PUBLIC HEALTH REPORTS

VOL. 37 AUGUST 4, 1922 No. 31

PREPARATION AND ADMINISTRATION OF ARSPHENAMINE AND NEOARSPHENAMINE.

STANDARD INSTRUCTIONS FOR THE PREPARATION AND INTRAVENOUS ADMINISTRATION OF ARSPHENAMINE AND NEOARSPHENAMINE FOR USE BY THE MEDICAL DEPARTMENTS OF THE ARMY, OF THE NAVY, AND OF THE VETERANS' BUREAU, AND BY THE PUBLIC HEALTH SERVICE.

[Issued July 1, 1922, superseding all previous instructions.]

Reasons for Issuing Instructions.

Reactions following the use of arsphenamine and neoarsphenamine are still occurring in the Government services, although experience has shown that these reactions can be reduced to a minimum by the use of proper methods of procedure. Practically all serious reactions which have occurred in the Government services during the last five years have been specially investigated, and in nearly every instance it has been shown that the reactions were due (1) to some error in the technique of the preparation and administration of the drug or (2) to faulty examination of the patient, especially in relation to the effects of previous injections. In no case has it been possible to prove that the reactions have been due primarily to inherent toxicity of the drug itself. It therefore seems desirable to issue a complete set of instructions on technique.

Instructions are issued by each manufacturer, and they vary in some details with each product. In general, these instructions are satisfactory for the particular brand concerned; but as the same standard of relative nontoxicity is required by the Government for all brands, it is not considered desirable in these instructions to individualize the products.

The following instructions may seem unnecessarily explicit, and the technique outlined may differ from others which give satisfactory results. However, every essential statement contained herein is based on the results of the study mentioned above. The procedures given are designed to make the treatment safe and at the same time not to make the technique unnecessarily exacting or cumbersome for the clinician.

Medical officers are directed to follow these instructions and are cautioned that they will be held responsible for the untoward results following the use of procedures which are essentially different.

Any of the specified apparatus which is not on hand will be furnished upon request through regular channels.

Choice of Drug.

Although neoarsphenamine is more popular than arsphenamine, on account of ease of preparation and administration, which constitutes a real advantage under some circumstances, attention is called to the fact that neoarsphenamine is a much less constant and less reliable preparation than arsphenamine.

Not only do certain batches of all brands of neoarsphenamine show a tendency to deteriorate with age but there is also a pronounced irregularity in the therapeutic activity of different batches of neoarsphenamine, regardless of the age and source of the preparations. As a result of these variations, the physician may obtain a much less satisfactory therapeutic result than when arsphenamine is used. Arsphenamine, regardless of age, brand, or lot number, shows a more uniform therapeutic activity. It is probably, also, inherently more potent. Arsphenamine should, therefore, be used whenever practicable, and neoarsphenamine should be reserved for situations in which it is difficult to give arsphenamine.

Other members of the arsphenamine series are considered to be still in the experimental stage and not for routine use.

In regard to different brands, any product which has passed the requirements of the United States Public Health Service may be used. The labels of duly licensed products bear imprint to this effect and the license number.

Arsphenamine.

I. LICENSED PRODUCTS.

The following firms have been licensed by the Treasury Department to manufacture or to import arsphenamine:

A. LICENSED TO MANUFACTURE.

Name of firm and address.	Name of trade product.
Dermatological Research Institute, 1720 Lombard Street, Philadelphia, Pa.	Arsenobenzol.
Diarsenol Company (Inc.), Buffalo, N. Y.	Diarsenol.
Mallinckrodt Chemical Works, St. Louis, Mo.	Arsphenamine.
H. A. Metz Laboratories (Inc.), 122 Hudson Street.	Salvarsan.
Powers-Weightman-Rosengarten Co., Philadelphia, Pa.	Arsenobenzol Billon.
E. R. Squibb & Sons, New Brunswick, N. J.	Arsphenamine.

B. LICENSED TO IMPORT.

Name of firm and address.	Name of trade product.
Farbwerke, vorm. Meister Lucius und Brüning, Hoechst-am-Main, Germany	Salvarsan.
Poulenc Frères, 92 Rue Vieille-du-Temple, Paris, III, France.	Arsenobenzol Billon.

II. METHOD OF INJECTION.

Only the gravity method should be employed in administering arsphenamine.

III. MATERIALS REQUIRED.

A. Erlenmeyer flasks, 500 to 1,000 c. c. capacity.

B. Funnels, glass, 4-inch.

C. Cylinders, graduated, 500 to 1,000 c. c. capacity.

D. Gravity apparatus, consisting of—

1. Gravity graduated glass cylinders, 300 c. c. capacity; long graduations at the 100 c. c. marks; medium long graduations every 25 c. c.; short graduations for each 5 c. c.; the zero point to be at the top and the 300 mark to be at the bottom of the cylinder.

2. Rubber tubing, pure gum, heavy wall, inside diameter, 5/32-inch (about 4 mm.), of lengths to limit height of the cylinder to 3 feet above the patient's arm.

Caution: Before being used the first time the tubing should be filled with normal sodium hydroxide solution for not less than six hours. It should then be thoroughly rinsed in water, sterilized by boiling, and then thoroughly rinsed with sterile water again just before using.

3. Needles with slip joint, 19 standard gauge, medium bevel, length of cannula 1½ inches. While not necessary, the Fordyce type of needle is a great convenience. The correct gauge is highly important, as it influences the rate of flow. Proper care of the needles is important. They should be cleansed immediately after use, and precautions taken to prevent rust. Just before sterilization, the point should be freshened on a stone, if necessary. A dull needle tends to make a dissatisfied patient.

4. Glass tubing, 6 mm. in diameter, for windows, which should be inserted in the rubber tubing so as to be a few inches from the lower end.

5. Adapters for attaching needles to end of tubing. These may be of metal or glass. If of glass they will serve as extra windows as well as adapters.

6. Pinch cocks (Mohr's) for cutting off the flow, to be applied a short distance above the needle.

E. Sterile gauze, cut in small squares, for filtering the solution.

F. Sterile freshly distilled water. This water should be distilled in glass or block tin and should be sterilized immediately by autoclaving or boiling in Erlenmeyer flasks. These flasks should be stoppered with a gauze-wrapped cotton plug and capped with paper or tin foil. Preparation of the water preferably should be carried out on the day before use, so that it will be both fresh and cool at the time needed.

G. Sterile salt solution. This should be made with water prepared as above and chemically pure sodium chloride. Sterilization should be carried out as given above. The strength of the salt solution should be the usual 0.85 per cent. The use of salt solution in the place of distilled water for the dilution is considered a refinement which is not necessary in routine work, but it may have some advantages, since a solution of arsphenamine in distilled water is not isotonic.

H. Normal sodium hydroxide volumetric solution, U. S. P. IX, p. 573. Enough of this can be prepared at one time to last for a month or longer, provided it is kept in a rubber stoppered wax- or paraffin-lined bottle. There is danger of deterioration on account of absorption of CO_2 from the air and of reactions with the glass container. A wax-lined bottle can be prepared by placing wax or paraffin in a bottle, sterilizing with dry heat, and spreading the melted wax by rotation over the inside of the bottle as it is cooling. If precipitate is found in the alkali, it is probably an evidence of deterioration of the solution, which should be discarded. For use in large clinics, a 2-liter bottle, protected from the action of the alkali and of the atmospheric CO_2 and set up with an automatic measuring burette, is a great convenience and will insure the safe-keeping of the alkali for a long period.

I. Burette or pipette. A graduated burette or pipette for accurately measuring the alkali.

All the glassware mentioned above should be of chemical standard. All apparatus should be surgically clean, freshly sterilized, and cool at time of using. The apparatus should be sterilized by dry heat or autoclave, with the exception of the tubing and the needles, which should be boiled.

If the medical officer has any doubt about being able to obtain pure normal sodium hydroxide solution, the same will be supplied on request to the Army Medical School, the Naval Medical School, or to the Hygienic Laboratory, Washington, D. C.

IV. INSPECTION OF DRUG.

A. Note and record manufacturer, lot number, and particularly the dosage stated on the label. In this connection it is a great convenience, and more economical, to employ dosages which are just sufficient to make up the unit batch of solution desired; e. g., if 10

doses of 0.4 gram are made up at a time, use ampules containing 4 grams. An ampule containing 10 doses is the largest that should be used.

B. Examine ampules critically and do not use any which are cracked or in which the powder is not freely mobile and is not of a pale yellow to a lemon-yellow in color. Forward any suspected ampules with explanatory letter directly to the Hygienic Laboratory, Washington, D. C., for examination.

C. The ampules, having satisfactorily passed preliminary inspection, should be immersed in 95 per cent alcohol, primarily to detect any minute cracks in the glass not visible on preliminary inspection and also to cleanse the ampule. Lay ampules on sterile towel to dry or wipe off alcohol with sterile gauze.

V. PREPARATION OF SOLUTIONS.

A. The amount to be prepared at one time will depend on the number of patients, but unit batches of more than 10 average doses should not be prepared.

B. Place in Erlenmeyer flasks about 10 c. c. of freshly distilled sterile water for each decigram of arsphenamine to be used; e. g., 100 c. c. for 1 gram. Open ampule and sprinkle—do not dump—contents on surface of water. The temperature of the water is of great importance. For all brands of arsphenamine, except for arsenobenzol manufactured by the Dermatological Research Institute, the water should be at room temperature and, as a rule, the drug should go into solution, with little or no agitation, within a few minutes. A slight amount of shaking is permissible with any product, but shaking should always be kept at a minimum.

Exception: The arsphenamine manufactured by the Dermatological Research Institute requires either hot water alone, or it can be dissolved in cold water if the powder is first thoroughly moistened with ethyl alcohol (about 1 c. c. to 0.6 gram). This amount of alcohol is harmless. In either case it is essential, immediately after contact with the water, to shake the powder vigorously for a few seconds in order to prevent the formation of gummy masses. After this shaking it should stand until completely dissolved and until the solution is cool.

When the arsphenamine has completely dissolved, forming a perfectly clear solution with an absence of any gelatinous particles when viewed by transmitted light, it is ready for alkalinization. If for any reason the arsphenamine fails to form a perfect solution, it must be discarded.

C. Correct alkalinization is extremely important; failure to alkalinize properly causes more reactions than any other error connected with the use of arsphenamine.

1. The exact method consists in the addition all at once of 0.85 c. c. normal sodium hydroxide solution for each 0.1 gm. of arsphenamine used; e. g., 8.5 c. c. for 1 gm. of drug. This is the correct amount necessary to form the disodium salt of arsphenamine (see V, p. 1873), the form which is best tolerated by the patient.

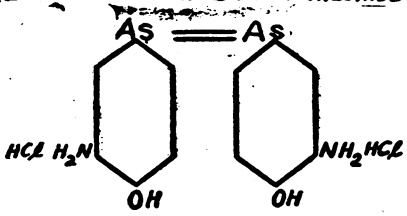
2. Approximate method of alkalinization. An exception to the rule that only standardized normal alkali should be used may be made in case this is not obtainable. Under such circumstances, the exact concentration of alkali being unknown, the operator should keep in mind the following facts: Arsphenamine as it appears on the market is the dihydrochloride of the arsphenamine base (see I, p. 1873), which is soluble in water; but the solution is strongly acid and highly toxic. Upon the gradual addition of sodium hydroxide a precipitate at once begins to form and then redissolves. This property of the drug, not understood by some physicians, has caused them to mistake the end point. This mistake is especially likely to occur when the operator thinks he is using a 15 per cent solution, when in reality the solution is only 4 or 5 per cent. The drug when injected in this still strongly acid state, the monohydrochloride (see II, p. 1873), produces serious reactions.

When a little over one-fourth of the amount of alkali indicated under (1) has been added, the precipitate no longer redissolves. From this point on, until there has been added almost three-fourths of the amount of alkali necessary to form the disodium salt, the precipitate remains and does not redissolve on shaking (see III, p. 1873). But when three-fourths of the total amount necessary has been added, the precipitate redissolves (see IV, p. 1873).

It is at this point, when just enough alkali has been added to dissolve the precipitate, that the solution has very frequently been injected. *This solution of the monosodium salt is the most frequent cause of reactions.* At this point 75 per cent of the correct amount of sodium hydroxide solution has been added, and hence an additional one-third of the total amount of alkali used up to this point should now be added (see V, p. 1873). This last addition is the remaining 25 per cent of the correct amount corresponding to a total of 0.85 c. c. per 0.1 gm. of standardized $\frac{N}{1}$ NaOH solution as mentioned under (1) above; e. g., if 3.3 c. c. of an unknown solution were required for completely clearing a

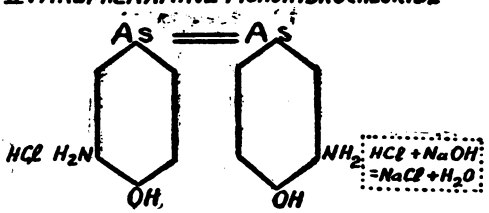
The Chemical Transformation of Arsphenamine into its Disodium Salt for Intravenous Administration by the Addition of Sodium Hydroxide.

I. ARSPHENAMINE DIHYDROCHLORIDE



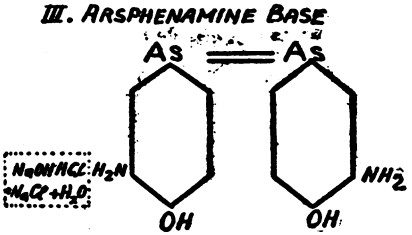
I. Arsphenamine (dihydrochloride). This is the drug as it appears on the market. It is soluble in distilled water, strongly acid to litmus, highly toxic, and must not be injected.

II. ARSPHENAMINE MONOHYDROCHLORIDE



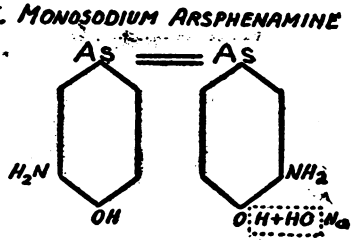
II. Arsphenamine monohydrochloride is formed when one-fourth the amount of sodium hydroxide necessary to form the disodium salt has been added, or 0.85 c. c. of normal sodium hydroxide per 0.4 gram of arsphenamine. It remains in solution, is still strongly acid to litmus, is highly toxic, and must not be injected.

III. ARSPHENAMINE BASE



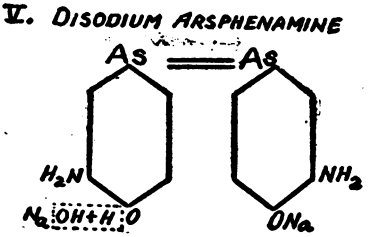
III. The base is formed when one-half the amount of sodium hydroxide necessary to form the disodium salt has been added, or 1.70 c. c. of normal sodium hydroxide for 0.4 gram of arsphenamine. A heavy insoluble precipitate is formed. This suspension must not be injected.

IV. MONOSODIUM ARSPHENAMINE



IV. The monosodium salt of arsphenamine is formed when three-fourths the amount of sodium hydroxide necessary to form the disodium salt has been added, or 2.55 c. c. of normal sodium hydroxide per 0.4 gram of arsphenamine. It is just soluble in water, and forms an unstable, slightly alkaline solution, which must not be injected.

V. DISODIUM ARSPHENAMINE



V. The disodium salt of arsphenamine is formed when the final fourth of the full amount of normal sodium hydroxide necessary has been added, or 3.4 c. c. of normal sodium hydroxide for 0.4 gram of arsphenamine. This amount is one-third more than the amount used for the monosodium salt IV. This form is a stable alkaline solution. It is the only form in which the drug should be injected.

solution containing 2 gms. of arsphenamine, 1.1 c. c. more should be added. With a thorough understanding of the above, the operator may roughly standardize his alkali against the arsphenamine. No two brands of arsphenamine vary greatly in the amount of alkali required, whereas various alkali solutions vary in strength by several hundred per cent.

The P_h of a proper solution is about 10, and it is impossible to buffer it to neutrality by common buffers without precipitation. Moreover, the alkaline solution is well tolerated if given slowly and well diluted.

3. *"Haphazard method"* of alkalinization, or *drop method.* This is mentioned only to condemn it. It is inconceivable that the operator will be unable to secure some sort of a graduated measuring device in order to measure the alkali instead of guessing at the amount. Numerous reactions from underalkalinization have occurred with this method, particularly where several doses of the drug are prepared at one time. The alkali has been added with a dropper until clearing occurred, and then a few additional drops have been added regardless of whether the solution contained 1 or 10 doses. Less frequently overalkalinization has also occurred. The injection of an overalkalinized solution causes pain along the vein, and thrombosis.

D. *Filtration and dilution to proper strength* of the alkalinized solution.—With sterile forceps place 4 layers of sterile gauze in the funnel. Wash with sterile water. Pour alkalinized solution of arsphenamine through this gauze into a graduated cylinder and then rinse the filter with enough sterile distilled water to bring the total for each decigram of drug up to 25 c. c.; e. g., for 1 gram of arsphenamine 250 c. c. of solution should be made. This washing of the drug through the filter with the water insures full dosage. If a saline solution is desired, it is used at this point in place of the distilled water, at usual strength, 0.85 per cent.

E. *Time the solution should be allowed to stand.*—The *properly alkalinized, filtered,* and *diluted* solution should now stand for at least 30 minutes before being injected, to allow completion of the chemical reactions. The toxicity is considerably reduced by this delay. The solution may stand as long as three hours without undergoing any increase in toxicity, provided it is protected from the air, not shaken, and provided the temperature does not exceed 30° C. The solution is now ready for administration.

F. *Temperature.*—Thirty degrees C. is the correct temperature at which the drug should be introduced; in no case should it be warmed above this point.

G. *Dosage.*—As a rule the initial dose should be small. The average dose used is about 0.4 gram for 150 pounds body weight, but no

hard and fast rule can be laid down; each case should be considered individually by the clinician. When a radical cure is being sought and the patient tolerates the injections well, full doses should be given.

VI. ADMINISTRATION.

A. Emphasis should be laid on the complete physical examination preliminary to administering arsenical treatment, for evidence of renal, cardiovascular, or visceral changes, in the presence of which it should be used cautiously. Weekly urinalyses should be made during treatment. The patient should be questioned concerning any reactions following the last treatment, with special reference to any toxic skin eruptions as danger signals against further treatment. Any evidence of an exfoliative dermatitis is an *absolute contraindication* against any further treatment with any arsenical. Evidence of jaundice should also be looked for and, if present, is an indication for caution. In late cases the possibility of a Herxheimer reaction following a large injection should be remembered. This may be fatal should vital structures be involved. *Each patient should receive individual consideration.*

B. *Preparation of patient.*—The patient should be given a mild cathartic the night before and should eat no food within two or three hours before the injection. Only a light meal should be taken a few hours following the injection. Ambulatory patients should rest for a short time after the injection. If large doses are being given, the patient preferably should be kept in bed until the following morning.

C. The patient should be placed in a recumbent position.

D. The gravity apparatus should be arranged to provide a column of solution not over 3 feet in height. The tubing should be rinsed with sterile water; then the cylinder and tubing should be filled with the solution and the air expelled by lowering the end of the tube below the level of the fluid in the cylinder. Apply pinch cock.

E. Select a suitable vein in either arm and sterilize the overlying skin by applying tincture of iodine, which should preferably be removed after a minute or two with 95 per cent alcohol.

F. Apply rubber turniquet.

G. Insert needle, bevel up, in two stages (first through the skin, second into the vein), and allow a few drops of blood to escape to indicate entrance to the vein. The needle should be slid well into the vein in order to avoid escape of the point from the vein on further slight manipulations. Now connect adapter attached to gravity apparatus. Open pinch cock and snap it over the window.

H. *Rate of injection.*—If the specifications as to the gauge of needle, etc., have been followed, the correct rate of injection is practically

insured, i. e., by the size of the needle and the length of the tube; however, this should not be taken for granted, but the exact time should be observed, and in no case should the rate exceed 25 c. c. in one minute or 0.4 gram dose in four minutes; five minutes is preferable. A graduated sand glass which runs for five minutes is a convenient timer. The rate of flow should be even as well as slow. Should patient show any signs of reaction, stop. It is highly desirable, in sensitive patients, to wait a minute or two after injection of first 0.1 gram before proceeding with rest of injection. When the necessary amount has been injected, cut off flow with pinch cock, disconnect tubing, allow a few drops of blood to escape, and then withdraw needle and place sterile gauze over the puncture, instructing the patient to hold it there for a few minutes. If another injection is to be given and there is any suspicion of contamination of the tubing with blood, empty cylinder and start over with a new sterile tube.

VII. REACTIONS.

Following the above methods, reactions should be rare. If a serious reaction does occur, a complete account should be forwarded to the Surgeon General, including clinical history, dose injected, lot number, and manufacturer of the drug. Samples should also be sent of the same lot of drug; also samples of the sodium hydroxide, distilled water, and saline used for purposes of investigation.

The prevention and treatment of reactions is very important. A discussion of this subject is not undertaken here, except to call attention to general hygiene, diet, foci of infection, dosage, etc., as well as care in preparation and administration of the drug in prophylaxis of these reactions. Patients that continually show immediate reactions should receive prior administration of atropine or divided doses of arsphenamine or combinations of both. In the clinical control of the immediate or nitritoid types of reactions, the chief preparation of value is epinephrin $\frac{1}{1000}$, about 1 c.c. intramuscularly. This is also of value in the very severe type of reaction—hemorrhagic encephalitis. In the severe types of skin reactions, as exfoliative dermatitis, rapid alkalinization of the patient is indicated. In all these delayed types of arsenical poisoning excellent results are said to be derived from the use of sodium thiosulphite given by mouth or intravenously.

Neoarsphenamine.

I. LICENSED PRODUCTS.

The following firms have been licensed by the Treasury Department to manufacture or import neoarsphenamine:

A. LICENSED TO MANUFACTURE.

Name of firm and address.	Trade name of product.
Dermatological Research Institute, 1720 Lombard Street, Philadelphia, Pa.	Neoarsphenamine.
Diarsenol Co. (Inc.), Buffalo, N. Y.	Neodiarsenol.
H. A. Metz Laboratories (Inc.), 122 Hudson Street, New York City.	Neosalvarsan.
Powers-Weightman-Rosengarten Co., Philadelphia, Pa.	Novarsenobenzol Billon.
E. R. Squibb & Sons, New Brunswick, N. J.	Neoarsphenamine

B. LICENSED TO IMPORT.

Farbwerke, vorm. Meister Lucius und Brüning, Hoechst-am-Main, Germany	Neosalvarsan.
Poulenc Frères, 92 Rue Vieille-du-Temple, Paris, III, France	Novarsenobenzol.

II. METHOD OF INJECTION.

The use of the gravity method is strongly recommended, especially in clinics where a considerable number of doses are to be given. It was demonstrated in one clinic that the average time required to give 100 injections was reduced, without changing the personnel, when the gravity method was substituted for the syringe method, and a high percentage of reactions, due directly or indirectly to the syringe method, also ceased to occur. With the gravity apparatus arranged to deliver a dose in about four minutes, one operator was able to run two tables much more easily than one table with the syringe method.

It is recognized, however, that there are circumstances in which the syringe method is indicated, as in the field, where apparatus must be reduced to a minimum. Under these circumstances the use of neoarsphenamine by the syringe method is a valuable therapeutic measure. It fills a need, but technically is inferior to the gravity method; and, therapeutically, neoarsphenamine given by either method is inferior to arsphenamine given by the gravity method.

III. APPARATUS REQUIRED.

A. When the gravity method is to be used:

1. Gravity apparatus (see Arsphenamine, III–D).
2. Erlenmeyer flasks, 50–300 c.c.
3. Funnels, glass, 2-inch.
4. Sterile gauze.

5. Graduated glass cylinders, 100 to 500 c. c.
6. Sterile distilled water (see Arsphenamine, III–F).
7. Saline, 0.85 per cent (see Arsphenamine, III–G).

B. When syringe method is to be used:

As above, except in place of gravity apparatus.

1. 10 to 50 c. c. all-glass syringes.
2. Rubber tubing, short, with adapters connecting syringe and needle.
3. Needles, 25 standard gauge, medium bevel.

IV. INSPECTION OF DRUG.

An even more critical examination should be made than in case of arsphenamine, as neoarsphenamine occasionally decomposes in the ampule, even when no cracks are present. The powder should be freely mobile and lemon-yellow to canary-yellow in color. When it approaches a red color, is distinctly lumpy or solidified, do not use, but forward samples to the Hygienic Laboratory for examination.

