and other contamination borne by the wind. It may be necessary to use a suitable grease remover or washing powder in some cases. Records both of the flushing and of the cleaning should be kept near the cooler, showing dates of cleaning.

(2) In new equipment, a special sink is provided with hot and cold water taps, for washing and rinsing constant temperature bottles when used.

(3) After cleaning, constant temperature bottles are subjected effectively to one or more of the bactericidal processes described in

[1] See proposed American Standard "Back Flow Preventers in Plumbing Systems for Plumbing Fixtures and all Water Connected Devices." American Standards Association, 29 West 39th Street, New York, New York.

item 10 (5) of section 6 of the current edition of the Ordinance and Code Regulating Eating and Drinking Establishments recommended by the United States Public Health Service, summarized as follows:

(*a*) Immersion for at least 2 minutes in clean, hot water at a temperature of at least 170° F. or for one-half minute in boiling water. Unless *boiling* water is used, an approved thermometer shall be available convenient to the vat. The pouring of scalding water over washed bottles shall not be accepted as satisfactory compliance.

It is recommended that, whenever practicable, bactericidal treatment should be obtained through the use of hot water in the manner above described. For this method of bactericidal treatment two adjacent deep sinks should be provided and fitted with a porcelain, metal, or other impervious drainboard. After washing, the bottles should be placed in metal baskets and immersed in the hot water for the required period of time. Baskets may be lined with wooden strips to prevent damage. Upon removal from the hot water they should remain in the baskets until dry and then stored in such manner as not to become contaminated before again being used.

Where hot water is used for bactericidal treatment there shall be provided a hot water heater (preferably controlled by a thermostat) capable of maintaining a water temperature of at least 170° F. in the vat at all times when in use. The heating device may be integral with the immersion vat. Care shall be taken in the bactericidal treatment of bottles by immersion in hot water or chlorine rinse to prevent the trapping of air in the bottle, thus preventing contact with the entire surface of the container. This may be accomplished by placing the bottles in a venting position so that air will not be trapped.

(*b*) Immersion for at least 2 minutes in a lukewarm chlorine rinse containing at least 50 p. p. m. of available chlorine if hypochlorites are used, or a concentration of equal bactericidal strength if chloramines are used. The rinse should be made up at a strength of 100 p. p. m. or more of hypochlorites and shall not be used after its strength has been reduced below 50 p. p. m.

Solutions made from compounds containing chloramine or chloramine-T have a slower bactericidal action than hypochlorites containing equal concentrations of available chlorine. The former must therefore be made up to a sufficiently greater strength to produce a bactericidal effect within the required exposure period equivalent to that of the above hypochlorite concentration. The chloramine and chloramine-T concentration necessary will vary with the different compounds.

Chlorine solutions once used shall not be reused for bactericidal treatment on any succeeding day, but may be reused for other purposes. Where chlorine treatment is used, a three-compartment vat

shall be required, the first compartment to be used for washing, the second for plain rinsing, and the third for chlorine immersion, provided that for existing installations the second or rinsing compartment may be omitted if a satisfactory rinsing or spraying device is substituted. This will prevent the excessive consumption of chlorine by organic matter and washing compound carried over from the washing compartment. Upon removal from the chlorine rinse the bottles may be rinsed in clean running water, if desired, and allowed to dry either in the basket or inverted on a drain shelf or tray.

Frequent test should be made to determine that the chlorine rinse in actual use is of the required strength. The following test suitable for this purpose has been devised:

The test for chlorine strength makes use of the fact that when the proper amount of ortho-tolidine is added to a chlorine solution containing 20 p. p. m. or more, a precipitate is formed, except that in the case of certain chloramines the solution becomes cloudy at chlorine concentrations having a two-minute bactericidal strength equivalent to at least the bactericidal strength of 20 p. p. m. of available chlorine in the form of hypochlorite.

The testing outfit consists of two test tubes $\frac{7}{16}$ by 4 inches, one of which contains ortho-tolidine. (For composition of ortho-tolidine solution see Standard Methods for the Examination of Water and Sewage published by the American Public Health Association.) The other is fitted with a medicine dropper and is used for testing the chlorine solution. It is etched at the 2 cc. and 5 cc. levels so as to make possible the dilution of the solution to be tested to two-fifths of its original strength, thus diluting an original solution of 50 p. p. m. or more to one of 20 p. p. m. or more, which, as above stated, is the critical point for the formation of the precipitate when hypochlorites are tested. Before any tests are made with the apparatus the medicine dropper should be tested to determine whether it delivers drops of the proper size. To do this, simply count the number of drops required to fill to the first mark of the testing tube. If the number required lies between 30 and 50 the dropper is satisfactory. If not, discard it and secure one of the proper size.

The test procedure is as follows: Rinse the testing tube and its dropper thoroughly with clean water. Fill the testing tube to the lower mark with the chlorine solution to be tested, using the dropper for this purpose. Avoid including floating particles. Fill to the second mark with clean water, using the dropper for this purpose.

Add one drop of ortho-tolidine. Hold the upper part of the testing tube firmly with one hand and tap the lower end of it sharply 50 times with one or two fingers of the other hand. If, in the case of hypochlorites, reddish or brownish particles separate out within 5 minutes,

the solution tested contains at least 50 p. p. m. of available chlorine. If, in the case of certain chloramines the solution becomes cloudy within 5 minutes, the solution tested has a bactericidal strength for a 2-minute exposure equivalent to at least the bactericidal strength of 50 p. p. m. of available chlorine in the form of hypochlorite.

In order to determine whether a certain commercial preparation is strong enough for kitchen use when mixed as directed on the label, mix a portion as directed, then dilute half and half, and test for 50 p. p. m. by means of the above-described test. If a precipitate appears, the directions upon the label result in a solution containing at least 100 p. p. m. in the form of hypochlorites or the bactericidal equivalent thereof and may be approved. Otherwise, such larger quantity of the stock solution should be used as will give a satisfactory test.

(*c*) Exposure in a steam cabinet, equipped with an indicating thermometer located in the coldest zone, to at least 170° F. for at least 15 minutes, or to at least 200° F. for at least 5 minutes. For a discussion of steam cabinets see item 14r of the U. S. Public Health Service Milk Code. Steam cabinets should be provided with a valve to permit the discharge of cold air when steam is admitted.

(*d*) Exposure in a properly designed oven or hot-air cabinet, equipped with an indicating thermometer located in the coldest zone, to hot air at a temperature of at least 180° F. for at least 20 minutes.[2]

Equipment that is too large to immerse may be treated (1) with live steam from a hose, in the case of equipment in which steam can be confined, (2) by boiling water rinse, or (3) by spraying or swabbing with chlorine solution of approved strength.

A thermometer should be used to check the actual temperatures used in the methods which employ heat as the bactericidal agent.[3]

If washing machines are used, the temperatures of both the wash water and the rinse water should be checked. For all bactericidal processes the actual period of exposure to the temperature or the chlorine rinse should be checked to determine compliance.

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[2] See Studies of the bactericidal treatment of milk cans in hot-air cabinets. Pub. Health Rep., 53: 329-338 (1938) (Reprint No. 1912).

[3] The following specifications for inspectors' milk temperature thermometers are designed to make this a general purpose thermometer suitable for determining not only refrigeration temperatures but also bactericidal treatment temperatures at dairies and restaurants:

*Inspectors' general purpose thermometers*

*Type.*—Pocket type, mercury actuated.
*Magnification of mercury column.*—To apparent width of not less than one-sixteenth inch.
Scale range, 30° to 212° F. with extension either side permissible.
Temperature represented by smallest scale division, 2° F.
*Number of degrees per inch of scale.*—Not more than 52.
*Accuracy.*—Within 2° F., plus or minus.
*Case.*—Metal, provided with suspension ring and fountain pen clip.
*Bulb.*—Corning normal, or equally suitable thermometric glass.

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Drying cloths, if used, shall be clean and shall be used for no other purpose. It is recommended that wherever possible utensils be permitted to drain dry without the use of drying cloths.

In washing machines the use of strong alkalis and higher wash water temperature makes it possible to employ a shorter exposure period for the final treatment. In such cases the above standards for bactericidal treatment will not apply, and other methods, such as the following, should be used for determining actual results obtained.

Where bacteriological laboratory facilities are available, the following proposed standard procedure for bacteriological examination of cleansed and disinfected utensils, provisionally established by the subcommittee on Standard Methods for the Examination of Dishwashing Devices of the American Public Health Association,[4] is recommended:

(*i*) By the multiple spoon test. Ten spoons are placed in a pint jar containing 200 cc. of sterile salt solution and agitated for 2 minutes.

(*ii*) By the multiple glass test. Ten glasses are examined by passing a damp swab three times around the inside rim and three times around the outside rim of each glass, and the swab is agitated between the swabbing of each successive glass in a test tube containing 10 cc. of sterile salt solution. Thus the test tube contains the pooled washings from 10 glasses.

(*iii*) By the multiple plate test. Ten plates are examined by passing a damp swab over a 4 square inch area of each plate and the swab is agitated between the swabbing of successive plates in 10 cc. of sterile salt solution.

(*iv*) The bacterial suspensions from the three foregoing types of utensils are each plated in the usual manner and the number of organisms per utensil is thereby determined.

(*v*) The bacterial count should not exceed 500 organisms per utensil surface area examined. (More recent work indicates that a standard of 100 is readily attainable, and this standard is therefore recommended.)

### ITEM 7. FILTER CLEANING EQUIPMENT

There shall be available suitable equipment for the cleaning in a sanitary manner of water filters when used on land and air conveyances, as recommended by the manufacturer of the filter device.

*Public health reason.*—Water filters on conveyances provide a stopping place for any bacteria which may enter the system. Unless the filtering material is regularly cleaned and sterilized, it may serve as a focus of infection and liberate harmful bacteria into the drinking water supply. Filters are not necessary from the public health standpoint and their use is discouraged.

[4] American Public Health Association Year Book, 1936-1937, p. 48.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Filters, though not considered necessary from a public health standpoint, are cleaned, receive bactericidal treatment, and are stored and handled in a sanitary manner, or

(2) New sterilized units are installed.

### ITEM 8. HANDLING OF FOOD AND DRINK SUPPLIES

Satisfactory facilities and equipment shall be provided at places or areas where land and air conveyances are furnished with food and drink supplies so that these supplies may be properly protected. Foods such as oysters, clams, and milk products shall not be repacked from one container to another.

*Public health reason.*—Unwholesome or spoiled food or drink may be harmful to the consumer. Food or drink not properly protected from contamination may become a public health hazard. For these reasons pure food and drink should be obtained and sanitary equipment and facilities for proper storing and disposing of the food and drink should be provided. The greatest danger of contamination lies in improper practices of handling food.

*Satisfactory compliance.*—This item shall be deemed to be satisfied when:

(1) The commissary building or space where land and air conveyances are serviced is located conveniently for servicing dining cars and other conveyances and receiving supplies from dealers. It shall be of rat-proof construction, providing suitable storage against contamination of food and other items used in dining cars or other conveyances, and shall embody the following sanitary features:

(*a*) Storerooms and supply rooms of smooth surface concrete or similar material.

(*b*) Suitable ventilation, lighting, heating, waste disposal, toilet, locker, and washing facilities. Toilet rooms should be provided with a permanent type of sign reading "Wash hands before starting work and after each visit to the toilet."

(*c*) Adequate bins, racks, and closets of metal or other durable and readily cleanable material.

(*d*) Thorough screening and rodent-proof construction.

(2) The commissary is maintained in a sanitary condition at all times, and the person in charge makes frequent inspections to see that all sanitary measures are complied with.

(3) All persons engaged in the handling or preparation of food in the commissary are free from communicable disease, as provided in section III, item 12 of this manual.

(4) The sources of food supplies are chosen on the basis of the purity of their products, and the food is handled in such a manner that it will not become contaminated.

(5) All multi-use utensils and all show and display cases or windows, counters, shelves, tables, refrigerating equipment, sinks, and other equipment or utensils used in connection with the operation of dining cars or rooms are so constructed as to be easily cleaned and are kept in good repair and cared for in such manner as to prevent contamination as far as practicable.

(6) Foods such as oysters, clams, and milk products are not repacked from one container to another.

ITEM 9. CLEANING OF CONVEYANCES

Suitable facilities shall be provided at the places or areas where land and air vehicles are cleaned so that such operations can be carried out without causing insanitary conditions or creating industrial or safety hazards detrimental to the health of employees.

*Public health reason.*—Frequent and regular cleaning of conveyances is necessary to avoid nuisances, to eliminate public health hazards, and for purely esthetic reasons. The public health would be endangered if filth were allowed to accumulate in the vehicles. Protection of the employees during the cleaning process, as from dusts, fumes, and gases, is necessary.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Equipment needed for the thorough cleaning of conveyances at regular intervals is provided and when vacuum or suction machines, compressed air devices, and other mechanical aids to cleaning operations are provided in places or areas where their use is desirable.

(2) Interior cleaning several times weekly is accomplished by sweeping and mopping the floor; dusting window shades, upholstery, and carpets; scrubbing and washing toilets, toilet room floors and wash basins; wiping down the woodwork of seats and window sills, and the glass of windows, doors, and lamps.

