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THE MEDICAL PROFESSION AND THE HEALTH DEPARTMENT[1]

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I. ACHIEVEMENTS OF PHYSICIANS IN PUBLIC HEALTH DEVELOPMENT

The rôle which physicians have played in the evolution and development of our present-day practice of public health is one of which the profession may well be proud.

Almost without exception the men who have brought order out of chaos and who have developed the health departments to their present state of efficiency have been physicians. Pasteur was a chemist, and many research workers who discovered facts in preventive medicine were not physicians, but it was the physician acting as health officer who applied this knowledge and developed the system of wholesale preventive medicine which is the main objective of health departments. But this was all individual effort, and no significant collective action in preventive medicine by organized medical societies was in evidence until the decade beginning about 1920. This was not the fault of the practicing physician. He had been taught curative medicine only—to care for the sick and injured—and only within the decade mentioned has preventive medicine been taught in an effective manner to undergraduate students of medicine. The development of preventive medicine in health departments since 1900 has been rapid, through the vigorous efforts of health officers. Even more enthusiastically unofficial agencies, by educational propaganda, have insisted on prevention and the development of facilities for prevention rather than cure.

The medical profession, holding to its primary business of curing the sick and treating the injured, steadfastly refused to establish clinics for the examination of apparently healthy people or to immunize or vaccinate against disease except upon individual request. It was natural, therefore, that both official and unofficial health agencies, in their enthusiasm, and in the absence of such facilities, should establish clinics and create in the public mind by education a demand for protection against contagious diseases by vaccination

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or immunization and for the discovery and early correction of disease and defects. Unofficial agencies were able to secure large sums of money for such preventive work; the great foundations allotted large funds for preventive work, educational and otherwise, and the official health officers secured for their departments large appropriations to prevent diphtheria, typhoid fever, tuberculosis, and, later, venereal diseases. As a result an artificial gulf developed between the physician who was a health officer and practiced preventive medicine and the physician in private practice who practiced curative medicine.

In certain diseases where treatment is necessarily a part of prevention, the doctor in private practice saw clinics develop and expand which seemed to be taking his patients away from him. This gulf should never have been created and, fortunately, is now disappearing. The undergraduates in Class A medical schools are now taught preventive medicine; and the majority of physicians in practice who had no such instruction are willing to concede that preventive medicine is part of their job. They now practice preventive medicine in individual cases but are slow to organize and establish the facilities (clinics), necessary to do the work on a large scale.

Forty years of evolution and development in public-health work has brought public-health administrators to the point where at last they know what ought to be done and the best way to do it. In those 40 years, and especially in the period since 1900, they have established both fixed and traveling clinics and have conducted wholesale immunization campaigns and wholesale examination for the discovery of defects in school children—all of which is work that should be done by the practicing physician and by the medical society as a collective unit. The only excuse for invasion of the physician's territory was that the physician individually and collectively would not do these things that were urgently necessary if we were to accomplish anything in preventive medicine. No health officer could sit idly by while children died, incipient tuberculosis became advanced tuberculosis, and venereal disease ran rampant, when agressive action, even if wrong in principle as an invasion of the private physician's field, could prevent this unnecessary loss of life.

Public-health practice is not yet standardized, but three decades of experience has taught us much. It is no longer in a state of flux. Our ideas of prevention have crystallized. Health officers now know what ought to be done and what part organized medicine should play in the drama of preventive medicine. Even with the tremendous development in public-health activity, including the clinics, immunization campaigns, drives for early discovery and correction of defects, educational propaganda and prenatal clinics for mothers, and baby-welfare stations, certain fundamental defects exist in our public-

health programs which can be corrected only by concerted effort of county medical societies or by State medicine or some system similar to State medicine.

II. PUBLIC HEALTH DEFECTS WHICH CAN BE PROPERLY CORRECTED ONLY BY THE COLLECTIVE ACTION OF ORGANIZED COUNTY MEDICAL SOCIETIES

(a) MATERNITY AND INFANCY

While the work of health departments and unofficial agencies with educational propaganda and by clinics has greatly reduced the infant mortality, the death rates for mothers in childbirth or soon after and for children under 1 month of age remain high. They are so high that they place the United States near the bottom of the list of civilized nations and really constitute a national disgrace. Money expended under such provisions as the Sheppard-Towner Act can not alone have the desired effect upon this high death rate. The condition is due principally to our lack of proper prenatal and obstetric care by physicians who have not had sufficient experience before graduation, who have no lying-in hospital available, and to the enormous number of ignorant and untrained or partially trained midwives. It is not the midwives alone who are to blame. There are too many busy general practitioners who do obstetric work who have not had the necessary undergraduate training and experience, and who lack the advantage of expert consultant advice that could be made available in a lying-in hospital and clinic established and supervised by the county medical society.

(b) THE PRESCHOOL CHILD

The greatest single defect in our public-health work to-day is our inability to secure early immunization and early discovery and correction of defects in children from 1 to 5 years old. In this field health officers have barely scratched the surface. We begin to get control of children only in the school-age group, when five years have already been lost. Strenuous efforts have been made through baby-welfare stations, parent-teacher associations, and the splendid missionary work of public-health nurses, but the fact remains that, generally speaking, this field is almost untilled. The only way in which early immunization and early discovery and correction of defects can be secured is by the action of the practicing physicians individually and collectively. Official action can not reach this group.

(c) PREVENTIVE MEDICINE FOR THE ADOLESCENT AND ADULT

Most certainly we need more general practitioners, but we need general practitioners who have knowledge of the modern technique and equipment necessary for early diagnosis in the ambulant stage.

It is too much to expect that they should have this equipment in their individual offices; but the equipment and apparatus should be readily available, within easy reach and freely used. Too often we find plain symptoms of gastric or duodenal ulcer treated for months by prescription for indigestion; incipient tuberculosis treated by prescription for months without diagnosis until it becomes moderately or far advanced; pathologic conditions of gall bladder or appendix without a Graham test or X ray treated for months by prescription until some acute climax forces operation or causes sudden death; hyperthyroidism and hypothyroidism receiving perfunctory office treatment by prescription without basal metabolism tests; treatment of female genital complaints by tampons or by guess-work surgery without X ray after the use of dyes and many other conditions which receive office treatment without the use of modern diagnostic methods.

In the large cities and medical centers the diagnostic equipment is available and more likely to be used, and the general practitioner of 50 or more years of age is likely to have kept pace with the advances in diagnostic technique. In the small cities and towns and in the large rural areas, where the average age of physicians is 52 years, it is quite another story. If a man or woman not acutely ill asks for examination or treatment, the examination is perfunctory and incomplete. The campaign and propaganda for annual physical examinations of the apparently healthy fell far short of its possibilities, because in cities the examination costs too much or the applicant feared an unknown cost, while in the small cities and towns and rural areas the facilities for complete examination did not exist.

III. FACTORS IN THE FAILURE OF ORGANIZED MEDICINE TO CORRECT THESE DEFECTS

(a) LACK OF ORGANIZATION

We speak of the organized medical profession, but its organization is little more than provision for periodic meetings for the reading and discussion of papers on scientific subjects. An exaggerated sense of ethics makes many physicians shrink from anything like business organization; yet organization on a business basis, provision of clinic facilities, regulation of fees on a sliding-scale basis according to income are essential if State medicine is to be prevented. There are notable exceptions, for instance, the medical society of Kings County (Brooklyn), the New York Academy of Medicine, and the Wayne County (Detroit) Medical Society have taken steps toward business organization with a view toward social service; but, except these and a few others in large cities, county medical societies are unorganized except for periodic meetings for the presentation and discussion of

scientific papers. The business side of their real obligation, to establish facilities for the best preventive medical and surgical advice and treatment at a price that each citizen can afford, is entirely neglected.