Immerse in alcohol the ampules which have passed inspection, to further eliminate the presence of cracks and to clean the ampule.

V. PREPARATION OF SOLUTION.

A. *Amount to be prepared at one time.*—In marked contrast to the practice with arsphenamine, do not prepare any more solution at one time than can be administered within 20 minutes.

B. *Concentration.*—Preferably, 1 decigram should be dissolved in 12.5 c. c. of water. This solution is then twice as concentrated as an arsphenamine solution. Concentrations as high as 1 decigram in 0.5 c. c. of water can be used in the field, or under other special circumstances. The highly concentrated solutions, however, should be given very slowly.

C. *Solution:*

1. Put in Erlenmeyer flask 12.5 c. c. sterile distilled water for each decigram of neoarsphenamine. In the field the concentrated solution can be made in the ampule itself by using water supplied in another ampule. (*Caution:* The distilled water used must be at room temperature and not to exceed 30° C.)

2. Open ampule and sprinkle—do not dump—powder into the water and, by preference, allow it to go into solution with no agitation whatever. Slight rotation of the flask is permissible. *Shaking the solution increases its toxicity and should be avoided.*

IN CASE THE SOLUTION IS NOT PERFECTLY CLEAR AND TRANSPARENT, IT SHOULD UNDER NO CIRCUMSTANCES BE USED. WHETHER IT REQUIRES ONE MINUTE OR TEN MINUTES FOR THE DRUG TO FORM A PERFECT SOLUTION IS UNIMPORTANT, BUT IT

SHOULD NOT REQUIRE MORE THAN TEN MINUTES. THE IMPORTANT POINT IS, NOT THE *RATE* OF SOLUBILITY BUT THE *COMPLETE* SOLUBILITY OF THE DRUG.

3. As soon as the neoarsphenamine is in solution, *filter* through washed gauze into tall, narrow cylinders and keep stoppered. It is preferable to use a size of cylinder which the solution will nearly fill. The smaller the air column over the solution the less the danger of increased toxicity. The solution is now ready to inject, and, in marked contrast to the arsphenamine solution, which should stand at least 30 minutes before its injection, the neoarsphenamine solution should be injected *immediately*, and in no case shall it be allowed to stand longer than 20 minutes.

4. *Dosage.*—The initial dose, as a rule, should be small. The average dose is about 0.6 gram for 150 pounds body weight; but no attempts to lay down a hard and fast rule in this regard are made. The patient must be individualized.

VI. ADMINISTRATION.

The directions made under arsphenamine (p. 1875, VI) to apply the administration of neoarsphenamine, with the exception of the dosage, rate, and method of administration.

Rate.—If instructions have been followed, the proper rate is practically insured by the character of the apparatus, but it must be checked by using a time-piece, and in no case, *whether the gravity or the syringe method is used, should more than 0.1 gram of neoarsphenamine be injected in 30 seconds*, or 0.6 gram in 3 minutes. This time is one-half that required for arsphenamine. In giving concentrated solutions, especial care is necessary in order to carry out this rule.

VII. REACTIONS.

See instructions under Arsphenamine, VII.

CONDENSED STANDARD INSTRUCTIONS FOR THE PREPARATION AND INTRAVENOUS ADMINISTRATION OF ARSPHENAMINE AND NEOARSPHENAMINE FOR THE MEDICAL DEPARTMENTS OF THE ARMY, OF THE NAVY, AND OF THE VETERANS' BUREAU, AND BY THE PUBLIC HEALTH SERVICE.

ARSPHENAMINE.

Reactions are usually due to errors in technique or failure to adapt treatment to needs of patient. Arsphenamine is preferable to neoarsphenamine.

I. Use any properly licensed product.

II. Use only the gravity method.

III. *Materials needed.*—Erlenmeyer flasks, glass funnels, graduated cylinders, sterile gauze, sterilized freshly distilled water, normal sodium hydroxide solution, graduated pipette or burette, and gravity apparatus, consisting of 300 c. c. gravity cylinder, pure gum rubber tubing about 40 inches length, diameter $\frac{5}{32}$ inch., end adapter, glass window, slip needles, 19 standard gauge, 1½-inch cannula, medium bevel, and pinch cocks.

IV. *Inspection of drug.*—Record name and lot number; note especially dosage, color, and mobility of powder. If ampules are cracked, or if powder is other than pale yellow to lemon color and not freely mobile, *do not use.*

V. *Preparation of solution.*—Prepare not more than enough for 10 patients at one time.

A. Immerse ampules in alcohol.

B. Place in Erlenmeyer flask about 10 c. c. distilled water at room temperature for each 0.1 gram of the drug to be used, open ampule and sprinkle powder—do not dump—on surface of water; allow to go into solution with little or no agitations.

Exception.—Arsenobenzol (D. R. I.) requires for rapid solution either the use of hot water alone or cold water after having been previously moistened with ethyl alcohol (1 c. c. to 0.6 gm.). In either case immediate, vigorous shaking for a few seconds is essential to prevent the formation of gummy masses. After shaking, wait for complete solution and cooling.

C. *Alkalinization.*—When solution is complete, add 0.85 normal alkali (U. S. P.) for each 0.1 gram of drug (e. g., 1 gm. requires 8.5 c. c.). When standardized normal sodium hydroxide is not avilable, see detailed instructions for procedure. *The drop method of measuring the alkali should never be used.*

D. *Filtration.*—Filter the clear, alkalinized, amber colored solution through sterile gauze, four-ply, previously washed out with distilled water, into a graduated cylinder (not the gravity cylinder).

E. *Dilution.*—Dilute with distilled water so that 0.1 gram arsphenamine is contained in 25 c. c. (e. g., 100 c. c. contains 0.4 gram.)

F. *Time of standing.*—The filtered, perfectly clear, alkalinized and properly diluted solution should now *stand for 30 minutes* before being injected.

G. *Dosage.*—The initial dose should be small. The average dose is about 0.4 gm., but in this respect each case should receive individual consideration. For radical cure, full doses are indicated.

VI. *Administration:*

A. *Preparation of patient.*—In each instance attention should be given to the physical condition, effects of previous treatments of arsphenamine, etc.

B. The use of gravity apparatus, with level of fluid 3 feet above the vein, and 19 gauge needle should give proper rate of injection. However, it should be checked by a timepiece and not more than 25 c. c. (0.1 gm. of drug) should be injected per minute. It is advisable to take about 5 minutes for injection of the average dose (0.4 gm.).

VII. *Reactions.*—See detailed instructions.

NEOARSPHENAMINE.

I. Use any properly licensed product.

II. The gravity method of injection is strongly recommended, in view of the fact that reactions have occurred much less frequently in large clinics using this method as compared with large clinics using the syringe method. The syringe method, however, is a valuable one especially in the field. If the syringe is used, it should be with a 25-gauge needle connected to the syringe with a short piece of rubber tubing.

III. *Materials needed.*—Gravity apparatus, as for arsphenamine, or 10 to 50 c. c. all-glass syringes, with 25-gage needles and short rubber connections. Erlenmeyer flasks, funnels, sterile gauze, cylinders, and sterile freshly distilled water.

IV. *Inspection of drug* is even more important than in case of arsphenamine, as neoarsphenamine may, under certain conditions, change in the ampule. Note manufacturer, amount contained, and especially color, mobility, and bulk of the powder. If ampules are cracked, or if powder is other than canary yellow and not freely mobile, *do not use.*

V. *Preparation of solution:*

A. Immerse ampules in alcohol.

B. Place in an Erlenmeyer flask, 12.5 c. c. of distilled water for each 0.1 gram of the drug to be used, and sprinkle—do not dump—powder on the surface of the water. Allow it to go into solution without shaking. Slight agitation by rotating the flask is permissible. *Shaking increases toxicity.* While in the field and under special circumstances a concentration as high as 0.1 gram in 0.5 c. c. of water can be used, the use of 12.5 c. c. to each 0.1 gram is strongly recommended. *Discard any product which is incompletely soluble.*

C. *Filtration.*—Filter the perfectly clear solution through washed sterile gauze into a narrow graduated cylinder.

D. *Time of standing.*—Neoarsphenamine solutions, in marked contrast to arsphenamine solutions, should not stand but should

be given at once, and *in no case should they be allowed to stand for more than 20 minutes. If any haziness or clouding occurs, do not use.*

E. *Dosage.*—The initial dose should be small. The average dose is 0.6 gm., but in this respect each patient should receive individual consideration.

VI. *Administration.*—Pay particular attention to preparation of patient and to rate of injection, which must not exceed the introduction of more than 0.1 gm. of neoarsphenamine in 30 seconds, whether the gravity or the syringe method be employed. The rate may be almost perfectly controlled by the use of the gravity apparatus specified. With the syringe method the use of the small sized needle specified and the short rubber tube connector will enable one to inject sufficiently slowly without great difficulty, although greater care is necessary than with the gravity method. The rate should be frequently checked with a timepiece.

VII. *Reactions.*—See detailed instructions.

THE COLLEGE STUDENT AND VENEREAL DISEASES.

WHAT COLLEGE PRESIDENTS SAY.

Is venereal infection decreasing among college students? Rather definite answers to this query came as an interesting sidelight in response to a recent effort on the part of the United States Bureau of Education and the United States Public Health Service to obtain from college presidents their opinions with respect to the prevailing attitudes and practices of college men in sexual matters. Nearly one hundred college and university executives were asked the following questions:

In your experience does it seem that the student's attitude toward sexual promiscuity, or his habits and practices have undergone any considerable change during the past 15 years? If so, what is the direction of the change and to what forces do you attribute it? [1]

In all, 65 replies were received, embracing comments on a variety of matters, such as the apparent growing familiarity between the sexes, the effect of the war and contact with European standards upon sex conduct, the prevailing fashions in dress, the modern dance forms, the conversational habits of students, and the prevalence of venereal diseases and the attitude of college men toward them. These various problems of conduct, directly or remotely related to sex, are discussed, as might be expected, from many points of view. What one college president sees as a sign of relaxed moral standards another views simply as a symptom of an effort to place sex relation-

[1] The questions, it will be noted, make no reference to venereal diseases.

ships on an intelligent and enlightened basis. The effect of the war comes in for a good deal of discussion, with some diversity of opinion as to its ultimate effect upon sex standards. On one topic alone is there unanimity of opinion—that of venereal diseases. The fact that practically 40 per cent of the replies specifically mention venereal diseases signifies the importance attached to them by college presidents as a problem of conduct.

The college student of to-day realizes more fully than his brother of an earlier day the dangers and severe risks to health involved in promiscuous sex relations, and as a consequence is much more circumspect in his conduct and has, on the whole, a more enlightened attitude toward all sex matters. Such, at least, is the consensus of opinion among college presidents. That this change in attitude and practice is not due altogether to a higher "sense of morality" is frankly conceded by a number of presidents, and there are a few who seem to regret that "hygiene" rather than "morals" has been the dominant motive in the change that appears to have taken place in the past 15 or 20 years.

In explaining the forces responsible for this change the presidents specify a number of factors which they consider as paramount in influencing the sex life of the young man in college. The effective forces, loosely classified, are, first, education, both popular and academic, in matters of health, with an increasing emphasis on the hygiene of sex and venereal diseases; second, a more active concern on the part of the college in the physical well being of its students, including increased opportunities for physical training and play activity; third, improvement in environmental factors, such as the elimination of the saloon and the suppression of prostitution; and, fourth, the influence of coeducation upon the "atmosphere" of the college.

A number of presidents confess that they are more or less at a loss to specify the facts upon which their judgment is based. A few of them compare conditions to-day with conditions in their own student days and find the comparison favorable to the present. The most encouraging criterion, however, and the one chiefly relied upon in support of the belief that college students to-day are living a cleaner and healthier sex life than heretofore, is the evident decline of venereal infection among this particular group.

"A physician in this town who has much to do with the college students assured me that there was far less venereal disease to-day than 25 years ago," comments one president. He attributes some of this improvement to "instruction in these matters given in our schools and colleges." The hygiene department of a large eastern college, at the request of its president, reports: "In our examination

of 3,500 or 4,000 boys each half year, we do not see more than three or four cases of acute venereal disease a year." A president of a southern university, in expressing the opinion that there has been considerable improvement in the average student's attitude toward sexual promiscuity, states: "One fact on which I count heavily is that the college physician steadily reports to me that cases of venereal diseases in the student body have become extremely rare, and he is in a position to speak with some definiteness on the subject." Another president (Middle West) notes that the "movement is in the right direction," attributing this tendency to various educational measures in the interest of sex hygiene, and concludes: "Although the number of students is constantly increasing, this particular form of student vice has shown a constant decrease. This I have not only from my own observation, but from the reports of the physicians and hospitals in the city." A New England college, through its president, reports that from all the evidence available, "the behavior of young men has steadily improved during the past 15 or 20 years," basing his judgment on "the information given me by the young men who have graduated during the 13 years of my incumbency * * * and from the advice received from our college physicians." In another letter there is reference to the fact that among the S. A. T. C. students examined during the war "very few were infected with venereal diseases." "In this college at least," writes another New England college executive, "there has been marked improvement during the last decade or two. There is little to support my general impression except that the results of our physical examination of the men students are highly satisfactory."

An especially noteworthy statement comes from a director of hygiene and public health who has had unusual opportunities for observation in three well-known State universities. He submits: "One thing I am certain of is that there has been a marked decrease in sexual diseases among college students during recent years. This has been distinctly noticeable. At the University of ——— last year more than 7,000 students were registered, and there were not more than 20 cases at any one time." He states further that his personal observations, based on the three schools with which he has been identified, are confirmed by the findings of school physicians in at least two other large universities, one on the Pacific coast and one in the State of New York. "This improvement is due chiefly to education," continues this director. "Students are learning more and more the danger of sexual diseases and as a consequence are avoiding them."

The president of a State university in the West gives as his judgment that "there has been a great gain in all matters pertaining to

social hygiene throughout the colleges of the country during the past 15 or 20 years." This judgment is based upon 30 years' experience with students of a western State. In regard to venereal diseases this same educator says: "I am sure that you will be interested in knowing that during the war period, of the R. O. T. C. at the University of ———, out of some 400 men examined by the Army physicians, only one case of venereal disease was found." In another reply—this one from the South—the statement is made: "So far as can be ascertained, there is practically no venereal disease among our students." A physician who for a number of years was connected with the hygiene and health department of a large eastern university says: "My impression is that there has been a marked reduction in sexual promiscuity and practice during the past 15 years, and I believe this is chiefly due to the better understanding by boys and girls of the relationship and the rights of a socially just conduct between them. The specific evidence I refer to is the record of medical examination and supervision of the student body at ———, in the year 1919–20. * * * We discovered only one history of syphilis and one of gonorrhea in original examinations, and a total of 10 cases (8 gonorrhea and 2 syphilis) during the year in the entire student body. From records of previous years it was evident that this constituted a very great reduction as compared with pre-war conditions."

The president of a western agricultural college asked the officer in charge of the health service of the college to make a statement of conditions there. The statement was as follows: "During my time here I have found only two cases of venereal diseases in this college, and, as you know, we give all students medical examination. It appears to me that there must have been great improvement along this line." An emphatic opinion is expressed by the president of one of the oldest colleges in the country: "I feel absolutely certain that the conditions of the college, as far as the attitudes and practices of the undergraduates are concerned, were never so good." This president, like many others, relies chiefly upon evidence bearing on the prevalence of venereal infection, as he remarks: "This fact is borne out and largely proved, I think, by the data in regard to venereal disease, the figures concerning which are always available to us. The proportion of men in college at the present time so afflicted is an almost negligible quantity, so far as per cent goes, as against conditions in my own time in college, when there was hardly any group within the college in which there would not be found men so afflicted."

In view of this recital of opinion, may the question, "Is venereal disease decreasing among college students?" be answered in the

affirmative? More than 20 college presidents say "Yes," and not one is found expressing a contrary opinion. A few of the presidents state that venereal diseases have always been negligible among their students, but the testimony of the large majority (of those who consider the matter) is that the last few years have witnessed a substantial and, in some instances, a very marked decrease in the number of venereal cases. It would not, of course, be in keeping with scientific accuracy to contend that the opinions set forth have the potency of facts. In but few instances have conditions in college or elsewhere been statistically verified. In fact, there are available very little reliable data respecting the prevalence of venereal diseases. The largest group thus far subjected to examination was the second million drafted men. Examination at mobilization camps showed that 5.6 per cent of these men had a venereal disease at the time of examination upon arrival at camp. This percentage includes only obvious cases of syphilis, gonorrhea, and chancroid. Wassermann examinations were not given. Furthermore, this percentage does not include those who had been cured prior to the day of examination, or who may have become infected later. Assuming, however, that 5.6 per cent fairly represents the percentage of venereal diseases among unselected groups of the population at any one time, it is obvious that the rate among college students, judged tentatively by the evidence at hand, is decidedly lower.

Whether college students as a group have always been superior in this regard to the general community, the present rise in the college standard being simply a reflection of higher community standards, or whether the college group as compared with the community actually occupies a *relatively* higher position to-day than a decade or more ago, are questions which, if answered, would throw considerable light upon the effectiveness of the movement for venereal-disease control. But leaving aside the refinements which these questions suggest, there is still the hopeful sign that college students are observing more and more the principles of hygienic living. How much of this progress may rightfully be attributed to the organized warfare against venereal diseases conducted by governmental (local, State, and National) and volunteer agencies, and how much to the more subtle campaign through the health and hygiene courses within the colleges, are also matters of speculation. Health education is undoubtedly having a telling effect. College students are avoiding, more and more, the contacts which menace health and undermine virility. This, in the light of what the college presidents say, appears reasonably certain.

STATE AND INSULAR HEALTH AUTHORITIES, 1922.

DIRECTORY, WITH DATA AS TO APPROPRIATIONS AND PUBLICATIONS.

Directories of the State and insular health authorities of the United States for each year from 1912 to 1921 have been published in the Public Health Reports [1] for the information of health officers and others interested in public-health activities. These directories have been compiled from data furnished by the respective State and insular health officers and include data as to appropriations and publications.

Where an officer has been reported to be a "whole-time" health officer, that fact is indicated by an asterisk (*). For this purpose a "whole-time" officer is defined as "one who does not engage in the practice of medicine or any other business, but devotes all his time to official duties."

ALABAMA.

Board of censors of the State Medical Association, acting as a committee of public health:
Thos. E. Kilby, governor, ex officio chairman, Montgomery.
S. W. Welch, M. D., Montgomery.
W. D. Partlow, M. D., Tuscaloosa.
J. N. Baker, M. D., Montgomery.
V. P. Gaines, M. D., Selma.
S. G. Gay, M. D., Selma.
E. S. Sledge, M. D., Mobile.
A. N. Steele, M. D., Anniston.
H. S. Ward, M. D., Birmingham.
B. L. Wyman, M. D., Birmingham.
R. S. Hill, M. D., Montgomery.

Executive health officer:
*S. W. Welch, M. D., State health officer, Montgomery.

Register of vital statistics:
*H. G. Perry, M. D., Montgomery.

State laboratory:
*L. C. Havens, M. D., Montgomery.

State sanitary engineering:
*G. H. Hazlehurst, C. E., M. C. E., Montgomery.

Assistant sanitary engineers:
*C. C. Walker, B. C. E., Montgomery.
*J. C. Carter, E. M., Montgomery.
*E. B. Johnson, C. P. H., Montgomery.
*E. M. Craig, Montgomery.
*N. H. Rector, Montgomery.
*A. S. Bedell, C. E., Montgomery.

Epidemiologist:
*K. F. Maxcy, asst. surg., U. S. P. H. S., Montgomery.

County organization:
*D. L. Cannon, M. D., director, Montgomery.
*D. H. Swengel, M. D., assistant director, Montgomery.

ALABAMA—Continued.

Public health nursing:
*Jessie L. Marriner, R. N., director, Montgomery.
*Elizabeth J. MacKenzie, R. N., assistant director, Montgomery.

Venereal disease control:
*W. C. Blasingame, Montgomery.

Field lecturer:
A. J. Dickinson, D. D., Birmingham.

Communicable diseases:
*W. W. Knipmeyer, M. D., acting director, Montgomery.

Inspection:
*C. A. Abele, Ch. E., director, Montgomery.
*T. B. S. Matthews, assistant director, Montgomery.
*T. A. Belser, assistant director, Montgomery.

Chief clerk:
*Fannie Kate Centerfit, Montgomery.

Appropriation for fiscal year ending September 30, 1922, $150,000.

ALASKA.

Board of health:
Scott C. Bone, governor, Juneau.
Harry C. DeVighne, M. D., commissioner of health, Juneau

Executive health officer:
Harry C. De Vighne, M. D., commissioner of health, Juneau.

Assistant commissioners of health:
Wm. Ramsey, M. D., Council.
J. A. Sutherland, M. D., Fairbanks.
W. H. Chase, M. D., Cordova.

Appropriation for biennium ending Mar. 31, 1923, $41,000.

[1] Reprints Nos. 83, 123, 190, 268, 344, 405, 488, 544, 605, and 706 from the Public Health Reports.

ARIZONA.

Board of health:
- Thomas E. Campbell, governor, president, Phoenix.
- W. J. Galbraith, attorney general, vice president, Phoenix.
- A. M. Tuthill, M. D., secretary, Phoenix.

Executive health officer:
- A. M. Tuthill, M. D., State superintendent of public health, Phoenix.

Executive secretary:
- *Hannah C. Egelston.

Registrar of vital statistics:
- A. M. Tuthill, M. D., Phoenix.

Bureau for control of venereal diseases:
- A. M. Tuthill, M. D., director, Phoenix.

Child hygiene department:
- *Mrs. Chas. R. Howe, director.

Tuberculosis department:
- *T. C. Cuvellier, director.

Statistician:
- *Ruth W. Fritschi.

Health survey nurse:
- *Mrs. Gertrude F. Russell, R. N.

Appropriations for fiscal year ending June 30, 1923:

Salaries	$15,000
Operating expenses	6,850
Traveling expenses	2,800
Total	24,650

Publication issued by health department:
- Quarterly bulletin.

ARKANSAS.

Board of health:
- F. O. Mahony, M. D., president, El Dorado.
- C. F. Crosby, M. D., Heber Springs.
- H. L. Montgomery, M. D., Gravelly.
- H. R. Webster, M. D., Texarkana.
- O. L. Williamson, M. D., Marianna.
- Leonidas Kirby, M. D., Harrison.
- S. A. Southall, M. D., Lonoke.

Executive health officer:
- *C. W. Garrison, M. D., State health officer, Little Rock.

Bureau of vital statistics:
- *Mrs. Mary Ellis Brown, statistician, Little Rock.

Hygienic laboratory:
- *S. F. Hoge, M. D., acting director, Little Rock.

Bureau of sanitation and malaria control:
- *M. Z. Bair, chief sanitary engineer, Little Rock.

Bureau of venereal disease control:
- *C. W. Garrison, M. D., director, Little Rock.

Bureau of child hygiene:
- *Frances Sage Bradley, M. D., director, Little Rock.

Appropriations for biennial period ending June 30, 1923:

Executive department—salaries and miscellaneous	$27,800
Bureau of vital statistics—salaries and miscellaneous	31,000
Bureau of venereal-disease control	25,000
Malaria control	10,000
Total	93,800
For enforcement cigarette licence law	5,200

CALIFORNIA.

Board of health:
- George E. Ebright, M. D., president, San Francisco.
- Fred F. Gundrum, M. D., vice president, Sacramento.
- Walter M. Dickie, M. D., secretary, Sacramento.
- A. J. Scott, jr., M. D., Los Angeles.
- Edward F. Glaser, M. D., San Francisco.
- Adelaide Brown, M. D., San Francisco.
- Robert A. Peers, M. D., Colfax.

Attorney for board of health:
- John C. McFarland, Los Angeles.

Executive health officer:
- *Walter M. Dickie, M. D., secretary and executive officer, State board of health, Sacramento.
- *Mason E. Franklin, assistant to the secretary, Sacramento.

Epidemiologist:
- *Frank L. Kelly, M. D., San Francisco.

District health officers:
- *Allen F. Gillihan, M. D., northern division.
- *Galvin Telfer, M. D., southern division.

Sanitary inspector:
- *Edward T. Ross, Sacramento.

