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APPORTIONMENT OF FINANCIAL AID FOR COUNTY HEALTH WORK

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INTRODUCTION

There is rapidly developing in the United States a plan of local health organization commonly known as the county health department. Under this plan the rural portions of the county, as well as the contained cities and towns, are served by a single health department. These departments have developed, in most instances, under the leadership and guidance of the State health department.

Financial aid from the State and other sources outside the county has played an important part in the development and stabilization of this movement; yet there does not seem to have been developed an equitable plan of apportionment which could be applied successfully under varying conditions.

PURPOSE OF STATE AID ¹

In general, there are three major ends to be served by any system of subsidies from central to local governments for health work: First, a subsidy may be used to encourage the initiation of new projects; second, a system of aid provides a desirable channel through which the central health agency may discharge its responsibility to the local unit of government; third, the subsidy can ease the burden of relatively poor counties and thus make possible a more uniform grade of continuing service.

ADMINISTRATIVE AND ECONOMIC CONSIDERATIONS

Administrative practicability.—It is quite important in the projection of a program that local authorities know at the outset what support they may expect over a period of years, barring, of course,

¹ All funds from extra-county sources are classed as State-aid funds.

unexpected acts of appropriating bodies. If the exact amount of the grant can not be stated, at least there should be established a fixed rule for apportioning such funds as may become available and for fixing such increases or decreases of subsidy as may be contemplated.

Political expediency makes it urgent that all counties share in the subsidy; the difference in need can be compensated for by regulating the amount allotted to a county under given circumstances. It is also quite desirable that upper and lower limits be placed on the aid in order that the State may be assured of an appreciable interest in each unit, but yet not be required in any case to assume more than a reasonable share of the cost. The subsidy plan should be so designed as to encourage counties to increase their health activities continually rather than to reach some fixed goal and stop there. It might also be stated that the plan should not inflict a penalty upon the county for its willingness to make desirable expenditures.

Economic soundness.—The requirements are, first, that grants be distributed with regard to the resources of the various counties, and, second, that grants shall not encourage wastage of either State or local funds. The application of the first principle is difficult, for there is no satisfactory method of estimating ability to pay. In most counties the major portion of the revenue is derived from a certain tax rate on the property valuation. The State, in turn, uses this valuation in fixing the State property tax rate.

Even though property valuation is not always a true index of resources, it would be impracticable for the State health department to adopt an index of economic resources other than that recognized by the State and county in their general fiscal policies. The second economic requirement, that the distribution of the subsidy should encourage economical rather than extravagant expenditures, can be effected in two ways: First, by making the grant contingent upon the local health department's meeting certain standards of organization and performance; second, by arranging the apportionment so that a county of small population will find it advantageous to combine with others to reduce the fixed costs of administration.

MEASURE OF NEED

Two questions are intimately involved in equalization: How much service or what budget should be considered adequate for a given county? and, What part of the cost should be met by outside aid?

There is no exact measure of need and no unanimity of opinion regarding a standard of adequate service. A tentative appraisal form for experimental use in rural health practice has been developed by the American Public Health Association, but there seems to be no practical way of translating these standards into financial terms,

since we have no generally applicable data on the cost of rendering health service in rural areas. The number of people to be served is at present the only available definite numerical index of the quantity of service needed.

The measurement of need for financial assistance must, of course, be relative. We may postulate a certain type or types of local health organization, either uniform or varying with the size of the population served, or funds may be granted on the basis of population without regard to the type of organization. In either instance equalization will be effected by varying the amount of aid in accordance with the relative financial position of the individual county as compared with other counties of the State.

GENERAL PRINCIPLES OF EQUALIZATION

Equalization on the basis of type of organization.—Where this principle is followed, certain standards of personnel and expenditure are established by the State, such standards being fixed or variable. The State contributes a flat amount and requires that the county levy a specified tax rate. If necessary, the State will add to its flat grant an additional amount sufficient to complete the standard budget. If a fixed standard of organization be adhered to under all circumstances, the per capita cost of serving small population groups becomes excessive. Since low assessed valuation and a small population not infrequently exist in the same area, the State may be required to bear an inordinate share of the cost. Unless the counties of a State are fairly uniform in population and wealth, it practically becomes necessary to establish more than one standard of service and to develop a graduated scale of subsidy which will take these two factors into account.

Equalization on the basis of per capita budget.—According to this principle, cost is figured on the number of individuals served. The State establishes a certain standard per capita expenditure without regard to the type of organization which will be obtained. The State contributes a minimum amount per capita; the county is required to levy a certain tax rate; then the State, if necessary, adds to its fixed minimum contribution an additional amount sufficient to produce the desired total per capita expenditure.

Clearly, a given per capita expenditure will not provide equal service in population groups of different sizes; yet it has the very desirable tendency to induce smaller counties to combine into districts,² thus making possible a higher grade of service at reduced outlay by spreading costs of administration over a larger population.

² "District" as used here and elsewhere in this paper refers to the combination of two or more counties into one unit for the purpose of local health administration and should not be confused with districts used by the State health department in its general administration.

Choice of methods.—The choice between the standard organization basis and the per capita basis of apportionment would seem to hinge upon a broad question of policy, namely, whether the county is to be the only unit for health work, or whether the formation of districts embracing two or more counties is to be encouraged in cases where individual counties are small. Considerations of economy and efficiency of administration favor the per capita basis of apportionment where the population unit can be regulated by combining counties into districts. On the other hand, if every county is to be a separate unit, the standard organization plan is obviously fairer, as it takes account of the higher proportion of a small county's budget which is absorbed by the fixed costs of an administrative organization.

Additional factors.—In the foregoing discussion of indices of financial aid, no account has been taken of the variation in cost of health protection service according to density and accessibility of population, and various environmental conditions which may be conducive to the spread of disease. It is, of course, possible to devise a formula which will take account of the area to be covered by a health unit, yet it is difficult to determine how much weight area alone should have in determining a county's allotment of subsidy. The other environmental factors which affect the cost and quantity of service are even more difficult to measure.

Ability of county to meet needs.—There is no absolute measure of ability of counties to meet their needs. It remains for the State department of health to determine the total funds which can be made available.

The practice of education departments in many States is to establish as the basic tax to be levied by all counties, that rate which will enable the average county to obtain a theoretical adequate school budget, equalization subsidy being apportioned only among those counties which are below the average in wealth. Another plan is to choose as the "key county" one at or near the top in point of wealth, equalizing subsidies being given to all counties less wealthy than the "key county." This principle can be followed exactly in any plan of subsidy for health work which sets up a definite budget for each county, whether the budget be determined on the basis of a standard organization or of a certain per capita expenditure.

For reasons of expediency rather than of logic, it may be desirable to take into account the tax burden to which the wealth of the county is already subjected. The natural counter argument is that the State health department should not have to assume a county's burdens for which it is in no way responsible, and that, furthermore, a high tax rate is often only a reflection of past extravagance and mismanagement of the county finances. Justly or unjustly, it can not be denied that the already existing demands on a county's resources

do affect its ability and much more its willingness, to assume further obligations. It is debatable whether or not this factor should be taken into account in determining subsidies. Some of the specific plans discussed in succeeding paragraphs include it and some do not.

In practice, the choice of a standard of adequate service is limited by the basic tax rate which would be required. To set the minimum standard too low would mean withdrawing State aid from many areas which should be assisted in the development of services beyond the minimum standard.

PAYMENT OF FUNDS

In the actual allotment of funds there are several methods of figuring the grant: (1) By a per capita grant; (2) by payment of a part of the salary of the health officer or other workers; (3) by a grant of a fixed percentage on the local appropriation; (4) by payment on the basis of specified services rendered, the so-called "cost-equivalent" plan. The principle of differential subsidy might easily be incorporated into any of the above systems of disbursement. The State, however, should have it clearly understood that differences in commitments are solely to smooth differences in local resources, and do not represent an attempt to place different values on the same service.

ILLUSTRATIVE EXAMPLES

The following examples show various possible ways of applying the principles which have been discussed. They are not set forth as final or exhaustive, but as suggested adaptations to different situations.

A. SUBSIDY ON THE BASIS OF TYPE OF ORGANIZATION³

Plan No. 1.—A standard 3-piece (or larger) organization is established as the minimum with which each participating county shall be provided. Any county levying a certain tax rate per hundred dollars valuation of property shall receive from the State the difference between the amount so raised and the cost of a standard organization. This plan provides a given organization for every county, regardless of population. It takes account of ability to pay, but not of the amount of service needed. It would be applicable to counties of approximately equal population, but would not operate to provide a uniform standard of service in counties differing greatly in population. In order to assure the wealthier counties of some subsidy, the plan might be modified by granting a fixed sum to every county and equalization in addition if needed.

³ This is essentially the plan followed in Alabama. (Cannon, Douglas L.: *The Problem of Finance in Rural Health Practice*. Am. Jour. Pub. Health, May 1929, pp. 535-537.)

A concrete example may clarify the foregoing outline. Let us assume that the standard organization chosen will cost \$7,000 per year and that the basic tax is fixed at 5 cents per \$100. A flat sum of, say, \$2,000 will be given to every participating county. In case the proceeds of a 5-cent tax in a given county fall short of the \$5,000 remaining to be raised, the State will make up the deficit. In this way every county will be able to obtain at least a \$7,000 budget by levying a tax of not over 5 cents.

Plan No. 2.—Instead of a uniform organization for all counties, there is established a sliding standard of personnel according to the population of a county. Any county levying a specified tax rate shall receive from the State the difference between the amount so raised and the cost of the standard organization for its population. This plan takes account of both ability to pay and amount of service needed. Like Plan No. 1, it could be modified by granting a fixed sum to every county and additional equalization if needed.

To illustrate the working of this plan, let us take two hypothetical counties, one of 10,000 population and the other of 20,000, and assume that the standard budget for the first county would be \$10,600 and for the second, \$13,700. A 5-cent tax is levied by each county, yielding, let us say, \$9,000 in each case. The apportionment of funds would then be as follows:

Population of county	Proceeds of 5-cent local tax	Fixed subsidy from State	Equalization grant	Total budget
10,000.....	\$9,000	\$2,000	None.	\$11,000
20,000.....	9,000	2,000	\$2,700	13,700

Plan No. 3.—Under Plans 1 and 2, the State would not aid counties to exceed a predetermined standard. In order to assist counties in developing beyond a minimum standard, two or more standards of organization may be set up and a higher local tax levy required to entitle a county to equalization up to a higher standard budget.

Referring to the two counties used to illustrate the preceding plan, it might be provided that by levying a tax rate of 7½ cents instead of 5 cents, these counties would receive equalization up to budgets one and one-half times as large—namely, \$15,900 and \$20,550, respectively, instead of \$10,600 and \$13,700. In this way any county willing to pay more than the minimum tax rate would receive proportionately more aid.

B. SUBSIDY ON THE BASIS OF INDIVIDUAL PERSONNEL EMPLOYED

Plan No. 4.—A specified amount is contributed by the State toward the salary of each worker employed in the local organization, the

amount being different for different classes of personnel. Equalization is effected by varying the amount paid on each class of salary according to the wealth (assessed valuation) of the county or district. A scale of subsidies on this basis is given in the accompanying table:

Hypothetical scale of subsidies to be paid on salaries of local health workers

Assessed valuation of county	State contribution toward salary of each worker		Maximum State contribution to one unit
	Health officer	Nurse or sanitary inspector	
\$50,000,000 or more.....	\$1,000	\$500	\$7,500
\$10,000,000 and less than \$50,000,000.....	1,500	750	6,500
\$5,000,000 and less than \$10,000,000.....	1,800	1,000	5,000
Less than \$5,000,000.....	2,000	1,000	5,000

The figures shown are purely arbitrary and would naturally have to be revised to meet actual conditions in a given State. It would be preferable to use a finer classification of counties according to valuation or, better still, to employ a continuous gradation instead of arbitrary grouping. This plan has the merit of being adapted to any type of organization, but does not effect as complete equalization of burdens as do the plans based on a specific type and size of organization.

C. SUBSIDY ON THE BASIS OF POPULATION TO BE SERVED

Plan No. 5.—Every participating county shall receive a specified sum for each inhabitant; in addition, provided that the county levies a certain tax per \$100 valuation, the State will grant the difference, if any, between the amount raised and a certain per capita budget. In concrete terms, every participating county might, on condition of levying a 5-cent tax for health work, receive a subsidy of 10 cents per capita of its population, plus an additional grant, if necessary, to make its total budget equal 50 cents per capita. Assuming a county of 10,000 population with a property valuation of \$5,000,000 a tax rate of 5 cents per \$100 would be equivalent to 25 cents per capita; the fixed subsidy would increase the per capita amount to 35 cents and equalization to the extent of 15 cents per capita would be given, making a total budget of 50 cents per capita.

A desirable modification, in order to encourage counties to exceed the minimum per capita budget, is the provision that a county levying more than the prescribed minimum tax rate shall receive equalization, if needed, up to a proportionately higher per capita budget—e. g., any county levying 6 cents per \$100 shall be given equalization up to 60 cents per capita, and so on.

Plan No. 6.—Where it is desired to offer only partial equalization, Plan No. 5 may be modified in that the equalization received shall be only one-half or some other fraction of the difference between the amount raised by a given tax levy and an amount equivalent to a predetermined per capita budget. To illustrate, Smith County and Jones County both levy a 5-cent tax for health work. The proceeds of this tax in Smith County amount to 20 cents per capita; in Jones County, to 40 cents per capita. The State in each case contributes one-half of the difference between the amount raised and an amount equivalent to 50 cents per capita. Thus Smith County will obtain a total budget of 35 cents per capita and Jones County one of 45 cents. The difference in their resources will be partially but not completely eliminated.