(*b*) COST OF MEDICAL CARE

There has been a lot of loose talk and inaccurate statements in regard to the cost of medical care. The best modern medical care is worth all that you pay for it, provided you can afford the cost. The cost has not increased out of proportion to the increased cost of other services. Medical care, especially early diagnostic procedures and treatment, has been expanded and amplified by the discovery of more precise methods of diagnosis and has become exceedingly complex. This necessarily increases the cost of examination as compared with that of 40 years ago, when the physician used only his own senses and perhaps a stethoscope.

In the large cities the facilities for early diagnosis and for the best preventive medical and surgical care are available. The trouble here is that the man of moderate means does not know what it will cost; and fearing that the cost will be excessive, he avoids the doctor and the clinic and neglects himself and his family until serious illness or injury forces him to call a doctor. In the small cities, towns, and rural areas lack of proper early preventive treatment is not due to the cost, but is due to the fact that the facilities for early diagnosis and treatment do not exist. I have seen many small cities with a small modern hospital approved by the American College of Surgeons but without an out-patient department. What does this mean? There is no provision for preventive medicine; a man must be knocked down by an automobile, have typhoid fever or pneumonia, in other words, be seriously injured or acutely ill before he comes in contact with the modern equipment of such a hospital. There must be a decentralization of modern equipment from the large cities and medical centers to the small cities and towns, and also a better distribution of young physicians who know how to use this equipment.

(*c*) DISTRIBUTION OF DOCTORS

While the problem in large cities is principally one of organization and adjustment of modern facilities which already exist, the problem in the small city, town, and rural area is the necessity for these facilities which do not now exist. Next to the need for out-patient facilities and modernly equipped clinics, the greatest need is for more and better trained physicians. One-third of the towns of 1,000 population or less in 1925 had no physician. In 1906 there were 33,000 physicians in such small towns; in 1924 there were 27,000—a decrease of 18 per cent. The average age of these physicians in 1925 was 52 years. When

they were graduated preventive medicine was not taught nor was it considered a part of a practicing physician's work. Present day methods of precision in diagnostic technique and modern equipment were unknown.

It is possible that physicians in this age group in the large cities have kept pace with advances in methods and apparatus for modern practice; but in the small city, town, or rural area it is extremely unlikely that physicians over 50 have kept up, and even if they have a reading knowledge of such methods and equipment, the facilities are not available.

The young medical graduate of a class A school to-day is trained in preventive medicine and is taught to use the modern instruments of precision in diagnosis. He learns to depend upon the modern facilities which are used in his college and hospital training. These are available in the city, and, hence, he stays in the large city. He will not go to the small town because these facilities do not exist and he can not practice medicine in the way he has been taught. Here again the remedy is obvious—there must be decentralization of modern diagnostic and treatment facilities from the large cities and medical centers to the small city.

In the distribution of young, highly trained graduates, the law of supply and demand is inoperative. Why? The reasons given above explain. The young physician would go to the small city or town where the demand for his services is greater, and the remuneration also greater, rather than practice in the keen competition of the city overcrowded with physicians, provided he could practice medicine in the modern way with modern facilities, which he considers indispensable.

IV. REMEDIES SUGGESTED FOR CORRECTION OF THESE DEFECTS

(a) ORGANIZATION OF COUNTY MEDICAL SOCIETIES AND DECENTRALIZATION OF MODERN METHODS, TECHNIQUE, AND EQUIPMENT FOR EARLY DIAGNOSIS AND TREATMENT

It is not sufficient to have all facilities for the best preventive medical and surgical diagnosis, advice, and treatment available in the large city or medical centers of a State. The citizens living in small cities, in towns, or rural areas are, in common justice, entitled to the use of such facilities quite as much as the wealthy or the poor living in the large city or medical center. The county medical society should establish or cause to be established in the county seat and, in populous counties, in other small cities out-patient clinics completely equipped for early diagnosis and treatment. They should fix the fees on a sliding scale according to income—for example, dividing the clientele into three or more classes, as follows:

(1) The indigent to be paid for by the county at a fixed rate.

(2) Those earning less than $1,500 per annum to pay a minimum fee.

(3) Those earning from $1,600 to $2,400 per annum to pay a higher fee.

(4) Those earning over $2,400 per annum to pay full fees.

The fees for house or office visits should be determined for these same classes. The facilities for diagnosis or treatment of the outpatient clinic or hospital should be available for all members of the medical society and the fees collected divided pro rata.

(b) STATE MEDICINE

The term "State medicine" is used here because it commonly signifies the bogey that continually confronts the practicing physician. State medicine means the assumption by the Government (Federal, State, or municipal) of the obligation to give every citizen or group of citizens medical and surgical care by physicians who receive no fees but are paid a salary by the Government. In general, this would mean the State government, but the same results to the practicing physician are possible by the encroachments of private corporations which assume this obligation for their employees, using salaried physicians to do the work.

The advocates of State medicine have claimed that the defects noted above in our public-health activity would be corrected by State medicine, because medical and surgical and, presumably, preventive advice and treatment would be available to all citizens without cost. One must admit that, theoretically, under such a system treatment would be available to all, but what kind of treatment? If a crowded office in which the panel doctor gives a prescription, rushes one patient out, and, like a barber, calls "Next," can satisfy the needs of scientific medicine, then the system might suffice. But to-day the average American citizen knows that he is entitled to better treatment than this. He has been educated to the point where he knows something of the newer methods and equipment used in modern diagnostics and treatment.

To me State medicine appears as a miserable makeshift. It is un-American, ultrapaternalistic, and destructive of self-respect in both doctor and patient. It is a failure in Germany, in England, and in other European countries. It is, from an American viewpoint, a pauperizing influence, wrong in principle and doomed to failure in practice if we should ever be foolish enough to try it.

In presenting this paper there were in mind two objectives: The first concerns the practicing physician; the second concerns public health administration. I should like to see the medical profession solve its own problem in its own way without outside interference by governmental or any other agency. Proper organization of county medical societies will make State medicine impossible, enable the physician to retain his self-respect, and preserve that priceless, intimate,

confidential relation that should exist between physician and patient. In regard to the second objective, more efficient public health administration, this same organization of county medical societies would also correct the defects in our public health activity cited above. It will make possible better lying-in facilities and better consultant advice for prenatal work. It will provide the machinery now lacking for early diagnosis and treatment of diseases or defects in the preschool child and in adolescents and adults as well.

REPORT ON SOME TESTS OF THE USE OF A NEW CYANOGEN PRODUCT IN SHIP FUMIGATION

By C. L. Williams, *Surgeon, United States Public Health Service*

BRIEF HISTORY OF DEVELOPMENT

For some time the American Cyanamid Co., of New York, has been endeavoring to develop a practical means of measuring small doses of "solid type" cyanide products for use in fumigating superstructure compartments on ships. The New York Quarantine Station has cooperated with representatives of this company by suggesting possible lines of development and by testing containers and material. The selection of a porous material seems undoubtedly influenced by the growing popularity of Zyklon, and with the HCN discoids the difficulty of measuring small doses required for use in fumigating small compartments has apparently been overcome. This has been done by developing a product, representing HCN in a solid form, in units, each unit carrying a definite and relatively small amount of the fumigant.