Dental hygienist:
- *Charlotte Greenhood, San Francisco.

Bureau of vital statistics:
- *L. E. Ross, director, Sacramento.

Bureau of registration of nurses:
- *Anne C. Jamme, R. N., director, San Francisco.

Bureau of tuberculosis:
- *Edith L. M. Tate-Thompson, director, Sacramento.

Bureau of food and drugs:
- *Erwin J. Lea, director, Berkeley.

Bureau of communicable diseases:
- *W. H. Kellogg, M. D., director, Berkeley.

Bureau of social hygiene:
- *Elizabeth McManus, director, Los Angeles.

Bureau of sanitary engineering:
- *Ralph Hilscher, C. E., director, Berkeley.

Bureau of child hygiene:
- *Ellen S. Stadtmuller, M. D., director (temporary), San Francisco.

Appropriations for biennial period ending June 30, 1923:

Statutory salaries	$47,800
Traveling and contingent (including printing)	80,000
Support of district health officers	27,500
Support of food and drug laboratory	69,355
Support of hygienic laboratory	86,980
Sanitary inspectors	35,400
Vital statistics	42,000
Contagious diseases	40,680
Bureau of child hygiene	38,500
Bureau of social hygiene	61,600
Bureau of sanitary engineering	68,770
Tuberculosis—Subsidy and administration (administration, $80,000)	280,000
Public health nurses	10,000
Malaria control (emergency)	20,000
Plague and parasitology (emergency)	5,000
Dental hygiene	15,000
Total	1,218,625

CALIFORNIA—Continued.

Other sources of revenue:
Fees for registration of nurses, $15 each.
Renewal of registration certificate, $1 per year.
Licensing of cold-storage warehouses, rated according to capacity.
Fines for violation of pure food and drugs act.
Fees for certified copies of records.
Publications issued by health department:
Biennial report.
Quarterly bulletin.
Weekly news-letter.

COLORADO.

Board of health:
Wm. H. Sharpley, M. D., president, Denver.
G. K. Olmsted, M. D., vice president, Denver.
Tracy R. Love, M. D., secretary, Denver.
C. W. Thompson, M. D., Pueblo.
R. L. Drinkwater, M. D., Denver.
G. W. Bumpus, D. O., Denver.
Sherman Williams, M. D., Denver.
Hugh F. Lorimer, M. D., Crowley.
J. M. Barney, M. D., Denver.
Executive health officer:
Tracy R. Love, M. D., secretary State board of health, Denver.
Bacteriologist:
*Wm. C. Mitchell, M. D., Denver.
Medical inspector:
*J. W. Morgan, M. D., Denver.
State food and drug commissioner:
*———— ————, Denver.
Division of venereal diseases:
*S. R. McKelvey, M. D., director, Denver.
Appropriations for fiscal year ending Nov. 30, 1922:

Salaries	$21,900
Detention home fund	[1] 25,000
Laboratory equipment	[1] 10,000
Printing and publications	1,250
Traveling expenses	4,800
Samples and supplies	600
Venereal diseases	20,000
Incidental expenses	[1] 2,000
Total	85,550

CONNECTICUT.

Public health council:
Edward K. Root, M. D.
S. B. Overlock, M. D.
C.-E. A. Winslow, D. P. H.
James W. Knox.
Robert A. Cairns, C. E.
James A. Newlands.
Executive health officer:
***John T. Black, M. D.**, commissioner of health, Hartford.
Laboratory director:
C. J. Bartlett, M. D.
Sanitary engineering:
J. Frederick Jackson, C. E., director.
Preventable diseases:
*Stanley H. Osborn, M. D., director.

CONNECTICUT—Continued.

Vital statistics:
*William C. Welling, director.
Division of public health nursing:
*Margaret K. Stack, R. N., director.
Bureau of child hygiene:
*Howard A. Lanpher, M. D., director.
Division of venereal diseases:
Daniel E. Shea, M. D., director.
Appropriations for fiscal year ending June 30, 1923:

General administrative expenses	$15,500
Salary commissioner	4,000
Purchase and free distribution of antitoxin	22,500
Preventable diseases	15,000
Vital statistics	12,500
Sanitary engineering	12,500
Laboratory	25,000
Child hygiene	18,000
Venereal disease control work	10,000
Mental hygiene	3,000
Total	138,000
Federal appropriation, Sheppard-Towner Act	$19,311.48
Available for laboratory construction	95,748.42

Other sources of revenue:
Medical practice, registration fees.
Publications issued by health department:
Monthly bulletin.
Annual vital statistics report.
Biennial report of State department of health.

DELAWARE.

Board of health:
Wm. P. Orr, M. D., president, Lewes.
L. S. Conwell, M. D., secretary, Dover.
J. W. Clifton, M. D., Smyrna.
W. F. Haines, M. D., Seaford.
Jos. P. Wales, M. D., Wilmington.
G. W. K. Forrest, M. D., Wilmington.
Edgar Q. Bullock, M. D., Wilmington.
Executive health officer:
L. S. Conwell, M. D., secretary State board of health, Dover.
Pathologist and bacteriologist:
*Herbert J. Watson, Newark.
Appropriations for the fiscal year ending Jan. 7, 1923:

State board of health	$6,000
Laboratory	10,000
Vital statistics	2,000
Diphtheria antitoxin and immunizing agents	5,000
Venereal disease control work	2,500
Supervising nurse for midwives	2,000
Total	27,500

DISTRICT OF COLUMBIA.

Executive health officer:
***Wm. C. Fowler, M. D.**, health officer, Washington.
Assistant health officer:
*———— ————, M. D., Washington.

[1] Years 1921 and 1922.

DISTRICT OF COLUMBIA—Continued.

Chief clerk and deputy health officer:
*Arthur G. Cole, Washington.
Chief bureau of preventable diseases and director bacteriological laboratory:
*John T. Sprague, M. D., Washington.
Bacteriologist:
*John A. Noble, Washington.
Serologist:
*W. F. Landon, Washington.
Chemist:
*Thomas Malcolm Price, Ph. D., Washington.
Chief sanitary inspector:
*C. R. Holman, Washington.
Chief food inspector:
*Reid R. Ashworth, D. V. S., Washington.
Chief medical and sanitary inspector of schools:
*Joseph A. Murphy, M. D., Washington.
Appropriations for the fiscal year ending June 30, 1923:

Salaries	$100,890
Prevention of communicable diseases	40,000
Disinfecting service	6,000
Isolation wards at hospitals	16,500
Milk and food inspection and regulation	7,200
Dispensary service, including treatment of tuberculosis and venereal disease	12,500
Examination, advice, and care of children under 6 years of age under contract with child-welfare society	18,000
Miscellaneous	9,450
Total	210,540

Publications issued by health department:
Weekly report by health department.
Annual report of health officer.
Monthly statement of average grade of milk sold.

FLORIDA.

Board of health:
Calvin T. Young, M. D., president, Plant City.
Charles H. Mann, Jacksonville.
F. Clifton Moor, M. D., Tallahassee.
Executive health officer:
*Raymond C. Turck, M. D., State health officer, Jacksonville.
Bureau of vital statistics:
*Stuart G. Thompson, D. P. H., director, Jacksonville.
Bureau of sanitary engineering:
*George W. Simons, jr., director, Jacksonville.
Bureau of diagnostic laboratories:
*B. L. Arms, M. D., director, Jacksonville.
Bureau of communicable disease and health units:
*George A. Dame, M. D., director, Jacksonville.
Bureau of child welfare:
*William B. Keating, M. D., director, Jacksonville.
Appropriation for health department:
One-quarter mill tax levied upon the assessable property of the State; reduced from one-half mill by 1921 legislature.
Fiscal year ends December 31.
Publications issued by health department:
Pamphlets covering all phases of public health.
Public health information disseminated through the weekly and daily papers of the State.
Florida Health Notes.

GEORGIA.

Board of health:
W. H. Doughty, jr., M. D., president, Augusta.
James H. McDuffie, M. D., vice president, Columbus.
T. F. Abercrombie, M. D., secretary, Atlanta.
Charles H. Richardson, M. D., Macon.
A. D. Little, M. D., Thomasville.
John W. Daniel, M. D., Savannah.
W. I. Hailey, M. D., Hartwell.
A. L. Crittenden, M. D., Shellman.
Robert F. Maddox, Atlanta.
A. C. Shamblin, M. D., Rome.
J. C. Verner, M. D., Commerce.
J. L. Walker, M. D., Waycross.
M. S. Brown, M. D., Fort Valley.
M. L. Brittain, State superintendent of schools, ex officio, Atlanta.
Peter F. Bahnsen, State veterinarian, ex officio, Atlanta.
Executive health officer:
*T. F. Abercrombie, M. D., commissioner, Atlanta.
*Joe P. Bowdoin, M. D., deputy commissioner, Atlanta.
Division of venereal disease control:
*Joe P. Bowdoin, M. D., director, Atlanta.
Division of county health work:
*M. F. Haygood, M. D., director, Atlanta.
Division of malaria control:
*M. A. Fort, M. D., director, Atlanta.
Division of laboratories:
*T. F. Sellers, M. Sc., director, Atlanta.
Division of sanitary engineering:
*H. C. Woodfall, director, Atlanta.
Division of serology:
*E. L. Webb, director, Atlanta.
State tuberculosis sanatorium:
*Edson W. Glidden, 2d, M. D., superintendent, Alto.
Bureau of vital statistics:
*W. A. Davis, M. D., director, Atlanta.
Division of child hygiene:
*Dorothy Bocker, M. D., director, Atlanta.
*Alice Moses, M. D., assistant director, Atlanta.
Georgia training school for mental defectives:
*George H. Preston, M. D., Gracewood.
Division of accounting and purchasing:
*C. L. Tinsley, director, Atlanta.
Appropriations for the fiscal year ending Dec. 31, 1922:

General appropriation	$81,431.00
State tuberculosis sanatorium	30,000.00
Venereal disease control	10,000.00
Georgia training school for mental defectives	25,000.00
Total appropriation by legislature	146,431.00
Venereal disease control (Federal Government funds)	[1] 6,163.64
Central administration—county health work (International Health Board funds)	3,845.09
Central administration—malaria control (International Health Board funds)	2,017.08
Maternity and infancy (Federal Government funds)	[1] 11,000.00
Grand total	169,456.72

[1] For fiscal year ending June 30, 1923.

HAWAII.

Board of health:
F. E. Trotter, M. D., president and executive officer, Honolulu.
Harry Irwin, attorney general, Honolulu.
P. Withington, M. D., Honolulu.
D. S. Bowman, Honolulu.
E. A. Mott-Smith, Honolulu.
J. Ordenstein, Honolulu.
S. S. Paxson, Honolulu.

Executive health officer:
*F. E. Trotter, M. D., president of the board of health, Honolulu.

Secretary:
*M. R. Weir, Honolulu.

Bacteriologist:
A. N. Sinclair, M. D., Honolulu.

Tuberculosis bureau:
A. L. Davis, M. D., director, Honolulu.

Medical inspector of schools:
A. L. Davis, M. D., Honolulu.

Health officer:
James T. Wayson, M. D., Honolulu.

Sanitary engineer:
*S. W. Tay, Honolulu.

Food commissioner and analyst:
*M. B. Bairos, Honolulu.

Oahu insane asylum:
*W. A. Schwallie, M. D., superintendent, Honolulu.

Leper settlement:
*J. D. McVeigh, superintendent, Kalaupapa, Molokai.
*W. J. Goodhue, M. D., resident physician, Kalaupapa, Molokai.

Chief sanitary inspector, Hawaii:
C. Charlock, Hilo.

Chief sanitary inspector, Maui:
G. Weight, Wailuku.

Chief sanitary inspector, Kauai:
F. B. Cook, Waimea.

Appropriations for the biennial period ending June 30, 1923:

General expenses	$67,300
Vital statistics	17,680
Sanitary engineering	15,600
Sanitation	147,240
Pure food	22,500
Bacteriological bureau	18,000
Quarantine and medical service	127,340
Rat campaign	24,000
Mosquito campaign	4,800
Medical and dental supervision and treatment of school children	54,000
Tuberculosis	302,000
Care of lepers and their children	632,370
Care of the insane	293,596
Miscellaneous	6,150
Total	1,732,576

Publications issued by health department:
Annual report of president.
Registrar-General's report.

IDAHO.

Department of public welfare:
*David Burrell, commissioner.
*F. W. Almond, M. D., medical adviser.
*Paul A. Mader, bacteriologist.

IDAHO—Continued.

Department of public welfare—Continued.
*William Vernon Leonard, chemist.
*A. H. Wilson, dairy, food, drug, hotel, and sanitary inspector.
*C. K. Macey, dairy, food, drug, hotel, and sanitary inspector.

Executive health officer:
*David Burrell, commissioner of public welfare, Boise.

Appropriations for biennial period ending Jan. 3, 1923:

Salaries and wages:	
Commissioner	$7,200
Medical adviser	10,002
Bacteriologist	4,800
Chemist	4,800
Inspector	4,800
Inspector	4,000
Other salaries	12,800
Expenses other than salaries	14,700
Venereal disease control	5,000
Total	67,300

ILLINOIS.

Director of public health:
*Isaac D. Rawlings, M. D., Springfield.

Assistant director of public health:
*Thomas H. Leonard, M. D.

Division of sanitation and engineering:
*Harry F. Ferguson, C. E., chief sanitary engineer.

Division of communicable diseases:
*J. J. McShane, M. D., D. P. H., chief.

Division of child hygiene and public health nursing:
*C. W. East, M. D., chief.

Division of tuberculosis:
*Thomas H. Leonard, M. D., acting chief.

Division of laboratories:
*Thomas G. Hull, Ph. D., chief.

Division of vital statistics:
*Sheldon L. Howard, registrar.

Division of public health instruction:
*Baxter K. Richardson, chief.

Division of social hygiene:
*C. C. Copelan, M. D., chief.

Division of hotel and lodging-house inspection:
*W. W. McCulloch, superintendent.

Appropriations for fiscal year ending June 30, 1923:

Salaries	$318,960
Salaries State officers	12,600
Office expenses	16,495
Traveling expenses	77,300
Operating, supplies and expenses	85,000
Equipment and repairs	12,735
Contingent	29,000
Printing	20,500
Total	572,590

Publications issued by health department:
Illinois Health News (monthly).
Social Hygiene (monthly).
Weekly press bulletin.

INDIANA.

Board of health:
John H. Hewitt, M. D., president, Terre Haute.
Hugh A. Cowing, M. D., vice president, Muncie.
Chas. B. Kern, M. D., La Fayette.
Adah McMahan, M. D., La Fayette.
J. N. Hurty, M. D., secretary, Indianapolis.
Executive health officer:
*J. N. Hurty, M. D., State health commissioner, Indianapolis.
Assistant State health commissioner:
*W. F. King, M. D., Indianapolis.
Division of statistics:
*H. M. Wright, director, Indianapolis.
Laboratory of hygiene:
*A. G. Long, M. D., C. P. H., director, Indianapolis.
Division of food and drugs:
*Ivy Miller, State food and drug commissioner, Indianapolis.
Traveling milk laboratory:
*Frank C. Wilson, director.
Water and sewage laboratory:
*L. A. Geupel, sanitary engineer, Indianapolis.
Division of child hygiene:
*Ada E. Schweitzer, M. D., director, Indianapolis.
Division of tuberculosis:
*H. W. McKane, M. D., director, Indianapolis.
Division of epidemiology:
*H. M. Wright, M. D., director, Indianapolis.
Division of venereal diseases:
*W. F. King, M. D., director, Indianapolis.
Division of school hygiene:
*H. R. Condrey, director, Indianapolis.
Division of housing:
*W. F. Sharpe, director, Indianapolis.
Appropriations for fiscal year ending Sept. 30, 1923:

Salaries (specific)	$4,000
Board of health office	30,000
Food and drugs	30,000
Weights and measures	10,000
Laboratory of hygiene	12,000
Hydrophobia fund	6,000
Baby book	5,000
Division of tuberculosis	10,000
Division of infant and child hygiene	20,000
Division of rural hygiene	25,000
Division of venereal diseases	42,300
Housing	20,000
Total	211,300

Publication issued by health department:
Monthly bulletin.

IOWA.

Board of health:
Frank T. Launder, M. D., president, Garwin.
N. E. Kendall, governor, Des Moines.
W. C. Ramsay, secretary of state, Des Moines.
G. C. Haynes, auditor of state, Des Moines.
W. J. Burbank, treasurer of state, Des Moines.
Hans V. Pedersen, sanitary engineer, Des Moines.
G. F. Severs, M. D., Centerville.
Henry C. Eschbach, M. D., Albia.
C. S. Grant, M. D., Iowa City.

IOWA—Continued.

Executive health officer:
*Rodney P. Fagen, M. D., State health commissioner, Des Moines.
Assistant secretary:
*H. W. Grefe, Des Moines.
Chief clerk:
*L. V. Clemens, Des Moines.
Laboratories:
*Don M. Griswold, M. D., director, Iowa City.
Sanitary engineer:
*Hans V. Pedersen, Des Moines.
Bureau of venereal diseases:
W. S. Conkling, M. D., director.
Lecturer in charge of women's work:
Jeannette F. Throckmorton, M. D.
State housing commissioner:
*Edwin H. Sands.
Appropriations for fiscal year ending June 30, 1922:

State board of health work	$10,000
Housing department	5,000
Bacteriological laboratory	15,000
Antitoxin department	2,000
Vital statistics	10,000
Salaries of employees	11,400
Social hygiene	25,000
Total	78,400

The above does not include special appropriation for clerical assistance.
Publications issued by health department:
Biennial report.
Quarterly bulletin.

KANSAS.

Board of health:
Jos. E. Hawley, M. D., president, Burr Oak.
J. J. Entz, M. D., vice president, Marion.
H. L. Aldrich, M. D., Caney.
W. M. Earnest, M. D., Washington.
Clay E. Coburn, M. D., Kansas City.
O. D. Walker, M. D., Salina.
J. T. Axtell, M. D., Newton.
C. H. Ewing, M. D., Larned.
C. H. Lerrigo, M. D., Topeka.
J. G. Egan, attorney.
Executive health officer:
S. J. Crumbine, M. D., secretary State board of health, Topeka.
Division of vital statistics:
Chas. H. Lerrigo, M. D., State registrar, Topeka.
Division of communicable diseases and sanitation:
A. J. Warren, M. D., chief, Topeka.
Division of food and drugs:
Frank Rowland, assistant chief food and drug inspector, Topeka.
Division of child hygiene:
Helen Moore, M. D., chief, Topeka.
Division of water and sewage:
Prof. Albert Jewell, chief, Lawrence.
Division of public health education:
S. J. Crumbine, M. D., director, Topeka.
Division of venereal diseases:
B. K. Kilbourne, acting asst. surg., U. S. P. H. S., director, Topeka.
Division of public health nursing:
Helen A. Cron, R. N., supervisor, Topeka.

KANSAS—Continued.

Water and sewage laboratories at Kansas University:
Prof. Albert Jewell, director, Lawrence.
Food laboratory at Kansas University:
Prof. E. H. S. Bailey, director of food analyses, Lawrence.
Drug laboratory at Kansas University:
Prof. L. E. Sayre, director of drug analyses, Lawrence.
Food laboratory at Kansas Agricultural College:
Prof. Wm. King, director of food analyses, Manhattan.
Public health laboratory, Topeka:
William Levin, D. P. H., director, Topeka.
Appropriations for fiscal year ending June 30, 1922:

Salaries	$23,700
Miscellaneous	8,000
Water and sewage division	5,000
Free distribution of antitoxins, etc.	2,500
Suppression of communicable diseases	10,000
Public health exhibit car	3,000
Laboratory of hygiene	5,000
Division of child hygiene	7,500
Division of food and drugs	7,500
Division of venereal diseases	7,500
Total	79,700

Other sources of revenue:
Marriage fees, approximately $11,000.
Water and ice analyses fees, approximately $14,000.
Food and drug laboratories at Kansas University maintained by university maintenance fund, and food laboratory at Kansas Agricultural College maintained by agricultural college maintenance fund.
Publications issued by health department:
Monthly bulletin.
Biennial report.

KENTUCKY.

Board of health:
L. S. McMurtry, M. D., president, Louisville.
W. W. Richmond, M. D., Clinton.
George T. Fuller, M. D., Mayfield.
H. H. Carter, D. O., Shelbyville.
Joseph E. Wells, M. D., Cynthiana.
George S. Coon, M. D., Louisville.
F. A. Stine, M. D., Newport.
O. C. Dilly, M. D., Lousiville.
A. T. McCormack, M. D., secretary, Louisville.
Executive health officer:
*A. T. McCormack, M. D., State health officer, Louisville.
Bureau of vital statistics:
*J. F. Blackerby, director, Louisville.
Bureau of bacteriology:
*Lillian H. South, M. D., director, Louisville.
Bureau of sanitary engineering:
*F. C. Dugan, State sanitary engineer, Louisville.
Bureau of food, drugs, and hotels:
*Sarah H. Vance, director, Louisville.
Bureau of venereal diseases:
*Jethra Hancock, M. D., Lousiville.

KENTUCKY—Continued.

Bureau of tuberculosis:
*J. S. Lock, M. D., director, Louisville.
Bureau of public health nursing:
*Marian Williamson, R. N., director, Louisville.
Bureau of child hygiene:
*Annie S. Veech, M. D., Louisville.
Bureau for prevention of trachoma and blindness:
*C. B. Kobert, M. D. director, Louisville.
Bureau of public health education:
*Helen Donaldson, R. N., acting director, Louisville.
Bureau of county health work:
*P. E. Blackerby, M. D., director, Louisville.
Appropriation for fiscal year ending June 30, 1923: $257,500.
Publication issued by health department:
Monthly bulletin.

LOUISIANA.

Board of health:
Oscar Dowling, M. D., president, New Orleans.
J. M. Mosely, M. D., Arcadia.
T. T. Tarlton, M. D., Grand Coteau.
L. C. Chamberlain, M. D., New Orleans.
T. A. Roy, M. D., Mansura.
B. A. Ledbetter, M. D., New Orleans.
M. W. Swords, M. D., secretary, New Orleans.
Executive health officer:
*Oscar Dowling, M. D., president State board of health, New Orleans.
Bacteriologist:
W. H. Seemann, M. D., New Orleans.
Registrar:
J. Geo. Dempsey, M. D., New Orleans.
Sanitary engineer:
John H. O'Neill, New Orleans.
Child hygiene:
Agnes Morris, New Orleans.
Maud Loeber, M. D., medical director, New Orleans.
Public health nursing:
Mrs. M. Coale Alpha, New Orleans.
Analyst:
J. Roy Keeny, Phar. D., New Orleans.
Epidemiologist:
C. L. Williams, surgeon, U. S. P. H. S., New Orleans.
Bureau of venereal diseases:
Leonard C. Scott, acting asst. surg., U. S. P. H. S., New Orleans.
Medical entomology:
Geo. E. Beyer, New Orleans.
Appropriations for fiscal year ending June 30, 1923:

Isolation hospital at Alexandria	$12,500
Venereal disease control work	12,500
General	75,000
Total	100,000

Other source of revenue:
Fees from inspection of oil.
Publications issued by health department:
Monthly bulletin.
Quarterly bulletin.
Annual almanac.
Biennial report.
Miscellaneous leaflets.

MAINE.

Public health council:
C. F. Kendall, M. D., chairman, Augusta.
S. J. Beach, M. D., Portland.
J. Q. Gulnac, Bangor.
Hiram Ricker, South Poland.
R. D. Small, M. D., Portland.
Executive health officer:
*C. F. Kendall, M. D., State commissioner of health, Augusta.
Division of administration:
*C. F. Kendall, M. D., Augusta.
Division of communicable diseases:
*A. G. Young, M. D., director, Augusta
Division of diagnostic laboratories:
*John Hewat, M. D., director, Augusta.
Division of sanitary engineering:
*Walter J. Brennan, acting director, Augusta.
Division of vital statistics:
*C. F. Kendall, M. D., State registrar, Augusta.
Division of venereal diseases:
*George H. Coombs, M. D., director, Augusta.
Division of public health nursing and child hygiene:
*Edith L. Soule, R. N., Augusta.
District health officers:
*J. L. Pepper, M. D., South Portland.
*E. P. Goodrich, M. D., Lewiston.
*J. W. Loughlin, M. D., Damariscotta.
*H. L. Lombard, M. D., Presque Isle.
*H. D. Worth, M. D., Bangor.
*J. F. Stevens, M. D., Millinocket.
*G. H. Hutchins, M. D., Waterville.
*A. L. Smith, M. D., Machias.
Appropriations for fiscal year ending June 30, 1923:

Salaries and clerk hire	$28,000
Office expense and epidemic fund	18,000
District and local health officers	35,000
Venereal disease control work	10,000
Total	91,000

Other source of revenue:
Census Bureau, Washington, D. C., about $800.
Publications issued by the department of health:
Annual report of department of health.
Annual report on vital statistics.
Bimonthly bulletin.