D. SUBSIDY ON THE BASIS OF AMOUNT OF LOCAL APPROPRIATION

Plan No. 7.—In this case the State subsidy is reckoned as a percentage of the amount appropriated by the county. The percentage to be paid by the State on the appropriation of a given county will vary inversely as the per capita assessed valuation of property. The first step is to decide what percentage of the burdens of the average county the State is prepared to assume; the second step is to provide a mechanism for assuming a relatively larger share of the cost in a poor county and, conversely, smaller share in a wealthy county. If we let R represent the percentage which the "average" county is to receive on its appropriation, then the percentage to be granted to a given county will be computed by

$$(R) \times \frac{\text{per capita wealth of average county}}{\text{per capita wealth of given county}}$$

For a numerical example, assume that a State in which the average per capita wealth, i. e., $\frac{\text{assessed valuation}}{\text{population}}$, is \$500 wishes to contribute, on the average, 50 per cent as much as is appropriated locally. What percentage shall be granted on an appropriation by county "A," which has a per capita wealth of \$250? Applying the formula given,

$$(50 \text{ per cent}) \times \frac{\$500}{\$250} = 100 \text{ per cent.}$$

Thus county "A" will receive from the State a grant of \$1 for every dollar it appropriates. County "B" has \$1,000 per capita wealth. Its rate of subsidy will be

$$(50 \text{ per cent}) \times \frac{\$500}{\$1,000}, \text{ or } 25 \text{ per cent.}$$

The plan just outlined may be modified in various ways. The suggestion has already been made that it may be desirable to make allowance for the total tax burden of a county. This may be accomplished by incorporating another factor in the formula—namely, the ratio

$$\frac{\text{Total tax rate of the given county}}{\text{Total tax rate of the average county}}$$

The percentage obtained by the preceding formula is multiplied by this second factor. Let us assume the same situation as in the numerical example given above, with the additional facts that the total tax rate of the average county is \$1.50, while that of county "A" is \$3 and that of county "B" is \$1. County "A" will receive

$$(100 \text{ per cent}) \times \frac{\$3.00}{\$1.50}, \text{ or } 200 \text{ per cent}$$

of its appropriation, while county "B" will receive

$$(25 \text{ per cent}) \times \frac{\$1.00}{\$1.50}, \text{ or } 16\frac{2}{3} \text{ per cent}$$

of what it appropriates.

This plan also can be modified by granting a fixed percentage on every county's appropriation in addition to the variable rate. The effect of this is to assure the wealthiest counties of an appreciable subsidy. This modification will be found desirable in a State whose counties differ widely in wealth. By raising or lowering the fixed rate of subsidy in comparison with the average variable rate, almost any desired degree of equalization can be effected. This plan, it should be stated, will not produce absolutely complete equalization of the per capita budgets of wealthy and poor localities, but will approach this as closely as is likely to be found desirable in practice.

SUMMARY

Financial aid from extra-county sources is an integral part of county health department administration. Such subsidy should serve both as a promoting and stabilizing influence and at the same time afford a means whereby extra-county governmental agencies may assist in providing a more uniformly adequate local service by distributing the burden in accordance with the resources of the local units of government. Such aid may be a specified amount based on a standard type of organization, or the amount may vary with the size of organization and resources of the area. Another method is to fix subsidy on the size of population served irrespective of the type of organization, and this in turn may be scaled up or down, depending upon the resources of the area served. It would seem

that a greater degree of flexibility and, to a certain extent, the desirable features of both methods would be obtained by fixing the subsidy as a certain percentage of the amount appropriated by the local area. This amount might also be influenced by the resources of the area, which, in most cases, would be the taxable wealth. Experimentation with plans of apportionment beyond the rudimentary ones now in operation seems indicated in order to accomplish the purposes of financial aid.

SPECIAL SESSION OF THE PERMANENT COMMITTEE OF THE INTERNATIONAL OFFICE OF PUBLIC HYGIENE, MAY, 1929¹

The Permanent Committee of the International Office of Public Hygiene held its special 1929 session at Paris from May 13 to 22, 1929.

Those present were Messrs. Velghe (Belgium), president; Hamel (Germany); Bandelac de Pariente (Spain); Rupert Blue (United States of America); Barrère (France); Duchêne (French West Africa); Boyé (French Indo-China); l'Herminier (Madagascar); G. S. Buchanan (Great Britain); Phipson (British India); C. L. Park (Australia); F. X. Le Noblet du Plessis (Canada); P. G. Stock (Union of South Africa); A. Lutrario (Italy); M. Tsurumi (Japan); de la Torre (Mexico); F. Roussel (Monaco); H. M. Gram (Norway); N. M. Josephus Jitta (Netherlands); W. de Vogel (Dutch East Indies); Djavad Asthiany (Persia); W. Chodzko (Poland); Ricardo Jorge (Portugal); Cantacuzène (Rumania); Yoannovitch (Kingdom of Serbs, Croats, and Slovenes); C. Kling (Sweden); H. Carrière (Switzerland); L. Prochazka (Czechoslovakia); de Navailles (Tunis); Syssine (Union of Socialist Soviet Republics); and M. Abt, director of the International Office of Public Hygiene.

The following were also present at the meetings of the committee: Dr. Hubert Work, former Secretary of the Interior of the United States of America, former president of the American Medical Association; Surg. Gen. Hugh S. Cumming, United States Public Health Service; Doctor Valintine, director general of the New Zealand Health Service; Doctor Rajchman, medical director of the health section of the League of Nations; Doctor Ouchi, of the National Japanese Institute of Infectious Diseases.

¹ Translation.

I

The committee discussed a number of important questions pertaining to the application of the International Sanitary Convention of 1926.

1. First it had under consideration the difficulties which the International Office of Public Hygiene has met on all sides arising from the enforcement of article 28 of this convention—periodic deratization of ships and the issuance of certificates of deratization or of exemption.

With a view of assuring (under the conditions provided by the convention, and so as not to harm any of the legitimate interests in question, from the standpoint of public health as well as from that of international maritime traffic) effective intervention by the Office, the following was considered for the present the most appropriate method: (a) Direct exchange of views among delegates of the interested countries, power being given to the delegates from the countries where the reported difficulties have arisen to make all arrangements, or to take the necessary steps with competent powers to put an end to such difficulties; (b) immediate communication to the Office of acts and circumstances which might justify an examination at the next session of the committee; (c) the Office to remain at the disposition of any government wishing to have its advice on any principle or action bearing on article 28 of the convention.

One of the difficulties raised at the present time, on which the committee had deliberated at its session of October, 1928, originates in the fact that certain countries recognize as valid only certificates having been visaed by their respective consuls, and, in the absence of this visa, force ships to deratization in their ports. The committee has been able only to maintain the position which it took at first on this question—that is to say, that neither the terms of the convention of 1926 nor the deliberations of the Conference of Paris from which it arose seem to justify the exigency in question.

Another point which has also been regulated in the above-mentioned conditions is that of the arrangements existing in certain countries, not foreseeing the fact that ships may be exempt from deratization on the presentation of a valid certificate or on inspection showing that they are in the condition required for exemption. The committee insisted on the motives which inspired the writers of article 28 and which are not to require ships to undergo systematic deratizations but to use that measure only in case of real necessity and, by granting a sort of privilege to ships kept free from rats, little by little and more and more to bring about rat proofing.

It has been specified that, according to the terms of the convention, every certificate should be considered valid, whether of derati-

zation or exemption, issued, with the required delay, by responsible authorities of a port reported to the Office as qualified for that purpose,² except, naturally, the exceptional cases in which the sanitary authority would have serious reason to fear that the rodent population on the ship had attained dangerous proportions.

As to the possibility of giving a certificate of exemption to a ship with full holds, after inspection, this might, strictly speaking, be permitted, but only in absolutely exceptional cases, because of the nature of the cargo or its special stowing.

Finally, the examination of the question as to whether a new ship ought, before being placed in service, undergo an inspection according to the terms of article 28 of the convention, under certain circumstances be deratized, and, in any case, be provided with a certificate, or whether it ought to be considered exempt from this obligation during the first six months of service, has been referred to the next session of the committee.

As to the form of the certificate itself, a suggestion was made to reconsider the decision taken by the committee at the time of the establishment of the model by the Office,³ and to provide two separate forms for deratization and for exemption, the colors being different. Note was made of this suggestion in case that others, similar or bearing on other points of the model, might also be made elsewhere. For the moment the general opinion was to keep to the single form decided on after serious deliberation by the committee, especially because several countries have already officially adopted it.

The question of the requirement of certificates of deratization or of exemption from warships, or from auxiliary ships attached in time of peace to the war fleet and flying the flag, was brought before the committee, which deemed that such certificates might validly be issued to these ships at naval bases which are sufficiently equipped for that purpose. It is sufficient that the countries to which such ships belong add the ports in question to the list of ports qualified to issue such certificates and report this addition to the Office, specifying that it concerns only the deratization or exemption of warships or similar vessels.

2. The International Office of Public Hygiene addressed to the signatory governments of the convention of 1926 a circular asking whether they would be willing to conform to the views of the French Government, to lower in large measure, and even entirely suppress in case of reciprocity, the consular fees for visaing bills of health, and which would be prepared to simplify the whole system of bills

² A preliminary list of ports thus reported by the governments according to the terms of the International Sanitary Convention (art. 28) was published and distributed by the International Office of Public Hygiene to the sanitary administrations of the different countries. This publication was followed by two supplements. The establishment of a second complete list is planned.

³ See Bulletin of the International Office of Public Hygiene, v. XX, 1928, p. 295.

of health, according to the recommendations of article 49 of the convention, if others would follow the same course. The result of the replies already received is that: (1) No bill of health, and consequently no visa, is required in Sweden, Norway, Denmark, Germany, the Netherlands, Great Britain (United Kingdom), and New Zealand. Italy accepts suppression for certain countries, on the grounds of reciprocity. (2) The consular visa is not required by Italy, in principle, according to the terms of articles 51 and 52 of the sanitary maritime regulations. Suppression would be accepted by the Union of South Africa. Greece requires the consular visa only at the last foreign port of call, by virtue of reciprocity; besides, the complete suppression of any visa might be granted to ships from countries having themselves abolished the visa for Greek ships. (3) The consular visa is at present free in the Netherlands, in Italy (art. 50 of the sanitary maritime regulations), and in Japan. (4) The United States of America, through the United States Public Health Service, is ready to support any project for the diminution of charges pertaining to visas. Togo, French equatorial Africa, the French settlements of Oceania, and the Kamerun are also favorable to a reduction of these fees. In Mexico the tariffs are now already low (2 pesos, about 25 francs, per bill of health).

Belgium, the principality of Monaco, Persia, the Kingdom of the Serbs, Croats, and Slovenes, and the Dominican Republic have agreed to adopt the views of the French Government.

The committee has not considered it opportune to reopen at present a discussion of bills of health, which has already been considered by the Office at length. Among the replies received, some demanded the maintenance of the system of the bill of health, which is considered a necessary document, especially in the countries where there exists serious menace from epidemic diseases and where the transmission of information concerning these diseases presents certain difficulties—for example, in the colonies of the West Coast of Africa, and also in Mexico and Tunis. The realization of the whole group of recommendations of article 49 of the convention ought, nevertheless, not be lost sight of.

At the present time the first of these recommendations—free issuance of bills of health (by the sanitary authority)—has passed to the state of a ruling in France, in Great Britain, and other countries. The application of the second—reduction of fees pertaining to the consular visa—seems, we have just seen, in a favorable position in several countries, besides those which have already entirely abolished the requirement of the visa or the bill of health itself. The Office should continue its action in this direction.

3. The first International Sanitary Maritime Annual, established by the International Office of Public Hygiene in order to give cur-

rency to the diverse regulations of the convention relative to the sanitary organization of ports, has been approved by the committee, which decided that copies of it be sent to the administrations of different countries, not only for immediate use, but also with a view of further obtaining from them or, through their intervention, from all other interested authorities, complementary information considered useful. At the end of the current year a new edition will be published and placed in circulation.

4. Based on the replies received by the Office on the subject of the use of the radio in quarantine operations, of which a résumé was published in the Bulletin,⁴ the committee did not believe it was actually possible as yet to declare the establishment of regulations according to which special privileges would obligatorily be conceded to ships having made a sanitary declaration by wireless. But it was agreed that in all countries it is of practical advantage for ships to send such declarations, which facilitate the task of the port sanitary authorities, and consequently permit them to curtail formalities and measures on arrival.

Already, in most ports, the radio is in use for reporting at least the existence of diseases on board to the sanitary authorities, directly or through the intermediary of shipping agents. To facilitate this use, if not to regulate it, the recommendation of a form of message containing the essential information for all the sanitary administrations ought to be followed up. With the view of perfecting the form, the different suggestions received will be examined, and one or two forms—the second form to apply to ships without a doctor—may doubtless be adopted at the next meeting of the committee.

The Office received a memorandum notice prepared by the British administration, with regard to the incorporation in the international code of signals, of which a new edition is in preparation, of a medical section intended for radiomedical consultations at sea. This section should contain words and phrases in code—comprehensible, therefore, in all languages which may be used on ships without a doctor. The committee decided affirmatively the question as to whether such an incorporation would be desirable. It decided to support the proposal that the Commission on the International Signal Code make use of the British plan, which appears to the commission to be a good one considered as a whole, although it does not consider itself called upon to comment on the chapters in detail. However, the committee discussed those chapters which have a bearing on quarantine operations, and proposed several additions, so as to provide in advance all possible information which might finally appear useful to the Office in including in such a form of message what it desires to recommend.

⁴ See Bulletin of the International Office of Public Hygiene, v. XXI, 1929, p. 794.

5. With regard to the report ⁵ which was presented to it by Doctor Lutrario, delegate from Italy, the committee recognized the importance of the improvements which could be made in the status of ships' surgeons, as much from the standpoint of securing adequate medical care for passengers of all classes as from that of insuring the complete execution of measures of sanitary control and prophylaxis on board.