Experimental "HCN Discoids" were furnished to the New York Quarantine Station early in 1930 with the request that they be tested to determine whether they constituted an effective and practical fumigating material. Various disadvantages, appearing in the first lot of discoids, have been obviated, and the discoids at present supplied embody improvements, some of which originated with the company and some of which have been suggested by the New York Quarantine Station.

THE PRODUCT

"HCN Discoids" as at present supplied to this station consist of wood pulp disks 3⅝ inches in diameter and three thirty-seconds of an inch thick. They are very porous and obviously highly absorptive. The dried out disks when dipped in water soak up the water in a manner similar to that observed with blotting paper. The material, however, is coarser and stiffer than blotting paper. It is light yellow in color. It is claimed that these discoids are capable of absorbing

two and a half times their weight of liquid HCN. When shaken from a recently opened can they have a wet appearance and are damp and cold to the touch. About one hundred 1-pound cans have been opened during our tests, and in none of these was found any free liquid.

"HCN Discoids" are at present supplied in cans about 8 by 4 inches, each holding approximately 64 individual discoids in which is absorbed 1 pound of liquid HCN, containing, in addition, 5 per cent (by weight) of chloropicrin. It is understood that manufacturing specifications require that the number of discoids held be between 61 and 67, but in the material furnished us actual numbers have exceeded these limits, the extremes being 60 and 76. This, however, is a manufacturing problem which should be easily solved. It is designed that each discoid should hold approximately ¼ of an ounce of HCN.

The cans are made of relatively heavy material and have the appearance of being strongly constructed. They are labeled "HCN Discoids," the label carrying the usual poison warnings, various directions, and the statement "Contents, 16 ozs. hydrocyanic acid net."

To open the cans a special type of can opener is required which cuts out the top close to the rim and leaves a clean, smooth edge. The discoids, being slightly smaller than the diameter of the can, shake out easily.

The 1-pound cans are packed 48 to the case. Each can is protected by a heavy cardboard cap fitting over either end. These cardboard caps are sufficiently close fitting to be used as temporary covers after opening the cans.

It is understood that another size of can will be put on the market, each containing 40 ounces of HCN. In these the discoids will be 5⅛ inches in diameter and three thirty-seconds of an inch thick. They will be packed approximately 80 discoids to the can, each containing approximately one-half ounce of HCN.

METHOD OF USE

The can opener supplied is extremely efficient. With it half a dozen or more cans a minute may be opened. It is possible either to take the can opener to the locations where the discoids are to be applied or to open all cans required at one spot, cover the open ends with the cardboard caps, and then take them to points of use.

From the open cans the discoids are shaken out either into the hand or onto the floor. If shaken into the bare hand, the chilling and numbing effect of HCN is experienced; but this can be almost entirely eliminated by even such slight protection as lightly paraffined cotton gloves.

In the superstructure compartments it is necessary to scatter the discoids on paper, otherwise slight staining of carpets or other floor covering is experienced, similar to that caused by Zyklon. In the holds, however, they can be scattered directly on the bottom or deck. In the superstructure some care is necessary to prevent the discoids from being piled on each other, but when dropped into an empty hold there appears no tendency for them to stick together, as the force of the air scatters them widely. In the holds they can be sailed from the hatch onto the " 'tween decks."

By counting out the discoids, reasonably accurate doses can be placed in small compartments.

When discoids are put into loaded holds through hatchways it is necessary to scatter them more widely than is the case with Zyklon. When dropped down ventilators on loaded ships there is more of a tendency for the greater proportion to fall into the lower hold than appears to be the case with Zyklon. This is undoubtedly due to the larger size of the units, which prevents many of them from passing into the relatively narrow outlets onto the " 'tween decks." Those that pass to the " 'tween decks" are scattered, but those that drop down the central pipe of the ventilator into the lower hold fall in a pile. Very much the same thing happens with Zyklon.

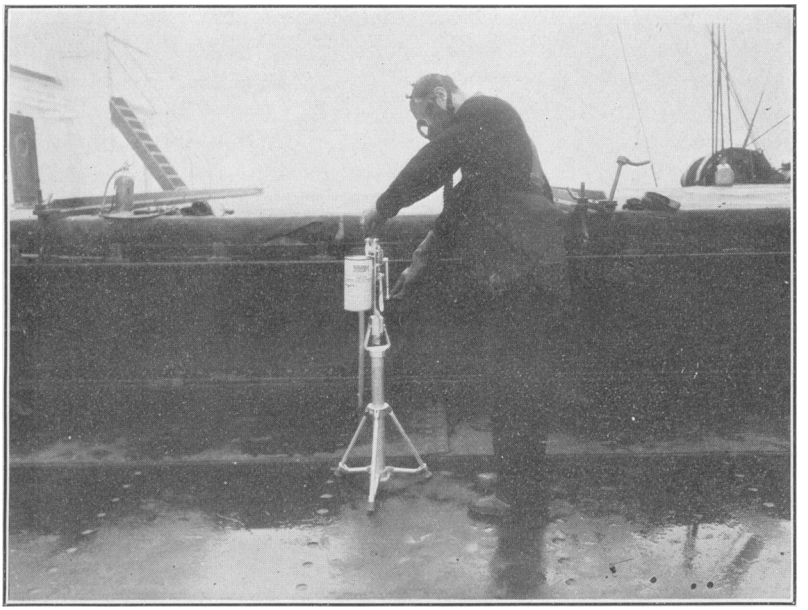
LABORATORY TESTS

Two 1-pound (net weight HCN) cans of discoids were weighed separately before being opened. The cans were then opened and the contents of one of them scattered in the open air, while the contents of the other were scattered on the floor of a room of approximately 1,000 cubic feet capacity. At intervals each lot of discoids was gathered up and weighed with its can. Following this, parallel tests were made with two 1-pound (net weight HCN) cans of Zyklon. The progressive loss of weight in each instance is shown in the following table:

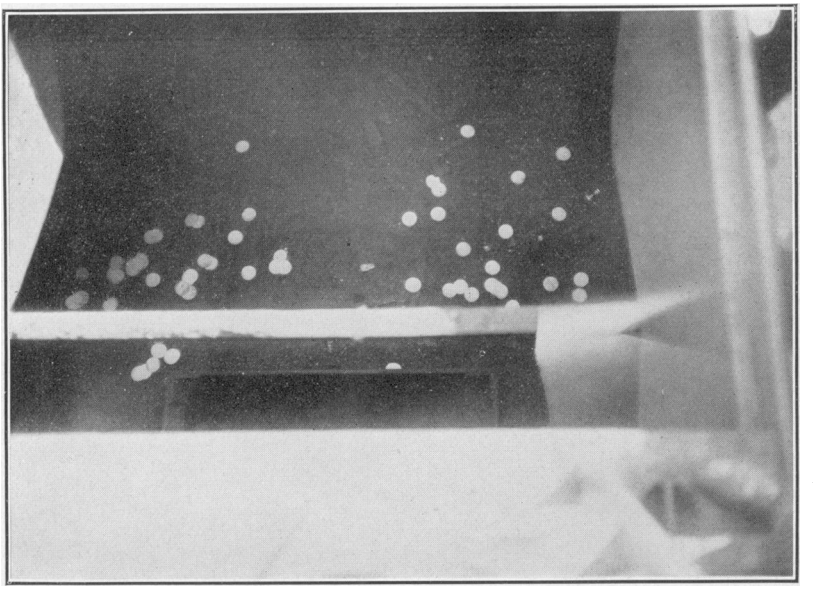
Loss of weight on exposure

Form of cyanogen and placement	Gross weight of can and contents in grams	Weight lost at end of—			
		30 minutes	45 minutes	1 hour	2 hours
		Grams	*Grams*	*Grams*	*Grams*
Discoids in room	968	195	280	388	430
Discoids in open	965	440	453	455	455
Zyklon in room	1,466	264	312	348	477
Zyklon in open	1,449	460	503	506	506

A series of rooms at Hoffman Island was fumigated with discoids, using 2, 4, 6, 8, 10, and 12 ounces of HCN per thousand cubic feet. The time of exposure was two hours, followed by airing for one hour.