MARYLAND.

Board of health:
Wm. H. Welch, M. D., president, Baltimore.
Alexander Armstrong, attorney general, Baltimore.
John S. Fulton, M. D., secretary, Baltimore.
Wm. W. Ford, M. D., Baltimore.
C. Hampson Jones, M. D., Baltimore.
Tolley A. Biays, Baltimore.
Benjamin C. Perry, Bethesda.
E. F. Kelly, Phar. D., Baltimore.
Executive health officer:
*John S. Fulton, M. D., State health officer, Baltimore.
Bureau of communicable diseases:
*Robert H. Riley, M. D., chief, Baltimore.
Bureau of vital statistics:
Frederic V. Beitler, M. D., chief, Baltimore.
Food and drug commissioner:
*A. L. Sullivan, chief, Baltimore.

MARYLAND—Continued.

Bureau of bacteriology:
*R. C. Salter, chief, Baltimore.
Bureau of sanitary engineering:
Robert B. Morse, C. E., chief, Baltimore.
Bureau of chemistry:
Wyatt W. Randall, Ph. D., chief, Baltimore.
Bureau of accounts and property:
*Walter N. Kirkman, chief, Baltimore.
Appropriations for fiscal year ending Sept. 30, 1921:

Salaries	$156,000
Expenses	84,000
Total	240,000

Publications issued by health department:
Annual report.
Health officer's bulletin.

MASSACHUSETTS.

Public health council:
Eugene R. Kelley, M. D., chairman, Boston.
Roger I. Lee, M. D., Cambridge.
J. E. Lamoureux, M. D., Lowell.
Richard C. Strong, M. D., Boston.
G. C. Whipple, S. B., Cambridge.
Warren C. Jewett, Worcester.
Sylvester E. Ryan, M. D., Springfield.
Executive health officer:
*Eugene R. Kelley, M. D., State commissioner of public health, Boston.
Division of administration:
*——— ———, director.
Division of communicable diseases:
*Bernard W. Carey, M. D., director, Boston.
*——— ———, epidemiologist.
*Edith A. Beckler, bacteriologist, Boston.
Division of sanitary engineering:
*X. H. Goodnough, director and chief engineer, Boston.
Division of water and sewage laboratories:
*H. W. Clark, director and chemist, Boston.
Division of biologic laboratories:
*Benjamin White, Ph. D., director and pathologist, Boston.
Division of food and drugs:
*Hermann C. Lythgoe, director and analyst, Boston.
Division of hygiene:
*Merrill E. Champion, M. D., director, Boston.
Division of tuberculosis:
*Sumner H. Remick, M. D., director, Boston.
Appropriations for fiscal year ending Nov. 30, 1922.

Division of administration	$28,600.00
Division of hygiene	58,700.00
Division of communicable diseases	79,370.00
Subdivision of venereal diseases	32,300.00
Production and distribution of antitoxin and vaccine	60,100.00
Wassermann laboratory	15,207.00
Manufacture and distribution of arsphenamine	21,820.00
Division of food and drug inspection	42,600.00
Divisions of water supply and sewage disposal	90,575.00

MASSACHUSETTS—Continued.

Appropriations for fiscal year ending Nov. 30, 1922—Continued.

State examiners of plumbers	$5,000.00
Division of tuberculosis (including subsidies to cities and towns)	174,555.22
Maintenance of four State sanatoria	915,475.00
Services of caretaker, etc., for Penikese Island (for lepers)	1,500.00
Total	1,525,802.22

Publications issued by department of public health:
Monthly bulletin.
Annual report.
Miscellaneous pamphlets dealing with health matters.

MICHIGAN.

Advisory council of health:
Guy L. Kiefer, M. D., president, Detroit.
C. C. Slemons, M. D., Grand Rapids.
Frank M. Gowdy, M. D., St. Joseph.
Leland W. Carr, Lansing.
Robert B. Harkness, Houghton.

Executive health officer:
*Richard M. Olin, M. D., State health commissioner, Lansing.

Deputy health commissioner:
*George H. Ramsey, M. D., Lansing.

Bureau of engineering:
*E. D. Rich, C. E., director.
*William Hirn, C. E., assistant engineer.
*Ernest F. Badger, chemical engineer.
*Warner C. Brockway, B. S. E., assistant engineer.
*Albert T. Kunze, B. S. E., assistant engineer.
*Willard F. Shepherd, B. S. E., assistant engineer.
*Chas. L. Orr, water inspector.

Bureau of laboratories:
*C. C. Young, Ph. D., director.
*Minna Crooks, R. N., bacteriologist.
*R. L. Kahn, D. Sc., immunologist.
*A. B. Haw, clinical pathologist.
*S. R. Johnson, D. V. S., veterinary pathologist.
*Chas. L. Bliss, chemist.

Bureau of nursing and child hygiene:
*Blanche Haines, M. D., director.

Bureau of communicable diseases and vital statistics:
*W. J. V. Deacon, M. D., D. P. H., director.

Bureau of dentistry:
*K. R. Gibson, D. D. S., director.

Bureau of institutional health administration:
*Robert A. MacGregor, M. D., director.

Bureau of education:
*Marjorie Delavan, director.

Bureau of embalming:
*F. J. Pienta, director.

Appropriations for fiscal year ending June 30, 1923:

Personal service	$167,690
Supplies	26,855
Contractual service	25,000
Hospitalization, care and treatment	25,000

MICHIGAN—Continued.

Appropriations for fiscal year ending June 30, 1923—Continued.

Maintenance of equipment	$335
Other equipment	6,370
Total	251,250
Free antitoxin	75,000
Total	326,250

Publications issued by health department:
Monthly bulletin.
Annual report
Communicable disease pamphlets.
Sex hygiene pamphlets.
Child hygiene pamphlets.
Engineering bulletins.

MINNESOTA.

Board of health:
C. L. Scofield, M. D., president, Benson.
S. Marx White, M. D., vice president, Minneapolis.
N. M. Watson, M. D., Red Lake Falls.
A. E. Hedback, M. D., Minneapolis.
L. P. Wolff, C. E., St. Paul.
O. W. Holcomb, M. D., St. Paul.
R. C. Hunt, M. D., Fairmont.
H. R. Weirick, M. D., Hibbing.
——— ———(vacant).

Executive health officer:
*A. J. Chesley, M. D., secretary and executive officer, St. Paul.

Division of records:
*O. C. Pierson, director, St. Paul.

Division of preventable diseases:
*O. McDaniel, M. D., director, Minneapolis.

Division of sanitation:
*H. A. Whittaker, director, Minneapolis.

Division of vital statistics:
*Mrs. Gerda C. Pierson, director, St. Paul.

Division of venereal diseases:
H. G. Irvine, M. D., director, Minneapolis.
*L. W. Feezer, assistant director, Minneapolis.
*Margaret Sheridan, educational supervisor.
*Audrey Walton, chief social worker.

Division of child hygiene:
*E. C. Hartley, M. D., director, Minneapolis.

Appropriations for fiscal year ending June 30, 1923:

General fund	$20,000
Vital statistics	10,000
Communicable diseases	25,000
Laboratories	40,000
Sanitary engineering	7,000
Free antitoxin	10,000
Prevention of blindness	1,000
Venereal diseases	30,000
Total	143,000

Other sources of revenue:
Aid from county and city for branch laboratory at Duluth, $900.
From Minnesota Public Health Association for division of child hygiene, $5,000.

Publications issued by health department:
Educational pamphlets.
Biennial report.

MISSISSIPPI.

Board of health:
W. W. Hall, M. D., president, Shelby.
J. H. McNeill, M. D., Olive Branch.
B. Lampton Crawford, M. D., Tylertown.
T. F. Elkin, M. D., Tupelo.
H. F. Garrison, M. D., Clinton.
L. L. McDougal, M. D., Booneville.
C. D. Mitchell, M. D., Jackson.
I. L. Parsons, M. D., Brookhaven.
T. W. Reagan, M. D., Union.
E. M. Gavin, M. D., Ovett.
W. H. Watson, M. D., Brandon.
J. H. Windham, M. D., Ecru.

Executive health officer:
***W. S. Leathers, M. D.**, executive officer, State board of health, Jackson.

Bureau of vital statistics:
*R. W. Hall, M. D., director, Jackson.

Bureau of child welfare:
*F. J. Underwood, M. D., director, Jackson.

Hygienic laboratory:
*C. R. Stingily, M. D., director, Jackson.

Bureau of sanitary inspection:
*W. D. Beacham, M. D., chief sanitary inspector, Jackson.

Bureau of sanitary engineering:
*H. A. Kroeze, C. E., director, Jackson.

Bureau of rural sanitation:
*W. S. Leathers, M. D., acting director, Jackson.
*C. M. Shipp, M. D., epidemiologist in charge of malaria-control work, Jackson.

Bureau of venereal diseases:
*Hardie Hays, M. D., director, Jackson.

Bureau of public-health nursing:
*Mary D. Osborne, R. N., director, Jackson.

Appropriations for fiscal year ending Dec. 31, 1922:

Administrative office	$23,000
Bureau of vital statistics	12,000
Municipal sanitation	12,000
Rural sanitation	27,000
Hygienic laboratory	20,000
Child welfare	30,000
Venereal diseases	16,000
Total	140,000

Publications issued by health department:
Biennial report.
Monthly bulletin.

MISSOURI.

Board of health:
R. S. Vitt, M. D., president, St. Louis.
E. E. Brunner, M. D., vice president, Carrollton.
Franklin E. Murphy, M. D., Kansas City.
Cortez F. Enloe, M. D., secretary, Jefferson City.
E. P. North, M. D., St. Louis.
T. A. Son, M. D., Bonne Terre.
T. H. Wilcoxen, M. D., Bowling Green.

Executive health officer:
***Cortez F. Enloe, M. D.**, Secretary State board of health and State commissioner of health, Jefferson City.

MISSOURI—Continued.

Bureau of vital statistics:
*Jas. Wark, statistician, Jefferson City.

Division of child hygiene:
*Irl Brown Krause, M. D., director, Jefferson City.

Division of rural sanitation:
*Thomas Parran, M. D., director, Jefferson City.

Division of venereal diseases:
*R. L. Russell, M. D., director, Jefferson City.

Division of sanitary engineering:
*George W. Putnam, director, Jefferson City.

Public health laboratories:
M. P. Ravenel, M. D., director, State University, Columbia.

Appropriations for biennial period ending Dec. 31, 1922:

Board of health fund, bureau of licensure	$15,000
Salaries	49,600
Division of venereal diseases	19,000
Public health and child hygiene exhibits	5,000
Traveling expenses	10,000
Printing	9,000
Postage	4,000
Laboratory and contingent expense	4,000
Cooperative rural sanitation fund	20,000
Total	135,600

MONTANA.

Board of health:
B. L. Pampel, M. D., president, Livingston.
D. J. Donohue, M. D., vice president, Butte.
E. G. Balsam, M. D., Billings.
E. M. Porter, M. D., Great Falls.
L. H. Fligman, M. D., Helena.

Executive health officer:
***W. F. Cogswell, M. D.**, secretary, Helena.

Division of communicable diseases:
*Ernest D. Hitchcock, M. D., epidemiologist, Helena.

Division of child welfare:
*John J. Sippy, M. D., director, Helena.
*Mary Margaret Muckley, R. N., director public-health nursing, Helena.

Division of food and drugs.
*H. M. Shea, director, Helena.

Division of social hygiene:
*F. J. O'Donnel, director, Helena.

Division of vital statistics:
*W. F. Cogswell, M. D., State registrar, Helena.

Division of water and sewage:
W. M. Cobleigh, director, Bozeman.
*H. B. Foote, bacteriologist, Bozeman.

Water and sewage laboratory and food and drug laboratory:
W. M. Cobleigh, director, Bozeman.
E. J. Quinn, analyst, Bozeman.

Hygienic laboratory:
*Ernest D. Hitchcock, M. D., director, Helena.
*Richard M. Johnson, bacteriologist, Helena.

MONTANA—Continued.

Appropriations for the year ending June 30, 1923:
[Appropriations for salaries and expense of State board of health are made in lump sum. The budget given is tentative and not arbitrarily fixed. Unexpended sums of one division may be diverted to other divisions when deemed necessary.]

General administration—	
Salaries	$6,800
Expenses	4,500
Division of child welfare	4,265
Hygienic laboratory	10,190
Inspection of water plants	4,325
Food and water laboratory	3,495
Enforcing food and drugs law	4,660
Division of communicable diseases	11,930
Social hygiene division	4,645
Division of vital statistics	2,900
Board of entomology (Rocky Mountain spotted fever work)	9,660
Total	67,340

Other source of revenue:
Fees for embalmers' licenses.

Publications issued by health department:
Monthly bulletin.
Special bulletins on communicable diseases.
Biennial report.

NEBRASKA.

Department of public welfare:
*H. H. Antles, secretary, Lincoln.
Bureau of health—
Executive health officer and epidemiologist—
*I. H. Dillon, M. D., chief of bureau of health, Lincoln.
Bacteriologist—
*L. O. Vose, Lincoln.
Division of venereal diseases—
*P. H. Bartholomew, M. D., director, Lincoln.
Statistician—
*May F. Hyland, Lincoln.
Division of child hygiene—
*Margaret McGreevy, R. N., director.
Sanitary engineer—
*R. N. Tracy, C. E., Lincoln.
Medical examining board—
J. E. Spatz, M. D., Fairfield.
H. J. Lehnhoff, M. D., Lincoln.
E. T. McGuire, M. D., Mead.
Appropriations for biennial period ending June 30, 1923:

Salaries	$59,760
Maintenance	46,170
Total	105,930

NEVADA.

Board of health:
Emmet D. Boyle, governor, president, Carson City.
S. L. Lee, M. D., secretary, Carson City.
George Brodigan, secretary of state.
W. H. Hood, M. D., Reno.
Henry Albert, M. D., Reno.

NEVADA—Continued.

Executive health officer:
*S. L. Lee, M. D., secretary State board of health, Carson City.
State hygienic laboratory at State university:
Henry Albert, M. D., director, Reno.
Appropriations for fiscal year ending Dec. 31, 1921:

Salary of secretary	$5,000
State board of health	3,300
Total	8,300

Publications issued by health department:
Biennial report.
Special bulletins.

NEW HAMPSHIRE.

Board of health:
Robert Fletcher, Ph. D., C. E., president, Hanover.
D. E. Sullivan, M. D., Concord.
George C. Wilkins, M. D., Manchester.
Sibley G. Morrill, M. D., Concord.
Albert O. Brown, governor, Manchester.
Oscar L. Young, attorney general, Laconia.
Executive health officer:
*Charles Duncan, M. D., secretary State board of health, Concord.
Laboratory of hygiene:
*Charles D. Howard, chemist, Concord.
*Clara Israeli, M. D., bacteriologist, Concord.
William R. McLeod, assistant bacteriologist, Concord.
*Joseph X. Duval, inspector, Concord.
*Charles L. Pool, sanitary engineer.
Robert Fletcher, C. E., engineer, Hanover.
Bacteriological laboratory:
H. N. Kingsford, M. D., bacteriologist, Hanover.
Venereal disease division:
*Charles A. Weaver, M. D., Manchester.
Appropriations for fiscal year ending June 30, 1922:

State board of health	$26,150
Laboratory of hygiene	15,500
Vital statistics	2,800
Total	44,450

Publications issued by health department:
Bulletin.
Biennial report.

NEW JERSEY.

Board of health:
Henry Spence, M. D., president, Jersey City.
Thomas B. Lee, M. D., vice president, Camden.
Oliver Kelly, Oak Tree.
Clyde Potts, C. E., Morristown.
H. E. Winter, V. M. D., Plainfield.
J. Oliver McDonald, M. D., Trenton.
Harold J. Harder, C. E., Paterson.
David D. Chandler, Newark.
Mrs. James E. Van Horne, Trenton.
Miss Margaret McNaughton, Jersey City.
J. E. H. Guthrie, D. D. S., Newark.
Executive health officer:
*Jacob C. Price, M. D., director of health, Trenton.

NEW JERSEY—Continued.

Laboratory of hygiene:
*R. B. Fitz-Randolph, chief, Trenton.
Bureau of administration:
*Chas. J. Merrell, chief, Trenton.
Bureau of food and drugs:
*Walter W. Scofield, chief, Trenton.
Bureau of medical supervision:
*A. C. Hunt, M. D., chief, Trenton.
Bureau of child hygiene:
Julius Levy, M. D., consultant, Trenton.
Bureau of local health administration:
*David C. Bowen, chief, Trenton.
Bureau of engineering:
*H. P. Croft, chief, Trenton.
Bureau of vital statistics:
*David S. South, chief, Trenton.
Bureau of venereal disease control:
A. J. Casselman, M. D., chief, Trenton.
Appropriations for fiscal year ending June 30, 1923:

Salaries	$141,690
Miscellaneous	68,800
Child hygiene	75,000
Venereal disease control	20,000
Total	305,490

Publications issued by health department:
Monthly Bulletin.
Annual Report.

NEW MEXICO.

Board of public welfare:
Mrs. A. Otero-Warren, chairman, Santa Fe.
L. S. Peters, M. D., Albuquerque.
Mrs. G. W. Prichard, Santa Fe.
Mrs. Max Nordhaus, Albuquerque.
Charles Lembke, Albuquerque.
Executive health officer:
*G. S. Luckett, M. D., director of public health, Santa Fe.
Divisions of preventable diseases and vital statistics:
*G. S. Luckett, M. D., chief, Santa Fe.
Division of sanitary engineering and sanitation:
*H. F. Gray, C. E., Gr. P. H., chief, Santa Fe.
Divisions of public health nursing and child hygiene:
*Margaret Tupper, R. N., Santa Fe.
Division of county health work:
*(Appointment pending.)
Public health laboratory:
*Myrtle Greenfield, chief, Albuquerque.
Appropriation for fiscal year ending Nov. 30, 1923, $27,000.

NEW YORK.

Public health council:
Hermann M. Biggs, M. D., LL. D., chairman, Albany.
Homer Folks, LL. D., New York.
Simon Flexner, M. D., LL. D., New York.
Henry N. Ogden, C. E., Ithaca.
T. Mitchell Prudden, M. D., LL. D., New York.
Jacob Goldberg, M. D., Buffalo.
Stanton P. Hull, M. D., Petersburg.
Executive health officer:
Hermann M. Biggs, M. D., LL. D., commissioner of health, Albany.

NEW YORK—Continued.

Deputy commissioner of health:
*Matthias Nicoll, jr., M. D., Albany.
Secretary:
*Curtis E. Lakeman, Albany.
Executive clerk:
*Fenimore D. Beagle, Albany.
Division of public health education:
*B. R. Rickards, director, Albany.
Division of sanitation:
*Charles A. Holmquist, C. E., director, Albany.
Division of vital statistics:
*Otto R. Eichel, M. D., director, Albany.
Division of child hygiene:
*Florence L. McKay, M. D., director, Albany.
Division of communicable diseases:
*Edward S. Godfrey, M. D., director, Albany.
Division of tuberculosis:
*Frederick W. McSorley, M. D., director, Albany.
Division of venereal diseases:
*J. S. Lawrence, M. D., director, Albany.
Division of laboratories and research:
*Augustus B. Wadsworth, M. D., director, Albany.
Division of public health nursing:
*Mathilde S. Kuhlman, R. N., director, Albany.
Appropriations for fiscal year ending June 30, 1923:

Personal service	$582,730
Maintenance and operation	300,500
Division of maternity, infancy and child hygiene	130,000
Total	1,013,230
Construction of addition to laboratories	98,000

Other sources of revenue:
Fees from certified transcripts of birth, death, and marriage certificates, and registration of laboratories, approximately $1,000 per annum.
Licensing laboratories, $175.
Sale of serums, $1,500.
Publications issued by health department:
Monthly Health News.
Health Officers' Bulletin.
Public Health Nurses' Bulletin.
Vital Statistics Bulletin.

NORTH CAROLINA.

Board of health:
J. Howell Way, M. D., president, Waynesville.
Richard H. Lewis, M. D., LL. D., Raleigh.
Charles E. Waddell, C. E., Asheville.
Thomas E. Anderson, M. D., Statesville.
A. J. Crowell, M. D., Charlotte.
Chas. O'H. Laughinghouse, M. D., Greenville.
E. J. Tucker, D. D. S., Roxboro.
Cyrus Thompson, M. D., Jacksonville.
F. R. Harris, M. D., Henderson.
Executive health officer:
*W. S. Rankin, M. D., secretary State board of health and State health officer, Raleigh.
Assistant to the secretary:
*Ronald B. Wilson, Raleigh.
Bureau of tuberculosis:
*L. B. McBrayer, M. D., chief of bureau and superintendent of the State sanatorium. Sanatorium.

NORTH CAROLINA—Continued.

Laboratory of hygiene:
*C. A. Shore, M. D., director, Raleigh.
Deputy State registrar:
*F. M. Register, M. D., Raleigh.
Bureau of medical inspection of schools:
*G. M. Cooper, M. D., director, Raleigh.
Bureau of engineering and inspection:
*H. E. Miller, C. E., director, Raleigh.
Bureau of maternity and infancy:
*K. P. B. Bonner, M. D., director, Raleigh.
Bureau of county health work:
*K. E. Miller, M. D., director, Raleigh.
Bureau of epidemiology:
*J. S. Mitchener, M. D., chief, Raleigh.
North Carolina Sanatorium:
*L. B. McBrayer, M. D., superintendent, Sanatorium.
Appropriations for fiscal year ending June 30, 1923:

State board of health (executive office)	$54,500
Vital statistics	20,000
Laboratory of hygiene	55,000
Tuberculosis sanatorium	100,000
School inspection	60,000
County health work	53,000
Epidemiology	11,000
Venereal disease control work	21,000
Public health nursing and infant hygiene	6,500
Engineering and inspection	49,000
Total	430,000

Other sources of revenue:

International health board	10,000
Federal government	35,960
Counties, for county health work	134,000
Fees paid the laboratory	15,000

Publications issued by health department:
Monthly Bulletin.
Special Bulletins.
Biennial Report.

NORTH DAKOTA.

Board of health:
Sveinbjorn Johnson, attorney general, president, Bismarck.
W. C. Nolte, M. D., vice president, Jamestown.
H. E. French, M. D., secretary, Grand Forks.
Executive health officer:
H. E. French, M. D., secretary State board of health, Grand Forks.
Communicable diseases:
*Robert Olesen, surgeon, U. S. P. H. S., Grand Forks.
Appropriations for biennial period ending June 30, 1923:

Salaries (specific)	$2,800
Miscellaneous	4,100
Total	6,900

Publications issued by health department:
Quarterly bulletin.
Annual statistical data.
Biennial report.

OHIO.

Public health council:
Harry H. Snively, M. D., chairman.
G. D. Lummis, M. D.
C. O. Probst, M. D.
F. C. Croxton.
R. M. Calfee.
James E. Bauman, secretary.
Executive health officer:
***Harry H. Snively, M. D.**, director of health, Columbus.
Assistant director of health:
*James E. Bauman.
Division of administration:
*James E. Bauman, chief.
*M. E. Hayhurst, chief clerk.
Bureau of publicity—
*Paul Mason, director.
Division of communicable diseases:
*Frank G. Boudreau, M. D., chief.
Bureau of trachoma clinics—
*———, chief.
Bureau of local health organization—
*———, chief.
Division of sanitary engineering:
*W. H. Dittoe, chief.
Bureau of plumbing inspection—
*A. A. Manchester, chief.
Division of laboratories:
*Fred Berry, chief.
Division of vital statistics:
*———, chief.
Division of hygiene:
*R. G. Leland, M. D., chief.
Bureau of tuberculosis—
*J. A. Frank, M. D., chief.
Bureau of child hygiene—
*E. J. Schwartz, M. D., chief.
Bureau of venereal diseases—
*P. Myers Wright, M. D., chief.
Bureau of hospitals—
*R. A. Brintnall, M. D., chief.
Bureau of public health nursing—
*Florence Farmer, R. N., chief.
Divison of industrial hygiene:
*———, chief.
Appropriations for fiscal year ending June 30, 1923:

Personal services	$150,000
Maintenance	97,035
State aid for health districts	150,000
Total	397,035

Publication issued by health department:
Monthly public health journal.