It was decided that in order to intensify propaganda in this direction a sufficient number of copies of the report should be sent to the governments of the member countries of the Office, calling their attention to the opportunity to communicate to competent administrations as well as to navigation companies, to associations of shipowners, and to those of ships' doctors; and to instigate, if possible, conferences between these different interested parties. The following points have seemed especially worthy of holding the attention: (1) The professional education of ships' doctors (special courses, issuance of an official diploma, repeating courses); (2) the powers to be given doctors with the view of safeguarding the public health on board; (3) the degree of responsibility of the doctor in medical and hygienic matters and the appropriate methods of permitting him to assume that responsibility.

6. Following the publication in the Bulletin ⁶ of a questionnaire on screens or buckler rat guards, some communications have been received, from which it is concluded (a) that the apparatus, whatever it is, used as rat guards on the moorings will never displace the application of other really important measures; (b) that, among these measures, the principal and, in any case, the most generally practicable measure consists in the raising, or else the lighting and surveillance, of the gangplanks; (c) that the rat guards, even if they are not considered as having absolute efficacy, constitute a precaution offering a relative guarantee which no one would want to renounce entirely; (d) that it might be of interest to limit their use to dangerous ships, or those considered suspect for some reason or other; and, finally, (e) that in any case the practice is of no use unless the rat guards are of a sufficient diameter and are carefully placed and maintained in a suitable position on all the cables, chains, and lines, mooring the ship to land. Promising experiments in this direction have been made in British India; they will be more fully discussed and the question of whether a uniform model should be recommended will be examined at the next session of the committee.

7. The committee gave special consideration to the documents received by the Office regarding the sanitary control of air navigation.

⁵ This report, with its supplements containing the replies from different countries to a questionnaire which had been sent to them for that purpose, will be published in a supplement to one of the early numbers of the Bulletin of the International Office of Public Hygiene.

⁶ See Bulletin of the International Office of Public Hygiene, v. XX, 1928, p. 1817.

It is of the opinion that, under present conditions, the danger presented by air communication from a sanitary point of view is relatively small. However, it concerns a field in which progress may be so rapid that it would be unwise not to foresee the appearance of circumstances requiring immediate measures; furthermore, it is vitally important to determine to what extent the interests of sanitary defense might assume, circumstances necessitating the control of traffic the essential characteristic of which is speed.

For these reasons the committee has decided that the Office should not only continue to assemble the greatest amount of information possible on the subject, but in the next session should attempt to evolve from this information the essential arrangements which, through special agreement or general regulation, the different countries might consider with regard to air navigation.

It indicated, from the very beginning, that, in its opinion, it would be little justified by actual conditions to attempt simply to combine, from the point of view of applicable sanitary measures, commercial aviation with maritime navigation or with railroad transportation. It is a question of entirely special conditions, as much as regards the travelers or the objects transported as the trips themselves and the arrivals. One might, however, predict *a priori* as compatible with conditions, the designation of landing ports, the medical inspection on arrival, the surveillance (in the sense of the International Sanitary Convention) of persons coming from regions attacked by a pestilential disease, and eventually the maintenance in strict quarantine during the call.

8. The first report of the Commission on Pilgrimage, established in the Committee of the International Office of Public Hygiene in October, 1928, for the purpose of inquiring into questions bearing on the sanitary control of the Mussulman pilgrimage to Hedjaz, decided, among other matters, to recommend the holding of a local conference at Beirut to consider the difficulties arising, from a sanitary point of view, from the transportation of the pilgrims in the region of the Near East. In accordance with the earnest desire of the French Government to carry out this proposal, the conference was held in January, 1929. Its resolutions were submitted, in May, to the commission, whose second report was approved by the committee. The observations which, from a technical point of view, one or the other of the said resolutions might call up, were communicated by request to the French Government.

On the other hand, on a particular point, that of the passports issued to pilgrims in their different countries of origin and containing, in general, mention of sanitary regulations, the question was raised as to whether it would not be opportune to make these documents uniform. The conference of Beirut had left this question provisionally

in abeyance. After having examined the passports in use in the interested countries, the committee did not consider their unification actually necessary; but, in a special report bringing to the notice of the governments of the said countries the points which this examination seemed particularly to bring to light, it tried to furnish them with indications, eventually useful either for the preparation of a passport for their dependent pilgrims, in case they shall not have already regulated this matter, or for the improvement of the passports already in force in their territory.

9. Among the other points relating to the International Sanitary Convention, it is appropriate to mention the activity of the International Office of Public Hygiene regarding notifications and communications under the terms of articles 1 and following. The correspondence service has functioned normally; a circular, accompanied by a special notice has, according to the former decision of the committee, been addressed to the interested sanitary administrations, as well as to the regional bureaus, assuring for the Office the same service, with the view of ascertaining certain peculiarities of this functioning.

The committee has taken note of the communication from the department of the prime minister of the Commonwealth of Australia, concerning the action on the resolutions of the international conference of Melbourne in 1926, especially on the subject of the Bureau of Epidemiological Information of the Australian Government at Melbourne.

II

The committee approved the annual report of the Health Organization of the League of Nations for 1928. Besides it received information of the resolutions adopted in the fourteenth session of the Health Committee of the League of Nations, held at Geneva from May 2 to 8, 1929.

Different questions had been deferred to it for an opinion by the League of Nations, according to the terms of articles 8 to 10 of the Opium Convention of Geneva of 1925. They concerned, on the one hand, the conditions under which, in conformity with previous opinions, the acyclic derivatives of morphine and the preparations eucodal, dicodide, and dilauidide should fall under the application of this convention, and, on the other hand, the possibility of exempting from this application certain products contained in the lists transmitted by the governments. The committee examined the technical report of the expert pharmacologists whom it had, as before in a similar case, previously charged with the study of the questions. Having approved the conclusions of the report, except on one point, concern-

ing which the delegate from a government requested a further consideration, it sent them to the Health Committee of the League of Nations. In addition, other questions of the same order were submitted again by this committee to the International Office of Public Hygiene, which sent them to its Opium Commission for examination.

III

Certain things occurring during the last 10 years are such as to bring about a general revision of the ideas on smallpox and vaccine. Different questions pertaining to this chapter of epidemiology and the prophylaxis of transmissible diseases have been discussed at each of the last meetings of the Permanent Committee of the International Office. It has seemed opportune to prolong and systematize this action, entrusting to a commission the task of preparing and of placing progressively in execution a methodical program of studies on the subject.

One of the first points is the persistence in Great Britain and the United States of an epidemic of benign smallpox of the alastrim type. This benign type seems definitely fixed. Would it be possible, and commendable, to make, in the administrative statistics and in the application of international prophylactic measures, a distinction between the smallpox called "alastrim" and classic smallpox as it prevails in different countries of the Far East and northern Africa? The defense against smallpox raises numerous questions: What are the measures taken in the different countries in regard to persons attacked by smallpox and their households? What are the regulations concerning antismallpox vaccination and how are these rules observed? How is the distribution of lymph vaccine assured? How ought the lymph be tested? Under what conditions of preservation and dilution ought it be employed? Why does it happen sometimes that very severe vaccinal reactions are observed? What process of vaccination ought to be recommended? What is the duration of the vaccinal and variolic immunity?

On the other hand, postvaccinal encephalitis does not disappear from countries where it has made its appearance. In the Netherlands three new cases appeared in April, 1929, two in the same village. The average frequency for the last few years is 1 case per 5,000 vaccinations, a proportion established after a critical examination of all the cases registered. The publicity of the restrictions imposed by the fear of this complication is beginning to be manifest by a great diminution in the number of vaccinations, which is actually falling to one-third of what it was during the period 1924-1927. However, reserves of vaccine are ready to be utilized in case of an epidemic. In Great Britain, from October, 1927, to

the end of 1928, there were reported 65 cases with nervous symptoms following vaccination, with 32 deaths; the observations were submitted for study to the Rolleston Commission, which decided, for each case, whether or not it was encephalitis. On the other hand, in France an official inquiry of the Ministry of Labor and Hygiene found only, besides a few examples of meningitic reactions, two suspected cases of encephalitis. In Italy there was none officially reported in 1928. In Rumania, where there is much vaccination, the disease is still unknown. In the Union of Socialist Soviet Republics, among the eight to nine million vaccinations actually made, no case seems to have occurred. In Germany, the public health department collected, in 1928, eight possible cases (but not all confirmed) in 2,000,000 vaccinations. In Sweden there has been collected for the period 1924-1928, 20 cases of nervous complications, 5 fatal, but which were not all encephalitis; the frequency of the latter was about 2.5 to 5.2 per 100,000 vaccinations. The age most frequently attacked is 3 to 4 years in Sweden, and school age in Great Britain. However, there has been reported in the Netherlands, in children of less than 1 year, 5 cases, and 2 doubtful cases (no deaths), and in Great Britain 4 cases.

Finally, on the subject of antismallpox vaccination, reports have been made to the committee on the organization in Morocco of mass vaccination of the natives, which is welcomed on the part of the inhabitants; and on the remarkable results obtained by the use of dried vaccine, inoculated by the puncture method in French West Africa, and in general in the French possessions of Africa.

An epidemic of plague (about 500 known cases), which occurred in the interior of Mongolia from July to the end of October, 1928, was discovered on the examination of a case toward the beginning of September at Chien Chia Tien by the sanitary service of the South Manchurian Railroad. The possibility of the conservation of the plague virus in Manchuria by a burrowing squirrel is for the first time considered.

A rather active outbreak of plague occurred during March and April, 1929, in South Morocco, about 80 kilometers southeast of Agadir; plague-infected rats were found in the port and in the foci of the interior. Energetic measures—vaccination and suspension of traffic in merchandise likely to carry rats—seemed quickly to have controlled the epidemic.

Antiplague vaccination seems to have protected the town of Dakar and its outlying districts in 1928. In the parts of Senegal attacked more than 116,000 vaccinations (lipovaccine, one injection) were performed. In a total of 1,950 cases of plague 165 were among those vaccinated, 63 of these in the first 15 days following vaccination. At Aden, in 1928, the occurrence of plague was one-sixth as frequent

among those vaccinated as among those not vaccinated, and the mortality among them fell from 80 per 100 to 30 per 100.

An epizootic of plague was observed in April, 1929, at Hamburg on a ship coming from Rosario. In the Union of South Africa (district of Aar and regions situated to the west and northwest) a disease, mistaken in the beginning for plague, which was caused by a *pasteurella* organism, killed a great number of *Lobengula* and *Namaqua gerbilles*. The bacteria which was isolated could be used in the destruction of these rodents.

Cholera occurred in Indo-China with much less intensity in 1928 than in 1927—6,170 cases as compared with 31,940; Tonkin and Laos remained almost free; Cochin China and Cambodia were attacked the most. The number of anticholera vaccinations exceeded 8,000,000 in two years. They have doubtless contributed to limiting the epidemic, but their efficacy is more manifest in the regions where vaccination has been more nearly complete than in those where it has been less so. The study of the epidemiology of cholera in Indo-China during these two years emphasized the rôle of moisture in the etiology of the disease at Tonkin and Annam, where the recrudescences coincide with the periods of drought, during which the subterranean water is reduced and very much contaminated; in Cochin China, on the contrary, it is a question of direct contagion.

An extensive experiment in vaccination against tuberculosis by the B. C. G. is being carried on in Rumania. More than 21,000 vaccinations of the newborn have been performed, and follow-up has been made in about 17,400 children. The general infant mortality fell, in the sections vaccinated, from 26.9 to 9.7 per 100. As to tuberculosis, in tuberculous environments it caused only a mortality of 1.4 per 100 (2.3 counting the suspected cases) instead of 25 per 100, the usual rate in Rumania. The principal difficulty encountered in the establishment of this last figure lies in the diagnosis of tuberculosis in dead infants. The hygienic conditions of those vaccinated are very poor in the sections where the experiment was conducted. The cutaneous reaction to tuberculin became positive after vaccination in 16 per 100 of the subjects. Favorable results were obtained with vaccination by the B. C. G. at Amsterdam.

As to the data which the International Office of Public Hygiene is gathering on infant mortality from tuberculosis in tuberculous environments, they show a remarkable difference between the countries with a low mortality and those with a high mortality. Thus, in Great Britain, in Lancashire, the mortality of children of from 0 to 1 year, living in contact with tuberculous persons expectorating bacilli, is only 1.7 per 100; in contact with tuberculous persons whose sputum does not contain bacilli, it falls to 0.7 per 100; and for children born of tuberculous mothers and not separated from the mother, it does

not exceed 3.27 per 100. There is no notable difference between the rate of mortality from 0 to 1 year, and that from 1 to 2 years and from 2 to 5 years. In Norway, at Oslo, the mortality of children of tuberculous mothers, not separated, is also actually 3.2 per 100. In Belgium, on the contrary, for the same class of children it is about 25.5 per 100, the same as in Rumania. In France the investigation of 1928 gives rates of 11.5 and 12 per 100, while that of 1925, made under similar conditions, gave 24 per 100; the difference seems to be the result of the action of dispensaries. Finally, in Amsterdam, the figures reported seem as high as in France; the relatively small number of children included in the investigation, however, does not permit considering the results as final.

The study made in Amsterdam has, above all, brought to light the gravity of the infections acquired during the first three months of life. At Oslo, where the actual mortality rate of tuberculosis among infants born of tuberculous mothers and not separated is a quarter of what it was 15 years ago, this remarkable progress is attributed above all, in addition to the compulsory declaration of cases of tuberculosis and the isolation of the patients when the sanitary authority considers isolation useful, to the supervision of tuberculous foci by medical specialists and visiting nurses, and to the improvement of living quarters.