Special can opener for HCN discoids. The can is put in position and the lever is pushed straight down, which brings the can up against the edge of the cutting tool, where it is held by a toothed wheel below. Turning the handle revolves the can, cutting out the top close to the rim. The can remains in position until it is released by raising the lever. The entire operation can be completed in 10 seconds



View from the deck looking down through a hatch, showing distribution of discoids from a 1-pound can scattered on the floor of a bunker. The discoids are shown as they lay after having been thrown from the can with a single sweep of the arm by a person at the hatchway on deck, about 8 feet above

The spent discoids from each room were placed in unfumigated rooms of approximately the same size, in each of which was placed a guinea pig. These rooms were then closed and the guinea pigs were observed 16 hours later. All guinea pigs were found alive. In the rooms there appeared no trace of HCN. These tests are set forth in the following table:

HCN discoids residue—effect on guinea pigs

Rooms fumigated 2 hours and aired 1 hour				Discoids placed in these unfumigated rooms each holding a guinea pig which was observed after 16 hours.		
Room No.	Capacity in cubic feet	Number of discoids used	Concentration HCN per thousand cubic feet	Placed in room No.	Capacity in cubic feet	Results after 16 hours
1	1,040	8	2	7	700	Guinea pig alive.
2	1,040	16	4	8	1,370	Do.
3	1,840	43	6	9	1,370	Do.
4	1,840	58	8	10	1,440	Do.
5	700	28	10	11	1,370	Do.
6	1,040	48	12	12	1,100	Do.

It will be noted that these tests parallel similar tests carried out by Doctor Sherrard with Zyklon residue.[1]

In these tests the discoids were examined shortly after the fumigated rooms were opened. In all cases they were found quite dry in appearance and feel. When taken into fresh air only a slight odor of HCN could be detected, although the odor of chloropicrin was distinct. After one hour of airing no odor of HCN could be detected, although a distinct odor of chloropicrin persisted. When examined the next day only a very slight odor of chloropicrin could be detected.

FUMIGATIONS ON SHIPBOARD

On shipboard two comparative fumigations were carried out in the holds. In the first of these the original thick discoids were used, while in the other the present standardized type was used. In the superstructure two comparative fumigations were also performed, one with the old type and one with the new. In addition, discoids were utilized for the fumigation of a superstructure compartment heavily infested with roaches. A number of preliminary tests were made in superstructure compartments and several informal tests in bunkers and holds which, in general, demonstrated disadvantages and indicated the changes resulting in subsequent improvement.

[1] Public Health Reports, Dec. 16, 1927. (Reprint No. 1196.)

TEST ON THE S. S. "THURLAND CASTLE"

The first comparative test in ship's holds was conducted on the S. S. *Thurland Castle* on April 25, 1930, when No. 1 hold was fumigated with liquid HCN, using the air jet sprayer, No. 2 hold with the early thick type of discoids, and the other holds with Zyklon. The engineers' quarters in the midship superstructure were fumigated on one side with Zyklon and on the other side with HCN discoids.

Before the fumigation, sampling tubes had been placed in holds 1, 2, and 5 and in both sides of the engineers' quarters. In each hold sampled, the tubes were set so as to draw air from the bottom, "'tween deck," and shelter deck, approximately in the center of the hatchway, and from the "'tween deck" close to the side of the ship.

Samples taken at the end of 30 minutes showed in hold No. 1 full concentration, that is, 2 ounces per thousand cubic feet, at all points except the shelter deck, which ran slightly lower. In hold No. 2 approximately one-half concentration, that is, 1 ounce per thousand cubic feet at all points except the "'tween deck" at the side, where it was approximately one-half ounce per thousand cubic feet. Hold No. 5 showed between 1½ and 2 ounces per thousand cubic feet in the lower hold and "'tween deck" hatch area, but only one-half ounce in the shelter deck and "'tween deck" at the side of the ship.

At the end of 75 minutes No. 1 hold showed a drop of only about one-half ounce per thousand cubic feet at all points; that is, there was still in this hold a concentration of approximately 1½ ounces per thousand cubic feet. Hold No. 2 showed an increase of concentration to 2 ounces per thousand cubic feet at the bottom; between 1 and 1½ ounces at the "'tween deck," and 1 ounce on the shelter deck. The "'tween deck" near the side of the ship showed 1½ ounces. No. 5 hold showed an increase at the bottom of the hold to 2 ounces per thousand cubic feet, and at the shelter deck to 1 ounce per thousand cubic feet; the "'tween deck" in the hatchway as well as the "'tween deck" near the side of the ship remained practically unchanged at approximately one-half ounce.

Final tests were taken 2 hours and 10 minutes after the start only in the "'tween deck" hatchway tubes. These showed in No. 1 hold 1 ounce per thousand cubic feet, in No. 2 hold 1½ ounces per thousand cubic feet, and in No. 5 hold 1½ ounces per thousand cubic feet.

The engineers' quarters at the end of 30 minutes showed on the Zyklon side one-half ounce per thousand cubic feet and on the discoid side 1 ounce per thousand cubic feet. At the end of 70 minutes on the Zyklon side concentration had increased to eight-tenths ounce, while on the discoid side it remained the same, at 1 ounce. At the end of 2 hours and 10 minutes the Zyklon side concentration had

dropped to about three-tenths ounce per thousand cubic feet, while on the discoid side it dropped to eight-tenths ounce per thousand cubic feet.

It will be seen at once that in the hold fumigated with liquid HCN a full concentration was obtained early and that this held fairly well, having dropped only 25 per cent at the end of 1¼ hours, and 50 per cent at the end of 2 hours and 10 minutes. It will also be noted that the concentration at the side under the "'tween deck "was just as high as in the hatchway. This is accounted for by the fact that the air-jet sprayer shoots the gas out under considerable force in all directions.

Compared with the liquid, both the discoids and the Zyklon developed maximum concentration more slowly and never reached the same heights in the upper levels, but retained a somewhat higher concentration at the end of two hours. As far as concentration attained is concerned, there was very little to choose between discoids and Zyklon in the holds.

In the superstructure the discoids apparently produced nearly twice the concentration reached by the Zyklon, and this was retained longer. It is believed, however, that this diversity of results may have been due to the direction of the wind, which blew *against* the side containing Zyklon and may have caused sufficient air current to keep the gas away from the sampling tube. Results in superstructures can not be predicated upon a single test.

In the superstructure the Zyklon was poured out on a piece of paper in the alleyway on one side, while the discoids were scattered on another sheet of paper in the alleyway on the other side. After airing for 10 minutes the residues were examined. The Zyklon was found quite dry throughout, but about one-quarter of the discoids were found to be still wet in appearance and feel. When brought close under the face a strong odor of HCN could be detected from them. The wet ones were in all cases the thick ones, none of them less than one-fourth inch in thickness.