OKLAHOMA.

Executive health officer:
***A. R. Lewis, M. D.**, commissioner of health, Oklahoma.
Assistant commissioner of health:
*J. P. Folan, Oklahoma.
Chemist:
*W. A. Walker, Oklahoma.

OKLAHOMA—Continued.

Bacteriologist:
*L. K. Cecil, Oklahoma.
Sanitary engineer:
*H. J. Darcey, Oklahoma.
Director of publicity:
*G. Harrison, Oklahoma.
Bureau of vital statistics:
*W. B. Dennis, chief, Oklahoma.
Appropriations for fiscal year ending June 30, 1923:

Salaries	$40,800
Biological supply	7,500
Traveling expenses for sanitary engineer	1,250
Maintenance of laboratory	3,750
Control of epidemics	5,000
Maintenance of bureau of venereal disease	15,000
Contingent	5,000
Total	78,300

OREGON.

Board of health:
C. J. Smith, M. D., president, Portland.
J. H. Rosenberg, M. D., vice president, Prineville.
Frederick D. Stricker, M. D., secretary and State health officer, Portland.
W. B. Morse, M. D., Salem.
Andrew C. Smith, M. D., Portland.
F. M. Brooks, M. D., Portland.
George E. Houck, M. D., Roseburg.
Executive health officer:
*Frederick D. Stricker, M. D., secretary and State health officer, Portland.
Register of vital statistics:
*Frederick D. Stricker, M. D., Portland.
Bacteriologist:
Wilma Hemstock, Portland.
Appropriation for fiscal year ending Dec. 31, 1922, $25,000.
Publications issued by health department:
Annual report.
Biennia report.
Quarterly bulletin.
Pamphlets and posters.

PENNSYLVANIA.

Advisory board:
Charles B. Penrose, M. D., Philadelphia.
Adolph Koenig, M. D., Pittsburgh.
Edgar M. Green, M. D., Easton.
A. A. Cairns, M. D., City Hall, Philadelphia.
Lee Masterton, C. E., Johnstown.
Clarence J. Marshall, V. M. D., Philadelphia.
Executive health officer:
*Edward Martin, M. D., commissioner of health, Harrisburg.
Deputy commissioner of health:
*John D. McLean, M. D., Harrisburg.
Assistant to the commissioner:
*Thomas W. Jackson, M. D., Harrisburg.
Executive secretary:
*Clinton T. Williams, Harrisburg.
Assistant to executive secretary:
*Mrs. George L. Stark, Harrisburg.

PENNSYLVANIA—Continued.

Dental division:
*C. J. Hollister, D. D. S., chief, Harrisburg.
Division of medical inspection:
*J. Moore Campbell, M. D., chief medical director, Harrisburg.
Division of school health:
*William J. Crookston, M. D., chief, Harrisburg.
Division of laboratories:
*John L. Laird, M. D., chief of laboratories, Philadelphia.
Division of sanatoria:
*Royal H. McCutcheon, M. D., medical director Pennsylvania State Sanatorium for Tuberculosis No. 1, Mont Alto.
*W. G. Turnbull, M. D., medical director, Pennsylvania State Sanatorium for Tuberculosis No. 2, Cresson.
*Henry A. Gorman, M. D., medical director, Pennsylvania State Sanatorium for Tuberculosis No. 3, Hamburg.
Division of tuberculosis:
*A. P. Francine, M. D., chief, Harrisburg.
Division of genito-urinary dispensaries:
*S. Leon Gans, M. D., chief, Harrisburg.
Division of supplies and biological products:
*Roy G. Miller, chief, Harrisburg.
Division of engineering:
*C. A. Emerson, jr., chief engineer, Harrisburg.
Bureau of housing:
*John Molitor, chief, Harrisburg.
Bureau of vital statistics:
*Wilmer R. Batt, M. D., State registrar, Harrisburg.
Division of accounts:
*Margaret Maher, acting chief, Harrisburg.
Division of purchasing:
*Charles H. Clappier, jr., chief, Harrisburg.
Division of child health:
*Mary Riggs Noble, M. D., chief, Harrisburg.
Bureau of drug control:
*Thomas S. Blair, M. D., chief, Harrisburg.
Division of public-health education:
*William C. Miller, M. D., chief, Harrisburg.
Division of nurses:
*Alice M. O'Halloran, chief, Harrisburg.
Division of newspapers:
*Lida R. Beckwith, chief, Harrisburg.
Appropriations for biennial period ending May 31, 1923:

Tuberculosis work	$2,500,000
General fund	1,585,000
School inspection	200,000
Salaries	985,120
Total	5,270,120

PHILIPPINE ISLANDS.

Council of hygiene, advisory board to the director of health:
Fernando Calderón, M. D., president, Manila.
Leoncio Lopex Rizal, M. D., secretary, Manila.
Gervasio Ocampo, M. D., Manila.
José Albert, M. D., Manila.
Benito Valdez, M. D., Manila.
Luis P. Torres, LL. B., Manila.
Tomas Earnshaw, Manila.

PHILIPPINE ISLANDS—Continued.

Executive health officer:
*Vicente de Jesus, M. D., director of health, Manila.
Assistant director of health:
*Salvador V. del Rosario, M. D., Manila.
Division of Provincial sanitation:
*Jacobo Fajardo, M. D., chief, Manila.
Division of Manila sanitation:
*Andres Catanjal, M. D., chief, Manila.
Division of Mindanao and Sulu sanitation:
*Eugenio Hernando, M. D., chief, Zamboanga.
Office of statistics and epidemiology:
*Manual Gomez, M. D., chief, Manila.
Office of health education:
*José P. Bantung, M. D., chief, Manila.
Office of public health nursing:
*Carmen R. Leogardo, R. N., chief, Manila.
Clerical office:
*Mamerto Tianco, chief, Manila.
Office of property:
*Generoso S. Quintero, chief, Manila.

Appropriations for fiscal year ending Dec. 31, 1922:

Salaries and wages	$441,556
Miscellaneous expenses	730,500
Aid to specially organized Provinces	202,950
Total	1,375,006
Appropriation for the treatment of segregated lepers	100,000

Publications issued by health service:
Daily news bulletin.
Monthly bulletin.
Annual report.
Occasional pamphlets.

PORTO RICO.

Insular board of health:
Pedro Gutierrez Igaravidez, M. D., president, San Juan.
*Jose Lugo Viña, M. D., secretary, San Juan.
W. A. Glines, M. D., San Juan.
Angel M. Pesquera, pharmacist, San Juan.
Charles Hartzel, attorney, San Juan.
Jose A. Diaz, M. D., San Juan.
Jose S. Belaval, M. D., San Juan.
G. A. Ramirez de Arellano, engineer, San Juan.
Executive health officer:
*W. F. Lippitt, M. D., commissioner of health, San Juan.
*Pedro Malaret, M. D., assistant commissioner of health, San Juan.
Division of property and accounts:
*Antonio Llabres, chief, San Juan.
Division of sanitary engineering:
*G. A. Ramirez de Arellano, sanitary engineer, San Juan.
Bacteriological laboratory:
*F. J. Hernández, M. D., director, San Juan.
Chemical laboratory:
*R. del Valle Sárraga, chemist, director, San Juan.
Division of transmissible diseases and statistics:
*J. Gómez Brioso, M. D., chief, San Juan.

PORTO RICO—Continued.

Appropriations for fiscal year ending June 30, 1923:

Department of health (proper), salaries and contingent expenses	$169,021.60
Leper colony	22,293.45
Quarantine hospital	12,586.20
Mosquito extermination	30,000.00
Suppression of anemia	30,000.00
Emergency fund for control and suppression of epidemics (unexpended balance previous year)	6,755.30
Trust funds for control and suppression of epidemics (fines for violation of sanitary regulations)	1,791.63
Insular sanatorium	152,319.00
Care of tuberculosis patients	10,000.00
Education and support of poor deaf-mute children	1,200.00
Girls' charity school	70,045.85
Boys' charity school	100,698.85
Blind asylum	35,873.50
Insane asylum	111,296.10
Sanitation fund (trust fund)	183,995.45
Total	937,876.93

Publication issued by health department:
Annual report.

RHODE ISLAND.

Board of health:
R. Morton Smith, M. D., president, Riverpoint.
Thomas J. McLaughlin, M. D., vice president, Woonsocket.
Alexander B. Briggs, M. D., Ashaway.
Norman M. MacLeod, M. D., Newport.
William F. Williams, M. D., Bristol.
Joseph M. Bennett, M. D., Providence.
M. S. Budlong, M. D., Providence.
Executive health officer:
B. U. Richards, M. D., secretary State board of health and State registrar, Statehouse, Providence.
Pathologist:
Lester A. Round, Ph. D., Providence.
Chemist:
Stephen De M. Gage, Providence.

Appropriations for fiscal year ending Dec. 31, 1922:

Executive department	$18,000
Chemical laboratory	16,000
Pathological laboratory	18,000
Child-welfare division	15,000
Prosecuting cases of illegal medical practice	2,500
Total	69,500

Publications issued by health department:
Quarterly bulletin.
Annual report of births, deaths, and marriages.
Annual report of State board of health.

SOUTH CAROLINA.

Executive committee, board of health:
Robert Wilson, jr., M. D., chairman, Charleston.
R. A. Marsh, M. D., Edgefield.
C. C. Gambrell, M. D., Abbeville.

SOUTH CAROLINA—Continued.

Executive committee, board of health—Con.
E. A. Hines, M. D., Seneca.
Miles J. Walker, M. D., York.
William Egleston, M. D., Hartsville.
S. C. Calder, Ph. G., Greenville.
W. M. Lester, M. D., Columbia.
Samuel M. Wolfe, attorney general, Columbia.
Walter E. Duncan, comptroller general, Columbia.
Executive health officer:
*James A. Hayne, M. D., State health officer, Columbia.
Department of county health units:
*L. A. Riser, M. D., Columbia.
Bureau of child hygiene and supervisor of public health nursing:
*Mrs. Ruth A. Dodd, R. N., Columbia.
Bureau of veneral diseases:
*James A. Hayne, M. D., Columbia.
Laboratory department:
*F. A. Coward, M. D., in charge, Columbia.
*J. R. Cain, chief bacteriologist, Columbia.
*H. M. Smith, M. D., serologist, Columbia.
Bureau of vital statistics:
*C. W. Miller, Columbia.
Bacteriologist and chemist:
F. L. Parker, jr., M. D., Ph. D., Columbia.
South Carolina Sanatorium:
*Ernest Cooper, M. D., superintendent, Columbia.
Epidemiologist:
*A. H. Hayden, M. D., Columbia.
Sanitary engineer:
*E. L. Filby, C. E., Columbia.
State hotel inspector:
*J. H. Woodward, Columbia.
Appropriations for fiscal year ending Dec. 31, 1922:

Administrative office	$47,350
Bureau of child hygiene	9,515
Bureau of vital statistics	5,750
Division of venereal disease control (exclusive of salaries for January, February, and March)	4,340
Laboratory	10,730
Bureau of rural sanitation	15,100
Malaria cooperative work	11,000
Tuberculosis sanatoria	68,290
Hotel inspection	5,190
Total	177,265

Publications issued by health department:
Annual report.
Bulletins of various departments.

SOUTH DAKOTA.

Board of health:
J. W. Freeman, M. D., president, Lead.
R. D. Alway, M. D., vice president, Aberdeen.
J. Howard Smith, M. D., Huron.
H. R. Kenaston, M. D., Bonesteel.
Park B. Jenkins, M. D., superintendent Wauhay.
Executive health officer:
Park B. Jenkins, M. D., superintendent and executive officer, Wauhay.
Division of vital statistics:
Park B. Jenkins, M. D., director.

SOUTH DAKOTA—Continued.

Division of sanitary engineering:
A. H. Wieters, director.
Division of education and publicity:
M. C. Haecker, director.
Division of public health nursing:
——— ——— director.
Division of records and accounts:
Edna Jenkins, director.
Division of medical licensure:
H. R. Kenaston, M. D., director.
Laboratories at Vermilion:
J. C. Ohlmacher, M. D., director.
Division of preventable diseases:
———, director.
Division of child hygiene:
Clara Edna Hayes, M. D., director.
Appropriations for fiscal year ending June 30, 1922:

Salary of superintendent	$4,000
Salary of employees, administration expense, per diem, mileage, and expense of members, printing and necessary publications, division of medical licensure, division of venereal diseases, division of public health nursing	42,700
Total	46,700

Publications issued by health department:
Mothers' book.
Biennial report.

TENNESSEE.

Board of health:
W. J. Miller, M. D., president, Johnson City.
C. B. A. Turner, M. D., vice president, Dyer.
E. M. Sanders, M. D., Nashville.
T. F. Peck, Nashville.
Executive health officer:
*R. Q. Lillard, M. D., secretary State board of health, Nashville.
Division of vital statistics:
*C. B. Crittenden, M. D., director, Nashville.
Division of rural sanitation:
*E. L. Bishop, M. D., director, Nashville.
Division of laboratories:
William Litterer, M. D., director, Nashville.
Division of sanitary engineering:
*C. N. Harrub, director, Nashville.
Division of venereal-disease control:
*R. Q. Lillard, M. D., acting director, Nashville.
Division of oral hygiene:
*A. G. Buckner, D. D. S., director, Nashville.
State directing nurse:
*Miss M. G. Nisbet, R. N., Nashville.
Pure food and drugs commissioner:
D. J. Frazier, Nashville.
Appropriations for biennial period ending July 1, 1923:

Administration, office, etc	$20,300.00
Epidemic fund	5,090.00
Malaria-control fund	6,000.00
Trachoma-control fund	4,000.00
Vital statistics fund	21,800.00
Rural sanitation fund	28,000.00
Sanitary engineering fund	21,200.00
Laboratories fund	23,640.00
Venereal diseases	25,956.72
Total	155,896.72

TENNESSEE—Continued.

Other sources of revenue:
International health board, rural sanitation, $28,000.
International health board, malaria control, amount not definitely determined.
American Red Cross, cooperation in nursing service.
United States public health service, cooperation in malaria control.
United States Government, cooperation in venereal-disease control.
Individual counties and cities in State, cooperation in malaria control, venereal-disease control, and rural sanitation.

TEXAS.

Board of health:
J. H. Florence, M. D., president, Austin.
Thomas B. Fisher, M. D., Dallas.
M. M. Brown, M. D., Mexia.
Nettie Klein, M. D., Texarkana.
M. F. Bledsoe, M. D., Port Arthur.
Executive health officer:
*J. H. Florence, M. D., State health officer, Austin.
Assistant State health officer:
*W. H. Beazley, M. D., Austin.
Bureau of communicable diseases:
*M. P. Smartt, M. D., director, Austin.
Bureau of venereal diseases:
*J. H. Florence, M. D., acting director, Austin.
Bureau of child hygiene and public health nursing:
*H. E. Downs, M. D., director, Austin.
Bureau of sanitary engineering:
V. M. Ehlers, C. E., director, Austin.
H. R. F. Holland, sanitary engineer, Austin.
E. G. Eggert, assistant, Austin.
Bureau of rural sanitation:
Alex P. Harrison, M. D., director, Austin.
Bureau of food and drugs:
E. H. Golaz, chemist, director, Austin.
L. I. Davis, assistant chemist.
W. W. Battle, assistant chemist.
Bureau of laboratories:
G. M. Graham, M. D., director.
Bureau of vital statistics:
*J. C. Twitchell, M. D., director.
Appropriations for fiscal year ending Aug. 31, 1923:

General	$91,700
Bureau of vital statistics	9,700
Total	101,400

Publications issued by health department:
Biennial report.
Quarterly health magazine.
Pamphlets, leaflets, and placards.

UTAH.

Board of health:
Fred Stauffer, M. D., president, Salt Lake City.
T. B. Beatty, M. D., secretary, Salt Lake City.
Joseph R. Morrell, M. D., Ogden.
Clarence Snow, M. D., Salt Lake City.
L. J. Muir, Bountiful.
S. S. Burnham, D. D. S., Salt Lake City.
Charles J. Ullrich, C. E., Salt Lake City.

UTAH—Continued.

Executive health officer:
*T. B. Beatty, M. D., State health commissioner, Salt Lake City.
Appropriations for biennial period ending Mar. 31, 1923:

Salaries	$15,000
Contingent account	10,500
Vital statistics account	3,000
Venereal disease control work	3,600
Total	32,100

Publications issued by health department:
Quarterly bulletin.
Biennial report.
Fiscal year ends Dec. 31.

VERMONT.

Board of health:
F. Thomas Kidder, M. D., president, Woodstock.
William T. Slayton, M. D., Morrisville.
Charles F. Dalton, M. D., secretray, Burlington.
Executive health officer:
*Charles F. Dalton, M. D., secretary State board of health, Burlington.
Laboratory of hygiene:
*Charles F. Whitney, M. D., director, Burlington.
Sanitary engineer:
J. W. Votey, C. E., Burlington.
Sanitary inspector:
*Henri L. Pache, M. D., Burlington.
Division of venereal diseases,
*Henri L. Pache, M. D., Burlington.
Division of tuberculosis:
*H. W. Slocum, Burlington.
Division of poliomyelitis:
*W. L. Aycock, M. D., research, Burlington.
*Bertha E. Weisbrod, R. N., after-care, Burlington.
Division of public health nursing:
*———— ————, Burlington.
Appropriations for fiscal year ending June 30, 1923:
Total budget, $85,000.
Other source of revenue:
Private donations for study and treatment of infantile paralysis.
Publications issued by health department:
Quarterly bulletin.
Biennial report.

VIRGINIA.

Board of health:
W. M. Smith, M. D., president, Alexandria.
J. B. Fisher, M. D., secretary, Midlothian.
J. T. Wilson, Richmond.
McG. Newton, M. D., Richmond.
Mrs. Chas. Hall Davis, Petersburg.
John T. Daniel, Cape Charles.
Isaac Peirce, M. D., Tazewell.
W. F. Drewry, M. D., Petersburg.
E. Howe Miller, M. D., Danville.
H. T. Marshall, M. D., University of Virginia.
Guy R. Harrison, D. D. S., Richmond.
Hugh J. Hagan, M. D., Roanoke.
S. A. Sutton, M. D., Norfolk.
G. L. Morriss, M. D., Buckingham.

VIRGINIA—Continued.

Executive health officer:
*Ennion G. Williams, M. D., State health commissioner, Richmond.
Assistant health commissioner:
*Roy K. Flannagan, M. D., Richmond.
Registrar of vital statistics:
*W. A. Plecker, M. D., Richmond.
Bacteriologist:
*A. H. Straus, Richmond.
Sanitary engineer:
*Richard Messer, C. E., Richmond.
Bureau of child welfare:
*Mary E. Brydon, M. D., director.
Public health nursing:
*F. B. Croxton, R. N., acting director.
Appropriations for fiscal year ending Feb. 28, 1923:

Administration	$24,464
Sanitary engineering	15,450
Publicity	5,460
Rural sanitation	25,000
Malaria	5,000
Inspection of convict camps	750
Laboratory	15,000
Child welfare and public health nursing	38,020
Venereal diseases	10,000
Control of epidemics	5,000
Vital statistics	19,935
For collection and publication of marriage and divorce statistics	2,855
Prevention of blindness	2,300
Total	169,174

Publications issued by health department:
Monthly bulletin.
Annual report.

WASHINGTON.

Board of health:
Paul A. Turner, M. D., director of health, chairman.
W. W. Brand, M. D.
James H. Egan, M. D.
R. E. Elvins, M. D.
Herbert C. Lieser, M. D.
C. E. Dorisy, C. E., secretary, Seattle.
Executive health officer:
*Paul A. Turner, M. D., director of health, Seattle.
Epidemiologist:
*A. U. Simpson, M. D., Seattle.
Chief of laboratory:
*A. U. Simpson, M. D., Seattle.
Sanitary engineer:
*C. E. Dorisy, C. E., Seattle.
Registrar:
*C. E. Dorisy, C. E., Seattle.
Appropriations for biennial period ending Mar. 31, 1923:

Salary of director	$10,000
Salaries and wages	48,000
Supplies, material, and service	28,230
Total	86,230

WEST VIRGINIA.

Public health council:
J. L. Pyle, M. D., president, Chester.
W. T. Henshaw, M. D., commissioner of health, Charleston.
H. G. Camper, M. D., Welch.
B. F. Shuttleworth, M. D., Clarksburg.
W. M. Babb, M. D., Keyser.
V. T. Churchman, M. D., Charleston.
Thos. L. Harris, Parkersburg.
Executive health officer:
*W. T. Henshaw, M. D., commissioner of health, Charleston.
Division of sanitary engineering:
*Ellis S. Tisdale, director, Charleston.
*R. C. Beckett, Charleston.
*Chas. H. Young, Charleston.
Division of vital statistics:
*Carl F. Raver, M. D., M. P. H., Charleston.
Division of child welfare and public health nursing:
*Jean T. Dillon, R. N., director, Charleston.
*Edna M. Hardsaw, R. N., field supervisor.
*Gertrude H. Wuesthoff, R.N., field supervisor.
Hygienic laboratory:
*Chas. E. Gabel, Ph. D., Charleston.
*Lucy F. Gabel, chemist, Charleston.
*Ruth Hinterleitner, assistant bacteriologist, Charleston.
Bureau of venereal diseases:
*W. S. Robertson, M. D., director, Charleston.
Bureau of rural sanitation:
*M. V. Ziegler, passed asst. surg., U. S. P. H. S., director, Charleston.
Appropriations for fiscal year ending June 30, 1923:

For general use	$60,000
Salary of commissioner	4,800
Bureau of venereal diseases	10,000
Total	74,800

Other sources of revenue:
Fees for granting certificates to practice medicine.
Fees from laboratory work for private individuals.
Publications issued by health department:
Quarterly bulletin.
Annual report.

WISCONSIN.

Board of health:
Wm. F. Whyte, M. D., president, Madison.
I. D. Steffen, M. D., Antigo.
E. S. Hayes, M. D., Eau Claire.
G. Windesheim, M. D., Kenosha.
C. A. Richards, M. D., Rhinelander.
Otho Fiedler, M. D., Sheboygan.
C. A. Harper, M. D., State health officer, Madison.
*L. W. Hutchcroft, assistant State health officer, Madison.
Executive health officer:
*C. A. Harper, M. D., State health officer, Madison.
Bureau of vital statistics:
*C. A. Harper, M. D., State registrar, Madison.

WISCONSIN—Continued.

Bureau of communicable diseases:
*H. M. Guilford, M. D., director, Madison.
Bureau of sanitary engineering:
*C. M. Baker, State sanitary engineer, Madison.
*E. J. Tully, chemical engineer, Madison.
Bureau of education:
*L. W. Bridgman, acting director, Madison.
Bureau of child welfare and public health nursing:
*Mrs. Mary P. Morgan, director, Madison.
Bureau of nursing education:
*Adda Eldredge, R. N., director, Madison.
Bureau of plumbing and domestic sanitary engineering:
*Frank R. King, State domestic sanitary engineer, Madison.
Bureau of social hygiene:
*H. M. Guilford, M. D., director, Madison.
Laboratory service:
*W. D. Stovall, M. D., director State laboratories, Madison.
*M. S. Nichols, chemist State laboratory, Madison.
*Katherine Wattawa, director branch laboratory, Rhinelander.
*Gladys Hadley, director cooperative laboratory, Superior.
*Clarissa McFetridge, director cooperative laboratory, Oshkosh.
*Henry Miller, director cooperative laboratory, Kenosha.
*C. D. Partridge, M. D., director cooperative laboratory, Wausau.
*Lydia Lacey, director, cooperative laboratory, Green Bay.
*Marion Anderson, director, cooperative laboratory, Beloit.

Appropriations for fiscal year ending June 30, 1923:

General administration	$51,000
Emergency appropriation for epidemics	7,500

WISCONSIN—Continued.

Appropriations for fiscal year ending June 30, 1923—Continued.