The very interesting reports made, on the occasion of an investigation instituted by the League of Red Cross Societies, on the organization of the antituberculosis control in the industrial center of Milan, have suggested to the committee of the Office the idea of gathering material on the antituberculosis work in the industrial centers of different countries, in view of bringing to light the importance of the assistance which industry can bring into the domain of administrative or private action.

New researches on the cutaneous reaction produced by the lepromine of Bargehr have been carried on in Java. They have confirmed the fact that a positive reaction corresponds to a certain allergic state which exists among persons immunized by prolonged contact with lepers or among lepers whose disease has become stationary. Repeated applications of lepromine provoke this condition in certain subjects, which might be considered as refractory to leprosy. The method permits the making of early diagnosis of leprosy in families or leprous foci (negative reaction) or judging whether the evolution of the disease is arrested in former lepers (positive reaction).

A slight epidemic of dengue, appearing in 1928 on a boat arriving at Lisbon from Dakar, brought to attention the fact that the region of Dakar might be the point of departure for a spread of that disease; it had not been reported there since 1926. Certain cases in this small, perfectly homogeneous epidemic lasted only three days, while

presenting a cutaneous eruption; the fact is in opposition to the rule observed in Greece during the great epidemics of 1927 and 1928, according to which any affection which does not last longer than three days is not dengue.

In Cochin China, an epidemic of dengue which appeared in 1927 and 1928 was distinguished by certain characteristics of Mediterranean dengue; it did not coincide with a notable abundance of mosquitoes, particularly *Stegomyia*; and the few persons attacked in 1928 had for the most part already been attacked in 1927.

The possibility of a recrudescence of dengue in the Mediterranean Basin during the summer of 1929, or the following summers, has aroused the committee of the Office to prepare, at the present time, a plan of special arrangements between the countries interested, on the subject of measures of international defense to be taken against this disease. The plan was communicated to the governments of these countries.

The investigation of cases of undulant fever caused by the bacillus of contagious abortion of cattle was conducted, in which the data on 57 cases were collected in Germany; the occurrence was associated with farmers and farm workers, butchers and veterinarians. In Poland, 3 cases were recognized; the infection was contracted during the delivery of cattle (2 veterinarians). In Sweden, for 18 months the average was 2 cases per week—a figure lower than that given the last summer for Denmark (1 per day). The existence of contagious abortion in the regions situated between the foci of undulant fever seems to indicate that, in these last, there are strains of Bang bacillus adapted to man. A new case of laboratory infection by the Bang bacillus was reported in the Netherlands, at Groningue. In France three cases only, originating in contagious abortion of cows, are actually known; systematic research by laboratories, however, has not yet been made. The disease, which is frequent in Provence and Languedoc, is caused by the germ of abortion of goats and sheep. It is especially the sheep which have the infection. The infected zone tends to border on the departments near the boundaries. Infection through milk occurs frequently only in the towns; in the country the principal source is infected dunghills, and, in certain cases, contaminated water. In Sweden, epidemic abortion of cattle has also appeared, as found in a special investigation (district of Rimbo, Province of Upland), to attack the farms situated near rivers or lakes (78.8 per 100 farms infected), while the greater part of farms free from the disease (85.5 per 100) were far from bodies of water. Up to the present time the frequency of undulant fever caused by the Bang bacillus has not seemed such as to cause the sanitary administrations to consider it necessary to require general pasteurization of milk.

An epidemic of cerebrospinal meningitis with persistent recurrences at Belgrade has been definitely terminated after detection and elimination of carriers of germs. These last were very numerous—41.46 per 100 in a collection of 485 persons—but only about 10 were continued carriers. On the occasion of analogous epidemics in the Dutch East Indies (depot of armed police at Java, boats transporting workers from Java to Sumatra), the increasing of the distance between the men in the sleeping quarters has been an efficacious method. Cerebrospinal meningitis seems to have been rather frequent, recently, in the East and Far East, even on board ship—a situation which merits the attention of the sanitary authorities.

On the subject of the influence of the treatment of syphilis by salvarsan on the frequency of general paralysis, the opinions expressed remain divergent. In Germany, for the majority of authors, in Poland (statistics of Polish asylums), and in Tunis general paralysis has not increased in frequency. In the Dutch East Indies it might have been the result of insufficient treatment. In the United States it seems to strike rather often individuals who received an early arsenical treatment during the war; but there are no statistics indicating an increase in frequency. A Russian and German mission, which recently examined 4,000 persons in the region of Lake Baikal, has shown that among the inhabitants which have undergone no medical treatment, general paralysis and tabes are not rare. In Tunis, the nervous and encephalitic forms of syphilis are encountered in the Israelite population, but are very rare among the Mussulmans, so often attacked by syphilis.

The treatment of general paralysis by the inoculation of malaria has given results in the United States analogous to those obtained in Europe; remissions, in proportions of from 39 to 61 per cent of treated persons, vary according to the forms of insanity. In tabes, amaurosis has been halted in 13 cases out of 18.

The United States, the Netherlands, Norway, Denmark, Australia, Germany, Canada, and France have sent information on the number of hospital beds existing and the territorial distribution of hospitals in their territories. Other replies are still awaited before a study of the question can be presented to the committee. It appears above all, at the present time, that the distribution of the hospitals, created, in general, by local initiative and without a general viewpoint, is very unequal in all countries. In certain regions the needs of the population are insufficiently served; in others the resources are uselessly wasted. The rural districts have, in general, few hospitals. In Great Britain, a more rational distribution of hospitals and personnel is now under study; it will be based on a judicious collaboration of former hospital institutions, which are often privately managed, with the sanitary authorities of the

municipalities and counties, charged by a new law with organizing all the hospitalization in their region.

Contributions were made by the United States and by France to the studies under way on the mortality in cities compared with that in the country. In the United States the rural mortality presents about the same rates in the States of the North as in those of the South; it is even slightly lower in the latter. On the contrary, the cities of the South have a mortality well above those of the North; the difference seems to be attributed to a less extensive development of health service. During the course of the last 18 years, typhoid fever and enteritis in infants under 2 years have decreased much more in the urban districts than in the rural districts. There is a movement in favor of the creation of county health service; 414 counties out of 2,500 are already provided with local health service. In France the rural mortality is below that of the cities; but it has decreased during 25 years only 13.3 per cent, while urban mortality decreased 14.3 per cent. The comparative study of some causes of death shows that, although the difference in the total mortality is only 5.3 per cent, the mortality of the cities exceeds that of the country by nearly 100 per cent and sometimes more for certain items, viz, typhoid fever, diphtheria, tuberculosis, affections of the respiratory apparatus other than pneumonia, and chronic bronchitis.

But it is possible that certain factors render illusory the comparison of total mortality rates—for example, different birth rates and different proportions of age groups more or less affected by mortality. A more profound study of some urban and rural districts properly selected, in particular from the point of view of the definition of the term "rural population," would be more instructive than the examination of the existing statistics, and would lead, perhaps, to the goal which is to give appropriate orientation to the sanitary organization of which the country has need. This study will be undertaken with the collaboration offered the International Office of Public Hygiene by the International Institute of Agriculture.

Poland is actively engaged, with the assistance of the Rockefeller Foundation, in the creation of health centers, scattered over the country, in urban and rural districts; these centers already number 140. They are at once dispensaries and centers of preventive medicine, which comprise, according to the local possibilities, more or less the following sections: Infant hygiene, tuberculosis, venereal diseases, trachoma, malaria, antialcoholism, school hygiene, dental care, and prophylaxis of contagious diseases. In addition, some have baths, public laundries, a preventorium, and a playground; they organize theatrical and cinema reproductions and popular fêtes. The resources are furnished by the communes, the administrations of

the districts, and the funds of sickness insurance, with subventions from the State.

Reports have also been made to the committee of the Office on the establishment of hospitals for narcotic addicts (especially heroin) in the United States; on the tuberculin index in French equatorial Africa and in Madagascar; on the frequency of tuberculosis in tuberculous families in Madras; on antituberculosis vaccination with B. C. G. in Madagascar; on the organization of a quarantine service in the ports of Japan; on the sanitary control of tours to the Dutch East Indies; on the medical assistance to thinly scattered populations in northern Russia and Siberia; and on a model of trap tunnel for rats which could be placed on a long extension in warehouses filled with merchandise.

DEATHS DURING WEEK ENDED DECEMBER 21, 1929

Summary of information received by telegraph from industrial insurance companies for the week ended December 21, 1929, and corresponding week of 1928. (From the Weekly Health Index, December 27, 1929, issued by the Bureau of the Census, Department of Commerce)

	Week ended Dec. 21, 1929	Corresponding week, 1928
Policies in force.....	75, 191, 352	72, 917, 294
Number of death claims.....	14, 578	14, 536
Death claims per 1,000 policies in force, annual rate.....	10.1	10.4

Deaths from all causes in certain large cities of the United States during the week ended December 21, 1929, infant mortality, annual death rate, and comparison with corresponding week of 1928. (From the Weekly Health Index, December 27, 1929, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Dec. 21, 1929		Annual death rate per 1,000, corresponding week, 1928	Deaths under 1 year		Infant mortality rate, week ended Dec. 21, 1929 ¹
	Total deaths	Death rate ¹		Week ended Dec. 21, 1929	Corresponding week, 1928	
Total (65 cities).....	7, 603	13.3	16.2	683	825	60
Akron.....	41			6	12	62
Albany ¹	45	19.5	17.4	3	2	59
Atlanta.....	82	16.8	24.6	10	13	104
White.....	43			4	8	
Colored.....	39	(²)	(²)	6	5	
Baltimore ¹	257	16.2	15.9	17	23	55
White.....	201			11	10	44
Colored.....	56	(²)	(²)	6	13	95
Birmingham.....	64	15.0	15.8	3	11	27
White.....	35			3	4	45
Colored.....	29	(²)	(²)	0	7	0
Boston.....	211	13.8	12.0	27	17	75
Bridgeport.....	35			6	4	104
Buffalo.....	150	15.0	14.7	13	9	56
Cambridge.....	19	7.9	10.8	2	3	36
Camden.....	35	13.5	13.9	4	9	69
Canton.....	13	5.8	17.9	1	4	24
Chicago.....	754	12.5	18.4	69	100	62
Cincinnati.....	156			11	17	64

(See footnotes at end of table)

Deaths from all causes in certain large cities of the United States during the week ended December 21, 1929, infant mortality, annual death rate, and comparison with corresponding week of 1928. (From the Weekly Health Index, December 27, 1929, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Dec. 21, 1929		Annual death rate per 1,000, corresponding week, 1928	Deaths under 1 year		Infant mortality rate, week ended Dec. 21, 1929 ¹
	Total deaths	Death rate ¹		Week ended Dec. 21, 1929	Corresponding week, 1928	
Cleveland	170	8.8	11.7	22	17	65
Columbus	95	16.6	14.2	7	7	66
Dallas	65	15.6	16.1	9	8	—
White	58	(⁹)	(⁹)	7	6	—
Colored	7	(⁹)	(⁹)	2	2	—
Dayton	35	9.9	17.0	4	6	63
Denver	78	13.9	30.0	9	12	87
Des Moines	30	10.3	22.7	5	4	90
Detroit	322	12.2	14.1	32	55	51
Duluth	26	11.6	16.1	1	0	24
El Paso	23	10.2	25.3	1	13	—
Erie	20	(⁹)	(⁹)	2	3	41
Fall River	37	14.4	9.0	4	4	75
Flint	19	6.7	9.5	3	6	36
Fort Worth	30	9.2	10.4	1	2	—
White	24	(⁹)	(⁹)	1	3	—
Colored	6	(⁹)	(⁹)	0	1	—
Grand Rapids	25	8.0	19.1	0	8	0
Houston	92	(⁹)	(⁹)	5	10	—
White	68	(⁹)	(⁹)	2	9	—
Colored	24	(⁹)	(⁹)	3	1	—
Indianapolis	112	15.3	21.1	8	12	64
White	86	(⁹)	(⁹)	6	10	56
Colored	26	(⁹)	(⁹)	2	2	119
Jersey City	78	12.6	13.0	8	14	62
Kansas City, Kans.	24	10.6	21.2	1	4	22
White	18	(⁹)	(⁹)	1	4	25
Colored	6	(⁹)	(⁹)	0	0	0
Kansas City, Mo.	107	14.3	27.5	9	19	76
Knoxville	19	9.4	21.3	1	6	22
White	12	(⁹)	(⁹)	1	5	24
Colored	7	(⁹)	(⁹)	0	1	0
Los Angeles	308	(⁹)	(⁹)	25	21	73
Louisville	105	16.7	13.8	9	2	73
White	78	(⁹)	(⁹)	9	2	84
Colored	27	(⁹)	(⁹)	0	0	0
Lowell	36	(⁹)	(⁹)	3	5	68
Lynn	20	9.9	10.9	1	3	27
Memphis	64	17.6	20.3	10	9	118
White	42	(⁹)	(⁹)	5	4	95
Colored	22	(⁹)	(⁹)	5	5	156
Milwaukee	120	11.5	14.5	24	16	105
Minneapolis	110	12.6	16.9	4	11	25
Nashville	54	20.2	21.3	5	7	81
White	33	(⁹)	(⁹)	2	6	43
Colored	21	(⁹)	(⁹)	3	1	189
New Bedford	21	(⁹)	(⁹)	3	3	64
New Haven	31	8.6	14.7	2	2	31
New Orleans	161	19.6	26.3	16	19	79
White	97	(⁹)	(⁹)	7	14	63
Colored	64	(⁹)	(⁹)	9	5	118
New York	1,603	13.9	13.9	142	125	58
Bronx Borough	219	12.0	11.8	18	19	53
Brooklyn Borough	520	11.8	11.7	47	39	48
Manhattan Borough	621	18.5	19.3	60	50	73
Queens Borough	190	11.6	9.9	14	14	57
Richmond Borough	53	18.4	19.1	3	3	54
Newark, N. J.	131	14.5	11.0	9	11	47
Oakland	72	13.7	14.7	4	5	44
Oklahoma City	31	(⁹)	(⁹)	5	1	100
Omaha	55	12.9	17.6	1	4	12
Paterson	37	13.4	14.4	2	4	35
Philadelphia	511	12.9	17.6	46	57	65
Pittsburgh	166	12.9	28.4	14	24	48
Portland, Oreg.	56	(⁹)	(⁹)	5	4	57
Providence	72	13.1	15.9	7	8	62
Richmond	60	16.1	13.2	5	7	70
White	37	(⁹)	(⁹)	3	4	64
Colored	23	(⁹)	(⁹)	2	3	82
Rochester	80	12.7	12.4	3	9	26
St. Louis	222	13.7	16.2	15	27	15