The side of the superstructure in which Zyklon had been placed cleared more rapidly than did the side where the discoids had been used, but this was probably due to the wind direction.

The weather was reasonably favorable to clearing the holds, being moderately cool but not cold, with a light breeze blowing diagonally across the ship.

When the holds were opened, the odor of gas was very strong in No. 1 hold, decidedly stronger than in No. 2 or No. 5 holds. At the end of one hour gas was too strong below the shelter deck in all holds to permit a safe search for rats. At the end of one and one-half hours No. 1 hold was clear, as was also No. 5 hold. No. 2 hold was clear on the shelter and "'tween decks," but in the lower hold there was a

relatively strong tear-gas concentration and sufficient HCN to make it advisable to leave it, although probably not actually dangerous. It was obvious that the high tear-gas concentration was due to the discoids scattered over the floor of the hold. They were, therefore, gathered up, hoisted on deck, and, except for a sample taken to the laboratory, thrown overboard. They were all quite dry in appearance and feel, and when broken open did not smell of HCN, although an odor of chloropicrin was evident.

The fumigators who removed these discoids did not find it necessary to wear gas masks during the 8 to 10 minutes so employed.

All holds were found clear at the end of two hours after opening.

Some 50 or 60 discoids gathered up from the bottom of No. 2 hold were wrapped in a sack and brought back to the laboratory, being approximately 30 minutes en route. At the laboratory eight of them were put into a glass jar, capacity about 1½ cubic feet, together with two white rats, the jar then being covered with wax paper. The rats were observed for 20 minutes, during which time they showed no sign of distress. The next morning, 17 hours later, both white rats were found dead. Test papers introduced at this time showed a concentration of between one-tenth and two-tenths ounce HCN per thousand cubic feet.

The discoids are only slightly more trouble to use than is Zyklon. It is necessary to open the cans with a can opener which cuts a clean edge close to the rim, otherwise they can not be readily shaken out. In hold No. 2, however, fifteen 1-pound cans were opened and distributed in four minutes. Using 2½-pound cans, it is estimated that this could be cut to about two minutes, which compares very well with Zyklon.

The discoids have one distinct advantage over Zyklon in that the fumigators can pour them out into their hands and sail them on to the "'tween deck" from the hatch. Anyone thoroughly familiar with Zyklon fumigation knows that the general run of fumigators, unless kept under immediate surveillance, will not deposit Zyklon on the "'tween decks," because to do so generally requires that they descend into the hold. Instead, they pour it onto the bottom of the hold from the deck. This results in a thorough fumigation of the bottom of the hold, but does not produce high concentrations on the "'tween" and shelter decks.

A handful of discoids can be flipped with a motion of the wrist so that a considerable portion of them will sail on to the "'tween deck."

The discoids dropped from the can at the weather-deck hatch scattered over the bottom of the hold. There appeared to be no tendency whatever for them to stick together, and from this height they caught the air and were thoroughly separated.

This first comparative fumigation of superstructure compartments made on the S. S. *Thurland Castle* with the early thick type of discoids was inconclusive, because, while the section fumigated with discoids showed a higher concentration throughout than that fumigated with Zyklon, the latter was on the windward side of the vessel. On this occasion, when the fumigated spaces were opened, some of the discoids were found still slightly wet with HCN, while the Zyklon was quite dry.

TEST ON THE S. S. "VIRGINIA"

Another comparative fumigation was peformed with the improved thin type of discoids and Zyklon on the S. S. *Virginia*, May 13, 1930. On this occasion the forward holds were fumigated with Zyklon, while the after holds were fumigated with discoids. This vessel is a small one and in reality contains only two holds, one forward and one aft, although for the forward hold there are two hatches. There are three levels in each hold.

Inspection prior to fumigation showed a large amount of rat harborage in the form of wooden sheathing over the bulkheads and sides of the ship, placed for the purpose of keeping bananas away from the metal. There was also a considerable amount of dunnage, a number of pipe casings, and in the after hold two collections of pig-iron ballast. The ship, however, did not show signs of heavy infestation, the evidence in the after hold being very scanty, while that in the forward hold indicated the presence of probably not over 10 rats. For the entire ship an estimate of 10 to 20 rats was made. This was borne out by the recovery after fumigation of 19 rats, the majority of these in the forward hold. No rats were recovered in the after hold.

In all of the holds water was found in the bilges, while the woodwork and dunnage were decidedly damp, and the belief was expressed before fumigation was begun that much of the fumigant would be absorbed, so that the concentration would probably be low.

Prior to beginning fumigation, six sampling tubes were placed in the forward hold and an equal number in the after hold. These were placed to draw samples from all three levels, both in the hatchway and under the deck.

Zyklon in amount to produce a concentration of 2 ounces per thousand cubic feet was put into the forward hold and discoids in the same dosage into the after hold. Particular pains were taken to scatter both the Zyklon and the discoids on the " 'tween decks," as well as on the bottom of the hold.

Thirty minutes after beginning fumigation, samples were drawn from the after hold; similar samples were drawn from the forward hold 50 minutes after commencing fumigation. All of these samples showed a concentration, at all points, of approximately 1 ounce per

thousand cubic feet. Another set of samples was taken in the after hold an hour and a half after beginning fumigation and in the forward holds two hours after beginning fumigation. These samples showed a concentration at all points, except the top of the hatchway, of approximately one-half ounce per thousand cubic feet. At the top of the hatchway the concentration was about one-quarter ounce per thousand cubic feet. In the last set of samples concentration in the forward hold was apparently a little less than that in the after hold, but there was not a greater difference than could be reasonably accounted for by the longer time elapsing after beginning fumigation before the samples were taken.

After opening it required a little over one hour for both holds to clear. This was rather a long time for such a small ship (900 tons net), but was probably due to almost entire lack of breeze. As shown by test papers dropped into the holds, no difference in clearing time could be seen between the forward and after holds; but, as judged by the presence of tear gas, the forward hold cleared more rapidly than the after hold; in fact, tear gas persisted in the lower level of the after hold until the scattered discoids had been taken up and removed.

The persistence of tear gas in the hold fumigated with discoids was apparently due to the slow evaporation of the chloropicrin from the discoids. This became obvious when, on descending to the bottom of the hold, it was found that the tear gas was strong immediately under the hatchway where the discoids were scattered, but almost entirely absent in the far corners of the hold under the deck. Evidently the gas had all cleared from the corners and presumably from under the hatchway also, but under the hatchway tear gas was being constantly supplied from the discoids. That gas had been in the corners was proved by tests of samples drawn from under the deck during fumigation. The individual discoids when held under the nose smelled strongly of chloropicrin.

The discoids, when gathered up and examined, were all quite dry and gave off no discernible odor of HCN. However, a number of them were taken to the laboratory where two were placed in a jar, approximately 1½ cubic feet capacity, with a white rat, and four were placed in a similar jar with another rat. These rats showed no sign of discomfort for one-half hour, but both rats were found dead the next morning. It is a question whether they were killed by HCN or chloropicrin.

It was reported to the laboratory by a representative of the American Cyanamid Co. that they had exposed some of the same lot of discoids in amount to produce 2 ounces HCN per thousand cubic feet in a room for two hours, and then aired them in the usual manner by opening up the fumigated room for one hour and had found that

the discoids then contained only 0.03 of 1 per cent of their original HCN content.