Branch laboratory and State cooperative laboratories	$7,960
Prevention of infantile blindness	1,500
Venereal disease control work	41,250
Bureau of sanitary engineering	10,000
Bureau of communicable diseases	13,300
Bureau of child welfare and public health nursing	21,100
Comfort station supervision	5,000
Licensing of embalmers, hotels and restaurants, plumbers, and barbers	38,000
Total	196,600

Publications issued by health department:
Quarterly bulletin.
Biennial report.

WYOMING.

Board of health:
Fred A. Hodson, M. D., president, Sheridan.
G. A. Fox, M. D., vice president, Cheyenne.
Albert B. Tonkin, M. D., secretary and executive officer, Cheyenne.
Edw. S. Lauzer, M. D., Rock Springs.
J. D. Lewellen, M. D., Powell.
Executive health officer:
*Albert B. Tonkin, M. D., State health officer, Cheyenne.
Venereal disease control:

———.

Appropriations for biennial period ending Mar. 31, 1923:

State board of health	$19,000
Salary of secretary	8,000
Salary of venereal disease officer	6,000
Total	33,000

Publications issued by health department:
Biennial report.
Bimonthly bulletin.

DEATHS DURING WEEK ENDED JULY 22, 1922.

Summary of information received by telegraph from industrial insurance companies for week ended July 22, 1922, and corresponding week, 1921. (From the Weekly Health Index, July 25, 1922, issued by the Bureau of the Census, Department of Commerce.)

	Week ended July 22, 1922.	Corresponding week, 1921.
Policies in force	50,271,674	47,346,954
Number of death claims	8,255	7,442
Death claims per 1,000 policies in force, annual rate	8.6	8.2

Deaths from all causes in certain large cities of the United States during the week ended July 22, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, July 25, 1922, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population July 1, 1922	Week ended July 22, 1922.		Annual death rate per 1,000, corresponding week 1922.	Deaths under 1 year.		Infant mortality rate, week ended July 22, 1922.[2]
		Total deaths.	Death rate.[1]		Week ended July 22, 1922.	Corresponding week 1921.	
Total	27,756,221	5,459	10.3	10.2	838	886	.....
Akron, Ohio	[3] 208,435	18	4.5	7.1	1	2	11
Albany, N. Y	116,223	26	11.7	13.1	3	3	67
Atlanta, Ga	220,047	51	12.1	10.6	8	8	.....
Baltimore, Md	762,222	175	12.0	10.6	40	40	113
Birmingham, Ala	191,017	45	12.3	14.0	7	11	.....
Boston, Mass	764,017	174	11.9	11.4	29	28	76
Bridgeport, Conn	[3] 143,555	20	7.3	7.6	4	4	50
Buffalo, N. Y	528,163	105	10.5	9.1	15	15	59
Cambridge, Mass	116,944	17	8.0	7.6	4	5	73
Camden, N. J	121,915	31	13.3	7.8	4	3	61
Chicago, Ill	2,833,288	501	9.2	10.1	85	96	.....
Cincinnati, Ohio	404,865	76	9.8	15.1	10	15	67
Cleveland, Ohio	854,003	133	8.1	9.7	18	31	46
Columbus, Ohio	253,455	52	10.7	14.7	9	11	95
Dallas, Tex	171,974	37	11.2	12.9	8	4	.....
Dayton, Ohio	163,824	30	9.7	6.9	4	4	68
Denver, Colo	287,591	68	13.3	11.7	6	3	.....
Detroit, Mich	[3] 993,678	181	9.5	8.1	30	34	75
Fall River, Mass	120,790	26	11.2	10.4	7	6	98
Fort Worth, Tex	114,717	29	13.2	.....	9	.....	.....
Grand Rapids, Mich	143,572	27	9.8	7.4	3	3	50
Houston, Tex	150,087	35	12.2	11.2	7	4	.....
Indianapolis, Ind	333,257	72	11.3	12.1	10	14	76
Jersey City, N. J	305,911	62	10.6	10.7	13	20	83
Kansas City, Kans	113,801	25	11.5	12.0	4	6	92
Kansas City, Mo	343,258	59	8.9	12.4	9	10	.....
Los Angeles, Calif	634,356	148	12.2	14.0	20	14	83
Louisville, Ky	298,877	60	13.2	14.8	7	10	76
Lowell, Mass	114,423	27	12.3	13.8	4	8	67
Memphis, Tenn	167,862	80	24.9	15.7	14	3	.....
Milwaukee, Wis	476,603	66	7.2	7.3	6	20	29
Minneapolis, Minn	400,970	69	9.0	7.8	6	5	33
Nashville, Tenn	122,832	35	14.9	15.4	3	4	.....
New Bedford, Mass	127,542	12	4.9	8.3	1	7	15
New Haven, Conn	168,987	33	10.1	11.6	5	2	61
New Orleans, La	399,616	115	15.0	11.4	19	9	.....
New York, N. Y	5,836,746	1,055	9.4	8.9	143	121	55
Newark, N. J	431,792	77	9.3	9.5	19	11	84
Norfolk, Va	124,945	29	12.1	12.5	5	3	89
Oakland, Calif	233,279	37	8.3	6.2	3	2	38
Omaha, Nebr	200,739	39	10.1	11.1	3	4	32
Paterson, N. J	138,521	25	9.4	11.4	8	2	123
Philadelphia, Pa	1,894,500	392	10.8	9.7	63	62	75
Pittsburgh, Pa	607,902	139	11.9	10.5	22	35	70
Portland, Oreg	289,240	51	9.9	10.0	6	4	89
Providence, R. I	241,021	51	11.0	11.8	8	20	66
Richmond, Va	178,365	60	17.5	14.5	14	15	170
Rochester, N. Y	311,543	60	10.0	9.2	9	12	69
St. Louis, Mo	795,668	147	9.6	11.9	13	11	.....
St. Paul, Minn	239,836	41	8.9	7.7	3	7	28
Salt Lake City, Utah	123,918	27	11.4	17.6	2	6	39
San Antonio, Tex	178,056	48	14.1	.....	12	.....	.....
San Francisco, Calif	529,792	103	10.1	12.4	5	4	29
Seattle, Wash	[3] 315,312	46	7.6	6.2	3	4	28
Springfield, Mass	140,052	19	7.1	7.7	4	6	69
Toledo, Ohio	260,717	42	8.4	9.0	12	3	117
Trenton, N. J	125,975	38	13.9	6.8	4	2	61
Washington, D. C	[3] 437,571	105	12.6	12.1	16	12	93
Wilmington, Del	115,568	26	11.7	12.0	6	2	117
Worcester, Mass	188,449	39	10.8	9.0	3	7	33
Yonkers, N. Y	105,422	23	11.4	5.6	6	2	125
Youngstown, Ohio	144,970	24	8.6	9.0	5	7	66

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1921. Cities left blank are not in the registration area for births.
[3] Enumerated population Jan. 1, 1920.

PREVALENCE OF DISEASE.

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

UNITED STATES.

CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended July 29, 1922.

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

ALABAMA.

	Cases.
Diphtheria	34
Hookworm disease	74
Malaria	36
Paratyphoid fever	2
Pellagra	10
Scarlet fever	11
Smallpox	3
Tuberculosis	8
Typhoid fever	55
Whooping cough	6

ARKANSAS.

Chicken pox	3
Hookworm disease	1
Influenza	4
Malaria	200
Pellagra	9
Scarlet fever	7
Smallpox	1
Trachoma	1
Tuberculosis	18
Typhoid fever	22
Whooping cough	14

CALIFORNIA.

Cerebrospinal meningitis:	
San Francisco	1
San Joaquin County	1
Diphtheria	106
Influenza	4
Lethargic encephalitis:	
Fresno County	1
Los Angeles	1
Measles	4
Poliomyelitis—San Joaquin County	1
Rabies in man—Venice	1
Scarlet fever	35
Smallpox	12
Typhoid fever	24

COLORADO.

(Exclusive of Denver.)	Cases.
Cerebrospinal meningitis	1
Chicken pox	5
Diphtheria	16
Measles	1
Mumps	2
Pneumonia	1
Scarlet fever	13
Septic sore throat	1
Tuberculosis	22
Typhoid fever	20
Whooping cough	2

CONNECTICUT.

Chicken pox	5
Conjunctivitis (infectious)	1
Diphtheria	27
Lethargic encephalitis	1
Measles:	
New Haven	17
Scattering	54
Mumps	4
Pneumonia (lobar)	5
Scarlet fever	15
Septic sore throat	1
Smallpox	1
Tetanus	5
Trachoma	1
Tuberculosis (all forms)	39
Typhoid fever	21
Whooping cough	62

DELAWARE.

Chicken pox	2
Diphtheria	2
Measles	1
Pneumonia	1
Scarlet fever	1
Tuberculosis	7
Typhoid fever	8

FLORIDA.

	Cases.
Cerebrospinal meningitis	1
Dengue	179
Diphtheria	11
Influenza	23
Malaria	34
Ophthalmia neonatorum	1
Pneumonia	1
Scarlet fever	2
Smallpox	5
Typhoid fever	13

GEORGIA.

Chicken pox	2
Diphtheria	18
Dysentery (bacillary)	1
Hookworm disease	14
Influenza	15
Malaria	81
Mumps	1
Pneumonia	7
Poliomyelitis	2
Scarlet fever	10
Septic sore throat	7
Smallpox	1
Tuberculosis (pulmonary)	9
Typhoid fever	48
Typhus fever	1
Whooping cough	3

ILLINOIS.

Diphtheria:	
Cook County (including Chicago)	88
Chicago	80
Scattering	26
Influenza	29
Pneumonia	124
Poliomyelitis:	
Chicago	5
Franklin County	1
Scarlet fever:	
Cook County (including Chicago)	31
Chicago	30
Scattering	23
Smallpox	17
Typhoid fever	59
Whooping cough	283

INDIANA.

Cerebrospinal meningitis:	
De Kalb County	1
Ripley County	1
Diphtheria	24
Scarlet fever	13
Smallpox	8
Typhoid fever	16

IOWA.

Diphtheria	15
Scarlet fever	13

KANSAS.

Cerebrospinal meningitis	1
Chicken pox	7
Diphtheria	20
Leprosy	1
Malaria	4

KANSAS—continued.

	Cases.
Measles	5
Mumps	6
Pneumonia	2
Scarlet fever	34
Smallpox	3
Tetanus	2
Tuberculosis	28
Typhoid fever	32
Whooping cough	60

LOUISIANA.

Diphtheria	12
Malaria	53
Pellagra	7
Poliomyelitis	1
Scarlet fever	4
Typhoid fever	20

MARYLAND.

Cerebrospinal meningitis	2
Chicken pox	5
Diphtheria	26
Dysentery	13
Influenza	1
Lethargic encephalitis	1
Malaria	11
Measles	46
Mumps	18
Ophthalmia neonatorum	3
Paratyphoid fever	5
Pneumonia (all forms)	17
Scarlet fever	10
Tuberculosis	75
Typhoid fever	42
Whooping cough	56

MASSACHUSETTS.

Cerebrospinal meningitis	5
Chicken pox	14
Conjunctivitis (suppurative)	2
Diphtheria	72
German measles	5
Measles	144
Mumps	38
Ophthalmia neonatorum	9
Pneumonia (lobar)	22
Poliomyelitis	8
Scarlet fever	49
Septic sore throat	2
Trachoma	3
Tuberculosis (all forms)	151
Typhoid fever	20
Whooping cough	97

MINNESOTA.

Chicken pox	9
Diphtheria	44
Measles	22
Pneumonia	1
Scarlet fever	55
Smallpox	15
Trachoma	4
Tuberculosis	98
Typhoid fever	22
Whooping cough	2

[1] Week ended Friday.

MISSISSIPPI.

	Cases.
Diphtheria	26
Scarlet fever	3
Typhoid fever	27

MONTANA.

Diphtheria	3
Poliomyelitis	2
Rocky Mountain spotted or tick fever:	
Hysham	1
Scarlet fever	6
Smallpox	2
Typhoid fever	3

NEBRASKA.

Chicken pox	4
Diphtheria	9
German measles	1
Measles	5
Mumps	1
Scarlet fever	9
Smallpox	1
Tuberculosis	4
Typhoid fever	3
Whooping cough	7

NEW JERSEY.

Cerebrospinal meningitis	2
Chicken pox	10
Diphtheria	86
Dysentery	3
Influenza	7
Malaria	5
Measles	120
Ophthalmia neonatorum	3
Pneumonia	36
Poliomyelitis	6
Scarlet fever	34
Typhoid fever	16
Whooping cough	103

NEW MEXICO.

Conjunctivitis	1
Diphtheria	21
Scarlet fever	1
Tuberculosis	29
Typhoid fever	7
Whooping cough	2

NEW YORK.

(Exclusive of New York City.)

Diphtheria	85
Influenza	5
Lethargic encephalitis	2
Measles	211
Pneumonia	64
Poliomyelitis	4
Scarlet fever	80
Smallpox	1
Tetanus	4
Typhoid fever	35
Whooping cough	142

[1] Death.

NORTH CAROLINA.

	Cases.
Cerebrospinal meningitis	1
Chicken pox	5
Diphtheria	121
German measles	3
Measles	16
Poliomyelitis	1
Scarlet fever	40
Septic sore throat	3
Smallpox	3
Typhoid fever	122
Whooping cough	110

OREGON.

Chicken pox	8
Diphtheria	12
Measles	1
Mumps	2
Pneumonia	[1] 1
Scarlet fever	1
Smallpox:	
Portland	9
Scattering	3
Typhoid fever	1
Whooping cough	10

SOUTH DAKOTA.

Scarlet fever	13
Smallpox	1
Tuberculosis	4
Typhoid fever	5
Whooping cough	2

TEXAS.

Diphtheria	19
Pellagra	5
Pneumonia	2
Scarlet fever	7
Smallpox	19
Typhoid fever	16

VERMONT.

Chicken pox	12
Diphtheria	6
Measles	17
Mumps	7
Scarlet fever	5
Typhoid fever	1
Whooping cough	25

VIRGINIA.

Poliomyelitis—Amherst County	1

WASHINGTON.

Cerebrospinal meningitis—Aberdeen	1
Chicken pox	10
Diphtheria	13
Measles	2
Mumps	11
Scarlet fever	10
Smallpox	10
Tuberculosis	3
Typhoid fever	6
Whooping cough	25

WEST VIRGINIA.

	Cases.
Diphtheria	8
Scarlet fever	5
Tuberculosis	4
Typhoid fever	8
Whooping cough	6

WISCONSIN.

	Cases.
Milwaukee:	
Chicken pox	19
Diphtheria	8
Influenza	1
Measles	29
Poliomyelitis	1
Scarlet fever	5
Whooping cough	152
Scattering:	
Chicken pox	20
Diphtheria	22
German measles	1

WISCONSIN—continued.

	Cases.
Scattering—Continued.	
Influenza	6
Measles	54
Pneumonia	2
Poliomyelitis	1
Scarlet fever	24
Smallpox	25
Tuberculosis	27
Typhoid fever	10
Whooping cough	153

WYOMING.

Chicken pox	2
Diphtheria	1
Hookworm disease	1
Influenza	1
Smallpox	5
Typhoid fever	4
Whooping cough	7

Delayed Reports for Week Ended July 22, 1922.

DISTRICT OF COLUMBIA.

	Cases.
Chicken pox	1
Diphtheria	12
Measles	14
Pellagra	1
Scarlet fever	1
Tuberculosis	33
Typhoid fever	5
Whooping cough	3

ILLINOIS.

Cerebrospinal meningitis—Chicago	2
Diphtheria:	
Cook County (including Chicago)	100
Chicago	79
Kane County	8
Scattering	38
Pneumonia	86
Poliomyelitis—Hardin County	1
Scarlet fever:	
Cook County (including Chicago)	40
Chicago	31
Scattering	30
Smallpox	89
Typhoid fever	37
Whooping cough	325

KENTUCKY.

	Cases.
Cerebrospinal meningitis:	
Jefferson County	1
Diphtheria	8
Dysentery	3
Malaria	1
Measles	25
Pellagra	2
Pneumonia	2
Scarlet fever	3
Smallpox	5
Trachoma	11
Tuberculosis:	
Jefferson County	15
Scattering	5
Typhoid fever	40
Whooping cough	8

MAINE.

Chicken pox	18
Diphtheria	9
Measles	12
Paratyphoid fever	1
Pneumonia	3
Poliomyelitis	2
Scarlet fever	5
Tuberculosis	10
Typhoid fever	8
Whooping cough	2

SUMMARY OF CASES REPORTED MONTHLY BY STATES.

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

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Poliomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
1922.										
Alabama (June)	.....	48	18	127	32	53	3	23	35	109
California (June)	9	628	29	7	144	3	8	338	171	99
Delaware (May)	2	3	1	1	11	.....	.....	90	.....	12
Delaware (June)	.....	5	.....	5	14	.....	.....	69	.....	10
Hawaii (June)	4	18	11	.....	78	.....	.....	1	.....	11
Illinois (June)	15	804	42	54	2,762	7	8	467	112	111
Iowa (June)	2	63	.....	.....	19	.....	.....	85	44	2
Kansas (June)	.....	109	2	5	44	1	1	118	45	51
Maine (June)	.....	26	2	.....	44	.....	.....	76	.....	4
Mississippi (June)	.....	60	198	10,745	22	1,329	3	20	17	337
Montana (May)	3	28	.....	.....	2	.....	1	25	47	4
Montana (June)	1	18	.....	.....	2	.....	.....	18	25	15
New Jersey (June)	11	385	15	11	2,853	.....	3	517	.....	50
North Carolina (June)	4	124	.....	.....	152	.....	3	76	106	295
North Dakota (June)	.....	16	1	.....	2	.....	.....	20	25	3
Ohio (June)	7	436	11	.....	3,723	.....	4	452	160	119
Oklahoma (June)	.....	12	.....	4	6	.....	.....	6	13	35
Oregon (June)	.....	54	.....	.....	6	.....	.....	31	59	10
South Carolina (June)	2	110	.....	5	1	3	2	3	14	96
South Dakota (June)	2	21	.....	.....	14	.....	1	18	39	8
Virginia (June)	5	92	252	327	497	35	9	68	21	207
Washington (June)	1	64	.....	.....	135	.....	1	52	66	56
Wyoming (May)	.....	8	22	.....	3	.....	.....	4	19	7
Wyoming (June)	.....	4	.....	.....	.....	.....	.....	4	12	8

SMALLPOX.

Nogales, Ariz.

On July 26, 1922, one case of smallpox was reported at Nogales, Ariz. An outbreak of smallpox in Nogales, Mexico, was also reported, with the occurrence of 22 cases.

CITY REPORTS FOR WEEK ENDED JULY 15, 1922.

ANTHRAX.

City.	Cases.	Deaths.
Illinois:		
Alton	1	.....
Michigan:		
Detroit	1	.....

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended July 15, 1922.		City.	Median for previous years.	Week ended July 15, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
California:				New York:			
San Francisco	0	.....	2	Lackawanna	0	.....	1
Santa Barbara	0	.....	1	New York	5	2	3
Illinois:				North Carolina:			
Chicago	2	4	.....	Salisbury	.....	.....	1
Iowa:				Pennsylvania:			
Waterloo	.....	1	1	Braddock	0	1	.....
Michigan:				Philadelphia	1	1	.....
Detroit	0	.....	1	Pittsburgh	0	1	.....
Minnesota:				Texas:			
Duluth	0	1	1	Waco	0	.....	1
New Jersey:				Wisconsin:			
Bayonne	0	1	.....	Milwaukee	1	1	.....
Jersey City	0	1	.....				

DIPHTHERIA.

See p. 1917; also Telegraphic weekly reports from States, p. 1907, and Monthly summaries by States, p. 1911.

INFLUENZA.

City.	Cases.		Deaths, week ended July 15, 1922.	City.	Cases.		Deaths, week ended July 15, 1922.
	Week ended July 16, 1921.	Week ended July 15, 1922.			Week ended July 16, 1921.	Week ended July 15, 1922.	
California:				New York:			
Los Angeles	2	2	2	New York	4	7	2
San Francisco	.....	1	.....	North Tonawanda	1	.....	.....
Florida:				Ohio:			
Tampa	.....	1	.....	Cleveland	1	.....	.....
Illinois:				Pennsylvania:			
Chicago	1	1	1	Philadelphia	1	.....	1
Maryland:				Rhode Island:			
Baltimore	1	.....	.....	Providence	.....	1	.....
Michigan:				Tennessee:			
Detroit	1	.....	.....	Nashville	.....	.....	1
Missouri:				Texas:			
Kansas City	.....	1	1	El Paso	.....	.....	1
New Jersey:				Wisconsin:			
Newark	.....	1	.....	Oshkosh	1	.....	.....

LEPROSY.

City.	Cases.	Deaths.
California:		
San Francisco	1	.....

LETHARGIC ENCEPHALITIS.

California:	
San Francisco	1

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

MALARIA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Massachusetts:		
Montgomery	1	2	Boston	1	.....
Arkansas:			Haverhill	1	.....
Little Rock	9	.....	Michigan:		
North Little Rock	1	.....	Ironwood	1	.....
California:			New Jersey:		
Los Angeles	1	.....	Newark	3	.....
San Francisco	1	.....	New York:		
Florida:			New York	3	.....
Tampa	6	.....	Ohio:		
Georgia:			Cleveland	2	.....
Albany	2	.....	Tennessee:		
Augusta	1	.....	Memphis	18	2
Rome	1	.....	Texas:		
Savannah	2	.....	Dallas	1	.....
Illinois:			Houston	.....	1
Chicago	1	.....	Waco	.....	1
Louisiana:			Virginia:		
New Orleans	1	.....	Portsmouth	.....	1
Maryland:					
Baltimore	1	.....			

MEASLES.

See p. 1917; also Telegraphic weekly reports from States, p. 1907, and Monthly summaries, by States, p. 1911.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
District of Columbia:			Massachusetts:		
Washington	.....	1	Northampton	1	.....
Florida:			South Carolina:		
Tampa	.....	1	Greenville	.....	1
Georgia:			Tennessee:		
Atlanta	.....	3	Nashville	1	1
Augusta	1	1	Texas:		
Louisiana:			Dallas	1	2
New Orleans	1	.....			

PNEUMONIA (ALL FORMS).

Alabama:			Georgia:		
Birmingham	.....	8	Atlanta	4	3
Montgomery	.....	7	Augusta	.....	2
California:			Macon	6	.....
Long Beach	1	.....	Savannah	.....	2
Los Angeles	28	10	Illinois:		
Oakland	5	3	Alton	.....	1
Pasadena	.....	1	Champaign	1	.....
Riverside	.....	1	Chicago	80	23
Sacramento	.....	1	Freeport	2	.....
San Diego	.....	1	Kewanee	1	.....
San Francisco	7	.....	La Salle	.....	1
Stockton	.....	2	Mattoon	.....	1
Colorado:			Oak Park	.....	1
Denver	.....	2	Rock Island	.....	1
Pueblo	.....	1	Rockford	.....	1
Connecticut:			Indiana:		
Bridgeport	1	.....	Fort Wayne	.....	1
Hartford	.....	1	Indianapolis	.....	5
Milford	.....	1	Kansas:		
New Haven	.....	3	Lawrence	.....	1
New London	1	.....	Kentucky:		
Delaware:			Covington	.....	1
Wilmington	.....	2	Louisville	.....	2
District of Columbia:			Louisiana:		
Washington	.....	6	New Orleans	8	5
Florida:			Maine		
Tamda	.....	1	Lewiston	.....	1
			Portland	.....	2

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.
Maryland:		
Baltimore	12	7
Cumberland		1
Massachusetts:		
Boston		13
Braintree	1	
Cambridge		1
Chicopee		1
Danvers		1
Fall River		4
Haverhill	2	
Lawrence		2
Leominster		1
Lowell	1	
Lynn		1
Malden		2
Medford		1
Melrose	1	
New Bedford		1
Salem	2	
Somerville	1	
Waltham	1	
West Springfield		1
Michigan:		
Detroit	11	9
Grand Rapids	4	
Hamtramck	3	1
Pontiac		1
Port Huron	1	
Minnesota:		
Faribault		1
Minneapolis		5
St. Paul		6
Missouri:		
Kansas City		4
Montana:		
Billings		1
Butte		2
Great Falls		1
Nebraska:		
Lincoln		1
Omaha		4
New Jersey:		
Clifton	1	
East Orange	5	1
Garfield	1	
Hoboken		1
Jersey City		3
Kearny	1	
Newark	12	3
Perth Amboy		1
Plainfield		1
Trenton	2	
West Orange	1	
New York:		
Albany	5	
Buffalo	11	3
Cortland	3	1
Geneva		1
Jamestown	1	
Lackawanna	1	
Mount Vernon	2	1
New York	107	59
Niagara Falls	1	
Ogdensburg		1
Rochester	4	3
Schenectady	1	
Troy		2
Watertown		1
White Plains		1
North Carolina:		
Winston-Salem		1
Ohio:		
Cincinnati		3
Cleveland	12	6
Columbus		1
Dayton	1	
East Cleveland		1
East Youngstown		1
Toledo		3
Youngstown		1
Oklahoma:		
Oklahoma		1
Oregon:		
Portland		3
Pennsylvania:		
Philadelphia	25	19
Rhode Island:		
Providence		5
South Carolina:		
Charleston		2
Tennessee:		
Memphis		1
Nashville	1	
Texas:		
Dallas		2
El Paso		4
Houston		2
Utah:		
Salt Lake City		3
Virginia:		
Portsmouth		1
Richmond		2
West Virginia:		
Charleston		1
Clarksburg		2
Wheeling		1
Wisconsin:		
Kenosha		1

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended July 15, 1922.	
		Cases.	Deaths.
Alabama:			
Mobile	0	2	.....
California:			
Los Angeles	0	1	.....
Stockton	0	1	.....
Illinois:			
Chicago	2	1	1
Maine:			
Bangor	0	1	.....
Maryland:			
Baltimore	1	2	1
Massachusetts:			
Melrose	0	.....	1
New Bedford	0	4	1
Michigan:			
Detroit	1	1	.....
New Jersey:			
Atlantic City	0	1	.....
Hoboken	0	1	.....
Newark	1	1	.....
New York:			
Albany	0	1	.....
New York	4	1	.....
Rhode Island:			
Cranston	0	1	.....
Providence	0	4	1

RABIES IN ANIMALS.