(See footnotes at end of table)

Deaths from all causes in certain large cities of the United States during the week ended December 21, 1929, infant mortality, annual death rate, and comparison with corresponding week of 1928. (From the Weekly Health Index, December 27, 1929, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Dec. 21, 1929		Annual death rate per 1,000, corresponding week, 1928	Deaths under 1 year		Infant mortality rate, week ended Dec. 21, 1929 ¹
	Total deaths	Death rate ¹		Week ended Dec. 21, 1929	Corresponding week, 1928	
St. Paul.....	54			4	6	41
Salt Lake City ⁴	29	11.0	19.7	5	2	77
San Antonio.....	87	20.9	17.5	15	8	
San Diego.....	40			3	3	57
San Francisco.....	166	14.8	17.6	10	6	64
Schenectady.....	26	14.6	15.1	3	1	96
Seattle.....	57	7.8	13.4	5	3	53
Somerville.....	25	12.7	10.2	3	5	108
Spokane.....	37	17.7	20.6	1	2	26
Springfield, Mass.....	40	14.0	9.4	4	1	66
Syracuse.....	52	13.6	13.1	6	4	72
Tacoma.....	16	7.6	15.6	1	1	26
Toledo.....	70	11.7	22.4	2	15	19
Trenton.....	51	19.2	15.8	5	7	91
Utica.....	35	17.6	15.1	1	1	25
Washington, D. C.....	144	13.6	13.9	6	12	35
White.....	96			3	6	25
Colored.....	48	(⁵)	(⁵)	3	6	57
Waterbury.....	13			2	2	51
Wilmington, Del.....	25	10.2	11.8	4	4	104
Worcester.....	59	15.6	12.2	6	4	75
Yonkers.....	30	12.9	10.3	6	2	140
Youngstown.....	46	13.8	15.9	7	8	101

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.

³ Data for 73 cities.

⁴ Deaths for week ended Friday.

⁵ In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

PREVALENCE OF DISEASE

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

UNITED STATES

CURRENT WEEKLY STATE REPORTS

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

Reports for Weeks Ended December 21, 1929, and December 22, 1928

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended December 21, 1929, and December 22, 1928

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928
New England States:								
Maine.....	1	3	21	46	6	203	0	0
New Hampshire.....	5	3			13	27	0	0
Vermont.....	1	3		3	6	12	0	0
Massachusetts.....	126	106	9	73	89	617	1	1
Rhode Island.....	4	17		14	1	49	0	0
Connecticut.....	21	34	9	144	4	226	3	3
Middle Atlantic States:								
New York.....	171	242	163	1271	368	823	16	21
New Jersey.....	116	114	18	219	78	88	7	6
Pennsylvania.....	150	135			391	483	6	1
East North Central States:								
Ohio.....	43	63	18	1,872	357	170	4	3
Indiana.....	19	30		1,716	21	114	18	0
Illinois.....	223	160	24	2,408	322	311	10	10
Michigan.....	99	78	4	5,777	113	64	15	4
Wisconsin.....	21	36	32	14,724	589	162	4	3
West North Central States:								
Minnesota.....	26	31	2	1,749	131	121	1	1
Iowa.....	6	11		85,000	134		0	0
Missouri.....	36	52	13	1,196	30	51	16	4
North Dakota.....	2	6		21,346	20	5	0	3
South Dakota.....				103	14	10	1	0
Nebraska.....	26	16		1,704	140	34	1	0
Kansas.....	24	28	1	17,617	71	16	2	4
South Atlantic States:								
Delaware.....	3	1	3	10			0	0
Maryland ¹	24	54	53	627	15	37	1	1
District of Columbia.....	13	14	1	187			0	0
Virginia.....				40,000				
West Virginia.....	20	21	13	2,642	221	77	1	0
North Carolina.....	73	71	39		3	26	0	2
South Carolina.....	20	26	653	9,662		29	0	0
Georgia.....	11	16	63	6,852	14	84	0	1
Florida.....	12	14	2	228	9	5	0	0

¹ New York City only.

² Estimated.

³ Week ended Friday.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended December 21, 1929, and December 22, 1928—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928
East South Central States:								
Kentucky.....	4	17	10, 100	189	0	0	0	0
Tennessee.....	8	13	4, 101	7	2	0	0	0
Alabama.....	82	66	117	9	212	1	1	1
Mississippi.....	29	22	2, 689			1		
West South Central States:								
Arkansas.....	14	23	102	4	76	7	3	3
Louisiana.....	41	10	25	16	170	9	3	3
Oklahoma.....	39	46	83	27	3	2	1	1
Texas.....	112	56	80	992	10	15	0	1
Mountain States:								
Montana.....	4	12	4, 031	14	53	1	10	10
Idaho.....		3	11	58		0	0	0
Wyoming.....	2	1	320			0	0	0
Colorado.....	7			27		6		
New Mexico.....	5	24	1, 161	1	2	4	1	1
Arizona.....	15	4	29	933	4	3	9	0
Utah.....	3	1	63	25	1	3	5	5
Pacific States:								
Washington.....	6	5	2	766	67	37	2	4
Oregon.....	13	11	17	1, 605	11	41	1	3
California.....	78	72	42	2, 708	216	18	10	14

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928
New England States:								
Maine.....	0	0	51	43	0	2	10	1
New Hampshire.....	0	1	21	11	0	0	0	0
Vermont.....	0	0	11	5	1	0	0	0
Massachusetts.....	1	2	255	202	0	0	5	2
Rhode Island.....	0	0	16	24	0	0	0	0
Connecticut.....	1	0	85	52	0	1	3	0
Middle Atlantic States:								
New York.....	0	5	336	386	10	0	10	11
New Jersey.....	1	0	146	115	0	0	4	5
Pennsylvania.....	1	3	418	234	2	0	19	10
East North Central States:								
Ohio.....	2	0	187	183	161	14	7	2
Indiana.....	1	0	76	76	119	43	3	5
Illinois.....	0	0	491	313	115	46	14	13
Michigan.....	4	0	263	0	35	46	1	2
Wisconsin.....	0	2	102	183	40	28	9	2
West North Central States:								
Minnesota.....	1	0	126	154	11	3	3	0
Iowa.....	2	0	65	82	85	42	4	2
Missouri.....	0	1	85	55	30	20	13	1
North Dakota.....	0	2	24	12	18	3	1	0
South Dakota.....	0	0	19	10	17	7	0	0
Nebraska.....	1	0	50	41	62	26	1	1
Kansas.....	0	0	96	90	37	12	6	2
South Atlantic States:								
Delaware.....	0	0	5	5	0	0	1	0
Maryland.....	0	1	82	70	0	0	4	3
District of Columbia.....	0	0	22	20	0	0	0	2
Virginia.....	1	5	60	57	25	18	7	18
West Virginia.....	2	0	74	74	13	5	7	1
North Carolina.....	0	0	8	14	3	0	7	10
South Carolina.....	0	1	4	20	0	0	0	5
Georgia.....	1	0	17	12	5	0	1	1
Florida.....								

* Week ended Friday.

* Figures for 1929 are exclusive of Oklahoma City and Tulsa and for 1928 are exclusive of Tulsa only.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended December 21, 1929, and December 22, 1928—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928	Week ended Dec. 21, 1929	Week ended Dec. 22, 1928
East South Central States:								
Kentucky.....	0	0	23	46	5	5	7	5
Tennessee.....	0	0	17	27	7	3	0	7
Alabama.....	1	2	30	49	4	1	22	20
Mississippi.....	0	0	21	12	0	2	5	4
West South Central States:								
Arkansas.....	1	0	23	30	6	5	2	4
Louisiana.....	0	2	17	14	2	22	13	2
Oklahoma ¹	0	0	30	31	19	37	5	13
Texas.....	0	0	56	60	23	26	3	5
Mountain States:								
Montana.....	0	0	47	29	9	11	2	0
Idaho.....	0	0	16	1	14	14	0	0
Wyoming.....	0	0	6	15	7	1	0	0
Colorado.....	2		20		51		0	
New Mexico.....	0	0	6	11	1	1	0	3
Arizona.....	0	0	12	6	11	6	1	0
Utah ¹	0	0	12	17	1	6	0	0
Pacific States:								
Washington.....	1	4	63	43	59	14	1	1
Oregon.....	1	0	53	23	13	27	1	1
California.....	1	4	223	159	39	14	8	4

¹ Week ended Friday.

² Figures for 1929 are exclusive of Oklahoma City and Tulsa and for 1928 are exclusive of Tulsa only.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Ma- laria	Mea- sles	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
October, 1929										
Hawaii Territory.....	6	42	8		9			3	0	8
November, 1929										
Georgia.....	9	110	341	352	36	37	8	211	0	23
Maryland.....	4	111	67		83		5	258	0	49
New York.....	69	728		6	730		28	1,101	118	99
North Dakota.....	3	27			64		0	96	59	6
Ohio.....	29	362	75	1	1,096		26	1,073	557	77
West Virginia.....	8	214	97		102	1	7	390	72	94

October, 1929		November, 1929	
	Cases		Cases
Hawaii Territory:		Anthrax:	
Chicken pox.....	15	New York.....	2
Conjunctivitis (follicular).....	266	Chicken pox:	
Hookworm disease.....	20	Georgia.....	60
Leprosy.....	4	Maryland.....	349
Mumps.....	1	New York.....	2,162
Tetanus.....	2	North Dakota.....	222
Trachoma.....	130	Ohio.....	2,870
Whooping cough.....	10	West Virginia.....	346

November, 1929—Continued

	Cases
Conjunctivitis:	
Georgia.....	1
Diarrhea:	
Maryland.....	15
Diarrhea and enteritis under 2 years:	
Ohio.....	27
Dysentery:	
Georgia.....	25
Maryland.....	2
New York.....	28
German measles:	
Maryland.....	58
New York.....	83
Ohio.....	8
Hookworm disease:	
Georgia.....	18
Impetigo contagiosa:	
Maryland.....	16
Jaundice:	
Maryland.....	1
Lead poisoning:	
Ohio.....	13
Lethargic encephalitis:	
Maryland.....	1
New York.....	7
North Dakota.....	4
Ohio.....	1
Mumps:	
Georgia.....	17
Maryland.....	43
New York.....	867
North Dakota.....	212
Ohio.....	321
West Virginia.....	3
Ophthalmia neonatorum:	
Maryland.....	2
New York.....	8
Ohio.....	98
Paratyphoid fever:	
Georgia.....	2
New York.....	1
Ohio.....	2
West Virginia.....	1
Puerperal septicemia:	
New York.....	10
Ohio.....	4

November, 1929—Continued

	Cases
Rabies in animals:	
Maryland.....	5
New York ¹	10
Rabies in man:	
New York.....	1
Scabies:	
Maryland.....	10
North Dakota.....	22
Septic sore throat:	
Georgia.....	27
Maryland.....	7
New York.....	13
Ohio.....	66
Tetanus:	
Georgia.....	1
Maryland.....	3
New York.....	4
North Dakota.....	1
Ohio.....	3
Trachoma:	
New York.....	2
North Dakota.....	1
Ohio.....	7
Tularaemia:	
Georgia.....	1
Maryland.....	2
North Dakota.....	1
Ohio.....	1
Typhus fever:	
Georgia.....	8
Undulant fever:	
Georgia.....	2
Maryland.....	1
New York.....	11
Ohio.....	9
Vincent's angina:	
Maryland.....	15
New York ¹	83
North Dakota.....	16
Whooping cough:	
Georgia.....	99
Maryland.....	234
New York.....	1,337
North Dakota.....	33
Ohio.....	642
West Virginia.....	190

¹ Exclusive of New York City.