(3) More thorough cleaning at least once each week is accomplished by scrubbing the exposed floors with soap and water; similarly scrubbing the toilets and toilet room floors and wash basins; wiping down the woodwork, lamps, and metal work with moist or oiled cloths; thoroughly dusting window shades, upholstery, and carpets by beating and brushing, or by means of the vacuum process or compressed air; washing or otherwise cleaning windows; cleaning deck sash openings and ventilators; cleaning the bedding and curtains with compressed air or vacuum and thorough airing and laundering of sheets and pillow cases after each use.

ITEM 10. SANITARY FACILITIES FOR EMPLOYEES

There shall be adequate toilet, washroom, locker, and other essential facilities in or adjacent to places or areas where land and air conveyances are serviced, maintained, cleaned, or handled, for the use of the employees engaged in this work and these facilities shall be maintained in a sanitary condition.

*Public health reason.*—If such facilities are not available for employees, public health will be endangered as the facilities of the conveyance will be used. This is apt to litter the station, terminal, or coachyard with filth and may result in the contamination of the water supply, food, or drink of the conveyance.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Toilets, wash rooms, lockers, and drinking fountains are provided; adequate toilet facilities are installed at convenient locations for use of employees; toilet rooms are supplied with toilet paper and there are available handwashing facilities in close proximity to the toilets; instructions are posted in the toilet rooms stating that the hands should be washed before resuming work; and employees do not use the toilets of conveyances when they are at a standstill at stations or at servicing areas or places except on conveyances having retention tanks.

(2) These toilet facilities comply with the existing State laws or regulations.

(3) Wash rooms, locker rooms, and lunch rooms comply with existing State laws or regulations on these subjects.

(4) Drinking fountains where provided are of design and construction in accordance with the American Standards Association's recommendations (Z 4.2—1942) as follows:

(*a*) The fountain should be constructed of impervious material, such as vitreous china, porcelain, enameled cast iron, other metals, or stoneware.

(*b*) The jet of the fountain should issue from a nozzle of non-oxidizing, impervious material set at an angle from the vertical such as to prevent the return of water in the jet to the orifice or orifices from whence the jet issues. The nozzle and every other opening in the water pipe or conductor leading to the nozzle should be above the edge of the bowl, so that such nozzle or opening will not be flooded in case a drain from the bowl of the fountain becomes clogged.

(*c*) The end of the nozzle should be protected by non-oxidizing guards to prevent the mouth and nose of persons using the fountain from coming into contact with the nozzle. Guards should be so designed that the possibility of transmission of infection by touching the guards is reduced to a minimum.

(*d*) The inclined jet of water issuing from the nozzle should not touch the guard and thereby cause spattering.

(*e*) The bowl of the fountain should be so designed and proportioned as to be free from corners which would be difficult to clean or which would collect dirt.

(*f*) The bowl should be so proportioned as to prevent unnecessary splashing at a point where the jet falls into the bowl.

(*g*) The drain from the fountain should not have a direct physical connection with a waste pipe, unless the drain is trapped.

(*h*) The water supply pipe should be provided with an adjustable valve fitted with a loose key or an automatic valve permitting the regulation of the rate of flow of water to the fountain so that the valve manipulated by the users of the fountain will merely turn the water on or off.

(*i*) The height of the fountain at the drinking level should be such as to be most convenient to persons utilizing the fountain. The provision of several step-like elevations to the floor at fountains will permit children of various ages to utilize the fountain.

(*j*) The waste opening and pipe should be of sufficient size to carry off the water promptly. The opening should be provided with a strainer.

### ITEM 11. CLEANLINESS OF EMPLOYEES

Persons engaged in the servicing of land and air conveyances with water, foods, or drinks shall wear clean outer garments or uniforms, overalls, aprons, etc., of washable material, which shall be laundered at frequent intervals and shall clean their hands by washing with soap and hot water after using a toilet or urinal and directly before beginning their duties and at all other times when necessary so that their hands may be clean and their duties may be performed in a sanitary manner.

*Public health reason.*—One of the greatest dangers in the contamination of water, food, or drink is in improper handling practices. Cleanliness of person, clothing, and facilities is essential to proper food handling. The same also applies to the practices of handling water. Contaminated food or drink is a public health menace.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

Proper facilities have been provided in the servicing area for the convenience of the employees and visual inspection shows that clean outer clothing or coverings of washable material are being worn and the hands of the employees are clean when engaged in handling drinking water, other beverages, foods, utensils, or equipment.

ITEM 12. FREEDOM OF EMPLOYEES FROM COMMUNICABLE DISEASE

No person shall work in any capacity in connection with the furnishing, handling, or serving of water or food supplies to land and air conveyances who is in the communicable stage of any of the diseases enumerated in the Interstate Quarantine Regulations of the United States. Any person found to be infected with any of the diseases enumerated in the Interstate Quarantine Regulations shall be separated immediately from connection with the duties of handling, preparing, or serving water, food, or drinks until free of such infection.

*Quarantinable diseases.*[5]—For the purpose of interstate quarantine the following diseases shall be regarded as contagious and infectious diseases within the meaning of section 3 of the Act approved February 15, 1893: Plague, cholera, smallpox, typhus fever, yellow fever, typhoid fever, paratyphoid fever, dysentery, pulmonary tuberculosis, leprosy, scarlet fever, diphtheria, measles, whooping cough, epidemic cerebrospinal meningitis, anterior poliomyelitis, Rocky Mountain spotted or tick fever, syphilis, gonorrhea, chancroid, anthrax, influenza, pneumonia, epidemic encephalitis, septic sore throat, rubella, chickenpox, psittacosis, and trichinosis.

*Public health reason.*—Food or drink handlers infected with certain communicable diseases may readily transmit diseases and unknowingly contaminate food, drink, or utensils used by the public.

*Satisfactory compliance.*—This item shall be deemed to be satisfied when:

(1) Notice is sent to the local health officer by the supervisor or person having administrative direction of the work of employees, or by the employees engaged in the handling of water, food, or drinks, if he or any other employee contracts any infectious, contagious, or communicable disease, or has a fever, a skin eruption, a cough lasting more than three weeks, or any other suspicious symptom.

(2) Any person having such an illness or disease is excluded immediately from employment involving handling of water, food, or drinks until free of the infection.

### Section IV. Sanitary Conditions of Conveyances

Sanitary conditions of all land and air conveyances, such as railway coaches, sleeping cars, dining cars, motor busses, and airplanes, shall be such as not to facilitate the interstate spread of any of the communicable diseases enumerated in the Interstate Quarantine Regulations of the United States and to this end such conveyances shall be maintained and operated in a satisfactory manner for the protection of health.

[5] From Interstate Quarantine Regulations of the United States as amended October 11, 1941.

ITEM 1. CONVEYANCE TOILET AND LAVATORY FACILITIES

When toilet and lavatory facilities are provided on conveyances they shall be kept clean.

*Public health reason.*—The maintenance of public toilet and lavatory facilities in a clean condition is most important for the prevention of the spread of disease.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Toilet hoppers are of such design as to prevent accumulation of fecal matter on the sides and so located as to eliminate spattering of other equipment, particularly of water filling pipes and station platforms.

(2) The design of the toilet discharge outlet pipe permits the attachment of a suitable soil can directly beneath it.

(3) A nonporous material is used for the floors of toilet and lavatory rooms, and toilets are supplied with toilet paper and lavatories with soap and individual towels; toilet and lavatory rooms are maintained in a clean and sanitary condition, cleaned effectively after each run or trip and locked after cleaning until the conveyance in which they are located is again put into service, except on conveyances having retention tanks.

(4) If cuspidors are furnished, they are of metal or other hard material with a smooth surface to facilitate cleaning and prevent accumulation of filth in chipped or broken surfaces.

The cuspidors shall be cleaned regularly. In cleaning at coach-yards the apparatus and procedures used for cleaning soil cans may be used and the contents shall be disposed of in the same manner as soil can contents; when cleaned en route dumping of contents into car toilets and rinsing is usually sufficient. A tap for this purpose shall be provided where cuspidors are cleaned en route.

(5) Wash basins or lavatory facilities are fixed in place, of durable construction, and easily cleaned.

(6) In new equipment, the inlet to the basin is at least one inch above the overflow line of the basin so as to prevent back-siphonage.

(7) Wash basins have a smooth surface and are so designed as to have no rims, pockets, grooves, recessions, etc., in which scum, dirt, filth, grease deposits, or excess soap may collect or deposit.

ITEM 2. DISCHARGE OF WASTES FROM CONVEYANCES AT STATIONS

The discharge of fecal wastes, waste water, or other polluting materials while any land or air conveyance is at a station shall not be permitted unless proper devices such as soil cans, garbage receptacles, connections to a sewer line, etc., are used for the purposes for

which provided. Toilets shall be kept locked at all times when a conveyance is at a standstill in a depot unless adequate watertight containers are used to receive such fecal wastes and unless proper measures are taken for the sanitary disposal of such wastes and for the cleaning of the containers, as prescribed in section III of this manual.

*Public health reason.*—Disposal of excreta on the ground or in an improper manner at a station, terminal, or coachyard is a distinct public health menace as well as a nuisance condition.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Toilets are kept locked at all times when the conveyances are at a standstill, in a station, unless proper facilities and equipment have been provided as prescribed in section III of this manual and are used in a sanitary manner.

(2) Soil cans are placed beneath toilet hoppers of sleeping cars or set in toilet hoppers of other conveyances whenever such conveyances are open for passenger use at stations or at airports, unless toilets are locked to prevent their use, are connected with sewers or discharge to a properly paved area as provided in section III of this manual.

(3) Sleeping cars or other conveyances, parked for habitation in connection with conventions or public gatherings, are provided with water and sewer connections or other facilities necessary to maintain the area in a sanitary condition at all times.

(4) Conveyance toilets are not used by employees when the cars are unoccupied in a coachyard or terminal.

ITEM 8. DISCHARGE OF WASTES FROM CONVEYANCES EN ROUTE

There shall be no discharge from any land or air conveyance of fecal wastes, garbage, waste water, or other polluting materials while any such conveyance is passing through or over (1) any city or town, (2) a public water supply watershed, (3) the vicinity of a water supply intake in a lake or river, (4) a reservoir from which water for domestic use is derived, or (5) an approved area from which shellfish for domestic consumption are obtained.

The Public Health Service, in cooperation with the State health department having jurisdiction, shall designate and delimit the areas of watersheds and about water intakes and shellfish producing areas in which this requirement shall be complied with and shall notify the proper persons, firms, companies, or corporations of such areas. Under all conditions garbage shall be held in covered metal containers

until such material can be disposed of in accordance with section III, item 2 of this manual.

*Public health reason.*—Water supplies for domestic use or areas from which shellfish are obtained may readily become contaminated by excreta discharged from moving conveyances. Excreta discharged within cities or towns also create a nuisance and a definite public health menace.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

Toilet rooms are locked when passing through or over designated areas unless conveyances are provided with retention containers. It shall be the duty of the proper official of the carrier company to enforce compliance with this requirement by employees upon receipt of letters of notification from the State health officer designated and delimiting specific areas from time to time.

### ITEM 4. CLEANLINESS OF CONVEYANCES

Land and air conveyances when in transit or operation shall be kept clean and sanitary, free of dirt, odors, rodents, flies, and other insects.

*Public health reason.*—Frequent cleaning of conveyances is necessary to avoid nuisances and to eliminate public health hazards. The public health would be menaced if filth were allowed to accumulate in the conveyance.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Cleaning of conveyances while occupied is limited to the minimum consistent with the maintenance of clean conditions and is carried out so as to cause the least possible raising of dust or other annoyance to passengers, and cleaning by dry sweeping or dry dusting is avoided while the conveyance is occupied by passengers.

(2) Offensive odors in toilets or other parts of the conveyance, not removed by cleaning these places, are eliminated by treatment with some odor-destroying substance, and the use of deodorants is not resorted to as a substitute for proper cleaning or disinfecting.

(3) A conveyance which has been infested with bedbugs, lice, or flies is treated effectively to destroy the insects and not put into service until such treatment has been given.

(4) Flies, mosquitoes, insects, and rodents are exterminated by proper methods without delay when found on land and air conveyances. In screened or air-conditioned conveyances it shall be the duty of the employees while in transit to keep them free of flies, mosquitoes, and other insects.

(5) Roller towels or other towels for common use by more than one person are not permitted; roller towels of the so-called "pull-clean" type are not permitted and provision of combs and brushes for common use is not allowed.

(6) Spitting or blowing the nose or brushing the teeth over wash basins in conveyances is prohibited. Separate basins for brushing the teeth shall be provided in the washrooms of sleeping cars or other conveyances having sleeping accommodations.

(7) Soap dispensers supplying either liquid or powdered soap for individual use are provided in wash rooms. Individual bars of soap may be provided in lieu of soap dispensers.

#### ITEM 5. VENTILATION AND HEATING OF CONVEYANCES

All land and air conveyances shall be so ventilated as to insure an adequate supply of fresh or conditioned air at all times while in service and so heated in cold weather as to maintain comfort.