City.	Cases.
California:	
Los Angeles	5
Georgia:	
Savannah	1
Kentucky:	
Louisville	1
Missouri:	
Kansas City	2

SCARLET FEVER.

See p. 1917; also Telegraphic weekly reports from States, p. 1907, and Monthly summaries by States, p. 1911.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended July 15, 1922.	
		Cases.	Deaths.
California:			
Los Angeles	1	4	.....
Oakland	1	2	.....
Sacramento	0	2	.....
Stockton	0	3	.....
Colorado:			
Denver	10	1	1
Connecticut:			
Bridgeport	0	7	.....
Iowa:			
Cedar Rapids	0	1	.....
Mason City	0	1	.....
Muscatine	0	1	.....
Kansas:			
Coffeyville	0	1	.....
Hutchinson	0	4	.....
Michigan:			
Detroit	5	4	.....
Minnesota:			
Duluth	2	1	.....
Minneapolis	6	1	.....
Nebraska:			
Omaha	4	1	.....
New Jersey	0	1	.....
Newark	1	1	.....
North Carolina:			
Durham	0	1	.....
North Dakota:			
Grand Forks	0	1	.....
Ohio:			
Cincinnati	0	2	.....
Cleveland	1	2	.....
Fremont	0	1	.....
Oklahoma:			
Oklahoma	3	1	.....
Oregon:			
Portland	4	7	.....
Utah:			
Salt Lake City	7	1	.....
Washington:			
Bellingham	0	3	.....
Spokane	6	1	.....
Tacoma	3	1	.....
Wisconsin:			
Milwaukee	2	8	.....
Racine	0	1	.....
Superior	1	6	.....

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
California:			Missouri:		
Los Angeles	1		St. Louis	9	5
Illinois:			New Jersey:		
Chicago	2		Jersey City		2
East St. Louis		1	New York:		
Indiana:			Ithaca	1	1
Indianapolis		1	New York	4	
La Fayette		1	White Plains	1	
Kentucky:			Ohio:		
Louisville		1	Cleveland	1	
Maine:			New Philadelphia		
Bangor	3		Pennsylvania:		
Lewiston	1	1	Philadelphia	1	
Michigan:			Virginia:		
Detroit	1	2	Petersburg	1	1
Minnesota:					
Minneapolis	1	1			

TUBERCULOSIS.

See p. 1917; also Telegraphic weekly reports from States, p. 1907.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended July 15, 1922.		City.	Median for previous years.	Week ended July 15, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Kansas:			
Anniston	0	3		Fort Scott	0	1	
Birmingham	13	4		Hutchinson	2	4	
Arkansas:				Kansas City	0	1	
Little Rock	2	2		Topeka	2	1	
California:				Kentucky:			
Berkeley	0	1		Covington	0	1	1
Long Beach	0	1		Lexington	1	1	
Los Angeles	4	4	1	Louisville	5	3	1
Oakland	2	3		Owensboro		6	
Sacramento	1	6		Paducah	0	1	
San Francisco	5	1		Louisiana:			
Stockton	0	3		New Orleans	5	3	1
Colorado:				Maine:			
Denver	1	6		Bangor	0	2	
Connecticut:				Maryland:			
Milford	0	1		Baltimore	11	2	1
New Haven	1	2	1	Massachusetts:			
Delaware:				Boston	4	1	
Wilmington	0	1		Fall River	3	1	1
District of Columbia:				Greenfield	0	1	
Washington	5	5	1	Haverhill	0	1	
Georgia:				Lawrence	0	2	
Atlanta	2		2	Newton	0	1	
Augusta	0	3	2	Taunton	0	2	
Macon	0	12		Waltham	0	1	
Savannah	1	2		Winthrop	0	1	
Valdosta	0	1		Michigan:			
Illinois:				Battle Creek	0	3	
Chicago	6	4	1	Detroit	9	5	2
Decatur	0	1		Kalamazoo	0	1	
East St. Louis	0	1		Minnesota:			
Peoria	0	1		St. Paul	2	2	
Rock Island	0	2		Missouri:			
Indiana:				Independence	0		1
Fort Wayne	1		1	Kansas City	3	4	2
Indianapolis	2	1	1	St. Louis	6	5	
Iowa:				Springfield	0		1
Davenport	0	1					

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

TYPHOID FEVER—Continued.

City.	Median for previous years.	Week ended July 15, 1922. Cases.	Deaths.
Montana:			
Billings	0	1	
Great Falls	0	1	
Nebraska:			
Omaha	0		1
New Hampshire:			
Berlin	0	1	
New Jersey:			
Atlantic City	0	1	
East Orange	0	1	
Englewood	0	1	
Newark	2	1	1
Plainfield	0	2	
Trenton	1	1	
New Mexico:			
Albuquerque	0	3	
New York:			
Albany	2	3	
Buffalo	2	3	
New York	28	18	1
Rochester	0	2	1
Schenectady	1	2	
Troy	0	5	
North Carolina:			
Durham	4	1	
Wilmington	0	3	
Winston-Salem	4	6	
Ohio:			
Akron	1	1	
Bucyrus	0	8	
Cleveland	4	3	
Columbus	1	2	
Youngstown	0		1
Oklahoma:			
Oklahoma	1	7	1
Tulsa	12	2	
Oregon:			
Portland	0	1	
Pennsylvania:			
Canonsburg	2	4	
Chambersburg	0	1	
Chester	0	2	
Donora	0	1	
Harrisburg	1	2	
Lancaster	0	1	
McKeesport	0	1	
Philadelphia	13	7	1
Pittsburgh	3	5	
Scranton	0	1	
Swissvale	0	1	
South Carolina:			
Charleston	5	7	
Greenville	0	2	
Tennessee:			
Knoxville	1	2	
Memphis	5	14	
Nashville	9	10	2
Texas:			
Dallas	7	6	
El Paso	0		1
Houston	3		1
Virginia:			
Norfolk	3	3	1
Petersburg	2	1	1
Roanoke	1	2	1
Washington:			
Seattle	0	2	
Spokane	0	1	
Tacoma	0	4	
Walla Walla	0	1	
West Virginia:			
Charleston	2	1	1
Fairmont	2	1	
Wisconsin:			
Ashland	0	1	
Milwaukee	2	4	

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria. Cases.	Diphtheria. Deaths.	Measles. Cases.	Measles. Deaths.	Scarlet fever. Cases.	Scarlet fever. Deaths.	Tuberculosis. Cases.	Tuberculosis. Deaths.
Alabama:										
Anniston	17,734		6						1	
Birmingham	178,270	56	1		2		1		9	1
Mobile	60,151	10								1
Montgomery	43,464	21	3						1	
Tuscaloosa	11,996		1							
Arkansas:										
Fort Smith	28,811	5					2			
Hot Springs	11,695	6								
Little Rock	64,997		1				1		1	
North Little Rock	14,048		1						1	
California:										
Alameda	28,806	9	1				2			
Berkeley	55,886	11	3		1		1		1	1
Eureka	12,923	8	2							
Long Beach	55,593	17	1		2		1			1
Los Angeles	576,673	177	47	1		1	7		50	32
Oakland	216,361	43	3				2		2	7
Pasadena	45,354	9	1						1	
Richmond	16,843	6	1							
Riverside	19,341	7								1
Sacramento	65,857	25	4	1			8	1	2	2
San Bernardino	18,721	4							1	
San Diego	74,683	17	3		1		6		1	3
San Francisco	508,410	138	23	1	9	1	4		27	14

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
California—Continued.										
Santa Ana	15,485	5					1			1
Santa Barbara	19,441	3								
Santa Cruz	10,917	4								
Stockton	40,296	11					1		1	2
Colorado:										
Denver	256,369	51	8				5			8
Pueblo	42,908	5			1					
Trinidad	10,906		4	1						
Connecticut:										
Bridgeport	143,538	23	6		22	1	7		5	2
Bristol	20,620	3			3					
Derby	11,238	3			1					1
Hartford	138,036	21	1		6		1		5	
Manchester	18,370	4					2			
Milford	10,193	8			5					
New Haven	162,519	33	3		41	2				3
New London	25,688	6	1				1		1	
Norwalk	27,700	6								
Stonington	10,236	2								
Delaware:										
Wilmington	110,168	23			1		2			1
District of Columbia:										
Washington	437,571	103	6		13		1		20	6
Florida:										
Tampa	51,252	18								1
Georgia:										
Albany	11,555								2	
Atlanta	200,616	68	2	1			1		2	5
Augusta	52,548	28					1		1	3
Brunswick	14,413	6								1
Macon	52,995						1		1	
Rome	13,252		1						1	
Savannah	83,252	24							1	
Valdosta	10,783	2	1						1	
Idaho:										
Boise	21,393	7								
Illinois:										
Alton	24,682	4	1						1	
Aurora	36,397	18	1		1				4	2
Bloomington	28,725	10					1		1	1
Blue Island	11,424	3			1					
Centralia	12,491	3								
Chicago	2,701,705	496	89	7	246	5	29	1	273	46
Decatur	43,818	5			1		1			
East St. Louis	66,740	19	1							
Elgin	27,454	5			1				1	1
Evanston	37,215	6			4		1			
Freeport	19,669	5					1			
Kewanee	16,026	8	1				1		2	1
La Salle	13,050	1							1	
Mattoon	13,552	7								1
Oak Park	39,830	16			6		1		2	
Peoria	76,121	19					2			
Quincy	35,978	16							4	1
Rockford	65,651	13			19		2			2
Rock Island	35,177	2			1					
Springfield	59,183	15							1	1
Indiana:										
Bloomington	11,595	2								
Crawfordsville	10,139	2								1
East Chicago	35,967	3					1			
Elkhart	24,277	11			1					
Fort Wayne	36,549	14								
Frankfort	11,585	3								
Gary	55,378	13								2
Hammond	36,004	6	2		1		1			
Huntington	14,000	4								
Indianapolis	314,194	83	7		29	1	4		1	5
Kokomo	30,067	9								
La Fayette	22,486	8								
Logansport	21,626	3								
Mishawaka	15,195	2			2				2	
Muncie	36,624	10								
South Bend	70,983	6			10					
Terre Haute	66,083	14	1				2			

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Iowa:										
Burlington	24,057		1						4	3
Cedar Rapids	45,566						1			
Clinton	24,151		3							
Council Bluffs	36,162	8	1		1		2			
Davenport	56,727				1					
Des Moines	126,468		3				10			
Iowa City	11,267		1							
Marshalltown	15,731						1			
Mason City	20,065	5								
Muscatine	16,368	4								
Sioux City	71,227		2				2			
Waterloo	36,230	1					1			
Kansas:										
Atchison	12,630						1			
Coffeyville	13,452	4							1	
Fort Scott	10,693	1								
Hutchinson	23,298		2							
Kansas City	101,177				2		2		9	
Lawrence	12,456	3								
Leavenworth	16,912						1			
Parsons	16,028	4							1	
Salina	15,085	0								
Topeka	50,022	12	1						3	2
Wichita	72,128	20	7		1		1			1
Kentucky:										
Covington	57,121	18	1							
Lexington	41,534	12			5					1
Louisville	234,891	79					1		18	4
Owensboro	17,424		3		1					
Paducah	24,735								1	
Louisiana:										
Baton Rouge	21,782	5	1							
New Orleans	387,219	128	5				2		52	14
Maine:										
Auburn	16,985	3								1
Bangor	25,978						1			
Bath	14,731	4								
Biddeford	18,008	4								
Lewiston	31,791	11								
Portland	69,272	13			1		6			1
Sanford	10,691	2								
Maryland:										
Baltimore	733,826	192	12		50		3		40	27
Cumberland	29,837	16			2		1			3
Massachusetts:										
Adams	12,967	1								
Amesbury	10,036	0								
Arlington	18,665	3	1						1	
Attleboro	19,731	2							1	
Belmont	10,749	2							1	
Boston	748,060	179	50	3	105		16		36	13
Braintree	10,580	2	1						1	
Brookline	37,748	5			6					1
Cambridge	109,694	22		1	12				4	3
Chelsea	43,184	7	4		5		1		2	2
Chicopee	36,214	2	1							
Clinton	12,979	1					1			
Danvers	11,108		1							
Everett	40,120	5							2	
Fall River	120,485	23	3	1	8		1		8	
Fitchburg	41,013	5	1						1	2
Framingham	17,033	3			6				1	
Gardner	16,971	5			1					
Greenfield	15,462	4								
Haverhill	53,884	12			1					3
Holyoke	60,203	10			3				1	
Lawrence	94,270	18	3		2		2		7	
Leominster	19,744	4							1	
Lowell	112,479	26	2		3		1		3	2
Lynn	99,148	19							1	1
Malden	49,103	8			3		1		4	
Medford	39,038	5	1						1	
Melrose	18,204	5			8					
Methuen	15,189	4							2	
New Bedford	121,217	27	1		1		2		3	4

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Massachusetts—Continued.										
Newburyport	15,618	3			1				1	
Newton	46,054	4			5					
North Adams	22,282	1			1					
Northampton	21,951	5			9				1	
Pittsfield	41,751	9					1			
Plymouth	13,045	1								
Quincy	47,876	7			5				1	
Salem	42,529	10	3		18		3		2	
Somerville	93,091	12			7		1		1	1
Southbridge	14,245	4			1		1			
Springfield	129,563	24	2		11		1		1	1
Taunton	37,137	9							1	1
Wakefield	13,025	0								
Waltham	30,915	4	1		3				2	
Webster	13,258	4			3				1	
West Springfield	13,443	2								1
Westfield	18,604	6			3					1
Winthrop	15,455	2			3					
Woburn	16,574	4								
Worcester	179,754	39	1				1		8	3
Michigan:										
Alpena	11,101						1		1	
Battle Creek	36,164	3			5					
Benton Harbor	12,233	2	4						1	
Detroit	993,739	196	24	1	22	1	32	1	41	14
Grand Rapids	137,634	33	3				3		7	2
Hamtramck	48,615	1							2	
Highland Park	46,499	8	1		1		2		3	1
Ironwood	15,739	1			1		1		7	
Kalamazoo	48,858	15	4							1
Marquette	12,718	3	1						2	
Pontiac	34,273	4	1		14					
Port Huron	25,944	8			27					
Saginaw	61,903	18	1		1		3		3	1
Sault Ste. Marie	12,096	3							2	
Minnesota:										
Duluth	98,917	8	4		6					
Faribault	11,089	1								
Hibbing	15,089	3	2				10			
Mankato	12,469						2			
Minneapolis	380,582	69	5		4		9		36	5
Rochester	13,722	8								
St. Cloud	15,873	1					6			
St. Paul	234,595	46	11	1	22	1	8		12	5
Winona	19,143	7			1		1			1
Missouri:										
Cape Girardeau	10,252		2		5					
Independence	11,686	2								
Kansas City	324,410	82			4		2		7	7
St. Joseph	77,939	30	1		1		2			2
St. Louis	772,897	147	14		2		7		35	10
Springfield	39,631	18								1
Montana:										
Billings	15,100	8					2			
Butte	41,611	11								
Great Falls	24,121	4	2							1
Missoula	12,668	4							1	
Nebraska:										
Lincoln	54,934	12			4					1
Omaha	191,601	42	4	1	2		1			3
Nevada:										
Reno	12,016	4								
New Hampshire:										
Berlin	16,104	2								
Concord	22,167	4			5					
Dover	13,029	5								
Keene	11,210	1			2					
New Jersey:										
Ashbury Park	12,400	0			1					
Atlantic City	50,682	16			2				2	1
Bayonne	76,754		5		3				3	
Bloomfield	22,019	2			2					
Clifton	26,470	4		1	1		1		1	
East Orange	50,710				9		1		1	
Englewood	11,627	0			1				2	

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New Jersey—Continued.										
Garfield	19,381	1	1		1				2	
Hackensack	17,667	1			1					
Harrison	15,721		1		1				1	
Hoboken	68,166	18	3	1					1	2
Jersey City	297,864	73	10	1	3	1	1	1	6	4
Kearny	26,724	2								
Montclair	28,810	3			2		1		2	
Morristown	12,548	5			5					
Newark	414,216	72	8	1	58	1	12		21	3
Orange	33,268	5			4				1	1
Passaic	63,824	8			8		2	1	2	1
Paterson	135,866		4		17		2		8	
Perth Amboy	41,707	10			2				1	
Phillipsburg	16,923	1								
Plainfield	27,700	6	1		13				1	1
Rahway	11,042	2			2		1		1	1
Summit	10,174	0			5					
Trenton	119,289	31	9		8	2	2		8	3
Union	20,651						1			
West Hoboken	40,068	1	1							
West New York	29,926	4	2							1
West Orange	15,573	2			3					1
New Mexico:										
Albuquerque	15,157	3	9							1
New York:										
Albany	113,344		3						5	
Auburn	36,192	9		1						
Buffalo	506.775	124	7		3		12			13
Cohoes	22,987	3								
Cortland	13,294	3	1		10		1		1	
Geneva	14,648	2								
Hornell	15,025	1			7				1	
Hudson	11,745	4							3	
Ithaca	17,004	3					1			
Jamestown	38,917	8			2					
Lackawanna	17,918	8			1		1		3	
Lockport	21,308	4							2	
Middletown	18,420				1		1		1	
Mount Vernon	42,726	10			4		1			
Newburgh	30,366	9			28					1
New York	5,621,151	1,994	140	11	237	4	43	1	[1] 274	[1] 89
Niagara Falls	50,760	14	5		17		3		2	
North Tonawanda	15,482				2		2		1	
Ogdensburg	14,609	9								
Olean	20,506	5								
Peekskill	15,868	4			26					
Poughkeepsie	35,000	6			1		1			1
Rochester	295,750	66	8	2	42			1	21	
Saratoga Springs	13,181	5								
Schenectady	88,723	19					6		4	1
Troy	72,013	31					1		4	2
Watertown	31,285	20			1		2			
White Plains	21,031	3							3	
North Carolina:										
Durham	21,719	3	3							1
Greensboro	19,861	4								
Raleigh	24,418	11	1							
Rocky Mount	12,742	4								
Salisbury	13,884	3								
Wilmington	33,372	5							1	
Winston-Salem	48,395	14	1						1	2
North Dakota:										
Fargo	21,961	0	2							
Grand Forks	14,010						1			
Ohio:										
Akron	208,435	25	1		10		3		1	
Ashtabula	22,082	1								
Barberton	18,811	3							1	
Bucyrus	10,425	2						1		1
Cambridge	13,104	6			2					2
Canton	87,091	18	2		1				1	1
Cincinnati	401,247	93	1		9		1		8	11
Cleveland	796,836	142	22	2	96	2	17		56	15

[1] Pulmonary tuberculosis only.

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Ohio—Continued.										
Cleveland Heights	15,236				5		1			
Columbus	237,031	61	3		9				3	1
Coshocton	10,847		1				1		1	
Dayton	152,559	38	3		9					
East Cleveland	27,292	4			1					
East Youngstown	11,237	2								
Findlay	17,021	6			2					
Fremont	12,468	2								
Kenmore	12,683		2						1	
Lancaster	14,706	5					1			
Lima	41,306	10	1							
Lorain	37,295						1		3	
Mansfield	27,824	3			1					1
Marion	27,891		1		2		2			
Martins Ferry	11,634	4								
Middletown	23,594	9			2				1	2
Niles	13,080	0	3							
Norwood	24,966	2								
Piqua	15,044	9								
Salem	10,305	6	2		10					
Sandusky	22,897	3			1					
Springfield	60,840	14							2	1
Steubenville	28,506	5								
Tiffin	14,375	4					2			
Toledo	243,109	69	6		69	1	2		1	5
Youngstown	132,358	29	3	1	5		1		4	1
Zanesville	29,569	8	3						1	1
Oklahoma:										
Oklahoma	19,258	20	1						3	
Oregon:										
Portland	258,288	44	1		1		1		8	5
Pennsylvania:										
Allentown	73,502		3						7	
Beaver Falls	12,802				1					
Bethlehem	50,358		6		9					
Braddock	20,879				3					
Bradford	15,525				1				1	
Bristol	10,273		1		1					
Butler	23,778		1							
Canonsburg	10,632				4					
Carlisle	10,916		1				1			
Charleroi	11,516				1					
Chester	58,030		1		14					
Coatesville	14,515				2					
Columbia	10,836				1				2	
Donora	14,131		1							
Dubois	13,681				1					
Duquesne	19,011				1					
Easton	33,813								2	
Erie	93,372		2						1	
Greensburg	15,033						1			
Harrisburg	75,917		1		20		1			
Johnstown	67,327		1		3					
Lancaster	53,150		1		1		1		2	
McKeesport	45,975				2					
McKee's Rocks	16,713		5							
Nanticoke	22,614						1			
New Castle	44,938		3							
Norristown	32,319		1		1					
North Braddock	14,928				3		1			
Olyphant	10,236				1				1	
Philadelphia	1,823,158	378	34	4	223	1	30		61	38
Pittsburgh	588,193		12		152		8		12	
Plymouth	16,500								1	
Pottstown	17,431		1							
Pottsville	21,876		2							
Reading	107,784		3		19				1	
Scranton	137,783		2		9					
Shamokin	21,204				2					
Steelton	13,428								1	
Sunbury	15,721		2		1					
Swissvale	10,908		1		5					
Tamaqua	12,363		1		5					
Uniontown	15,602				1					
Warren	14,256								1	

CITY REPORTS FOR WEEK ENDED JULY 15, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Pennsylvania—Continued.										
Wilkes-Barre	73,833		3		2					
Wilkinsburg	24,403		2		2		1			
Williamsport	36,198				1					
Woodlawn	12,495				1					
York	47,512				2		1			
Rhode Island:										
Cranston	29,407	5			1		1			
Pawtucket	64,248	7	1							
Providence	237,595	48	1	1	2		1			2
South Carolina:										
Charleston	67,957	19	1						1	1
Columbia	37,524								1	
Greenville	23,127	3								1
South Dakota:										
Sioux Falls	25,176	4								
Tennessee:										
Chattanooga	57,895		1				1			
Knoxville	77,818				1		1			
Memphis	162,351	35	1				3		6	2
Nashville	118,342	38					1		3	2
Texas:										
Beaumont	40,422	6								4
Corpus Christi	10,522	4								
Dallas	158,976	37	4		13		4		6	2
El Paso	77,543	49								9
Galveston	44,255	9	2							1
Houston	138,076	40	3				1			4
Waco	38,500	13	2				1			4
Utah:										
Salt Lake City	118,110	32	1		1					2
Vermont:										
Barre	10,008		1							
Rutland	14,954	2								1
Virginia:										
Alexandria	18,060	3							1	
Charlottesville	10,688	4								
Lynchburg	29,956	15	1		2				1	
Norfolk	115,777						1		1	1
Petersburg	31,002	10							2	
Portsmouth	54,387	18								1
Richmond	171,667	41					1		5	8
Roanoke	50,842	16	3				1			1
Washington:										
Seattle	315,652								14	
Spokane	104,437		1				4			
Tacoma	96,965		1				1			
West Virginia:										
Bluefield	15,282	3	1							
Charleston	39,608	13	1							1
Clarksburg	27,869	9								
Fairmont	17,851		2							
Huntington	50,177	12	2				2			2
Moundsville	10,669	4								
Parkersburg	20,050	5								
Wheeling	54,322	13							2	
Wisconsin:										
Beloit	21,284	3					3			
Eau Claire	20,880		1							
Fond du Lac	23,427	4								
Green Bay	31,017		1				2			
Janesville	18,293	5	1	1						
Kenosha	40,472	7	1		1				1	
Manitowoc	17,563		1							
Marinette	13,610						1		1	
Milwaukee	457,147		11		56		4		11	
Oshkosh	33,162	7	1				1		1	1
Racine	58,593	7	4				3		2	1
Sheboygan	30,955		3						1	
Superior	39,624	4							1	1
Waukesha	12,558						2		1	
Wausau	18,661						1			
West Allis	13,765								1	
Wyoming:										
Cheyenne	13,829	3								

FOREIGN AND INSULAR.