PLAGUE-INFECTED GROUND SQUIRRELS IN CALIFORNIA

The Director of Public Health of the State of California reports that on December 14, 1929, plague infection was proved in one squirrel from a ranch 10 miles west of Mayfield, Santa Clara County, Calif.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 95 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 31,280,000. The estimated population of the 89 cities reporting deaths is more than 29,790,000.⁴ The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended December 14, 1929, and December 15, 1928

	1929	1928	Esti- mated expect- ancy
<i>Cases reported</i>			
Diphtheria:			
46 States.....	2,264	2,207	
95 cities.....	812	939	1,143
Measles:			
43 States.....	3,879	4,997	
95 cities.....	684	1,087	
Meningococcus meningitis:			
46 States.....	189	175	
95 cities.....	90	59	
Poliomyelitis:			
46 States.....	27	41	
Scarlet fever:			
46 States.....	4,477	4,146	
95 cities.....	1,672	1,202	1,164
Smallpox:			
46 States.....	1,339	688	
95 cities.....	136	46	38
Typhoid fever:			
46 States.....	235	236	
95 cities.....	35	29	52
<i>Deaths reported</i>			
Influenza and pneumonia:			
89 cities.....	954	1,680	
Smallpox:			
89 cities.....	0	0	

City reports for week ended December 14, 1929

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

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1920 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Population, July 1, 1928, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND									
Maine:									
Portland	78,600	26	2	0		0	0	3	5
New Hampshire:									
Concord	(1)	0	0	0		0	4	0	2
Manchester	85,700	0	3	0		1	0	0	1
Vermont:									
Barre	(1)	1	0	0		0	1	0	1
Massachusetts:									
Boston	799,200	75	44	32	3	1	16	54	26
Fall River	134,300	4	5	4	1	1	1	0	0
Springfield	149,800	40	5	0		0	1	5	3
Worcester	197,600	45	6	1	1	0	13	0	2
Rhode Island:									
Pawtucket	73,100	17	2	1		0	1	0	2
Providence	286,300	1	11	6		0	0	0	7
Connecticut:									
Bridgeport	(1)	2	7	1	1	1	0	0	2
Hartford	172,300	12	8	6		0	1	0	3
New Haven	187,900		2						
MIDDLE ATLANTIC									
New York:									
Buffalo	555,800	34	21	24		0	3	2	19
New York	6,017,500	198	209	130	24	10	24	39	182
Rochester	328,200	11	7	0		0	2	3	8
Syracuse	199,300	55	5	0		0	0	42	4
New Jersey:									
Camden	135,400	3	6	10		0	0	0	2
Newark	473,600	78	20	27	4	0	21	12	12
Trenton	139,000	1	5	0		0	7	0	6
Pennsylvania:									
Philadelphia	2,064,200	157	81	25	4	5	19	23	68
Pittsburgh	673,800	106	23	16	1	3	21	2	19
Reading	115,400	56	4	0		0	0	0	4
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	413,700	31	16	3		0	23	0	13
Cleveland	1,010,300	291	45	15	18	6	5	9	22
Columbus	299,000	13	10	2	5	4	4	6	7
Toledo	313,200	160	12	4	2	2	264	6	8
Indiana:									
Fort Wayne	105,300	5	6	3		0	0	0	2
Indianapolis	382,100	66	11	4		1	10	0	12
South Bend	86,100	1	2	0		0	0	0	3
Terre Haute	73,500	8	3	0		0	0	0	2
Illinois:									
Chicago	3,157,400	205	105	162	13	6	21	36	68
Springfield	67,200	11	2	0	1	1	0	0	3
Michigan:									
Detroit	1,378,900	109	67	63	4	1	94	48	31
Flint	148,800	42	4	4		0	1	1	2
Grand Rapids	164,200	6	4	2		0	2	0	2

¹ No estimate of population made.

City reports for week ended December 14, 1929—Continued

Division, State, and city	Population, July 1, 1928, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST NORTH CENTRAL—continued									
Wisconsin:									
Kenosha.....	56,500	8	1	2	-----	1	1	0	2
Madison.....	50,500	13	3	0	-----	0	37	1	0
Milwaukee.....	544,206	203	24	5	3	3	6	20	10
Racine.....	74,400	12	4	0	-----	0	1	0	2
Superior.....	(1)	5	0	2	-----	0	40	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth.....	116,800	8	1	0	-----	0	31	0	3
Minneapolis.....	455,900	234	25	5	-----	1	30	16	14
St. Paul.....	(1)	45	16	1	-----	1	3	14	5
Iowa:									
Des Moines.....	151,900	0	4	0	-----	-----	0	0	-----
Sioux City.....	80,000	-----	1	-----	-----	-----	-----	-----	-----
Waterloo.....	37,100	22	1	0	-----	-----	19	0	-----
Missouri:									
Kansas City.....	391,000	38	9	5	1	2	14	0	19
St. Joseph.....	78,500	5	2	1	-----	0	0	0	5
St. Louis.....	848,109	24	45	38	-----	-----	2	11	-----
North Dakota:									
Fargo.....	(1)	13	0	0	-----	0	0	1	1
Grand Forks.....	(1)	2	0	0	-----	-----	0	0	-----
South Dakota:									
Aberdeen.....	(1)	16	0	0	-----	-----	1	3	-----
Sioux Falls.....	(1)	0	0	0	-----	-----	1	0	-----
Nebraska:									
Omaha.....	222,800	12	8	19	-----	0	6	0	4
Kansas:									
Topeka.....	62,800	20	2	4	-----	0	0	5	3
Wichita.....	99,300	18	5	4	-----	0	0	0	4
SOUTH ATLANTIC									
Delaware:									
Wilmington.....	128,500	9	3	1	-----	0	2	0	1
Maryland:									
Baltimore.....	830,400	92	35	14	14	3	4	3	30
Cumberland.....	(1)	1	1	0	-----	0	0	0	1
Frederick.....	(1)	0	0	1	-----	0	0	0	1
District of Columbia:									
Washington.....	552,000	28	19	14	-----	0	2	0	17
Virginia:									
Lynchburg.....	38,600	11	3	2	-----	0	2	6	3
Norfolk.....	184,200	0	3	2	-----	0	1	12	6
Richmond.....	194,400	5	12	6	-----	3	1	0	3
Roanoke.....	64,600	0	3	2	-----	0	0	0	2
West Virginia:									
Charleston.....	55,200	9	1	0	-----	0	0	0	2
Wheeling.....	(1)	4	2	0	-----	0	0	0	1
North Carolina:									
Raleigh.....	(1)	1	1	1	-----	0	0	0	5
Wilmington.....	39,100	1	1	3	-----	0	0	0	3
Winston-Salem.....	80,000	27	2	3	10	0	1	8	3
South Carolina:									
Charleston.....	75,900	0	1	0	72	0	0	3	3
Columbia.....	50,600	1	1	0	-----	1	1	0	2
Georgia:									
Atlanta.....	255,100	16	5	9	44	2	1	3	11
Brunswick.....	(1)	0	0	0	-----	0	0	0	1
Savannah.....	99,900	5	2	0	15	1	0	0	3
Florida:									
Miami.....	156,700	3	3	7	-----	0	0	4	1
Tampa.....	113,400	7	2	1	-----	0	1	4	1

¹ No estimate of population made.

City reports for week ended December 14, 1929—Continued

Division, State, and city	Population, July 1, 1928, estimated	Chick- en pox, cases re- ported	Diphtheria		Influenza		Meas- les, cases re- ported	Mumps, cases reported	Pneu- monia, deaths re- ported
			Cases, es- timated expec- tancy	Cases re- ported	Cases re- ported	Deaths re- ported			
EAST SOUTH CENTRAL									
Kentucky:									
Covington.....	59,000	0	1	3	-----	0	0	0	4
Tennessee:									
Memphis.....	190,200	6	7	6	-----	2	0	1	8
Nashville.....	139,600	4	3	1	-----	3	0	0	7
Alabama:									
Birmingham.....	222,400	9	6	5	17	3	1	0	7
Mobile.....	69,600	0	1	3	1	0	0	0	3
Montgomery.....	63,100	1	2	2	1	-----	1	0	-----
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith.....	(1)	3	1	2	-----	-----	0	0	-----
Little Rock.....	79,200	8	0	0	-----	0	0	2	3
Louisiana:									
New Orleans.....	429,400	2	12	13	16	13	6	0	25
Shreveport.....	81,300	0	1	3	-----	0	1	1	4
Oklahoma:									
Oklahoma City.....	(1)	1	4	1	5	0	1	0	9
Tulsa.....	170,500	29	4	6	-----	-----	1	0	-----
Texas:									
Dallas.....	217,800	25	15	33	-----	0	9	0	13
Fort Worth.....	170,600	10	7	9	-----	0	0	0	5
Galveston.....	50,600	0	1	2	-----	1	0	0	2
Houston.....	(1)	1	8	15	-----	2	0	0	5
San Antonio.....	218,100	0	5	9	-----	4	0	0	7
MOUNTAIN									
Montana:									
Billings.....	(1)	0	0	0	-----	0	0	17	1
Great Falls.....	(1)	4	1	0	-----	0	2	50	0
Helena.....	(1)	0	0	0	-----	0	0	7	1
Missoula.....	(1)	-----	0	-----	-----	-----	-----	-----	-----
Idaho:									
Boise.....	(1)	12	0	0	-----	0	0	0	1
Colorado:									
Denver.....	294,200	92	13	7	-----	0	2	0	14
Pueblo.....	44,200	6	2	0	-----	0	0	0	3
New Mexico:									
Albuquerque.....	(1)	4	1	0	-----	0	1	3	0
Utah:									
Salt Lake City.....	138,000	53	4	0	-----	0	7	16	2
Nevada:									
Reno.....	(1)	0	0	0	-----	0	0	0	0
PACIFIC									
Washington:									
Seattle.....	383,200	78	6	1	-----	-----	2	41	-----
Spokane.....	109,100	45	2	2	-----	-----	0	0	-----
Tacoma.....	110,500	7	3	1	-----	0	0	0	2
Oregon:									
Portland.....	(1)	23	11	5	1	1	1	8	4
Salem.....	(1)	0	0	0	1	0	0	0	0
California:									
Los Angeles.....	(1)	50	46	13	43	1	5	18	18
Sacramento.....	175,700	16	3	0	1	1	1	28	6
San Francisco.....	585,300	74	20	7	9	4	184	21	8

1 No estimate of population made.

City reports for week ended December 14, 1929—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culo- sis, deaths re- ported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		
NEW ENGLAND											
Maine:											
Portland.....	2	10	0	13	0	0	0	0	0	0	25
New Hampshire:											
Concord.....	0	0	0	0	0	0	0	0	0	0	8
Manchester.....	2	0	0	0	0	0	0	0	0	0	17
Vermont:											
Barre.....	0	0	0	1	0	1	0	0	0	2	2
Massachusetts:											
Boston.....	55	53	0	0	0	12	1	2	0	55	213
Fall River.....	3	5	0	0	0	1	0	0	0	1	33
Springfield.....	8	8	0	0	0	2	0	0	0	22	39
Worcester.....	11	12	0	0	0	1	0	0	0	17	32
Rhode Island:											
Pawtucket.....	1	4	0	0	0	1	0	0	0	2	16
Providence.....	8	9	0	0	0	3	0	1	0	3	26
Connecticut:											
Bridgeport.....	9	7	0	0	0	1	0	0	0	1	23
Hartford.....	6	12	0	0	0	0	0	0	0	0	30
New Haven.....	6		0				1				
MIDDLE ATLANTIC											
New York:											
Buffalo.....	25	32	0	0	0	7	1	0	0	22	170
New York.....	176	141	1	0	0	98	13	10	1	41	1,561
Rochester.....	9	6	0	0	0	3	1	0	0	2	76
Syracuse.....	11	21	0	0	0	2	0	0	0	21	45
New Jersey:											
Camden.....	6	4	0	0	0	1	0	1	2	0	47
Newark.....	18	18	0	0	0	12	1	0	0	18	126
Trenton.....	3	14	0	0	0	4	0	0	0	1	44
Pennsylvania:											
Philadelphia.....	76	91	0	0	0	27	3	1	0	32	513
Pittsburgh.....	37	28	0	0	0	9	1	1	1	9	198
Reading.....	3	2	0	0	0	1	0	0	0	18	23
EAST NORTH CENTRAL											
Ohio:											
Cincinnati.....	15	25	0	0	0	6	1	0	0	2	143
Cleveland.....	35	46	0	1	0	17	1	1	0	62	236
Columbus.....	11	23	1	5	0	3	0	0	0	8	85
Toledo.....	14	8	0	1	0	5	1	0	0	4	84
Indiana:											
Fort Wayne.....	4	1	1	19	0	0	0	0	0	1	33
Indianapolis.....	12	12	5	2	0	6	0	1	0	4	110
South Bend.....	3	1	0	0	0	0	0	0	0	0	13
Terre Haute.....	3	4	1	0	0	0	0	0	0	0	24
Illinois:											
Chicago.....	113	368	1	7	0	39	4	1	1	118	746
Springfield.....	2	1	0	0	0	0	0	0	0	7	21
Michigan:											
Detroit.....	90	134	1	0	0	31	2	0	0	43	317
Flint.....	12	20	0	10	0	1	0	0	0	2	20
Grand Rapids.....	10	10	0	0	0	1	0	0	0	7	20
Wisconsin:											
Kenosha.....	1	3	0	0	0	1	0	0	0	2	7
Madison.....	2	4	0	0	0	0	0	0	0	11	
Milwaukee.....	24	29	0	0	0	6	0	1	0	44	129
Racine.....	5	7	0	0	0	0	0	0	0	11	14
Superior.....	2	3	0	1	0	0	0	0	0	0	11

¹ Delinquents.