*Public health reason.*—Constant circulation of fresh or conditioned air as well as temperature control is desirable for the comfort of the occupants of the conveyances.[6]

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

All conveyances while in service are provided with an adequate supply of fresh or conditioned air and in cold weather are heated so as to maintain a comfortable temperature.

### Section V. Water Supply Facilities of Conveyances

Equipment on conveyances for the storage and distribution of water used for drinking and culinary purposes shall be satisfactory.

#### ITEM 1. WATER SYSTEM OF CONVEYANCE

The water system, either of the pressure or gravity type, on any land and air conveyance preferably shall be complete and closed from the filling ends to the discharge taps. Water of like quality shall be supplied for all purposes: drinking, culinary, washing, and toilet-flushing. The storage tanks shall be flushed periodically with potable water.

Desirable features of a water system are: adequate capacity for maximum requirements, use of durable metal, and construction such as to facilitate cleaning and inspection.

[6] Report of the Committee on the Medical Aspects of Air Conditioning of Cars. Association of American Railroads, May 19, 1939.

A Study of Surface Temperatures in Sleeping Cars, by T. R. Crowder, M. D. Transaction of the 21st Annual Meeting of the Medical and Surgical Section of the Association of American Railroads, May 27 and 28, 1941.

Instructions to Car Service Employees on Heating of Air-Conditioned Cars. The Pullman Company, February 1940.

*Public health reason.*—If the water system of the conveyance is not a closed system and properly constructed, contamination of the supply, with resulting danger to the public health, may occur. Flushing of tanks will remove sediment which may accumulate.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) All units are connected so that the same water is supplied from the filling pipes to the discharge taps for all purposes.

(2) All storage tanks are flushed at least once each month and in some cases more frequently, depending upon the condition of the water. Such cleaning can be accomplished effectively and readily by flushing with potable water.

(3) Tanks which are located under the roof of the conveyances are designed so they can be flushed from the overhead intakes, and pressure tanks underslung on the conveyance are provided with drain taps so that they can be readily flushed. In all cases where conveyances have been standing for some time and are about to be put into service this flushing shall be thoroughly done. In cases where water used in the water system has been contaminated this flushing shall be preceded by disinfection.

In cases of known pollution of a water system such as might occur by filling the tank with polluted water the following procedure is suggested for disinfecting the system: Make a paste by adding a little water gradually to one pound of chloride of lime or other chlorine disinfecting compound containing approximately 25 percent available chlorine. (If chlorine content of compound used is higher or lower than 25 percent, change the quantity used accordingly.)

To this paste or mixture add 5 gallons of water, stir thoroughly, and allow to settle. This stock solution will provide a chlorine concentration of 50 to 60 p. p. m. if added to 500 gallons of water. The proper quantity of stock solution to provide 50 p. p. m. of chlorine should be poured into the tank with the water used in filling, all fixtures opened briefly to fill the lines with chlorinated water and then allowed to stand for fifteen minutes or longer. The system should then be completely drained and flushed with water from an approved source.

ITEM 2. WATER FILLING CONNECTIONS OF RAILWAY CONVEYANCES

In new equipment there shall be filling pipes or connections for supplying the water tanks on both sides of the conveyance so that the sanitary quality of the water may not be impaired by inadequate equipment or facilities.

*Public health reason.*—Standard filling connections, easily cleanable and conveniently located and protected, decrease the hazard of contamination of the water supply during filling.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) A single type of filling pipe or connection is available for all gravity water systems and one type for all pressure water systems, and these are as nearly alike as possible so that a direct and tight joint can be made with the same type of waterhose nozzle.

The essentials of a satisfactory filling pipe connection are: hard smooth material; sturdy and simple construction to permit a tight joint and ready cleaning; and suitable protection against contamination, including proper location with respect to toilet hoppers.

(2) The end of the filling pipe is flushed with potable water before attaching the hose.

(3) The filling pipe connection has a tapered nipple extending from the side of the conveyance or underneath the conveyance and protected by a metal box or shield.

This box or shield is provided to prevent contamination by waste discharges from the conveyance and the operator should thoroughly flush this box and nipple before making the hose connection. Such a tapered nipple connection on each side of the conveyance makes it unnecessary to throw or drag the hose from one side of the conveyance to the other.

ITEM 3. CONVEYANCE WATER COOLERS

Coolers for water shall be maintained in a sanitary condition at all times and shall be so designed and constructed that the water cooled for drinking purposes shall be chilled in such manner that the ice or refrigerant cannot come in contact with the water. A supply of single service cups shall be available at all water coolers or chilled water faucets on land and air conveyances unless coolers are equipped with bubblers.

*Public health reason.*—If water coolers or containers are not constructed so that they can be easily cleaned and are not kept in good repair, it is unlikely that they will be properly cleaned. If ice is allowed to come in contact with the drinking water, contamination of the water may result from impurities in the ice or those placed in it when it is handled.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Water coolers are an integral part of a closed water system with water compartment consisting of enlarged pipe, coil, pan or tank, and with connections only to storage tank, faucet, and drain.

(2) The open-type removable cooler has the following features: separate ice and water compartments; durable rust-resisting metal construction; interior design permitting ready inspection; ice compartment with reinforced bottom; opening in front of cooler for the

insertion of ice; water compartment opening in top of cooler only large enough to admit filling end of hose or of bucket spout and provided with self-closing lid; water and ice compartments with separate drains; ice compartment drain located so that procurement of drain water by user is not possible.

(3) Removable coolers are thoroughly cleaned periodically while in use, by flushing for two minutes with potable water under adequate pressure, using suitable equipment provided for this purpose, as prescribed in section III, item 6 (1) of this manual.

(4) Records showing date and place of cleaning are kept, preferably on the cooler or in the cooler compartment.

(5) In conjunction with coolers, individual paper cups are available to the passengers.

### ITEM 4. WATER FILTERS ON CONVEYANCE

Such appliances are considered unnecessary. However, where such devices are employed they must not introduce any pollution hazard to the drinking water supply.

*Public health reason.*—Most water supplies used on land and air conveyances are practically free from turbidity or are treated at or near the source to remove such turbidity before the supply reaches the conveyance. In most instances, since the water is considered safe and free enough from suspended matter to be used without further treatment by the public, water filters on the conveyances are unnecessary. In fact, such filters frequently increase the chance of contamination of the water due to improper sterilization or handling of the filtering material before it is placed in service. Filters therefore frequently produce a hazard rather than eliminate a danger to the public health.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) No filters are used, or

(2) If used, they are handled in accordance with provisions of section III, item 7 of this manual.

### ITEM 5. DISPENSING OF DRINKING WATER ON CONVEYANCES

There shall not be provided for drinking water purposes any cup, glass, or any other container which may be used by more than one person unless such cup, glass, or container shall have been thoroughly cleansed and subjected to bactericidal treatment after each individual use, in the manner prescribed for utensils used in the preparation and serving of foods, as set forth in item 10 (5) of section 6 of the current edition of the Ordinance and Code Regulating Eating and Drinking

Establishments recommended by the United States Public Health Service, which is summarized in section III, item 6 (3) of this manual.

*Public health reason.*—Certain communicable diseases may be transmitted from person to person by means of the so-called "common drinking cup" unless such cup is treated after each use to kill all harmful bacteria. Individual, one-service drinking cups eliminate this health hazard.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

Single service cups are provided at all water coolers on land and air conveyances unless (1) drinking fountains are provided, or (2) facilities are available, for immediate use on the conveyance, to clean thoroughly the glasses, cups, etc., and subject them to the prescribed bactericidal treatment as required for glassware, utensils, and equipment used in dining cars having facilities for work of this kind.

ITEM 6. USE OF CONSTANT TEMPERATURE BOTTLES FOR WATER

Bottles or containers of a constant temperature type which are used on land and air conveyances for the storage and dispensing of drinking and culinary water or foods shall be maintained in a sanitary condition at all times. Ice for cooling shall not be placed in contact with water in such bottles or containers either on the conveyance or when they are filled preparatory to being placed on the conveyance.

*Public health reason.*—Clean bottles or containers for water or other beverages are necessary to deliver a safe product. Ice may be contaminated upon freezing or may become contaminated by handling and therefore should not be permitted to come in contact with the drink or food in the bottles or containers.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) Equipment of this kind is filled by using proper facilities as prescribed in section II of this manual, and, in cases where the water is precooled before use, it is done in the manner prescribed under item 4 of section II, and such equipment is cleaned in the manner prescribed under item 6, section III, of this manual.

(2) Constant temperature bottles or containers used for supplying drinking and culinary water are not used for other liquids, beverages, or food products but for the exclusive purpose of holding drinking and culinary water unless cleaned and sterilized before use, and when such bottles or containers are not filled in toilet rooms, wash rooms, or other places which expose them to contamination.

(3) The methods used in the cleaning of constant temperature bottles and containers comply with one or more of the procedures for bactericidal processes described in item 10 (5) of section 6 of the

current edition of the Ordinance and Code Regulating Eating and Drinking Establishments recommended by the United States Public Health Service, summarized in section III, item 6 of this manual.

### Section VI. Conveyance Dining Space Facilities

The equipment, facilities, and conditions on land and air conveyances relating to the storage, preparation, handling, and serving of food and drink shall be such as to assure protection to the health of the consumers of food and drink.

#### ITEM 1. GENERAL

All dining cars, dining rooms or compartments, kitchens, pantries, lockers, or other spaces on conveyances, or such facilities used to serve air conveyances where food or drink is stored, prepared, handled, or served shall be maintained at all times in an acceptable sanitary manner so as to comply with the requirements prescribed for Grade A restaurants in the current edition of the Ordinance and Code Regulating Eating and Drinking Establishments recommended by the United States Public Health Service which are summarized as follows insofar as they apply to the operating conditions of land and air conveyances.

(*a*) Floors. The floors of all rooms in which food or drink is stored, prepared, or served, or in which utensils are washed, shall be of such construction as to be easily cleaned, shall be smooth, and shall be kept clean and in good repair.

(*b*) Walls and ceilings. Walls and ceilings of all rooms shall be kept clean and in good repair. All walls and ceilings of rooms in which food or drink is stored or prepared shall be finished in light color. The walls of all rooms in which food or drink is prepared or utensils are washed shall have a smooth, washable surface up to the level reached by splash or spray.

(*c*) Doors and windows. When flies are prevalent, all openings into the outer air shall be effectively screened and doors shall be self-closing, unless other effective means are provided to prevent the entrance of flies.

(*d*) Lighting. All rooms in which food or drink is stored or prepared or in which utensils are washed shall be well lighted.

(*e*) Ventilation. All rooms in which food or drink is stored, prepared or served, or in which utensils are washed, shall be well ventilated.

(*f*) Water supply. The water supply shall be easily accessible to all rooms in which food is prepared or utensils are washed, and shall be adequate, and of a safe sanitary quality.

(*g*) Lavatory facilities. Adequate and convenient hand-washing facilities shall be provided, including warm water, soap, and approved sanitary towels. The use of a common towel is prohibited. No employee shall resume work after using the toilet room without first washing his hands.

(*h*) Construction of utensils and equipment. All multi-use utensils and all show and display cases or windows, counters, shelves, tables, refrigerating equipment, sinks, and other equipment or utensils used in connection with the operation of dining space shall be so constructed as to be easily cleaned and shall be kept in good repair.

(*i*) Cleaning and bactericidal treatment of utensils and equipment. All equipment, including display cases or windows, counters, shelves, tables, refrigerators, stoves, hoods, and sinks, shall be kept clean and free from dust, dirt, insects, and other contaminating material. All cloths used by waiters, chefs, and other employees shall be clean. Single-service containers shall be used only once.

All multi-use eating and drinking utensils shall be thoroughly cleaned and should be effectively subjected to an approved bactericidal process after each usage. In all new installations necessary equipment shall be provided permitting application of bactericidal procedures. All multi-use utensils used in the preparation or serving of food and drink shall be similarly treated immediately following the day's operation. Drying cloths, if used, shall be clean and shall be used for no other purpose.

(*j*) Storage and handling of utensils and equipment. After bactericidal treatment no utensil shall be stored except in a clean dry place protected from flies, dust, or other contamination, and no utensil shall be handled except in such a manner as to prevent contamination as far as practicable. Single-service utensils shall be purchased only in sanitary containers, shall be stored therein in a clean dry place until used, and shall be handled in a sanitary manner.

(*k*) Disposal of wastes. All wastes shall be properly disposed of, and all garbage and trash shall be kept in suitable receptacles in such manner as not to become a nuisance.

(*l*) Refrigeration. All readily perishable food or drink shall be kept at or below 50° F. except when being prepared or served. Proper disposal shall be made of waste water from refrigeration equipment.

(*m*) Wholesomeness of food and drink. All food and drink shall be wholesome and free from spoilage. All milk, fluid milk products, ice cream, and other frozen desserts shall be from sources approved by the State or local health officer having jurisdiction, subject to such additional requirements as may be specified in the Interstate Quarantine Regulations of the United States or elsewhere in this manual.[7]

[7] For quality standards of milk and milk products, see section VI. item 2 (5) of this manual.