SMALLPOX ON VESSELS.

Steamship "Changsha"—At Hongkong, China.

A case of smallpox was landed, May 11, 1922, at Hongkong, China, from the steamship *Changsha*. The case occurred in an intending Chinese passenger. After arrival at Thursday Island quarantine, Australia, the *Changsha* proceeded under limited pratique to ports on the Australian coast.

Steamship "Comeric"—At Sydney for Durban.

On May 11, 1922, a further case of smallpox was reported on the steamship *Comeric*, at sea, from Sydney, Australia, for Durban, Union of South Africa. The case previously reported occurred at sea, en route from Shanghai, China, for Newcastle, Australia, April 8, 1922.[1] Both cases occurred in members of the Malay crew. The *Comeric* was released from quarantine at Newcastle April 19, proceeding to Sydney direct and leaving Sydney in quarantine May 3, 1922.

Steamship "St. Albans"—At Thursday Island—From Hongkong.

A case of smallpox was found on arrival on the steamship *St. Albans*, at Thursday Island quarantine, Australia, May 18, 1922. The *St. Albans* left Shimonoseki, Japan, April 8, 1922, for Melbourne, Australia, via Hongkong and Manila. The case occurred in a Chinese steerage passenger. The *St. Albans* left Thursday Island in quarantine for Townsville, Australia.

HAWAII.

Plague—Plague-Infected Rat.

The occurrence of two fatal cases of plague has been reported in Hawaii. The first case developed, June 30, 1922, at Kalopa Homesteads, Hamakua, and terminated fatally July 4, 1922. The patient was a Hawaiian. The second case occurred at Pokahea, Paauilo, in a Japanese, and terminated fatally July 7, 1922.

A rat trapped at Paauhau Gulch, June 29, was reported found positive for plague at the Hilo Laboratory, June 30, 1922.

HUNGARY.

Outbreak of Hydrophobia.

Information received under date of July 7, 1922, shows an outbreak of hydrophobia affecting not only dogs but other animals, reported in Hungary during the month of June, 1922. Cases were

[1] Public Health Reports, June 23, 1922, p. 1555.

reported in about 423 villages. Later reports showed the infection to be spreading, and it was stated that it was difficult to obtain experimental animals for the preparation of serum.

MEXICO.

Smallpox—Nogales.

Information dated July 26, 1922, reports the occurrence of 22 cases of smallpox in Nogales, Sonora, Mexico. It was stated that the authorities were exercising compulsory vaccination.

Yellow Fever—Tampico.

The occurrence of a fatal case of yellow fever at Tampico, Mexico, was reported under date of July 30, 1922. The case was stated to have been brought to Tampico, July 27, 1922, on the eighth day of illness, from a locality in the vicinity. The case terminated fatally July 29, 1922.

PANAMA.

Communicable Diseases—Canal Zone—June, 1922.

Communicable diseases were reported to the chief quarantine officer, Panama Canal, during the month of June, 1922, as follows:

June, 1922.

Disease.	Cases.				Total.
	Panama.	Colon.	Canal Zone.	Non-resident.	
Chicken pox	12	2	6	.....	20
Diphtheria	10	2	6	.....	18
Dysentery	1	.....	.....	.....	1
Hookworm disease	48	.....	28	.....	76
Malaria	14	7	190	39	250
Measles	10	1	.....	.....	11
Meningitis	2	1	.....	.....	3
Mumps	1	.....	1	.....	2
Tuberculosis	11	3	4	3	21
Typhoid fever	.....	1	.....	.....	1

POLAND.

Communicable Diseases—April 23–May 6, 1922.[1]

Communicable diseases have been reported in Poland, exclusive of the districts of Brest-Litovsk and Minsk, but including the district of Wilno, as follows:

April 23–May 6, 1922.

Disease.	New cases.	Deaths.	Locality of highest proportional mortality.
Cerebrospinal meningitis	17	11	District of Lodz.
Diphtheria	157	15	District of Nowogrodek.
Measles	806	32	District of Wolyn.
Scarlet fever	486	69	District of Stanislawow.
Smallpox	228	44	Do.
Tuberculosis	232	415	District of Warsaw.
Typhoid fever	672	37	District of Krakow.
Typhus fever	2,811	172	District of Lublin.
Typhus, recurrent	1,598	34	Do.

[1] Public Health Reports, June 16, 1922, p. 1488; and July 28, 1922, p. 1859.

RUMANIA.

Cholera—Crangasi.

An outbreak of cholera has been reported at Crangasi, a suburb of the city of Bucharest, Rumania. There were reported 10 cases with 6 deaths and 56 contacts under observation to July 15, 1922. The first case was stated to have occurred in a soldier on leave from the frontier along the Dniester.

UNION OF SOUTH AFRICA.

Smallpox—Typhus Fever—April 1-30, 1922.

During the month of April, 1922, smallpox and typhus fever were reported in the Union of South Africa as follows:

Smallpox.—Cases, 43; deaths, 6; occurring in the colored population. Of this number, 18 cases with 6 deaths were reported in Natal, 13 cases in the Cape Province, and 12 cases in the Transvaal. In the white population 23 cases, of which 20 cases occurred in Natal and 3 cases in the Cape Province, were reported.

Typhus fever.—Cases, 355; deaths, 77; occurring among the colored population. Of this number, 338 cases with 75 deaths were reported in Cape Province, 12 cases with 1 death in the Orange Free State, 3 cases with 1 death in Natal, and 2 cases in the Transvaal. Among the white population 3 cases were reported, of which 2 occurred in the Cape Province and 1 in the Orange Free State.

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

Reports Received During Week Ended August 4, 1922.[1]

CHOLERA.

The reports contained in the following tables must not be considered as complete or final, either as regards the list of countries included or the figures for the particular countries for which reports are given.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Amoy	June 4–10		1	
India:				
Calcutta	June 11–17	15	12	
Madras	do	1	1	
Rangoon	May 21–June 3	70	33	
Philippine Islands:				
Manila	June 4–17	6		
Provinces—				
Batangas	May 26–June 3	1	1	
Bulacan	Apr. 30–May 6	1	1	
Mindoro	Apr. 23–29	1		
Pampanga	May 14–27	2	2	
Rizal	May 21–27	1		
Tarlac	do	1	1	
Rumania:				
Crangasi				Locality, suburb of city of Bucharest. Outbreak. To July 15, 10 cases, 6 deaths, 56 contacts. First case stated in soldier from frontier on Dniester River.
Syria:				
Aleppo	June 25–July 1			Reported present in interior.

[1] From medical officers of the Public Health Service, American consuls, and other sources.

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

Reports Received During Week Ended August 4, 1922—Continued.

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombo	June 4–10	2	2	
China:				
Hongkong	June 4–17	114	72	
Hawaii:				
Hamakua	June 30–July 4	1	1	At Kalopa Homesteads. Case Hawaiian.
Paauhau	June 30			One plague rat, trapped at Paauhau Gulch, June 29; found positive, June 30, 1922.
Pauuilo	July 7		1	At Pokahea. In Japanese.
India				May 21–27, 1922: Cases, 482; deaths, 408.
Calcutta	June 11–17	2	2	
Karachi	do	2	4	
Madras Presidency	do	43	23	
Rangoon	May 21–June 10	62	56	

SMALLPOX.

Arabia:				
Aden	June 18–24	28	6	
China:				
Hongkong	June 4–17	10	9	
Dominican Republic:				
San Pedro de Macoris	June 25–July 1	37		In city and country.
Santo Domingo	July 2–8			Present in city and country. A few cases.
India:				
Calcutta	June 11–17	13	5	
Karachi	do	4	1	
Madras	do	35	26	
Rangoon	May 21–June 10	9	5	
Java:				
West Java—				
Batavia	May 27–June 2	1	1	Province.
Luxemburg	June 15–30	1		
Malta	June 1–15	2		May 1–31, 1922: Cases, 2.
Mexico:				
Nogales	July 26	22		State of Sonora.
Poland				Apr. 23–May 6, 1922: Cases, 228; deaths, 44.
Portugal:				
Lisbon	May 29–June 18	6		
Do	June 25–July 1		6	
Spain:				
Seville	June 19–July 2		35	
Union of South Africa				Apr. 1–30, 1922: Cases, 43; deaths, 6 (colored); white, cases, 23.
Cape Province				Apr. 1–30, 1922: Cases, 13 (colored); white, 3.
Do	May 28–June 3			Outbreaks.
Natal				Apr. 1–30, 1922: Cases, 18; deaths, 6 (colored); white, 20.
Transvaal				Apr. 1–30, 1922: Cases, 12 (colored).
Do	May 28–June 3			Outbreaks.
Yugoslavia:				
Serbia	Oct. 23–29	5		Year 1921.
On vessels:				
S. S. Changsha	May 11	1		At Hongkong, China. Case landed from vessel; patient, intending passenger. Vessel proceeded to Australian ports.
S. S. Comeric	May 11	1		At sea, en route to Durban, S. A., from Sydney, Australia. (Public Health Reports, June 23, 1922, p. 1555).
S. S. St. Albans	May 18	1		At Thursday Island quarantine Australia. Case in person of Chinese steerage passenger. Vessel left Shimonoseki, Japan, for Melbourne via Hongkong and Manila. Left Thursday Island for Australian ports.

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

Reports Received During Week Ended August 4, 1922—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Oran	June 21-30	1		
Asia Minor:				
Smyrna	June 18-24	2		
Austria:				
Vienna	June 4-10	1		
Poland				Apr. 23-May 6, 1922: Cases, 2,811; deaths, 172. Recurrent typhus: Cases, 1,598; deaths, 34.
Union of South Africa				Apr. 1-30, 1922: Cases, 355; deaths, 77 (colored); white, 3 cases.
Cape Province				April 1-30, 1922: Cases, 338; deaths, 75 (colored); white, 2 cases.
Natal				Apr. 1-30, 1922: Cases, 3; deaths, 1 (colored).
Do	May 28-June 3			Outbreaks.
Orange Free State				Apr. 1-30, 1922: Cases, 12; deaths, 1 (colored); white, 1 case.
Do	May 28-June 3			Outbreaks.
Transvaal				Apr. 1-30, 1922: Cases, 2 (colored).
Do	May 28-June 3			Outbreaks.

YELLOW FEVER.

Mexico:				
Tampico	July 27-29	1	1	From locality in vicinity. Patient brought to Tampico on eighth day of illness.

Reports Received from July 1 to 28, 1922.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Amoy	May 14-June 3	1	2	
Greece:				
Athens	June 29	1	1	
Saloniki	June 7-17	30	11	At quarantine station, among passengers from vessel carrying Russian refugees.
India:				
Bombay	Apr. 23-29	1	1	
Calcutta	Apr. 23-June 10	512	357	
Madras	May 21-June 3	2		
Rangoon	May 7-20	10	9	
Philippine Islands:				
Manila	May 21-27	1		
Province—				
Camarines Sur	Mar. 25-Apr. 1	1	1	
Laguna	Apr. 16-22	1		
Pampanga	do	1	1	
Rizal	Apr. 2-8	1	1	
Poland:				
Rowno	June 18			Among persons repatriated from Russia.
Siam:				
Bangkok	Apr. 30-May 13	4	3	
Syria:				
Aleppo	May 27-June 3			A few cases in interior.

[1] From medical officers of the Public Health Service, American consuls, and other sources. For reports received from Dec. 31, 1921, to June 30, 1922, see Public Health Reports for June 30, 1922. The tables of epidemic diseases are terminated semiannually and new tables begun.

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

Reports Received from July 1 to 28, 1922—Continued.

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Asia Minor:				
Smyrna	May 28–June 17	3	1	
Brazil:				
Pernambuco	May 7–13	1		
British East Africa:				
Kenya Colony—				
Nairobi	Feb. 1–28	15	15	
Ceylon:				
Colombo	May 6–June 3	7	5	
China:				
Amoy	May 7–June 3		32	May 20: From 10 to 20 deaths reported daily.
Canton	May 1–31	21	17	
Foochow	May 7–13	4	4	
Ecuador:				
Guayaquil	June 1–15			Rats found infected, 16; examined, 3,400.
Egypt				Jan. 1–June 15, 1922: Cases, 197; deaths, 93.
City—				
Alexandria	June 1–12	14	5	
Port Said	June 12	1	1	Septicemic.
Suez	May 24–June 5	3	2	
Province—				
Assiout	May 30–June 12	5	4	Septicemic, 1.
Benisouef	May 26–June 7	3	1	
Fayoum	June 3–6	4	2	
Gharbieh	May 26–June 12	21	9	
Minieh	June 2–12	4	3	
Greece:				
Patras	Apr. 24–May 14		3	
India				Apr. 23–May 20, 1922: Cases, 4,599; deaths, 3,474.
Bombay	Apr. 23–May 13	110	76	
Calcutta	Apr. 23–June 10	52	50	
Karachi	May 23–June 10	52	45	
Madras Presidency	May 21–June 10	15	6	
Rangoon	May 6–20	56	53	
Java				Month of April, 1922: Report of the seven Provinces of Java: Cases, 413; deaths, 495.
East Java—				
Soerabaya	May 7–13	2	2	
Soerakarta—				
Keporen	May 20			Epidemic.
Madagascar:				
Tananarive Province—				
Ankestrina	May 4		1	Native village; disease stated to have been present since about Apr. 27, 1922.
Mesopotamia:				
Bagdad	Apr. 1–30	68	40	
Mexico:				
Vera Cruz	June 30			One plague-infected rat.
Peru				May 1–15, 1922: Cases, 36; deaths, 19.
Philippine Islands:				
Manila	June 3	1	1	From S. S. Taisang from Amoy, China.
Siam:				
Bangkok	Apr. 30–May 13	1	1	
Straits Settlements:				
Singapore	Apr. 30–June 5	7	8	
Union of South Africa:				
Orange Free State—				
Grootkom Farm	May 7–13			One dead plague-infected rodent found. Locality adjoins Trucart's Berg Farm, on which plague-infected mouse was found preceding week.
Rendezvous Ry. Station.	May 14–20			Plague-infected wild rodent found near.
On vessel:				
S. S. Taisang	June 1–3	1	1	At Manila, P. I., from Amoy, China. Patient landed at Manila June 1, 1922. The Taisang was 2½ days en route direct from Amoy.

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

Reports Received from July 1 to 28, 1922—Cuntinued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Arabia:				
Aden	May 7-June 17	41	15	
Asia Minor:				
Smyrna	May 14-June 24	4		In district.
Bolivia:				
La Paz	Mar. 1-Apr. 30	97	16	
Brazil:				
Para	May 29-June 18	6		
Rio de Janeiro	May 14-June 17	43	11	
Sao Paulo	Apr. 10-May 7	2	2	
British East Africa:				
Kenya Colony—				
Dar es Salaam	Apr. 16-May 22	13		
Zanzibar	May 1-31	26	6	
Canada:				
Alberta—				
Calgary	June 18-24	1		
Manitoba—				
Winnipeg	May 6-June 17	3		
New Brunswick—				
Kent County	June 25-July 1	2		
Madawaska County	June 4-17	6		
Ontario—				
North Bay	June 3-17	2		
Ottawa	June 11-July 1	17		
Do	July 2-8	4		
Toronto	June 18-July 1	5		
Ceylon:				
Colombo	May 14-20	1		
Chile:				
Concepcion	Mar. 14-June 5		62	
Quillon				In Concepcion Province; epidemic in May, 1922, with 60 reported cases. To June 5: Epidemic.
San Patricio	May 16-22	13		
Talcahuano	do			Present.
Temuco				Province of Cautin; epidemic, May, 1922.
Valparaiso	Mar. 26-Apr. 22		52	Incomplete; several districts not reporting.
China:				
Amoy	May 7-20			Present.
Antung	May 29-June 4	3		
Chungking	May 28-June 10			Do.
Foochow	May 14-20	1		
Hongkong	May 14-June 3	26	20	
Manchuria—				
Dairen	May 15-June 4	2	1	
Harbin	May 22-28	1		
Nanking	May 7-June 3			Do.
Shanghai	May 22-28	1		Native.
Tientsin	May 14-20			Present.
Tsingtau	May 9-15	1	1	
Chosen (Korea):				
Chemulpo	May 1-31	1		
Fusan	do	118	33	
Seoul	do	15	2	
Cuba:				
Antilla	June 18-24	1		Reported for Preston.
Cienfuegos	June 24-July 1	1		
Dominican Republic:				
San Pedro de Macoris	June 4-24	76	1	City and country.
Santo Domingo	June 18-24	3	9	Present with a few cases in city and country; no mortality; June 11-17, 1922.
Do	June 25-July 1	1		
Cuba:				
Santiago	June 1-30	3		
Egypt:				
Port Said	June 11-17	1		
Fiume	June 13-19	1		
France:				
Paris	June 1-10	1	1	
Great Britain:				
Sheffield	May 28-June 17	5		
Southampton	June 18-24	2		
Halifax				Outbreak reported under date of June 17, 1922.
Huddersfield				Do.
Greece:				
Saloniki	May 1-21	3		
Syra Island	May 26	12	5	

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

Reports Received from July 1 to 28, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Haiti:				
Cape Haitien	June 11–17	1		
Plaine du Nord	do			Vicinity of Cape Haitien. Present.
India:				
Bombay	Apr. 23–May 6	14	6	
Calcutta	Apr. 23–June 10	67	58	
Karachi	May 23–June 10	31	7	
Madras	May 14–June 10	124	48	
Rangoon	May 7–13	21	4	
Japan:				
Kobe	June 19–25	2		
Yokohama	May 29–June 11	2	1	
Java:				
West Java—				
Batavia	Apr. 28–May 18	8		City and Province.
Malta	May 16–31	1		
Mesopotamia:				
Bagdad	Apr. 1–30	3	1	
Mexico:				
Chihuahua	June 22–July 2		1	
Guadalajara	May 1–31	7		
Manzanillo	June 6–25		4	Estimated cases, 4 to 10.
Do	June 27–July 3	6	1	Estimated.
Mexico City	May 21–June 10	101		Including municipalities in Federal District.
Peru				May 1–15, 1922: Cases, 5; deaths, 4.
Poland				Mar. 26–Apr. 22, 1922: Cases, 408; deaths, 113.
Portugal:				
Lisbon	June 4–10	17		
Spain:				
Corunna	June 11–17	1		
Seville	do	36		Week ended June 11; many new cases.
Valencia	May 21–27	2	1	
Straits Settlements:				
Singapore	Apr. 30–June 5	11	2	
Switzerland:				
Basel	May 28–June 3	1		
Berne	May 14–20	1		
Zurich	June 4–17	6		Apr. 23–29: One case.
Syria:				
Aleppo	June 4–24			Present.
Turkey:				
Constantinople	May 21–June 24	21	6	
Union of South Africa:				
Cape Province	May 7–27			Outbreaks.
Orange Free State	do			Do.
Southern Rhodesia	May 11–31	54	1	
Transvaal	May 7–20			Do.
Virgin Islands:				
St. Thomas	June 5–18	1	1	At quarantine. From vessel from Dominican Republic.
Yugoslavia				Sept. 4–24, 1921: Cases, 11; deaths, 4.
Serbia—				
Belgrade	June 11–17	1		
On vessel:				
Schr. Fancy Mc	May 28			At St. Thomas, Virgin Islands. From San Pedro de Macoris, Dominican Republic. One case removed to quarantine June 5; died, June 18.
S. S. Shelley	Apr. 19	1		At sea en route from Hongkong. Vessel left Hongkong Apr. 17. Arrived Thursday Island Quarantine, Australia, Apr. 28, 1922. Case, member of crew; type, confluent hemorrhagic.

TYPHUS FEVER.

Algeria:				
Algiers	May 1–31	16	4	
Oran	June 1–20	2	1	
Asia Minor:				
Smyrna	May 14–June 10	6		City and district.

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

Reports Received from July 1 to 28, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria:				
Vienna	May 7-June 3	2	1	
Bolivia:				
La Paz	Mar. 1-Apr. 30	15	8	
Bulgaria:				
Sofia	May 28-June 17	4		
Chile:				
Concepcion	Apr. 11-May 29		10	
Valparaiso	Apr. 2-22		6	
China:				
Antung	May 15-21	1		
Foochow	May 14-20	1		
Manchuria—				
Harbin	May 8-June 11	4		
Czechoslovakia:				
Prague	June 11-17	1		
Egypt:				
Alexandria	June 4-17	4	1	
Cairo	Mar. 19-Apr. 8	14	10	Relapsing fever, Mar. 26-Apr. 8, 1 case.
Port Said	May 28-June 3	1		
Germany				May 1-6, 1922: Five cases typhus fever at quarantine station of Osternothafen, in persons returning from Russia.
Berlin	Apr. 30-May 6		1	
Königsberg	May 28-June 3	1		
Greece:				
Saloniki	May 1-28	23	1	
Mesopotamia:				
Bagdad	Apr. 1-30	1		
Mexico:				
Mexico City	Apr. 23-June 10	98		Including municipalities in Federal District.
Poland				Mar. 26-Apr. 29, 1922: Cases, 7,155. Recurrent typhus, cases, 5,432. Mar. 26-Apr. 22, 1922: Cases, 5,695; deaths, 349.[1] Recurrent typhus: Cases, 4,515; deaths, 155.
Warsaw	Apr. 23-May 20	80		Among permanent and transient residents.
Portugal:				
Oporto	May 4-24	9	4	
Rumania				Apr. 1-May 31, 1922: Cases, 62.
Cities—				
Bucharest	May 1-31	14		
Cerenauti	do	5		
Chisinau	Apr. 1-30	21		
Cluj	May 1-31	18		
Constanza	do	1		
Galata	do	1		
Sulina	do	2		
Provinces—				
Bucovina	Jan. 1-31	35	13	
Chisinau	Apr. 1-30	14		Recurrent typhus: Cases, 7
Transylvania	Jan. 1-31	16	3	
Russia:				
Esthonia	Apr. 1-30	15		
Lettonia	do	275		Recurrent typhus: Cases, 12.
Spain:				
Seville	May 21-June 3		1	
Madrid	May 1-31		9	
Tunis:				
Tunis	June 4-10	2		
Turkey:				
Constantinople	May 21-June 17	12		
Union of South Africa:				
Cape Province	May 7-13			Outbreaks.
Natal	May 7-13			Do.
Transvaal	May 7-27			Do.
Yugoslavia				Aug. 7-13, 1921: 2 new cases. (1921.)
Bosnia-Herzegovina	Aug. 7-13	1		Do.
Croatia-Slavonia	Sept. 4-10	1		Do.
Voivodina	Aug. 7-13	1		Do.
From vessel:				
S. S. Smolensk	June 14	1	1	From Danzig, May 30, 1922. At embarkation detention camp, Southampton, England. Public Health Reports, June 30, 1922, p. 1610.

[1] Consecutive with reports published in Public Health Reports June 30, 1922, p. 1621.