City reports for week ended December 14, 1929—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culosis, deaths re-ported	Typhoid fever			Whoop- ing cough, cases re-ported	Deaths, all causes
	Cases, esti- mated expec- tancy	Cases re- ported	Cases, esti- mated expec- tancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expec- tancy	Cases re- ported	Deaths re- ported		
WEST NORTH CENTRAL											
Minnesota:											
Duluth.....	10	6	0	1	0	0	0	0	0	2	24
Minneapolis.....	50	20	3	0	0	3	0	0	0	9	93
St. Paul.....	25	16	4	0	0	2	1	0	0	4	58
Iowa:											
Des Moines.....	9	10	0	5	-----	-----	0	0	-----	0	19
Sioux City.....	3	-----	0	-----	-----	-----	0	-----	-----	-----	-----
Waterloo.....	1	3	0	16	-----	-----	0	0	-----	8	-----
Missouri:											
Kansas City.....	15	47	1	0	0	5	0	2	0	5	111
St. Joseph.....	3	2	0	2	0	3	0	1	0	0	25
St. Louis.....	35	25	0	6	0	18	2	0	0	6	247
North Dakota:											
Fargo.....	2	0	0	0	0	0	0	0	0	1	7
Grand Forks.....	0	1	0	4	-----	-----	0	0	-----	0	-----
South Dakota:											
Aberdeen.....	1	0	1	0	-----	-----	0	0	-----	1	-----
Sioux Falls.....	1	1	0	19	-----	-----	0	2	-----	0	10
Nebraska:											
Omaha.....	6	2	2	4	0	1	1	0	0	0	52
Kansas:											
Topeka.....	2	7	1	0	0	0	0	0	0	3	11
Wichita.....	4	13	0	0	0	1	0	0	0	2	30
SOUTH ATLANTIC											
Delaware:											
Wilmington.....	5	2	0	0	0	0	0	0	0	0	24
Maryland:											
Baltimore.....	24	36	0	0	0	20	3	1	0	15	256
Cumberland.....	1	0	0	0	0	0	0	0	0	0	10
Frederick.....	1	3	0	0	0	0	0	0	0	4	4
District of Col.:											
Washington.....	21	17	0	0	0	9	1	1	0	2	157
Virginia:											
Lynchburg.....	1	1	0	0	0	0	0	0	0	39	14
Norfolk.....	3	5	0	0	0	4	0	0	0	4	-----
Richmond.....	6	15	0	0	0	5	0	0	0	1	56
Roanoke.....	3	1	0	0	0	1	0	0	0	0	17
West Virginia:											
Charleston.....	2	2	0	0	0	1	0	0	0	2	12
Wheeling.....	2	2	0	0	0	1	1	0	0	1	22
North Carolina:											
Raleigh.....	1	1	0	0	0	0	0	0	0	11	16
Wilmington.....	1	1	1	0	0	0	0	0	0	0	19
Winston-Salem.....	3	4	0	0	0	3	0	0	0	2	18
South Carolina:											
Charleston.....	0	2	0	0	0	2	0	1	1	1	30
Columbia.....	0	3	0	0	0	1	0	0	0	4	15
Georgia:											
Atlanta.....	5	11	0	0	0	4	1	0	0	2	78
Brunswick.....	0	0	0	0	0	0	0	0	0	0	8
Savannah.....	0	0	0	0	0	4	1	0	0	1	43
Florida:											
Miami.....	2	1	0	0	0	3	0	0	0	2	27
Tampa.....	1	2	0	0	0	2	0	1	0	0	22
EAST SOUTH CENTRAL											
Kentucky:											
Covington.....	2	0	0	0	0	0	0	0	0	0	23
Tennessee:											
Memphis.....	7	4	0	0	0	4	1	1	0	0	59
Nashville.....	3	0	0	0	0	0	0	1	0	2	62
Alabama:											
Birmingham.....	4	6	0	0	0	4	1	0	0	1	67
Mobile.....	0	1	1	0	0	1	0	0	0	0	25
Montgomery.....	0	2	0	0	-----	-----	0	0	-----	0	-----

City reports for week ended December 14, 1929—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culo- sis, deaths re- ported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith.....	1	2	0	0			0	0		0	
Little Rock.....	2	1	0	0	0	0	1	0	0	0	
Louisiana:											
New Orleans.....	8	12	0	0	0	5	2	1	0	1	177
Shreveport.....	3	0	0	0	0	0	1	0	0	0	25
Oklahoma:											
Oklahoma City.....	3	13	0	4	0	3	0	3	1	1	49
Tulsa.....	2	10	0	3			0	0		6	
Texas:											
Dallas.....	7	10	0	0	0	4	0	1	0	0	72
Fort Worth.....	2	6	1	2	0	2	0	0	0	0	29
Galveston.....	0	1	0	0	0	0	0	0	0	0	14
Houston.....	2	4	0	7	0	1	0	0	1	0	64
San Antonio.....	2	6	0	2	0	11	0	0	0	0	85
MOUNTAIN											
Montana:											
Billings.....	1	0	1	0	0	0	0	0	0	0	7
Great Falls.....	2	17	1	0	0	1	0	0	0	0	6
Helena.....	0	0	0	0	0	0	0	0	0	0	5
Missoula.....	0		0				0				
Idaho:											
Boise.....	1	0	0	0	0	0	0	0	0	0	8
Colorado:											
Denver.....	12	13	1	2	0	10	1	0	0	10	88
Pueblo.....	2	0	0	0	0	0	0	0	0	1	10
New Mexico:											
Albuquerque.....	1	1	0	0	0	3	0	0	0	0	8
Utah:											
Salt Lake City.....	3	4	2	1	0	5	1	1	0	7	33
Nevada:											
Reno.....	0	0	0	0	0	0	0	0	0	0	6
PACIFIC											
Washington:											
Seattle.....	7	15	2	2	0		1	0		8	
Spokane.....	8	2	3	26	0		0	1		5	
Tacoma.....	4	5	2	14	0	0	0	1	0	7	24
Oregon:											
Portland.....	7	5	7	5	0	2	0	0	0	5	70
Salem.....	0	0	1	0	0	0	0	0	0	0	
California:											
Los Angeles.....	28	64	2	1	0	30	2	0	0	16	323
Sacramento.....	2	12	1	2	0	2	0	1	0	1	50
San Francisco.....	15	43	0	4	0	11	1	0	0	6	144

City reports for week ended December 14, 1929—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Massachusetts:									
Boston.....	1	0	0	0	0	0	1	0	0
Springfield.....	1	0	0	0	0	0	0	0	0
Worcester.....	0	0	0	0	0	0	0	1	0
Connecticut:									
Bridgeport.....	2	0	0	0	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
New York.....	9	3	7	4	0	0	2	2	0
Rochester.....	1	0	0	0	0	0	0	1	0
New Jersey:									
Newark.....	2	0	0	0	0	0	0	1	0
Pennsylvania:									
Philadelphia.....	6	2	0	1	0	0	0	0	0
Pittsburgh.....	0	1	0	0	0	0	0	0	1
EAST NORTH CENTRAL									
Ohio:									
Cincinnati.....	1	0	0	0	0	0	0	0	0
Cleveland.....	6	4	0	0	0	0	0	0	0
Columbus.....	1	0	0	0	0	0	0	0	0
Toledo.....	1	3	0	0	0	0	0	1	0
Indiana:									
Indianapolis.....	8	4	0	0	0	0	0	0	0
Illinois:									
Chicago.....	7	2	0	0	0	0	0	0	0
Michigan:									
Detroit.....	11	3	0	0	0	0	0	3	1
Flint.....	1	0	0	0	0	0	0	0	0
Wisconsin:									
Milwaukee.....	0	3	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Iowa:									
Des Moines.....	0	0	0	0	0	0	0	1	0
Missouri:									
Kansas City.....	1	0	0	0	0	0	0	0	0
St. Joseph.....	3	0	0	0	0	0	0	0	0
St. Louis.....	5	2	0	0	0	0	0	0	0
North Dakota:									
Fargo.....	1	0	0	0	0	0	0	0	0
Nebraska:									
Omaha.....	2	0	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore.....	1	2	0	0	0	0	0	0	0
District of Columbia:									
Washington.....	2	2	1	1	0	0	0	0	0
Virginia:									
Lynchburg.....	0	0	0	0	0	1	0	0	0
Norfolk.....	0	0	0	0	0	0	0	1	0
North Carolina:									
Raleigh.....	0	0	0	0	5	0	0	0	0
Wilmington.....	0	0	0	0	0	1	0	0	0
Winston-Salem.....	0	0	0	0	0	0	0	1	0
South Carolina:									
Charleston.....	0	0	0	0	6	0	0	0	0
Columbia.....	0	0	0	0	0	1	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis.....	1	0	0	0	0	0	0	0	0
Nashville.....	1	1	0	0	0	0	0	0	0
Alabama:									
Mobile.....	0	0	0	0	0	1	0	0	0

City reports for week ended December 14, 1929—Continued.

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
WEST SOUTH CENTRAL									
Arkansas:									
Little Rock.....	0	1	0	0	0	0	0	0	0
Louisiana:									
New Orleans.....	1	0	0	0	0	1	0	0	0
Shreveport.....	1	0	0	0	0	0	0	0	0
Oklahoma:									
Oklahoma City.....	0	0	0	3	0	0	0	0	0
Texas:									
Dallas.....	0	0	0	0	3	1	0	0	0
Fort Worth.....	0	0	0	0	0	1	0	0	0
Galveston.....	0	0	0	0	0	1	0	0	0
MOUNTAIN									
Colorado:									
Denver.....	1	0	0	1	0	0	0	0	0
Utah:									
Salt Lake City.....	3	0	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle.....	1	0	0	0	0	0	0	2	0
Spokane.....	1	0	0	0	0	0	0	0	0
Oregon:									
Salem.....	0	0	1	0	0	0	0	0	0
California:									
Los Angeles.....	3	1	0	0	1	1	0	0	1
Sacramento.....	2	2	0	0	0	0	0	0	0
San Francisco.....	3	0	0	0	0	0	0	0	0

¹ Typhus fever; 1 case at Dallas, Tex.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended December 14, 1929, compared with those for a like period ended December 15, 1928. The population figures used in computing the rates are approximate estimates, authoritative figures for many of the cities not being available. The 98 cities reporting cases have an estimated aggregate population of more than 31,000,000. The 91 cities reporting deaths have nearly 30,000,000 estimated population. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, November 10 to December 14, 1929—Annual rates per 100,000 population, compared with rates for the corresponding period of 1928 ¹

DIPHTHERIA CASE RATES

	Week ended—									
	Nov. 16, 1929	Nov. 17, 1929	Nov. 23, 1929	Nov. 24, 1929	Nov. 30, 1929	Dec. 1, 1929	Dec. 7, 1929	Dec. 8, 1929	Dec. 14, 1929	Dec. 15, 1928
98 cities.....	160	161	² 186	165	140	152	³ 148	166	⁴ 135	159
New England.....	170	159	118	140	179	195	113	209	⁵ 126	216
Middle Atlantic.....	112	135	123	137	123	131	110	159	112	139
East North Central.....	205	165	301	182	166	185	191	190	170	208
West North Central.....	15	198	169	186	113	164	⁶ 122	149	⁷ 157	149
South Atlantic.....	122	222	135	230	144	128	⁸ 118	143	107	130
East South Central.....	231	125	238	147	156	175	224	140	136	98
West South Central.....	443	243	462	272	269	223	376	259	304	251
Mountain.....	44	239	⁹ 89	124	17	53	¹⁰ 136	35	¹¹ 63	18
Pacific.....	87	97	62	105	57	72	¹¹ 111	100	60	61

(See footnotes at end of table)

*Summary of weekly reports from cities, November 10 to December 14, 1929—Annual rates per 100,000 population, compared with rates for the corresponding period of 1928*¹—Continued

MEASLES CASE RATES

	Week ended—									
	Nov. 16, 1929	Nov. 17, 1928	Nov. 23, 1929	Nov. 24, 1928	Nov. 30, 1929	Dec. 1, 1928	Dec. 7, 1929	Dec. 8, 1928	Dec. 14, 1929	Dec. 15, 1928
98 cities.....	56	95	² 72	110	74	116	³ 99	148	⁴ 114	183
New England.....	45	382	57	582	70	605	81	736	⁵ 94	837
Middle Atlantic.....	26	69	34	59	33	46	54	46	47	91
East North Central.....	91	86	94	105	101	132	93	187	133	194
West North Central.....	50	63	81	102	100	66	⁶ 218	194	⁷ 208	272
South Atlantic.....	7	50	24	65	22	69	⁸ 4	55	28	88
East South Central.....	14	0	14	7	0	0	14	14	14	0
West South Central.....	20	12	28	4	40	16	47	41	63	12
Mountain.....	253	204	⁹ 107	239	131	230	¹⁰ 57	186	¹¹ 98	257
Pacific.....	147	51	289	15	257	72	¹² 505	43	479	64

SCARLET FEVER CASE RATES

98 cities.....	206	168	² 219	176	213	173	³ 253	201	⁴ 279	203
New England.....	267	193	251	212	260	186	278	237	⁵ 395	251
Middle Atlantic.....	135	108	127	109	116	102	148	142	172	143
East North Central.....	310	245	347	227	360	237	409	259	438	290
West North Central.....	138	225	223	284	183	221	⁶ 229	264	⁷ 270	252
South Atlantic.....	238	109	163	147	139	145	⁸ 145	176	193	163
East South Central.....	156	224	156	274	136	161	143	259	88	168
West South Central.....	158	199	162	146	123	186	162	219	142	174
Mountain.....	226	97	⁹ 267	106	348	115	¹⁰ 421	80	¹¹ 302	62
Pacific.....	186	143	269	194	274	261	¹² 416	197	352	182

SMALLPOX CASE RATES

98 cities.....	14	4	² 24	7	14	6	³ 17	4	⁴ 23	8
New England.....	25	0	0	0	0	5	0	2	⁵ 2	0
Middle Atlantic.....	0	0	0	0	0	0	0	0	0	0
East North Central.....	22	4	33	21	13	12	26	10	29	16
West North Central.....	42	2	50	2	48	8	⁶ 64	2	⁷ 57	0
South Atlantic.....	0	2	2	0	0	6	⁸ 0	0	0	2
East South Central.....	0	7	0	14	0	0	0	28	0	7
West South Central.....	4	0	40	8	12	12	20	4	36	24
Mountain.....	9	89	⁹ 71	0	35	35	¹⁰ 102	0	¹¹ 27	44
Pacific.....	32	3	115	18	77	8	¹² 36	8	122	20

TYPHOID FEVER CASE RATES

98 cities.....	8	10	² 13	10	5	6	³ 5	8	⁴ 6	5
New England.....	23	16	11	7	2	5	2	5	⁵ 7	7
Middle Atlantic.....	3	10	10	9	2	7	4	7	6	4
East North Central.....	6	6	9	5	5	5	4	7	3	1
West North Central.....	4	14	12	16	6	8	⁶ 2	4	⁷ 6	4
South Atlantic.....	9	11	19	11	4	10	⁸ 6	8	7	6
East South Central.....	14	14	34	35	34	0	48	14	14	21
West South Central.....	8	20	36	12	16	16	0	49	8	16
Mountain.....	44	18	⁹ 36	9	26	9	¹⁰ 34	0	¹¹ 9	9
Pacific.....	10	5	¹² 5	13	2	3	¹³ 0	5	7	8