Milk and fluid milk products shall be served in the original containers in which they were received from the distributor or from a bulk container equipped with an approved dispensing device.[8] This requirement shall not apply to cream, which may be served from the original bottle or from a dispenser approved for such service. All oysters, clams, and mussels shall be obtained from dealers whose names appear on the current list of shellfish shippers whose State certificates are published by the Public Health Service.

(*n*) Storage and display of food and drink. All food and drink shall be stored and displayed so as to be protected from dust, flies, vermin, unnecessary handling, droplet infection, overhead leakage, and other contamination. No animals or fowls shall be kept or allowed in any room in which food or drink is prepared or stored. All means necessary for the elimination of flies shall be used.

(*o*) Cleanliness of employees. All employees shall wear clean outer garments and shall keep their hands clean at all times while engaged in handling food, drink, utensils, or equipment.

(*p*) Miscellaneous. The premises of all restaurants shall be kept clean and free of litter or rubbish. None of the operations connected with the conveyance dining space shall be conducted in any room used as living or sleeping quarters. Adequate lockers or dressing rooms shall be provided for employees' clothing and shall be kept clean. Soiled linens, coats, and aprons shall be kept in containers provided for this purpose.

*Public health reason.*—Food or drink not properly protected from contamination may become a public health hazard.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) The current edition of the Ordinance and Code Regulating Eating and Drinking Establishments recommended by the United States Public Health Service for adoption by States, municipalities, counties, or health districts is applied to land and air conveyances, subject to such changes or amendments as may be indicated by necessary differences in operating practices in a restaurant not having a fixed location, but instead in daily transit or movement as is the case in the instance of land and air conveyances.

(2) Dining cars or rooms of conveyances are maintained in a sanitary condition at all times when in operation; are so constructed as to permit ready and thorough cleaning, especially of the pantry and kitchen; are provided with suitable storage for the preservation of food and other supplies and to prevent entrance of flies or other insects and rodents.

[8] For bulk milk dispenser requirements, see item 14 of the Ordinance and Code Regulating Eating and Drinking Establishments Recommended by the Public Health Service.

(3) Only food of approved quality is served; and all persons employed in the preparation or serving of food in a dining car are free from communicable diseases.

(4) Milk and milk product containers are thoroughly cleaned before they are returned to the milk distributor.

(5) The person in charge inspects the dining and kitchen space each day to insure maintenance of thorough cleanliness in all its parts.

ITEM 2. COMPLIANCE WITH INTERSTATE QUARANTINE REGULATIONS

The rooms, compartments, or spaces on land and air conveyances shall comply at all times with the specific requirements of the current issue of the Interstate Quarantine Regulations of the United States, prescribing certain requirements with respect to dining cars and dining rooms.

*Public health reason.*—Food or drink not properly stored, handled, or served may become contaminated and create a public health hazard.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

(1) All spaces where food is prepared or served are screened against the entrance of flies or other insects during the season of flight of such insects. It shall be the duty of employees to destroy flies or other insects which may gain entrance.

(2) A suitable lavatory, conveniently located, with soap and individual towels, is provided for the use of employees engaged in the preparation or serving of the foods, and such lavatory is kept in clean and sanitary condition at all times.

(3) Employees engaged in the preparation or serving of foods or drinks thoroughly cleanse their hands by washing with soap and hot water after using toilet or urinal and directly before beginning their duties.

(4) All crockery, dishes, glassware, and utensils used in the preparation or serving of foods or drinks are thoroughly washed until clean each time after use and, where facilities can be provided in existing equipment, are subjected to bactericidal treatment by immersing in clean hot water at a temperature of 170° F. or more for at least two minutes, or in boiling water for one-half minute. An approved dishwashing machine, properly operated, will be considered as meeting the above requirements. The pouring of scalding water over washed utensils shall not be accepted as satisfactory compliance. In all new installations necessary equipment shall be provided permitting application of bactericidal procedures. The methods and procedures for the cleaning and bactericidal treatment of utensils and equipment prescribed in item 10 of section 6 of the current edition of the Ordinance and Code Regulating Eating and Drinking Establishments

recommended by the United States Public Health Service will be regarded as equally acceptable as the above-described procedures, in the instance of specific interstate carrier companies where operations are of a limited character or when operating conditions will not permit the installation of heavy or bulky equipment for dishwashing, when approved by the Federal and State health agencies having jurisdiction.

(5) No spoiled or tainted food whether cooked or uncooked is served in a land or air conveyance and no milk or milk products are served unless the milk is Grade A pasteurized as defined in the latest edition of the Milk Ordinance and Code [9] recommended by the United States Public Health Service or is Grade A raw milk which has been boiled.

In lieu of Grade A pasteurized milk, certified milk-pasteurized may be served. Certified milk-pasteurized is defined as certified milk-raw which conforms with the current requirements of the American Association of Medical Milk Commissions and is produced under the supervision of a medical milk commission and of the State board of health, or of a city or county health officer, and which has been pasteurized, cooled, and bottled in a milk plant conforming with the requirements for Grade A pasteurized milk of the latest edition of the Milk Ordinance and Code recommended by the Public Health Service: *provided*, that where Grade A pasteurized milk or certified milk-pasteurized, as defined above, is not obtainable, a substitute grade of pasteurized milk may be served temporarily if permitted by the Public Health Service until such time as milk meeting the above requirements is obtained.

(6) Refrigerators, food boxes, or other receptacles in which food is stored are kept in a clean and sanitary condition at all times and are emptied and thoroughly washed with soap and hot water at least once in each seven days that they are in use and following the return to service of conveyances which have been out of active service.

(7) Garbage containers in sufficient number, with tight-fitting covers, are provided to care for all food refuse and other wastes, and such wastes are not thrown from the land or air conveyance.

(8) No person is working in any capacity in connection with the preparation or serving of food who is in the communicable stage of any of the diseases enumerated in the Interstate Quarantine Regulations of the United States and, when any person found to be infected with any of the diseases enumerated in the Interstate Quarantine Regulations (section III, item 12 of this manual) is separated immediately from connection with the duties of preparing or serving foods or drink until free of such infection. All persons employed for such service shall undergo a physical examination by a competent physician before

[9] Copies may be purchased from the Superintendent of Documents, Washington, D. C., for 35 cents.

being assigned to service and before returning to work after any disabling illness and at such other times during their service as may be necessary to determine their freedom from such diseases and shall be immediately relieved from service if found to be so afflicted.

(9) When the person in charge of the spaces set aside for the preparation or serving of food is responsible for compliance with all sanitary requirements and makes an inspection of such spaces each day for the purpose of maintaining cleanliness of all parts thereof.

ITEM 3. MISUSE OF DINING SPACE FACILITIES

Dining car space shall not be used for sleeping quarters.

*Public health reason.*—The use of dining space facilities for other than the preparation, handling, serving, and consumption of food and drink increases the likelihood of contamination of the food and drink.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

The space provided on the conveyance for the preparation and handling of food and drink is not used as sleeping quarters or for personal ablutionary purposes by employees or other persons.

## Section VII. Sanitary Quality of Food and Drink

Foods and beverages provided on land and air conveyances shall be of such quality and stored or served under such conditions as not to become agents in the interstate spread of any communicable disease.

ITEM 1. WHOLESOMENESS OF FOOD AND DRINK

All food and drink shall be wholesome and free from spoilage. All milk, fluid milk products, ice cream and other frozen desserts served shall be from sources approved by the State or local health officer having jurisdiction, subject to such additional requirements as may be specified in the Interstate Quarantine Regulations of the United States or elsewhere in this manual.

*Public health reason.*—Protection of the public health requires that food and drink be obtained from safe sources and handled to minimize danger of contamination, particularly those foods eaten uncooked such as milk, ice cream, oysters, fresh fruits, and vegetables.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

The requirements of item 14, "Wholesomeness of food and drink," of section 6 of the current edition of the Ordinance and Code Regulating Eating and Drinking Establishments recommended by the Public Health Service are complied with. These requirements are summarized in section VI, item 1, paragraph (*m*) of this manual.

ITEM 2. STORAGE OF FOOD AND DRINK

All food and drink shall be so stored as to be protected from dust, flies, vermin, unnecessary handling, droplet infection, overhead leakage, and other contamination. No animals or fowls shall be kept or allowed in any room in which food or drink is prepared or stored. All means necessary for the elimination of flies shall be used.

*Public health reason.*—Food or drink not properly protected from contamination may become a public health hazard.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

The requirements of item 15, "Storage and display of food and drink," of section 6 of the current edition of the Ordinance and Code regulating Eating and Drinking Establishments recommended by the Public Health Service are complied with. These requirements are summarized as follows insofar as they apply to land and air conveyances:

(*a*) All food and drink are stored in such manner as to be protected from dust, flies, vermin, unnecessary handling, droplet infection, overhead leakage, sewage back flow, and other contamination. Evidence of the presence of rodents, roaches, ants, or other vermin shall be considered as violating this item. Serving of sliced butter and cracked ice shall not be by direct contact with fingers or hands. Bottled milk and other beverages in nonleakproof containers shall not be submerged in water for cooling. Food or drink shall not be stored on floors which are subject to flooding from sewage back flow.

(*b*) Dustless methods of floor cleaning are used, or dust-arresting sweeping compounds and push brooms are employed; and all except emergency floor cleaning is done during those periods when the least amount of food and drink is exposed, such as after closing or between meals.

(*c*) No animals or fowls are kept or allowed in any room in which food or drink is prepared or stored.

(*d*) All supplementary means necessary for the elimination of flies, such as fly-repellent fans, fly paper, fly traps, or fly-killing sprays or powders, are employed.

ITEM 3. REFRIGERATION OF FOOD AND DRINK

All readily perishable food or drink shall be kept at or below 50° F. except when being prepared or served. Proper disposal shall be made of waste water from refrigeration equipment.

*Public health reason.*—Usually the bacteria in food are harmless and if this were always true there would be no reason to refrigerate

food except to prevent spoilage. There is, however, no way to be sure that pathogenic bacteria have not entered the food (even though observance of the other items of this manual will reduce this likelihood). The likelihood of contracting disease may be increased when food contains large numbers of disease-producing organisms. For this reason perishable foods shall be kept cold so that any small number of disease-producing bacteria which may have entered will not multiply.

*Satisfactory compliance.*—This item shall be deemed to have been satisfied when:

The requirements of item 13, "Refrigeration," of section 6 of the current edition of the Ordinance and Code Regulating Eating and Drinking Establishments recommended by the Public Health Service are complied with. These requirements are summarized as follows insofar as they apply to land and air conveyances:

(*a*) All readily perishable foods or drinks, including milk and milk products, are kept at or below 50° F. except when being prepared, kept warm, or served. This shall include all cream-filled pastries.

(*b*) All ice used is from a source approved by the State or local health officer having jurisdiction and is stored and handled in such manner as to prevent contamination. Water used to wash ice shall comply with the construction, operation, and sanitation standards of the State board of health.

(*c*) All waste water from refrigeration equipment drains into an open sink or drain.

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## FELLOWSHIPS IN HEALTH EDUCATION

Convinced of the need for qualified health educators to carry on essential health education during this emergency and in the reconstruction period to follow, the W. K. Kellogg Foundation has made a grant of funds to the United States Public Health Service for the establishment of 20 fellowships leading to a master's degree in public health with a major in health education.

The experience of those organizations in which health education has been effective has demonstrated that the health educator must have a complete mastery of education and must also be professionally trained in community health education. In the past, scientific training of this nature has been limited. The present shortage of such highly trained personnel, as well as a contemplated demand growing out of future expansion of health education activities, both in this country and in foreign lands, is the chief concern of the sponsors of the fellowships. For this reason, the stipends of $100 per month plus tuition not only provide for a year's training (9 months of intra-mural

work and 3 months of supervised field experience) but also anticipate trainee employment following successful completion of the basic training. Arrangements have been completed for the training to be given at the University of North Carolina at Chapel Hill beginning March 20, 1943.

A candidate for the position of health educator should have not only sound scientific training but good personal health and a pleasing appearance. There is great need for the health educator to have creative ability, leadership qualities, sound judgment, common sense, and adaptability. Since the success of the person in this field depends upon these qualifications, the awarding of fellowships will be made accordingly.

In view of the fact that the field of community public health education is new, standardized and specific training as a qualification for the fellowships could not fairly be requested. However, it is considered pertinent and important if the candidate is able to present a background including some or all of the following areas of knowledge and skill:

1. Basic cultural education, including the development of appreciations and skills in the use of the English language.
2. Basic science education, including physics, chemistry, biology, physiology, and bacteriology.
3. Training in education and educational psychology.
4. Social science education to provide an appreciation of the importance of respect for human personality and government.

Anyone interested and qualified may obtain application blanks from the Surgeon General, U. S. Public Health Service, Washington, D. C. Final application forms must be postmarked not later than March 1, 1943.

## MORTALITY SUMMARY FOR LARGE CITIES IN THE UNITED STATES, 1942

The number of deaths in 88 major cities in the United States in 1942 increased 1.4 percent as compared with that for 1941, the respective figures being 440,734 and 434,530, according to provisional reports recently issued by the Bureau of the Census. The provisional death rate for these cities for 1942 is 11.8 per 1,000 population, as compared with a final rate for 1941 of 11.7.