Comparison of 30 or 40 separate discoids with each other showed them to be quite uniform in thickness, approximately one-eighth inch thick. Unlike the original discoids, which were manufactured of pulp paper, these are made from wood pulp and are manufactured under a controlled process insuring uniform thickness.

On the basis of these and former comparative tests, it can be stated with reasonable certainty that from the standpoint of fumigation effectiveness there is no material difference between HCN discoids and Zyklon. The only point at which they appear to differ at all in their effect is that the discoids hold the warning gas (chloropicrin) much longer than does the Zyklon, and consequently clearing is delayed, particularly if clearing is based on the disposition of the warning gas. It can hardly be said that this is a disadvantage, because the warning gas is mixed with the HCN for the specific purpose of giving warning of the presence of the HCN. If the warning gas persists after the HCN has disappeared the margin of safety becomes greater.

The new disks are packed 64 to the 1-pound can, so that each disk contains approximately one-quarter ounce of liquid HCN. This does not appear to be too great a number, and it certainly simplifies the problem of placing accurate dosage in small compartments. The discoids can be turned into the hand and counted. If turned out into the bare hand, some effect is noted from the HCN, but the protection even of cotton gloves eliminates nearly all this.

The amount of HCN retained by the discoids hardly seems sufficient to be a source of danger. To become so, it would be necessary to gather up all of the discoids from a hold and confine them with a man in a very small room for several hours. The retained chloropicrin can hardly be regarded as a danger, since its presence in dangerous amounts is intolerable on account of the tear effect.

On this vessel a mess room, heavily infested with cockroaches, was fumigated with discoids, using 10 ounces per thousand cubic feet and exposure for two hours. Two thousand (estimated) cockroaches were gathered after fumigation and taken to the laboratory. Next morning six had recovered. These are believed to have emerged late in the fumigation from behind a large mirror attached to one wall.

TESTS ON THE S. S. "PRESIDENT FILLMORE"

In the comparative test of superstructure fumigation, made with the improved discoids on the S. S. *President Fillmore*, May 1, 1930, it was possible to fumigate two sides of a deck structure, comprising the smoking room and sitting room, separated by a partition running from side to side, and subject to similar atmospheric conditions on both sides.

Concentration tests taken at the end of 30 minutes, 1 hour, and 2 hours showed a concentration in each compartment of approximately 2 ounces per thousand cubic feet. This is unusually high for the superstructure, but in this instance was probably due to the exceptionally close fit of all windows and doors and the almost total lack of wind.

When opened both sides of this superstructure compartment cleared rapidly, there being very little difference in persistence of tear effect, although the discoids smelled decidedly more strongly of chloropicrin than did the Zyklon residue. Despite the fact that a few of the discoids had been purposely left piled on top of each other, all of them were found quite dry in appearance and feel and, so far as could be determined by the sense of smell, entirely free of HCN.

Sixteen of the discoids were brought to the laboratory and put in a jar of 1½ cubic feet capacity with two white rats. An equivalent amount of the Zyklon residue was put into a similar jar with two other white rats. The rats in the jar with the discoids were both dead at the end of two hours, while those with the Zyklon residue showed no signs of being affected throughout 24 hours.

CHEMICAL TESTS OF SPENT DISCOIDS BY THE AMERICAN CYANAMID CO.

Thirty-two of the discoids used in fumigation on the S. S. *President Fillmore* were taken by a representative of the American Cyanamid Co. and analyzed in their laboratory. The report was that the 32 discoids contained a total of 0.014 gram of HCN. It will be noted that if the discoids brought to the laboratory contained the same relative amount, then the 16 placed in a jar with two white rats would have contained 0.007 gram, which, if all became vaporized, would produce a concentration in the jar of 3 grams per thousand cubic feet. This concentration is sufficient to kill white rats in two hours.

The American Cyanamid Co. exposed discoids in a room for a period of two hours followed by an aeration period of one hour. They then analyzed the spent discoids and found in one test that they had lost 99.94 per cent and in another test 99.97 per cent of their original HCN content.

COMMENT

On the basis of these tests there appears to be little to choose between HCN discoids and Zyklon for the purpose of fumigation of ships. Comparative tests showed that the concentration of HCN, produced under similar conditions, was practically identical for both products. Zyklon is slightly more convenient to use in the holds, but is not as readily distributed to the "'tween decks". The discoids provide a means of more easily measuring accurate dosage for superstructure compartments. The spent discoids probably retain a slightly larger amount of HCN than does the Zyklon residue and

obviously hold chloropicrin longer. This latter, however, can hardly be termed a disadvantage, since it supplies a longer warning effect and consequently a greater margin of safety.

The present improved discoids were not supplied the station until warm weather had begun; therefore it has been impossible to test their performance in cold weather. It is, of course, possible that in cold weather the spent discoids might retain a materially larger proportion of HCN, although it does not appear likely that they would retain a dangerous amount.

DEATH RATES IN A GROUP OF INSURED PERSONS

Rates for Principal Causes of Death for June, 1931

The accompanying table, taken from the Statistical Bulletin for July, 1931, issued by the Metropolitan Life Insurance Co., presents the mortality record of the industrial insurance department of the company for June as compared with that for the preceding month and for the corresponding month of last year. It also gives the cumulative rates for the period January–June of the years 1930 and 1931. The rates are based on a strength of approximately 19,000,000 insured persons in the United States and Canada. In recent years the general death rate in this more or less selected group of persons has averaged about 72 per cent of the rate for the registration area of the United States.

Death rates (annual basis) per 100,000 for principal causes of death

[Industrial insurance department, Metropolitan Life Insurance Co.]

Causes of death	Death rate per 100,000 lives exposed*				
	June, 1931	May, 1931	June, 1930	Cumulative January to June	
				1931	1930
Total, all causes	835.1	841.8	843.2	952.3	936.4
Typhoid fever	1.9	1.6	1.9	1.2	1.3
Measles	5.5	5.9	5.5	4.9	4.7
Scarlet fever	3.7	3.9	2.1	4.0	3.4
Whooping cough	3.2	3.4	3.9	3.7	4.7
Diphtheria	3.3	4.2	3.7	4.7	7.2
Influenza	8.9	16.9	8.0	34.1	21.4
Tuberculosis (all forms)	77.9	79.5	83.9	81.7	86.7
Tuberculosis of respiratory system	67.9	70.0	72.9	72.2	75.2
Cancer	81.2	77.4	77.1	83.1	77.0
Diabetes mellitus	19.4	18.9	15.8	22.7	19.8
Cerebral hemorrhage	59.1	60.4	58.3	65.4	62.9
Organic diseases of heart	139.3	145.3	141.4	162.7	158.5
Pneumonia (all forms)	53.2	71.8	59.1	104.6	102.9
Other respiratory diseases	8.9	10.2	12.0	12.3	12.7
Diarrhea and enteritis	10.8	8.8	16.1	10.2	12.6
Bright's disease (chronic nephritis)	65.8	64.4	70.8	71.8	72.1
Puerperal state	11.4	10.4	12.2	11.9	13.1
Suicides	10.8	9.5	10.0	9.9	9.7
Homicides	6.2	7.3	4.9	6.6	6.3
Other external causes (excluding suicides and homicides)	65.3	51.8	62.7	55.0	58.0
Traumatism by automobiles	22.9	18.1	20.3	19.2	18.4
All other causes	199.3	190.2	193.7	202.0	201.1

*All figures in this table include insured infants under one year of age. The rates for 1931 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

With regard to health conditions in this group for June, 1931, as indicated by mortality, the Bulletin states:

With a single exception, the June rate among Metropolitan industrial policyholders, in 1931 (8.4 per 1,000), was lower than ever registered for any previous June. The excellent health record of the month was brought about, largely, by reductions in the mortality from tuberculosis, heart disease, pneumonia and other respiratory conditions, diarrhea and enteritis, and Bright's disease. Improvement in the above respects more than counterbalanced the higher death rates observed for cancer, diabetes, suicides, homicides, and automobile fatalities.