(See footnotes at end of table)

Summary of weekly reports from cities, November 10 to December 14, 1929—Annual rates per 100,000 population, compared with rates for the corresponding period of 1928 ¹—Continued

INFLUENZA DEATH RATES

	Week ended—									
	Nov. 16, 1929	Nov. 17, 1928	Nov. 23, 1929	Nov. 24, 1928	Nov. 30, 1929	Dec. 1, 1928	Dec. 7, 1929	Dec. 8, 1928	Dec. 14, 1929	Dec. 15, 1928
91 cities.....	9	15	¹ 8	17	11	34	¹² 16	50	¹³ 16	80
New England.....	9	9	5	9	5	9	11	9	¹⁴ 7	9
Middle Atlantic.....	4	9	9	15	5	10	14	17	9	27
East North Central.....	9	10	6	3	10	14	9	18	15	44
West North Central.....	3	9	6	9	21	18	¹⁵ 27	64	12	174
South Atlantic.....	11	13	4	13	17	31	¹⁶ 25	54	19	101
East South Central.....	22	23	30	31	15	31	59	64	59	100
West South Central.....	32	33	16	33	57	54	49	54	81	96
Mountain.....	26	53	¹⁷ 9	44	17	310	¹⁸ 11	514	¹⁹ 0	735
Pacific.....	10	64	7	94	13	239	13	283	20	317

PNEUMONIA DEATH RATES

91 cities.....	99	105	¹ 103	126	107	139	¹² 137	161	¹³ 151	202
New England.....	88	57	88	106	93	85	75	80	¹⁴ 131	108
Middle Atlantic.....	103	125	108	128	101	142	139	149	156	190
East North Central.....	71	52	96	106	83	120	126	135	115	171
West North Central.....	120	110	102	104	126	150	¹⁵ 125	190	174	318
South Atlantic.....	107	132	94	165	129	145	¹⁶ 132	170	191	351
East South Central.....	230	161	252	169	222	184	237	303	215	199
West South Central.....	126	71	134	129	162	141	248	179	239	183
Mountain.....	157	115	¹⁷ 107	159	157	186	¹⁸ 159	337	¹⁹ 196	629
Pacific.....	89	98	59	169	108	239	144	293	111	222

¹ The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1929 and 1928, respectively.

² Reno, Nev., not included.

³ Fargo, N. Dak., Atlanta, Ga., Salt Lake City, Utah, and Seattle and Spokane, Wash., not included.

⁴ New Haven, Conn., Sioux City, Iowa, and Missoula, Mont., not included.

⁵ New Haven, Conn., not included.

⁶ Fargo, N. Dak., not included.

⁷ Sioux City, Iowa, not included.

⁸ Atlanta, Ga., not included.

⁹ Salt Lake City, Utah, not included.

¹⁰ Missoula, Mont., not included.

¹¹ Seattle and Spokane, Wash., not included.

¹² Fargo, N. Dak., Atlanta, Ga., and Salt Lake City, Utah, not included.

¹³ New Haven, Conn., and Missoula, Mont., not included.

Number of cities included in summary of weekly reports and aggregate population of cities of each group, approximated as of July 1, 1929 and 1928, respectively

Groups of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases		Aggregate population of cities reporting deaths	
			1929	1928	1929	1928
Total.....	98	91	31,568,400	31,052,700	29,995,100	29,498,600
New England.....	12	12	2,305,100	2,273,900	2,305,100	2,273,900
Middle Atlantic.....	10	10	10,809,700	10,702,200	10,809,700	10,702,200
East North Central.....	16	16	8,181,900	8,001,300	8,181,900	8,001,300
West North Central.....	12	9	2,712,100	2,673,300	1,736,900	1,708,100
South Atlantic.....	19	19	2,783,200	2,732,900	2,783,200	2,732,900
East South Central.....	6	5	767,900	745,500	704,200	622,400
West South Central.....	8	7	1,319,100	1,289,900	1,285,000	1,256,400
Mountain.....	9	9	598,800	560,200	598,800	590,200
Pacific.....	6	4	2,090,600	2,043,500	1,590,300	1,551,200

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended December 7, 1929.—The Department of Pensions and National Health reports cases of certain communicable diseases in Canada for the week ended December 7, 1929 as follows:

Provinces	Cerebro-spinal fever	Polio-myelitis	Influenza	Smallpox	Typhoid fever
Prince Edward Island ¹.....	.....	.....	.....	.....	.....
Nova Scotia ¹.....	.....	.....	.....	.....	1
New Brunswick.....	.....	.....	.....	1	7
Quebec.....	.....	.....	.....	.....	1
Ontario.....	2	2	3	10	1
Manitoba.....	.....	.....	.....	.....	1
Saskatchewan.....	1	.....	.....	7	2
Alberta.....	.....	1	.....	11	3
British Columbia.....	.....	1	.....	6	1
Total.....	3	4	3	35	16

¹ No case of any disease included in the table was reported for the week.

Quebec Province—Communicable diseases—Week ended December 14, 1929.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended December 14, 1929, as follows:

Disease	Cases	Disease	Cases
Chicken pox.....	126	Poliomyelitis.....	1
Diphtheria.....	57	Scarlet fever.....	85
German measles.....	3	Tuberculosis.....	47
Influenza.....	3	Typhoid fever.....	8
Measles.....	124	Whooping cough.....	134
Mumps.....	57		

JAMAICA

Communicable diseases—Four weeks ended December 7, 1929.—During the four weeks ended December 7, 1929, cases of certain communicable diseases were reported in Kingston, Jamaica, and in the Island of Jamaica outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities
Cerebrospinal meningitis.....	2	Poliomyelitis.....	.....	1
Chicken pox.....	2	Furunculæ.....	.....	2
Diphtheria.....	1	Scarlet fever.....	.....	1
Dysentery.....	4	9	Tuberculosis.....	35	61
Leprosy.....	2	Typhoid fever.....	34	89

NETHERLANDS

Smallpox (alastrim)—*Week ended November 30, 1929.*—During the week ended November 30, 1929, 4 cases of smallpox (alastrim) were reported at The Hague, Netherlands.

VIRGIN ISLANDS

Communicable diseases—November, 1929.—During the month of November, 1929, cases of certain communicable diseases were reported in the Virgin Islands, as follows:

St. Thomas and St. John:		St. Thomas and St. John—Continued.	
Chaneroid.....	3	Tetanus.....	1
Gonorrhea.....	7	St. Croix:	
Pellagra.....	1	Leprosy.....	1
Syphilis.....	4		

CHOLERA, PLAQUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

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

CHOLERA

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

Place	June 2-29, 1929	June 30-July 27, 1929	July 28-Aug. 24, 1929	Aug. 25-Sept. 21, 1929	Week ended—										Dec. 1-7, 1929
					October, 1929					November, 1929					
					5	12	19	26	2	9	16	23	30		
Ceylon: Colombo.....	1	1													
China:															
Amoy.....	4	7	1												
Canton.....	10	6	5	1									1	1	
Hankow.....	5	5	3	1											
Manchuria.....															
Kwantung-Dairen.....				1											
Newchwang.....				P											
Nanking.....				984	3	30				P	P				
Shanghai.....		3	1,305	69	9	2									
Swatow.....	P		98												
Tientsin.....	4	7	12	37	8	6	8		6	3	3		1		
Chosen: Chemulpo.....				P											
India:															
Basseln.....	29,449	32,081	41,090	28,896	5,251	3,372	3,476								
Bombay.....	19,910	19,343	24,005	16,667	3,092	2,144	2,090								
Calcutta.....	2	1	2	1											
Karachi.....	354	275	170	135	21	30	28	81	52	74	55	85	55		
Madras.....	176	157	106	59	12	12	15	31	41	11	48	29	45	29	
Moulmein.....			10	11											
Negapatam.....		1								1	1			1	
Rangoon.....	5	2													
Tuticorin.....	1	1													
Vizagapatam.....															

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

CHOLERA—Continued

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

[illegible]

On vessel:	Place	April, 1929	May, 1929	June, 1929	July, 1929	August, 1929	September, 1929			October, 1929			November, 1929	
							1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20
S. S. Augby, at Saigon-Cholon.....	G	1												
S. S. Cap. St. Jacques, at Singapore, from Saigon-Cholon.....	D	1												
S. S. Shines, at Shanghai.....	C		P											
S. S. Tokushima, at Hong Kong.....	D	2		3										
S. S. Texas Maru, at Nagasaki, from Shanghai.....	D													
S. S. Texas Maru, at Nagasaki, from Shanghai.....	C		1											
<hr/>														
Indo-China (French) (see also table above):														
Annam.....	C	20	220		9	17								3
Cambodia.....	C	84	215		186	35								43
Cochin-China.....	C	88	123		315	60		24			121	100		15
Laos.....	C				13	3						3		
Tonkin.....	C		5	4										

¹ There were 98 cases of cholera with 16 deaths in Nagara Sridharmara Province, Siam, from May 16 to July 7, 1929. ² Reports incomplete.

PLAGUE--Continued

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

[illegible]

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

SMALLPOX—Continued

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

Place	June 2-29, 1929	June 30, July 1, 1929	July 28, Aug. 2, 1929	Aug. 28, Sept. 2, 1929	Week ended—												
					Sept. 28, 1929	October, 1929					November, 1929					December, 1929	
						5	12	19	26		2	9	16	23	30		
Great Britain:																	
England and Wales.....	789	541	502	496	108	97	131	154	131	168	172	172	172	279	198		
Anton under Lyne.....	4	3	3	8	2	1	1	2		4	8	1	1	1	1		
Bedford.....																	
Bristol.....			1		1												
Cardiff.....																	
Cardigan.....																	
Cardigan.....																	
Leeds.....		1	1	2													
London.....	167	107	78	144	46	26	30	45	29	44	47	54	54	60	60		
London and Great Towns.....	496	363	297	304	81	60	87	104	83	115	121	123	214	148	1		
Newcastle-on-Tyne.....	1	4		2	1	2	2		3	1	6						
Skegness.....	20	15	4	18	3	2	2										
Stoke-on-Trent.....	62	32	18	18													
West Ham.....		26	59														
Greece (see table below).																	
Hedra.....	83	53	11	22		2	2	1		4	1	2					
Hedra.....	83	36	19	7			1			4	1	1					
Honduras:																	
Choluteca.....																	
India.....	11,549	7,838	5,481	4,199	915	649	767	1	1								
Bombay.....	3,006	2,082	1,418	954	185	138	158										
Calcutta.....	147	63	37	5	4			4	6	1	3	3	2	1	9	8	
Cochin.....	196	55	31	24	2	5	5	5	3	3	3	2	1	1	6	6	
Cochin.....	27	16	31	21	1	5	4	2	4	1	2	2	1	6	5	5	
Cochin.....	24	11	20	16	1	4	4	2	4	1	2	2	2	20	47		
Cochin.....		4		13	2	3	3	8	18	16	28	34	2	10	5		
Cochin.....				1					5	2	2	2	2	3	2		
Cochin.....				3		6	6	1		1							
Cochin.....	35	25	15	27	8												
Cochin.....	25	13	7	16	3												
Cochin.....	88	122	89	82	22	28	13	16	15	11	21	11	3	22	18		
Cochin.....	20	32	22	21	3	3	2	1	1	3	4	3	3	2	2		
Cochin.....	6	10	11	5	2	1			2	1	1	1	1	1	1		
Cochin.....	6	5	5	2													
Cochin.....	6	4	1	8	1				1	1	1	1	1	1	1		
Cochin.....																	

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

SMALLPOX—Continued

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

[illegible]

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

TYPHUS FEVER

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

[illegible]

Lithuania (see table below).

Mexico:

Mexico City, including municipalities in Federal District.

Morocco.

Norway: Oslo.

Palestine.

Persia.

Peru: Arequipa (see table below).

Poland.

Portugal:

Lisbon.

Oporto.

Rumania.

Tunisia.

Turkey (see table below).

Union of South Africa.

Cape Province.

Natal.

Orange Free State.

Transvaal.

Yugoslavia (see table below).

Place	May, 1929	June, 1929	July, 1929	August, 1929	September, 1929	October, 1929
Canada: Ontario.....	272	1				
Chosen.....	15					
Seoul.....	1	2				
Czechoslovakia.....	18	2				
Greece: Athens.....	1	3				
Latvia.....	7	5				
Lithuania.....	63	27	10	7	3	6
Peru: Arequipa.....	3	4	1	1	1	1
Turkey.....	7	10	1	3	4	10
Yugoslavia.....	19	3	3	7	1	1
	1		1	2		

¹ Press reports show that 10 deaths from typhus fever have occurred in Sao Paulo, Brazil, from Nov. 3 to Nov. 30, 1929.

² During the period from Apr. 14 to May 21, 1929, 18 cases of typhus fever with 4 deaths were reported in Strabane, Tyrone County, Ireland.

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

YELLOW FEVER

C indicates cases; D, deaths; P, present

Place	Week ended—															
	June 2-29, 1929	June 30- July 27, 1929	July 28- Aug. 24, 1929	Aug. 25- Sept. 21, 1929	October, 1929					November, 1929					December, 1929	
					5	12	19	26	2	9	16	23	30	7	14	
Brazil:																
Bahia.....		1	1													
Niteroy.....				1												
Para.....	1	1														
Rio de Janeiro.....	7	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Colombia:																
Simacota.....																
Socorro ¹		4														
Liberia: Monrovia.....	4	1		1												
	3															

¹ From June 19 to July 8, 1929, 41 cases of yellow fever with 23 deaths were reported in Socorro, Colombia.