*General mortality.*—In general the weekly death rates for the first 8 months of the year followed closely those for the average of the 3-year period 1939–41, with the exception that the rates in January and February of 1942 showed a marked decline, whereas those for the

1939–41 average showed a very considerable increase in those months and were also definitely in excess of similar rates for the 3-year averages in the corresponding 1938–40 period. Rates for the last 4 months of 1942 were consistently higher, except for 1 week in September, than those for the 3-year average, with notable excesses for the weeks ended October 12, 1942, and January 3, 1943.

*Infant mortality.*—The number of infant deaths reported in these cities in 1942 was 30,526, and represents an increase of 10.7 percent over provisional figures for 1941, but the infant death rate per 1,000 live births in 1942 is 9.2 percent lower than in 1941, the provisional infant death rate in 1942 being 34.5 per 1,000 live births, while the final rate reported for 1941 is 38.0.

All mortality figures are tabulated on the basis of place of death, and not place of residence. The death rates are based on populations as enumerated in the 1940 census. On account of considerable movement in population since the census was taken, these rates may not be rigorously comparable with those for recent prior years, and especially the rates for individual cities should be interpreted with a certain degree of caution.

| | Provisional | | Final |
|---|---|---|---|
| | 1942 | 1941 | 1941 |
| Total deaths, 88 cities | [1] 440,734 | [1] 434,530 | [2] 437,096 |
| Deaths per 1,000 population | [3] 11.8 | | [3] 11.7 |
| Deaths under 1 year of age | [1] 30,526 | [1] 27,581 | [2] 28,787 |
| Deaths under 1 year of age per 1,000 live births | [3] 34.5 | | [4] 38.0 |

[1] Based upon weekly telegraphic reports from city health officers.
[2] Tabulation of transcripts from State registrars' offices.
[3] Total death rates are per 1,000 enumerated populations as of Apr. 1, 1940, and infant mortality rates are per 1,000 estimated live births.
[4] The final infant death rate is the number of deaths under 1 year per 1,000 live births, based upon tabulations of transcripts received from State registrars' offices.

## DEATHS DURING WEEK ENDED JANUARY 16, 1943

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

| | Week ended Jan. 16, 1943 | Corresponding week, 1942 |
|---|---|---|
| Data from 90 large cities of the United States: | | |
| Total deaths | 10,316 | 9,807 |
| Average for 3 prior years | 9,674 | |
| Total deaths, first 2 weeks of year | 21,022 | 19,656 |
| Deaths under 1 year of age | 748 | 589 |
| Average for 3 prior years | 575 | |
| Deaths under 1 year of age, first 2 weeks of year | 1,536 | 1,217 |
| Data from industrial insurance companies: | | |
| Policies in force | 65,745,481 | 64,887,805 |
| Number of death claims | 14,619 | 13,432 |
| Death claims per 1,000 policies in force, annual rate | 11.6 | 10.8 |
| Death claims per 1,000 policies, first 2 weeks of year, annual rate | 10.9 | 10.1 |

# 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 23, 1943

#### Summary

Of the nine common communicable diseases included in the following tables, figures for the current week for only two, influenza and meningococcus meningitis, are above the 5-year (1938–42) medians. For three other diseases, measles, scarlet fever, and typhoid fever, increases were shown over cases reported for the preceding week.

A total of 354 cases of meningococcus meningitis was reported, as compared with 298 for the preceding week, and more than reported in any week since the peak of incidence in 1936 was reached with the report of the same number for the week ended March 28. Current reports show increased incidence in all of the 9 geographic divisions except the New England, West North Central, and Pacific States, with largest numbers reported in New York (48), California (30), Rhode Island (25), Oregon (22), Virginia (19), and South Carolina (18).

The number of influenza cases reported for the week, 4,387, is only very slightly above the figures for the preceding week and the corresponding 5-year median. Of the current total, 3,524 cases, 80 percent, were reported in the South Atlantic and West South Central States. Texas, Virginia, and South Carolina reported, respectively, 1,661, 763, and 681 cases.

Other reports for the week include 3 cases of anthrax (2 in Pennsylvania and 1 in Louisiana), 185 cases of dysentery (22 amebic, 140 bacillary, and 23 unspecified), 7 cases of infectious encephalitis, 1 case of leprosy (in Texas), 16 cases of tularemia, and 61 cases of typhus fever.

Deaths reported during the week ended January 23 in 87 large cities of the United States totaled 9,782; for the preceding week, 10,050. Cumulative figures for the first 3 weeks of the year are, for 1943, 30,270; 1942, 28,184.

## *Telegraphic morbidity reports from State health officers for the week ended January 23, 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 1938–42 | Week ended— | | Median 1938–42 | Week ended— | | Median 1938–42 | Week ended— | | Median 1938–42 |
| | Jan. 23, 1943 | Jan. 24, 1942 | | Jan. 23, 1943 | Jan. 24, 1942 | | Jan. 23, 1943 | Jan. 24, 1942 | | Jan. 23, 1943 | Jan. 24, 1942 | |
| **NEW ENG.** | | | | | | | | | | | | |
| Maine | 0 | 0 | 0 | 5 | ------ | 5 | 29 | 261 | 102 | 8 | 1 | 0 |
| New Hampshire | 1 | 0 | 0 | ------ | ------ | ------ | 29 | 7 | 7 | 1 | 0 | 0 |
| Vermont | 0 | 0 | 0 | ------ | ------ | ------ | 330 | 10 | 13 | 0 | 0 | 0 |
| Massachusetts | 0 | 3 | 5 | ------ | ------ | ------ | 425 | 284 | 284 | 8 | 1 | 0 |
| Rhode Island | 1 | 1 | 0 | ------ | 1 | ------ | 17 | 88 | 1 | 25 | 0 | 0 |
| Connecticut | 0 | 2 | 3 | 8 | 2 | 10 | 375 | 143 | 121 | 4 | 0 | 0 |
| **MID. ATL.** | | | | | | | | | | | | |
| New York | 25 | 20 | 20 | [1] 24 | [1] 11 | [1] 19 | 971 | 346 | 400 | 48 | 3 | 5 |
| New Jersey | 10 | 8 | 15 | 18 | 10 | 12 | 478 | 167 | 167 | 8 | 2 | 2 |
| Pennsylvania | 10 | 17 | 30 | 4 | ------ | ------ | 2,077 | 1,214 | 1,214 | 12 | 3 | 3 |
| **E. NO. CEN.** | | | | | | | | | | | | |
| Ohio | 8 | 7 | 21 | 18 | 29 | 9 | 82 | 96 | 96 | 9 | 2 | 1 |
| Indiana | 0 | 8 | 19 | 16 | 14 | 28 | 137 | 67 | 55 | 7 | 0 | 1 |
| Illinois | 8 | 24 | 25 | 11 | 34 | 42 | 177 | 104 | 104 | 8 | 1 | 1 |
| Michigan [2] | 5 | 15 | 12 | 4 | 5 | 5 | 129 | 176 | 511 | 9 | 0 | 0 |
| Wisconsin | 4 | 3 | 1 | 101 | 20 | 52 | 434 | 179 | 378 | 1 | 0 | 0 |
| **W. NO. CEN.** | | | | | | | | | | | | |
| Minnesota | 3 | 1 | 1 | ------ | 2 | 3 | 11 | 326 | 206 | 3 | 1 | 1 |
| Iowa | 3 | 3 | 4 | 15 | 1 | 8 | 95 | 62 | 62 | 1 | 0 | 0 |
| Missouri | 11 | 8 | 14 | 12 | 12 | 70 | 45 | 82 | 15 | 5 | 0 | 1 |
| North Dakota | 1 | 2 | 2 | 41 | 14 | 14 | 14 | 80 | 19 | 1 | 0 | 0 |
| South Dakota | 0 | 6 | 2 | ------ | ------ | ------ | 74 | 6 | 6 | 0 | 0 | 0 |
| Nebraska | 1 | 0 | 2 | 51 | ------ | ------ | 69 | 43 | 20 | 2 | 0 | 0 |
| Kansas | 2 | 2 | 7 | 11 | 17 | 17 | 166 | 135 | 169 | 9 | 1 | 1 |
| **SO. ATL.** | | | | | | | | | | | | |
| Delaware | 1 | 3 | 0 | ------ | ------ | ------ | 3 | 7 | 7 | 0 | 1 | 0 |
| Maryland [2] | 5 | 7 | 9 | 27 | 6 | 26 | 19 | 243 | 15 | 13 | 2 | 2 |
| Dist. of Col. | 0 | 3 | 3 | 6 | 3 | 6 | 17 | 17 | 7 | 2 | 1 | 0 |
| Virginia | 12 | 8 | 12 | 763 | 362 | 362 | 116 | 195 | 194 | 19 | 4 | 1 |
| West Virginia | 6 | 11 | 11 | 12 | 38 | 40 | 5 | 190 | 58 | 3 | 1 | 3 |
| North Carolina | 19 | 17 | 27 | 27 | 31 | 35 | 59 | 777 | 524 | 8 | 1 | 1 |
| South Carolina | 9 | 6 | 6 | 681 | 653 | 865 | 5 | 154 | 70 | 18 | 1 | 1 |
| Georgia | 4 | 10 | 11 | 66 | 101 | 143 | 10 | 130 | 64 | 2 | 0 | 0 |
| Florida | 7 | 9 | 9 | 13 | 8 | 8 | 12 | 49 | 40 | 3 | 1 | 1 |
| **E. SO. CEN.** | | | | | | | | | | | | |
| Kentucky | 6 | 7 | 8 | 16 | 21 | 37 | 284 | 38 | 65 | 3 | 1 | 1 |
| Tennessee | 9 | 5 | 12 | 78 | 81 | 159 | 36 | 111 | 71 | 6 | 1 | 1 |
| Alabama | 6 | 20 | 13 | 107 | 433 | 433 | 6 | 72 | 87 | 4 | 2 | 1 |
| Mississippi [2] | 6 | 8 | 11 | ------ | ------ | ------ | ------ | ------ | ------ | 11 | 0 | 1 |
| **W. SO. CEN.** | | | | | | | | | | | | |
| Arkansas | 10 | 3 | 11 | 148 | 186 | 218 | 63 | 175 | 61 | 0 | 0 | 0 |
| Louisiana | 7 | 11 | 11 | 7 | 8 | 21 | 57 | 24 | 5 | 11 | 2 | 1 |
| Oklahoma | 5 | 10 | 13 | 113 | 138 | 177 | 1 | 183 | 12 | 2 | 0 | 0 |
| Texas | 58 | 71 | 44 | 1,661 | 1,553 | 1,405 | 44 | 1,097 | 195 | 10 | 9 | 1 |
| **MOUNTAIN** | | | | | | | | | | | | |
| Montana | 1 | 0 | 0 | ------ | 9 | 9 | 54 | 54 | 12 | 2 | 0 | 0 |
| Idaho | 0 | 5 | 0 | ------ | ------ | 1 | 228 | 22 | 5 | 1 | 0 | 0 |
| Wyoming | 0 | 0 | 0 | 61 | 70 | 3 | 10 | 13 | 9 | 3 | 0 | 0 |
| Colorado | 12 | 6 | 8 | 57 | 77 | 73 | 158 | 190 | 64 | 0 | 0 | 0 |
| New Mexico | 3 | 0 | 1 | 2 | ------ | 21 | 15 | 53 | 49 | 0 | 1 | 1 |
| Arizona | 2 | 2 | 6 | 103 | 100 | 132 | 14 | 201 | 9 | 3 | 0 | 0 |
| Utah [2] | 3 | 0 | 0 | 7 | 105 | 75 | 343 | 38 | 38 | 7 | 0 | 0 |
| Nevada | 0 | 0 | ------ | ------ | ------ | ------ | 5 | 0 | ------ | 0 | 0 | ------ |
| **PACIFIC** | | | | | | | | | | | | |
| Washington | 8 | 0 | 0 | 1 | 12 | 9 | 594 | 35 | 60 | 2 | 2 | 1 |
| Oregon | 0 | 1 | 2 | 33 | 53 | 56 | 308 | 116 | 102 | 22 | 0 | 0 |
| California | 20 | 16 | 20 | 59 | 112 | 131 | 177 | 1,621 | 246 | 30 | 7 | 3 |
| Total | 312 | 369 | 415 | 4,387 | 4,332 | 4,332 | 8,807 | 9,681 | 9,284 | 354 | 52 | 52 |
| 3 weeks | 1,014 | 1,127 | 1,446 | 12,569 | 12,026 | 12,026 | 25,214 | 25,839 | 25,839 | 941 | 165 | 155 |

See footnotes at end of table.