COURT DECISION RELATING TO PUBLIC HEALTH

Court refuses to pass on constitutionality of milk pasteurization plant law.—(Rhode Island Supreme Court; First Nat. Stores, Inc., et al. *v.* Lewis, Commissioner of Agriculture, 155 A. 534; decided June 26, 1931.) A suit was brought to restrain the State commissioner of agriculture from enforcing certain provisions of chapter 1594 of the Public Laws of 1930. This act related to the pasteurization of milk and the ground of attack on certain of its provisions was that they were unconstitutional because unreasonably discriminatory. The respondent, instead of answering, demurred to the bill, thus admitting the allegations of unreasonable discrimination, and, inferentially, the unconstitutionality of the provisions assailed. Acting pursuant to statute, the superior court certified the cause to the supreme court, but the latter court stated that it was "unwilling to decide a question as to the constitutionality of an act of the general assembly on a record wherein it is admitted as a matter of pleading that the provisions of the act complained of are unreasonably discriminatory" and ordered that the cause be remanded to the superior court "with directions to take such testimony as the parties may offer on issues of fact, relevant to constitutional questions raised by appropriate pleadings, and to then certify the cause to this court."

DEATHS DURING WEEK ENDED AUGUST 8, 1931

Summary of information received by telegraph from industrial insurance companies for the week ended August 8, 1931; and corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

	Week ended August 8, 1931	Corresponding week, 1930
Policies in force	75, 039, 929	75, 893, 116
Number of death claims	11, 944	12, 616
Death claims per 1,000 policies in force, annual rate	8. 3	8. 7
Death claims per 1,000 policies, first 32 weeks of year	10. 2	10. 0

Deaths [1] from all causes in certain large cities of the United States during the week ended August 8, 1931, infant mortality, annual death rate, and comparison with corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

[The rates published in this summary are based upon midyear population estimates derived from the 1930 census]

City	Week ended Aug. 8, 1931				Corresponding week, 1930		Death rate [2] for the first 32 weeks	
	Total deaths	Death rate [2]	Deaths under 1 year	Infant mortality rate [3]	Death rate [2]	Deaths under 1 year	1931	1930
Total (82 cities)	7,097	10.4	649	[4] 51	11.1	702	12.6	12.5
Akron	40	8.1	9	89	4.9	3	8.0	8.0
Albany [5]	21	8.5	0	0	18.0	3	14.2	15.4
Atlanta	50	9.4	5	51	13.8	9	15.6	16.5
White	23		4	63		4		
Colored	27	(6)	1	29	(6)	5	(6)	(6)
Baltimore [5]	223	14.3	22	75	14.1	25	15.2	14.6
White	164		15	65		18		
Colored	59	(6)	7	109	(6)	7	(6)	(6)
Birmingham	61	11.8	5	50	11.8	5	14.2	14.3
White	34		2	34		1		
Colored	27	(6)	3	73	(6)	4	(6)	(6)
Boston	174	11.6	18	51	12.1	18	14.8	14.7
Bridgeport	28	9.9	4	66	6.0	2	11.6	11.7
Buffalo	122	10.9	12	49	11.7	12	13.7	13.5
Cambridge	28	12.8	3	60	11.0	4	12.8	12.4
Camden	28	12.3	6	105	14.9	3	14.8	14.3
Canton	24	11.7	5	114	6.4	2	10.7	10.5
Chicago [5]	627	9.5	51	45	9.9	67	11.3	10.8
Cincinnati	147	16.8	20	120	13.6	10	16.6	16.1
Cleveland	166	9.5	15	44	9.8	15	11.6	11.6
Columbus	65	11.5	4	39	11.1	7	14.3	16.6
Dallas	52	10.0	2		12.1	14	11.9	12.0
White	35		2			12		
Colored	17	(6)	0		(6)	2	(6)	(6)
Dayton	29	7.3	3	42	7.7	4	12.3	10.5
Denver	65	11.6	5	48	14.3	9	14.5	14.9
Des Moines	25	9.0	2	35	13.1	3	11.7	12.3
Detroit	198	6.2	25	40	8.2	30	8.7	9.8
Duluth	26	13.3	8	196	12.3	2	11.2	11.5
El Paso	25	12.4	5		11.1	4	16.7	18.1
Erie	20	8.9	1	19	9.9	2	10.7	11.5
Fall River [5] [7]	15	6.8	0	0	10.9	2	11.9	12.8
Flint	7	2.2	0	0	10.6	6	7.4	9.5
Fort Worth	32	10.0	2		12.1	2	11.3	11.4
White	24		2			2		
Colored	8	(6)	0		(6)	0	(6)	(6)
Grand Rapids	28	8.5	2	30	9.9	5	9.4	10.9
Houston	53	8.9	4		11.5	9	11.4	12.5
White	29		3			9		
Colored	24	(6)	1		(6)	0	(6)	(6)
Indianapolis	107	15.1	4	33	25.8	5	14.4	15.2
White	87		4	38		4		
Colored	20	(6)	0	0	(6)	1	(6)	(6)
Jersey City	60	9.8	9	80	10.4	6	12.2	11.9
Kansas City, Kans	26	11.0	2	41	13.2	8	13.5	11.5
White	19		2	49		7		
Colored	7	(6)	0	0	(6)	1	(6)	(6)
Kansas City, Mo	104	13.3	11	83	14.9	3	14.0	13.6
Knoxville	24	11.5	4	85	17.1	6	13.0	14.5
White	22		4	95		6		
Colored	2	(6)	0	0	(6)	0	(6)	(6)
Long Beach	29	9.9	1	24	8.3	0	10.1	10.0
Los Angeles	216	8.5	19	55	10.1	22	11.0	11.3
Louisville	85	14.4	10	86	16.1	6	14.9	14.1
White	63		7	69		5		
Colored	22	(6)	3	199	(6)	1	(6)	(6)
Lowell [7]	20	10.4	2	51	9.8	2	13.0	14.1
Lynn	11	5.6	2	52	9.2	0	10.3	11.2
Memphis	70	14.1	9	95	15.0	10	16.9	18.1
White	32		6	100		5		
Colored	38	(6)	3	87	(6)	5	(6)	(6)
Miami	21	9.7	1	25	9.9	4	12.3	11.7
White	17		1	35		0		
Colored	4	(6)	0	0	(6)	4	(6)	(6)

Footnotes at end of table.