*Telegraphic morbidity reports from State health officers for the week ended January 23, 1943, and comparison with corresponding week of 1942, and 5-year median*—Continued

| Division and State | Poliomyelitis | | | Scarlet fever | | | Smallpox | | | Typhoid and paratyphoid fever | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Week ended— | | Median 1938–42 | Week ended— | | Median 1938–42 | Week ended— | | Median 1938–42 | Week ended— | | Median 1938–42 |
| | Jan. 23, 1943 | Jan. 24, 1942 | | Jan. 23, 1943 | Jan. 24, 1942 | | Jan. 23, 1943 | Jan. 24, 1942 | | Jan. 23, 1943 | Jan. 24, 1942 | |
| **NEW ENG.** | | | | | | | | | | | | |
| Maine | 0 | 0 | 0 | 9 | 26 | 11 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Hampshire | 0 | 0 | 0 | 5 | 12 | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vermont | 0 | 0 | 0 | 4 | 7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Massachusetts | 1 | 0 | 0 | 363 | 374 | 195 | 0 | 0 | 0 | 1 | 6 | 1 |
| Rhode Island | 0 | 0 | 0 | 21 | 33 | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| Connecticut | 0 | 0 | 0 | 89 | 38 | 68 | 0 | 0 | 0 | 1 | 0 | 1 |
| **MID. ATL.** | | | | | | | | | | | | |
| New York | 0 | 2 | 2 | 372 | 359 | 461 | 0 | 0 | 0 | 4 | 6 | 7 |
| New Jersey | 1 | 2 | 0 | 109 | 112 | 146 | 0 | 0 | 0 | 0 | 0 | 1 |
| Pennsylvania | 0 | 3 | 1 | 285 | 278 | 422 | 0 | 0 | 0 | 6 | 6 | 6 |
| **E. NO. CEN.** | | | | | | | | | | | | |
| Ohio | 1 | 3 | 2 | 311 | 320 | 300 | 5 | 0 | 0 | 1 | 4 | 2 |
| Indiana | 2 | 0 | 0 | 100 | 107 | 142 | 4 | 3 | 3 | 1 | 1 | 1 |
| Illinois | 1 | 2 | 0 | 221 | 265 | 449 | 2 | 2 | 2 | 2 | 2 | 2 |
| Michigan [2] | 0 | 3 | 0 | 121 | 399 | 399 | 0 | 0 | 0 | 1 | 1 | 2 |
| Wisconsin | 0 | 1 | 1 | 276 | 166 | 166 | 0 | 0 | 12 | 1 | 0 | 0 |
| **W. NO. CEN.** | | | | | | | | | | | | |
| Minnesota | 0 | 0 | 0 | 75 | 106 | 139 | 0 | 2 | 11 | 0 | 0 | 0 |
| Iowa | 0 | 0 | 0 | 49 | 63 | 87 | 0 | 0 | 9 | 7 | 1 | 1 |
| Missouri | 1 | 1 | 0 | 91 | 86 | 86 | 0 | 3 | 5 | 0 | 0 | 3 |
| North Dakota | 0 | 1 | 0 | 11 | 44 | 10 | 1 | 1 | 1 | 0 | 0 | 1 |
| South Dakota | 0 | 1 | 0 | 12 | 49 | 23 | 0 | 0 | 2 | 0 | 0 | 0 |
| Nebraska | 2 | 0 | 0 | 24 | 38 | 31 | 0 | 1 | 1 | 0 | 0 | 0 |
| Kansas | 0 | 0 | 0 | 71 | 79 | 94 | 2 | 2 | 2 | 0 | 0 | 0 |
| **SO. ATL.** | | | | | | | | | | | | |
| Delaware | 0 | 0 | 0 | 14 | 62 | 18 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maryland [2] | 0 | 0 | 0 | 48 | 68 | 62 | 0 | 0 | 0 | 0 | 4 | 4 |
| Dist. of Col | 0 | 0 | 0 | 28 | 15 | 15 | 0 | 0 | 0 | 4 | 0 | 0 |
| Virginia | 3 | 0 | 0 | 48 | 52 | 39 | 0 | 0 | 0 | 4 | 3 | 3 |
| West Virginia | 0 | 0 | 0 | 35 | 91 | 60 | 1 | 0 | 0 | 0 | 1 | 1 |
| North Carolina | 1 | 2 | 1 | 73 | 53 | 58 | 0 | 0 | 0 | 0 | 1 | 1 |
| South Carolina | 0 | 0 | 0 | 7 | 14 | 14 | 0 | 0 | 0 | 1 | 1 | 3 |
| Georgia | 0 | 0 | 0 | 24 | 17 | 19 | 1 | 0 | 0 | 2 | 3 | 2 |
| Florida | 0 | 0 | 0 | 21 | 3 | 3 | 0 | 0 | 0 | 1 | 4 | 0 |
| **E. SO. CEN.** | | | | | | | | | | | | |
| Kentucky | 0 | 0 | 0 | 36 | 114 | 86 | 0 | 0 | 0 | 2 | 1 | 1 |
| Tennessee | 1 | 0 | 0 | 88 | 78 | 78 | 0 | 0 | 0 | 0 | 2 | 2 |
| Alabama | 1 | 1 | 1 | 23 | 37 | 26 | 2 | 0 | 0 | 0 | 4 | 3 |
| Mississippi [2] | 0 | 0 | 1 | 15 | 13 | 13 | 1 | 0 | 0 | 0 | 0 | 0 |
| **W. SO. CEN.** | | | | | | | | | | | | |
| Arkansas | 0 | 0 | 0 | 6 | 11 | 9 | 0 | 0 | 5 | 0 | 5 | 4 |
| Louisiana | 0 | 2 | 1 | 12 | 5 | 12 | 1 | 0 | 0 | 7 | 13 | 11 |
| Oklahoma | 0 | 0 | 0 | 7 | 15 | 26 | 0 | 0 | 4 | 0 | 2 | 2 |
| Texas | 6 | 1 | 1 | 52 | 82 | 93 | 1 | 4 | 4 | 4 | 10 | 10 |
| **MOUNTAIN** | | | | | | | | | | | | |
| Montana | 0 | 0 | 0 | 15 | 20 | 26 | 0 | 0 | 0 | 1 | 0 | 0 |
| Idaho | 0 | 0 | 0 | 14 | 15 | 15 | 0 | 1 | 1 | 0 | 1 | 1 |
| Wyoming | 0 | 0 | 0 | 65 | 7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Colorado | 0 | 0 | 0 | 54 | 24 | 46 | 0 | 0 | 8 | 3 | 1 | 0 |
| New Mexico | 0 | 0 | 0 | 10 | 2 | 14 | 0 | 0 | 0 | 1 | 0 | 0 |
| Arizona | 1 | 0 | 0 | 11 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utah [2] | 1 | 1 | 0 | 75 | 35 | 28 | 0 | 0 | 0 | 1 | 0 | 0 |
| Nevada | 0 | 0 | ----- | 0 | 0 | ----- | 0 | 0 | ----- | 0 | 0 | ----- |
| **PACIFIC** | | | | | | | | | | | | |
| Washington | 1 | 1 | 1 | 27 | 32 | 62 | 0 | 1 | 1 | 0 | 2 | 2 |
| Oregon | 0 | 0 | 0 | 14 | 19 | 35 | 1 | 0 | 2 | 3 | 1 | 1 |
| California | 1 | 1 | 1 | 194 | 128 | 154 | 0 | 0 | 12 | 2 | 3 | 5 |
| Total | 25 | 28 | 28 | 3,655 | 3,981 | 4,229 | 22 | 20 | 80 | 61 | 89 | 91 |
| 3 weeks | 105 | 85 | 85 | 10,749 | 10,374 | 11,960 | 103 | 41 | 264 | 155 | 243 | 250 |

See footnotes at end of table.

*Telegraphic morbidity reports from State health officers for the week ended January 23, 1943, and comparison with corresponding week of 1942, and 5-year median*—Continued

| Division and State | Whooping cough | | | Week ended Jan 23, 1943 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Week ended— | | Median 1938–42 | Anthrax | Dysentery | | | Encephalitis, infectious | Leprosy | Rocky Mt. spotted fever | Tularemia | Typhus fever |
| | Jan. 23, 1943 | Jan. 24, 1942 | | | Amebic | Bacillary | Unspecified | | | | | |
| **NEW ENG.** | | | | | | | | | | | | |
| Maine | 78 | 52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Hampshire | 2 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vermont | 34 | 33 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Massachusetts | 206 | 296 | 216 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Rhode Island | 27 | 92 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Connecticut | 47 | 135 | 75 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **MID. ATL.** | | | | | | | | | | | | |
| New York | 467 | 578 | 451 | 0 | 5 | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Jersey | 144 | 257 | 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pennsylvania | 394 | 330 | 373 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **E. NO. CEN.** | | | | | | | | | | | | |
| Ohio | 208 | 306 | 197 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Indiana | 16 | 52 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Illinois | 212 | 286 | 133 | 0 | 6 | 37 | 0 | 0 | 0 | 0 | 7 | 0 |
| Michigan [2] | 370 | 434 | 349 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wisconsin | 201 | 364 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **W. NO. CEN.** | | | | | | | | | | | | |
| Minnesota | 67 | 27 | 63 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Iowa | 28 | 28 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Missouri | 9 | 11 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| North Dakota | 0 | 21 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| South Dakota | 7 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nebraska | 6 | 9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kansas | 26 | 61 | 61 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **SO. ATL.** | | | | | | | | | | | | |
| Delaware | 11 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maryland [2] | 76 | 41 | 62 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Dist. of Columbia | 20 | 26 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Virginia | 110 | 45 | 45 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 3 | 0 |
| West Virginia | 59 | 79 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| North Carolina | 146 | 250 | 323 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| South Carolina | 21 | 41 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 |
| Georgia | 39 | 16 | 20 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 17 |
| Florida | 20 | 27 | 14 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| **E. SO. CEN.** | | | | | | | | | | | | |
| Kentucky | 27 | 94 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tennessee | 87 | 18 | 35 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Alabama | 21 | 9 | 29 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| Mississippi [2] | ------ | ------ | ------ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **W. SO. CEN.** | | | | | | | | | | | | |
| Arkansas | 61 | 14 | 14 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 1 |
| Louisiana | 5 | 1 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 5 |
| Oklahoma | 13 | 13 | 13 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Texas | 288 | 92 | 111 | 0 | 4 | 76 | 0 | 0 | 1 | 0 | 0 | 21 |
| **MOUNTAIN** | | | | | | | | | | | | |
| Montana | 32 | 16 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Idaho | 2 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wyoming | 10 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Colorado | 34 | 41 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Mexico | 29 | 50 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arizona | 9 | 54 | 15 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 |
| Utah [2] | 30 | 54 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nevada | 1 | 2 | ------ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PACIFIC** | | | | | | | | | | | | |
| Washington | 16 | 169 | 103 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Oregon | 8 | 54 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| California | 411 | 222 | 222 | 0 | 2 | 9 | 0 | 0 | 0 | 0 | 1 | 2 |
| Total | 4,135 | 4,818 | 4,537 | 3 | 22 | 140 | 23 | 7 | 1 | 0 | 16 | 61 |
| 3 weeks | 12,037 | 12,546 | 12,546 | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ |

[1] New York City only.
[2] Period ended earlier than Saturday.

## WEEKLY REPORTS FROM CITIES

*City reports for week ended January 9, 1943*

This table lists the reports from 85 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 | 30 | 0 | 4 | 0 | 3 | 0 | 8 | 0 | 1 | 6 |
| Baltimore, Md. | 4 | 0 | 7 | 3 | 5 | 12 | 27 | 0 | 22 | 0 | 0 | 59 |
| Barre, Vt. | 0 | 0 | ---- | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Billings, Mont. | 0 | 0 | ---- | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Birmingham, Ala. | 0 | 0 | 7 | 1 | 2 | 3 | 3 | 0 | 4 | 0 | 0 | 0 |
| Boston, Mass. | 0 | 0 | ---- | 1 | 106 | 3 | 19 | 0 | 114 | 0 | 0 | 50 |
| Bridgeport, Conn. | 0 | 0 | ---- | 0 | 0 | 0 | 4 | 0 | 12 | 0 | 0 | 5 |
| Brunswick, Ga. | 0 | 0 | ---- | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 |
| Buffalo, N. Y. | 0 | 0 | ---- | 0 | 140 | 1 | 9 | 1 | 19 | 0 | 0 | 32 |
| Camden, N. J. | 1 | 0 | ---- | 0 | 33 | 0 | 4 | 0 | 4 | 0 | 0 | 3 |
| Charleston, S. C. | 0 | 0 | 93 | 1 | 0 | 0 | 5 | 1 | 1 | 0 | 0 | 0 |
| Charleston, W. Va. | 0 | 0 | ---- | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Chicago, Ill. | 1 | 0 | 5 | 3 | 90 | 0 | 32 | 0 | 82 | 0 | 0 | 68 |
| Cincinnati, Ohio. | 0 | 0 | 5 | 1 | 14 | 0 | 4 | 0 | 15 | 0 | 0 | 6 |
| Cleveland, Ohio. | 0 | 0 | 6 | 1 | 2 | 0 | 7 | 1 | 33 | 0 | 0 | 95 |
| Columbus, Ohio. | 0 | 0 | 2 | 2 | 0 | 1 | 4 | 0 | 16 | 0 | 0 | 2 |
| Cumberland, Md. | 0 | 0 | ---- | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Dallas, Tex. | 0 | 0 | ---- | 0 | 0 | 0 | 9 | 0 | 5 | 0 | 2 | 9 |
| Denver, Colo. | 7 | 0 | 29 | 0 | 52 | 1 | 8 | 0 | 8 | 0 | 0 | 2 |
| Detroit, Mich. | 3 | 0 | ---- | 2 | 15 | 2 | 29 | 1 | 38 | 0 | 0 | 145 |
| Duluth, Minn. | 0 | 0 | ---- | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 |
| Fall River, Mass. | 1 | 0 | ---- | 1 | 2 | 1 | 4 | 0 | 2 | 0 | 0 | 15 |
| Fargo, N. Dak. | 0 | 0 | ---- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Flint, Mich. | 1 | 0 | ---- | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 5 |
| Fort Wayne, Ind. | 0 | 0 | ---- | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 1 |
| Frederick, Md. | 0 | 0 | ---- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Galveston, Tex. | 1 | 0 | ---- | 0 | 0 | 1 | 3 | 0 | 2 | 0 | 0 | 2 |
| Grand Rapids, Mich. | 0 | 0 | 1 | 1 | 0 | 0 | 4 | 0 | 5 | 0 | 0 | 7 |
| Great Falls, Mont. | 0 | 0 | ---- | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| Hartford, Conn. | 0 | 0 | ---- | 0 | 10 | 0 | 6 | 0 | 2 | 0 | 2 | 0 |
| Helena, Mont. | 0 | 0 | ---- | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Houston, Tex. | 3 | 0 | ---- | 1 | 0 | 0 | 7 | 0 | 0 | 1 | 0 | 1 |
| Indianapolis, Ind. | 3 | 0 | ---- | 0 | 60 | 1 | 6 | 0 | 24 | 0 | 0 | 6 |
| Kansas City, Mo. | 1 | 1 | ---- | 1 | 8 | 1 | 11 | 0 | 29 | 0 | 0 | 7 |
| Kenosha, Wis. | 0 | 0 | ---- | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Little Rock, Ark. | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Los Angeles, Calif. | 3 | 0 | 18 | 2 | 15 | 2 | 9 | 0 | 30 | 0 | 0 | 27 |
| Lynchburg, Va. | 0 | 0 | ---- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Memphis, Tenn. | 0 | 0 | 2 | 4 | 1 | 1 | 8 | 0 | 9 | 0 | 0 | 7 |
| Milwaukee, Wis. | 0 | 0 | 3 | 3 | 125 | 0 | 11 | 0 | 108 | 0 | 0 | 30 |
| Minneapolis, Minn. | 0 | 0 | ---- | 0 | 3 | 0 | 6 | 1 | 17 | 0 | 0 | 11 |
| Missoula, Mont. | 0 | 0 | ---- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Mobile, Ala. | 0 | 0 | 3 | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 3 |
| Nashville, Tenn. | 0 | 0 | ---- | 1 | 7 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| Newark, N. J. | 0 | 0 | 13 | 0 | 25 | 2 | 11 | 0 | 14 | 0 | 0 | 11 |
| New Haven, Conn. | 0 | 0 | ---- | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 9 |
| New Orleans, La. | 0 | 0 | 2 | 1 | 3 | 3 | 16 | 0 | 7 | 0 | 2 | 3 |
| New York, N. Y. | 23 | 1 | 17 | 4 | 27 | 16 | 91 | 0 | 216 | 0 | 1 | 84 |
| Omaha, Nebr. | 0 | 0 | ---- | 0 | 1 | 0 | 4 | 0 | 7 | 0 | 0 | 0 |
| Philadelphia, Pa. | 5 | 0 | 7 | 0 | 1,141 | 8 | 0 | 0 | 64 | 0 | 0 | 79 |
| Portland, Maine. | 0 | 0 | ---- | 0 | 2 | 4 | 8 | 0 | 3 | 0 | 0 | 42 |
| Providence, R. I. | 2 | 0 | 25 | 0 | 3 | 3 | 9 | 1 | 12 | 0 | 0 | 19 |
| Pueblo, Colo. | 1 | 0 | ---- | 0 | 1 | 0 | 1 | 0 | 5 | 0 | 0 | 0 |
| Racine, Wis. | 0 | 0 | ---- | 0 | 73 | 0 | 0 | 0 | 29 | 0 | 0 | 0 |
| Raleigh, N. C. | 0 | 0 | ---- | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7 |
| Reading, Pa. | 0 | 0 | ---- | 0 | 86 | 0 | 3 | 0 | 2 | 0 | 0 | 20 |
| Richmond, Va. | 1 | 0 | 2 | 2 | 0 | 3 | 2 | 0 | 4 | 0 | 0 | 7 |

*City reports for week ended January 9, 1943*—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 | 2 | 0 | ------ | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Rochester, N. Y | 0 | 0 | ------ | 0 | 6 | 0 | 6 | 0 | 6 | 0 | 0 | 14 |
| Sacramento, Calif | 11 | 0 | ------ | 0 | 14 | 0 | 4 | 0 | 6 | 0 | 1 | 17 |
| Saint Joseph, Mo | 0 | 0 | ------ | 0 | 0 | 0 | 3 | 0 | 4 | 0 | 0 | 0 |
| Saint Louis, Mo | 0 | 0 | 2 | 1 | 3 | 5 | 20 | 1 | 12 | 0 | 0 | 8 |
| Saint Paul, Minn | 0 | 0 | ------ | 0 | 0 | 0 | 11 | 0 | 2 | 0 | 0 | 55 |
| Salt Lake City, Utah | 1 | 0 | ------ | 2 | 224 | 1 | 1 | 0 | 17 | 0 | 0 | 7 |
| San Antonio, Tex | 1 | 0 | 2 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 0 | 9 |
| San Francisco, Calif | 0 | 0 | 8 | 0 | 16 | 3 | 21 | 0 | 10 | 0 | 0 | 29 |
| Savannah, Ga | 0 | 0 | 2 | 2 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| Seattle, Wash | 4 | 0 | ------ | 2 | 34 | 0 | 7 | 0 | 1 | 0 | 0 | 7 |
| Shreveport, La | 2 | 0 | ------ | 0 | 0 | 1 | 10 | 0 | 2 | 0 | 1 | 0 |
| South Bend, Ind | 0 | 0 | ------ | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Spokane, Wash | 0 | 0 | ------ | 0 | 80 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| Springfield, Ill | 0 | 0 | ------ | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 0 | 30 |
| Springfield, Mass | 0 | 0 | ------ | 0 | 5 | 0 | 3 | 0 | 59 | 0 | 0 | 0 |
| Superior, Wis | 0 | 0 | ------ | 0 | 1 | 0 | 0 | 0 | 8 | 0 | 0 | 4 |
| Syracuse, N. Y | 0 | 0 | ------ | 0 | 3 | 1 | 6 | 0 | 1 | 0 | 0 | 28 |
| Tacoma, Wash | 0 | 0 | ------ | 1 | 44 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| Topeka, Kans | 0 | 0 | ------ | 0 | 14 | 0 | 5 | 0 | 2 | 0 | 0 | 0 |
| Trenton, N. J | 2 | 0 | 3 | 0 | 0 | 0 | 6 | 0 | 5 | 0 | 0 | 14 |
| Washington, D. C | 0 | 0 | 5 | 1 | 9 | 2 | 9 | 1 | 15 | 0 | 0 | 20 |
| Wheeling, W. Va | 0 | 0 | ------ | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 3 |
| Wichita, Kans | 2 | 0 | 2 | 2 | 3 | 0 | 1 | 0 | 2 | 0 | 0 | 1 |
| Wilmington, Del | 0 | 0 | ------ | 0 | 2 | 0 | 3 | 0 | 2 | 0 | 0 | 0 |
| Wilmington, N. C | 0 | 0 | ------ | 0 | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 1 |
| Winston-Salem, N. C | 0 | 0 | ------ | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 13 |
| Worcester, Mass | 0 | 0 | ------ | 0 | 31 | 1 | 10 | 0 | 14 | 0 | 0 | 5 |
| Total | 86 | 2 | 306 | 50 | 2,556 | 84 | 564 | 8 | 1,157 | 1 | 11 | 1,164 |
| Corresponding week: 1942 | 91 | 3 | 245 | 46 | 1,331 | 17 | 477 | 3 | 999 | 1 | 8 | 1,157 |
| Average, 1938–42 | 112 | ------ | 1,693 | [1] 68 | [2] 2,193 | ------ | [1] 523 | ------ | 1,104 | 18 | 18 | 1,092 |

*Anthrax.*—Cases: Philadelphia, 1.
*Dysentery, amebic.*—Cases: Dallas, 2.
*Dysentery, bacillary.*—Cases: Buffalo, 1; Charleston, S. C., 9; Chicago, 1; Detroit, 2.
*Dysentery, unspecified.*—Cases: Washington, D. C., 1.
*Tularemia.*—Cases: Richmond, 1.
*Typhus fever.*—Cases: Birmingham, 1; Charleston, S. C., 3; Houston, 5; Savannah, 2.

[1] 3-year average, 1940–42.
[2] 5-year median.

## PLAGUE INFECTION IN CALIFORNIA AND WASHINGTON

### CALIFORNIA—SISKIYOU COUNTY

Under date of January 8, 1943, plague infection was reported proved in pools of fleas from field mice, *Microtus* sp., and ground squirrels, *C. douglasii*, collected in June 1942, in Siskiyou County, Calif., as follows: June 5, 8 fleas from 16 field mice taken 8 miles east and 3 miles south of Montague, and 118 fleas from 8 ground squirrels taken 4 miles north of Montague; June 8, 91 fleas from 7 ground squirrels taken 9 miles northeast of Ager; June 10, 96 fleas from 15 ground squirrels taken 7 miles east of Grenada, and 101 fleas from 17 ground squirrels taken 6 miles south of Yreka.

WASHINGTON—TACOMA

Plague infection has been reported proved in tissue and pools of fleas from rats, *R. norvegicus*, collected in Tacoma, Wash., as follows: December 24, 1942, in tissue from 1 rat; December 30, 88 fleas from 85 rats; January 2, 1943, 108 fleas from 107 rats, and 30 fleas from 54 rats.

## TERRITORIES AND POSSESSIONS

### Panama Canal Zone

*Notifiable diseases—November 1942.*—During the month of November 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 | 11 | | 10 | | 2 | | 5 | | 28 | |
| Diphtheria | [1] 4 | 2 | 1 | | [2] 8 | | 2 | | 15 | 2 |
| Dysentery (amebic) | 3 | | 2 | | | | 5 | | 10 | |
| Dysentery (bacillary) | 1 | | | | | | 4 | 3 | 5 | 3 |
| Leprosy | | | | | | | 1 | 2 | 1 | 2 |
| Lethargic encephalitis | 1 | | | | | | | | 1 | |
| Malaria [3] | 16 | 1 | 3 | | 371 | 1 | 120 | 1 | 510 | 3 |
| Measles | 1 | | | | 9 | | 1 | | 11 | |
| Meningitis, meningococcus | | | | | 1 | 1 | | | 1 | 1 |
| Mumps | 10 | | | | 2 | | | | 12 | |
| Paratyphoid fever | 1 | | | | 1 | | 3 | 1 | 5 | 1 |
| Pneumonia | | 9 | | 6 | 66 | 4 | | 3 | [4] 66 | 22 |
| Tuberculosis | | 27 | | 5 | 2 | 1 | | 7 | [4] 2 | 40 |
| Typhoid fever | 1 | | | | | | 2 | 1 | 3 | 1 |
| Whooping cough | | | | | 3 | | | | [4] 3 | |

[1] Includes 1 carrier.
[2] Includes 7 carriers.
[3] Includes 189 recurrent cases.
[4] Cases reported in the Canal Zone only.

# FOREIGN REPORTS

## CANADA

*Provinces—Communicable diseases—Week ended December 26, 1942.*—During the week ended December 26, 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 | | | | 3 | 4 | 1 | | | 1 | 9 |
| Chickenpox | 1 | 29 | 2 | 165 | 302 | 65 | 75 | 5 | 45 | 689 |
| Diphtheria | 1 | 18 | | 31 | 2 | 3 | 1 | 2 | | 58 |
| German measles | | 1 | | 5 | 11 | | 1 | | 2 | 20 |
| Influenza | | 2 | | | | | | | 3 | 5 |
| Measles | | 3 | 1 | 78 | 125 | 16 | 90 | | 14 | 327 |
| Mumps | 1 | 67 | | 37 | 510 | 76 | 79 | 9 | 108 | 887 |
| Pneumonia | 2 | 17 | | | 7 | 3 | | | 10 | 39 |
| Poliomyelitis | | | | 1 | | 1 | 1 | | | 3 |
| Scarlet fever | | 4 | 1 | 74 | 97 | 15 | 22 | 10 | 27 | 250 |
| Trachoma | | | | | | | | | 1 | 1 |
| Tuberculosis | 2 | 3 | 6 | 77 | 47 | | | | 7 | 142 |
| Typhoid and paratyphoid fever | | | | 8 | | 1 | | | 1 | 10 |
| Whooping cough | | 33 | | 105 | 68 | 37 | 2 | 6 | 4 | 255 |
| Other communicable diseases | 1 | 4 | | 8 | 179 | | 5 | 1 | 1 | 199 |

## SWEDEN

*Notifiable diseases—October 1942.*—During the month of October 1942, cases of certain notifiable diseases were reported in Sweden as follows:

| Disease | Cases | Disease | Cases |
|---|---|---|---|
| Cerebrospinal meningitis | 17 | Poliomyelitis | 171 |
| Diphtheria | 163 | Scarlet fever | 2,108 |
| Dysentery | 148 | Syphilis | 65 |
| Epidemic encephalitis | 19 | Typhoid fever | 35 |
| Gonorrhea | 1,513 | Undulant fever | 2 |
| Paratyphoid fever | 3 | Weil's disease | 9 |

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

From medical officers of the Public Health Service, American consuls, International Office of Public Health, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

## CHOLERA

[C indicates cases]

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

| Place | | January-October 1942 | November 1942 | December 1942—week ended— | | | |
|---|---|---|---|---|---|---|---|
| | | | | 5 | 12 | 19 | 26 |
| ASIA | | | | | | | |
| Ceylon | C | 102 | | | | | |
| China: | | | | | | | |
| Kunming (Yunnanfu) | C | [1] 804 | | | | | |
| Shanghai | C | 844 | | | | | |
| India | C | 105,594 | 13,740 | | | | |
| Calcutta | C | 2,144 | 78 | 32 | | | |
| Chittagong | C | 55 | | | | | |
| Madras | C | 13 | 7 | 3 | 1 | 22 | |
| Rangoon | C | 1 | | | | | |
| India (French) | C | 10 | | | | | |

[1] For the period May 12 to July 4, 1942.

## PLAGUE

[C indicates cases; P, present]

| Place | | January-October 1942 | November 1942 | December 1942—week ended— 5 | 12 | 19 | 26 |
|---|---|---|---|---|---|---|---|
| **AFRICA** | | | | | | | |
| Basutoland | C | 10 | | | | | |
| Belgian Congo | C | 4 | | | | | |
| British East Africa: | | | | | | | |
| Kenya | C | 703 | 21 | 1 | 1 | 3 | |
| Nairobi | C | 67 | | | | | |
| Uganda | C | 338 | 4 | 2 | 2 | | |
| Egypt: Port Said | C | 3 | | | | | |
| Madagascar | C | 92 | 3 | | | | |
| Morocco | C | 349 | | | | | |
| Rhodesia, Northern | C | 2 | | | [1] 11 | | |
| Senegal | C | [2] 6 | | | | | |
| Union of South Africa | C | 69 | 8 | 6 | | | |
| **ASIA** | | | | | | | |
| China [3] | | | | | | | |
| India | C | 1,063 | 80 | | | | |
| Indochina (French) | C | 77 | 4 | | | | |
| Palestine: | | | | | | | |
| Haifa | C | 5 | | | | | |
| Jaffa | C | | 1 | | | [4] 3 | [4] 3 |
| **EUROPE** | | | | | | | |
| Portugal: Azores Islands | C | 1 | | | | | |
| **NORTH AMERICA** | | | | | | | |
| Canada: Alberta Province— | | | | | | | |
| Plague-infected fleas | | P | | | | | |
| **SOUTH AMERICA** | | | | | | | |
| Argentina: Cordoba Province | C | 26 | | | | | |
| Brazil: | | | | | | | |
| Alagoas State | C | 3 | | | | | |
| Pernambuco State | C | 6 | | | | | |
| Chile: Valparaiso | C | 1 | | | | | |
| Ecuador: [5] Loja Province | C | | | | 1 | | |
| Peru: | | | | | | | |
| Ancash Department | C | 6 | | | | | |
| Lambayeque Department | C | 3 | | | | | |
| Libertad Department | C | 7 | | | | | |
| Salaverry—Plague-infected rats | | P | | | | | |
| Lima Department | C | 55 | 1 | | | | |
| Lima | C | 18 | | | | | |
| Piura Department | C | 15 | 6 | | | | |
| **OCEANIA** | | | | | | | |
| Hawaii Territory: Plague-infected rats | | 53 | 56 | 4 | 7 | | 2 |
| New Caledonia | C | [6] 1 | 1 | | | | |

[1] Period not specified.
[2] Includes 4 suspected cases.
[3] Plague has been reported in China as follows: Chekiang Province, Apr. 1–10, 1942, 4 cases; Fukien Province, Jan. 1–Apr. 5, 1942, plague appeared in 11 localities; Hunan Province, week ended Apr. 18, 1942, 2 cases; Suiyuan Province, pneumonic plague appeared in epidemic form during the period Jan. 1–Apr. 4, 1942, in the northwestern area.
[4] At Jaffa and vicinity.
[5] For the year 1942, 1 death from plague was reported in Chimborazo Province and 4 cases and 1 death in Loja Province, Ecuador.
[6] Pneumonic.

## SMALLPOX

[C indicates cases]

| Place | | January–October 1942 | November 1942 | December 1942—week ended— 5 | 12 | 19 | 26 |
|---|---|---|---|---|---|---|---|
| **AFRICA** | | | | | | | |
| Algeria | C | 767 | | | | | |
| Belgian Congo | C | 431 | 90 | 17 | 43 | | |
| British East Africa: Tanganyika | C | 50 | 10 | | | | |
| Dahomey | C | 56 | | | | | |
| French Guinea | C | 134 | | | | | |
| Gold Coast | C | 1,224 | 17 | 4 | | | |
| Ivory Coast | C | 50 | 21 | | | | |
| Morocco | C | 1,536 | | | | | |
| Nigeria | C | 2,085 | 136 | | | | |
| Niger Territory | C | 986 | | | | | |
| Portuguese East Africa | C | 51 | | | | | |
| Rhodesia: | | | | | | | |
| Northern | C | 9 | | | | | |
| Southern | C | 1 | | | | | |
| Senegal | C | 17 | | | | | |
| Sudan (French) | C | 296 | | | | | |
| Tunisia | C | 1 | | | | | |
| Union of South Africa | C | 1,055 | | | | | |
| Zanzibar | C | [1] 2 | | | | | |
| **ASIA** | | | | | | | |
| Ceylon | C | 7 | | | | | |
| China | C | 9 | | | | | |
| India | C | 29,138 | 644 | | | | |
| Indochina (French) | C | 3,423 | 188 | | | | |
| Iran | C | 87 | 23 | | | | |
| Iraq | C | 252 | 31 | 8 | | 2 | |
| Palestine | C | | 4 | 5 | | | |
| Syria and Lebanon | C | 878 | 755 | 132 | 96 | | |
| Trans-Jordan | C | 3 | | | | | |
| **EUROPE** | | | | | | | |
| France: | | | | | | | |
| Seine Department | C | 44 | | | | | |
| Unoccupied zone | C | 13 | | | | | |
| Great Britain: | | | | | | | |
| England and Wales | C | 5 | | | | | |
| Scotland | C | 65 | 15 | 2 | | | |
| Ireland (Northern) | C | | 1 | | | | |
| Portugal | C | 52 | 1 | | | 3 | |
| Spain | C | 208 | 3 | | | | |
| Turkey | C | 564 | 285 | 142 | 118 | | [2] 300 |
| **NORTH AMERICA** | | | | | | | |
| Canada | C | 5 | | | | | |
| Guatemala | C | [3] 6 | 1 | | | | |
| Mexico | C | 110 | | | | | |
| Panama Canal Zone | C | [4] 1 | | | | | |
| **SOUTH AMERICA** | | | | | | | |
| Argentina | C | | [5] 74 | | | | |
| Brazil | C | 1 | | | | | 2 |
| Colombia | C | 528 | | | | | |
| Ecuador | C | | 4 | | 2 | | |
| Peru | C | [6] 1,147 | 4 | | | | |
| Venezuela (alastrim) | C | 150 | | | | | |

[1] Imported.
[2] For 2 weeks.
[3] For September.
[4] In the Canal Zone.
[5] For the week ended Nov. 23.
[6] For January to June.

## TYPHUS FEVER

[C indicates cases]

| Place | | January–October 1942 | November 1942 | December 1942—week ended— | | | |
|---|---|---|---|---|---|---|---|
| | | | | 5 | 12 | 19 | 26 |
| **AFRICA** | | | | | | | |
| Algeria | C | 35,115 | | | | | |
| Basutoland | C | 32 | | | | | |
| British East Africa: Kenya | C | 18 | 2 | 1 | | 2 | |
| Egypt | C | 22,824 | 151 | 105 | 150 | | |
| Ivory Coast | C | 4 | | | | | |
| Morocco | C | 25,804 | | | | | |
| Nigeria | C | 5 | | | | | |
| Niger Territory | C | 1 | | | | | |
| Rhodesia (Northern) | C | 1 | | | | | |
| Senegal | C | [1]3 | | | | | |
| Sierra Leone | C | 7 | | | | | |
| Tunisia | C | 16,295 | | | | | |
| Union of South Africa | C | 931 | | | | | |
| **ASIA** | | | | | | | |
| China | C | 318 | | | | | |
| India | C | 9 | | 1 | | | |
| Indochina | C | | 10 | | | | |
| Iran | C | 882 | 8 | | | | |
| Iraq | C | 95 | 5 | 2 | | | |
| Palestine | C | 165 | 21 | 2 | | 6 | 12 |
| Syria and Lebanon | C | 23 | 1 | | 2 | | |
| Trans-Jordan | C | 6 | | | | | |
| **EUROPE** | | | | | | | |
| Bulgaria | C | 647 | 5 | | 10 | | |
| Czechoslovakia | C | 5 | | | | | |
| France: | | | | | | | |
| Seine Department | C | 1 | | | | | |
| Unoccupied zone | C | 229 | | | | | |
| Germany | C | 1,817 | | | | | |
| Hungary | C | 757 | 16 | 8 | 6 | 14 | 19 |
| Irish Free State | C | 19 | 9 | | | 1 | |
| Portugal | C | 1 | | | | | |
| Rumania | C | 3,512 | 117 | 75 | 132 | | 157 |
| Slovakia | C | | 2 | | 4 | | |
| Spain | C | 3,870 | | | | | |
| Canary Islands | C | 1 | | | | | |
| Switzerland | C | 3 | | | | | |
| Turkey | C | 350 | 36 | 7 | 11 | | 23 |
| Union of Soviet Socialist Republics | C | 67 | | | | | |
| **NORTH AMERICA** | | | | | | | |
| Guatemala | C | 188 | 41 | | | | |
| Jamaica | C | 47 | 3 | 1 | 1 | 1 | |
| Mexico | C | 583 | 56 | | | | |
| Panama Canal Zone | C | 1 | | | | | |
| Puerto Rico | C | 3 | 1 | | | | |
| **SOUTH AMERICA** | | | | | | | |
| Chile | C | 107 | | | | | |
| Colombia | C | 4 | | | | | |
| Ecuador | C | 137 | 21 | 3 | 4 | | 4 |
| Peru | C | 923 | | | | | |
| Venezuela | C | 20 | | | | | |
| **OCEANIA** | | | | | | | |
| Australia | C | 29 | | | | | |
| Hawaii Territory | C | 42 | 2 | 2 | 2 | | |

[1] Suspected.

## YELLOW FEVER

[C indicates cases; D deaths]

| Place | | January–October 1942 | November 1942 | December 1942—week ended— | | | |
|---|---|---|---|---|---|---|---|
| | | | | 5 | 12 | 19 | 26 |
| AFRICA | | | | | | | |
| Belgian Congo: Libenge | D | [1] 1 | | | | | |
| British East Africa: Kenya | C | 1 | | | | | |
| French West Africa | C | 1 | | | | | |
| Gold Coast | C | [2] 3 | | | | | |
| Ivory Coast | C | [2] 7 | | | | | |
| Nigeria | C | [3] 3 | | | | | |
| Senegal [4] | D | 1 | | | | | |
| Sierra Leone: Freetown | C | 2 | | | | | |
| Sudan (French) | D | [3] 2 | | | | | |
| Togo | C | 2 | | | | | |
| SOUTH AMERICA [5] | | | | | | | |
| Bolivia: | | | | | | | |
| Chuquisaca Department | D | 1 | | | | | |
| La Paz Department | C | 7 | | | | | |
| Santa Cruz Department | C | 18 | | | | | |
| Brazil: | | | | | | | |
| Acre Territory | D | 4 | | | | | |
| Bahia State | D | 1 | | | | | |
| Para State | D | 1 | | | | | |
| Colombia: | | | | | | | |
| Boyaca Department | D | 5 | | | | | |
| Cundinamarca Department | D | 4 | | | | | |
| Intendencia of Meta | D | 4 | | | | | |
| Santander Department | D | 4 | | | | | |
| Venezuela: Bolivar State | C | 2 | | | | | |

[1] Suspected.
[2] Includes 2 suspected cases.
[3] Includes 1 suspected case.
[4] According to information dated Feb. 9, 1942, 15 deaths from yellow fever among Europeans have occurred in Senegal.
[5] All yellow fever in South America is of the jungle type unless otherwise specified.

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