Deaths [1] from all causes in certain large cities of the United States during the week ended August 8, 1931, infant mortality, annual death rate, and comparison with corresponding week of 1930—Continued

[The rates published in this summary are based upon midyear population estimates derived from the 1930 census]

City	Week ended Aug. 8, 1931				Corresponding week, 1930		Death rate [2] for the first 32 weeks	
	Total deaths	Death rate [2]	Deaths under 1 year	Infant mortality rate [3]	Death rate [2]	Deaths under 1 year	1931	1930
Milwaukee	96	8.5	12	52	7.1	6	9.8	10.0
Minneapolis	78	8.6	6	39	12.6	10	11.9	11.0
Nashville	54	18.1	8	119	20.6	13	17.4	17.1
White	35		5	100		9		
Colored	19	(6)	3	177	(6)	4	(6)	(6)
New Bedford [7]	17	7.9	1	27	8.3	2	13.0	11.6
New Haven	36	11.5	1	19	13.8	2	12.7	13.7
New Orleans	128	14.3	13	71	14.7	7	17.5	18.1
White	78		7	58		3		
Colored	50	(6)	6	98	(6)	4	(6)	(6)
New York	1,358	10.9	109	46	9.9	105	11.8	11.4
Bronx Borough	200	7.8	10	23	7.1	11	8.7	8.3
Brooklyn Borough	478	9.5	49	52	8.9	41	10.9	10.4
Manhattan Borough	501	14.4	38	65	15.1	45	18.0	17.0
Queens Borough	146	6.6	8	22	5.8	7	7.6	7.4
Richmond Borough	33	10.5	4	72	15.1	1	14.1	14.9
Newark, N. J	74	8.7	8	42	10.7	6	12.3	12.7
Oakland	48	8.6	2	26	10.6	2	10.7	11.2
Oklahoma City	31	8.2	6	83	12.8	12	11.4	10.7
Omaha	68	16.4	4	45	15.1	3	14.5	14.4
Paterson	27	10.1	4	69	10.5	1	14.0	12.7
Peoria	21	10.1	3	79	15.8	1	13.2	13.0
Philadelphia	427	11.3	32	46	10.8	47	13.9	13.1
Pittsburgh	143	11.0	13	45	12.3	21	15.4	14.4
Portland, Oreg	58	9.9	0	0	11.2	1	12.0	12.7
Providence	45	9.2	6	55	10.7	6	13.4	13.8
Richmond	55	15.6	10	146	14.8	5	16.3	15.6
White	23		3	66		1		
Colored	32	(6)	7	304	(6)	4	(6)	(6)
Rochester	57	9.0	2	18	8.4	5	12.3	11.9
St. Louis	211	13.3	18	61	13.1	8	16.2	15.0
St. Paul	48	9.1	5	52	7.5	2	11.3	10.5
Salt Lake City [4]	22	8.0	1	15	11.9	2	12.4	13.0
San Antonio	60	13.0	10		15.0	12	15.3	17.8
San Diego	26	8.7	3	61	12.6	2	14.0	14.7
San Francisco	136	10.9	4	27	9.3	4	13.2	13.8
Schenectady	20	10.8	2	59	7.1	1	10.7	11.6
Seattle	66	9.3	2	19	10.2	7	11.7	11.1
Somerville	11	5.5	2	74	9.5	1	9.5	10.3
South Bend	18	8.7	2	50	6.0	4	8.5	9.3
Spokane	27	12.1	4	104	6.8	1	12.6	12.6
Springfield, Mass	24	8.2	0	0	10.4	4	12.4	12.7
Syracuse	34	8.3	7	83	10.7	5	12.0	12.1
Tacoma	16	7.7	1	26	17.1	0	12.6	12.9
Toledo	82	14.5	8	73	10.9	4	12.5	13.2
Trenton	33	13.9	2	35	15.2	3	17.3	17.2
Utica	24	12.2	1	26	17.4	2	14.6	15.8
Washington, D. C	146	15.4	17	94	14.2	16	16.4	15.7
White	95		10	82		5		
Colored	51	(6)	7	120	(6)	11	(6)	(6)
Waterbury	10	5.2	1	30	9.9	3	9.9	10.4
Wilmington, Del. [7]	31	15.2	2	43	15.7	2	14.6	14.8
Worcester	40	10.6	2	27	11.2	4	12.9	13.5
Yonkers	11	4.1	0	0	9.2	4	8.8	8.4
Youngstown	28	8.4	3	42	11.0	7	10.8	10.5

[1] Deaths of nonresidents are included. Stillbirths are excluded.

[2] These rates represent annual rates per 1,000 population, as estimated for 1931 and 1930 by the arithmetical method.

[3] Deaths under 1 year of age per 1,000 live births. Cities left blank are not in the registration area for births.

[4] Data for 77 cities.

[5] Deaths for week ended Friday.

[6] For the cities for which deaths are shown by color, the percentage of colored population in 1920 was as follows: 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; Miami, 31; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

[7] Population Apr. 1, 1930; decreased 1920 to 1930, no estimate made.

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 August 15, 1931, and August 16, 1930

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended August 15, 1931, and August 16, 1930

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930
New England States:								
Maine				1	1	2	2	0
New Hampshire						1	0	0
Vermont					6		0	0
Massachusetts	31	44	1	1	65	55	1	1
Rhode Island	2				21	2	0	0
Connecticut	13	4	1		23	11	0	0
Middle Atlantic States:								
New York	62	48	[1] 2	[1] 0	126	39	11	18
New Jersey	19	37	2		27	33	5	7
Pennsylvania	50	46			111	129	6	8
East North Central States:								
Ohio	21	32	10	7	105	49	6	4
Indiana	13	6			6	5	2	1
Illinois	41	56	2	3	67	16	4	6
Michigan	21	29			34	46	4	16
Wisconsin	10	17	12	4	40	66	0	4
West North Central States:								
Minnesota	14	6	1	4	5	3	1	3
Iowa	6	2			3		0	1
Missouri	15	8			3	9	1	2
North Dakota	4	2			10	5	1	3
South Dakota	2	7				3	0	0
Nebraska		2		1	3	7	0	0
Kansas	3	7			6	14	1	1
South Atlantic States:								
Delaware		2			1	3	0	0
Maryland [2] [3]	7	9	2	4	6	7	2	0
District of Columbia	7	3			1	6	1	0
West Virginia	5	8		2	55	12	1	0
North Carolina [3]	22	54	1		16	7	1	4
South Carolina	11	18	68	29	11	5	1	0
Georgia [3]	17		6	10	14	6	0	1
Florida	3	4	1		1	2	0	3

[1] New York City only.
[2] Week ended Friday.
[3] Typhus fever: 1931, 19 cases; 2 cases in Maryland; 1 case in North Carolina; 7 cases in Georgia; 5 cases in Alabama; and 4 cases in Texas.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended August 15, 1931, and August 16, 1930—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930
East South Central States:								
Kentucky					11		1	0
Tennessee	14	3	13	1	4	4	4	0
Alabama [3]	16	15	3	6	17	15	5	3
Mississippi	11	9					0	1
West South Central States:								
Arkansas	27			4			2	0
Louisiana	12	12	5	10	1	11	0	0
Oklahoma [4]	4	4	4	8	2	4	0	1
Texas [3]	18	15	6		4	7	0	2
Mountain States:								
Montana		1			6	4	0	0
Idaho				1			0	0
Wyoming	1						2	0
Colorado	9	2				12	0	2
New Mexico	1	8			1	2	0	0
Arizona		2	4		2	9	0	0
Utah			6		4	1	0	2
Pacific States:								
Washington	3	7			8	26	1	4
Oregon	2	2	8	1	4	15	0	0
California	36	42	12		53	85	3	3

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug.16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930
New England States:								
Maine	2	2	4	5	0	0	1	3
New Hampshire	3	0	4	3	0	0	1	0
Vermont	5	0	12	2	2	0	0	0
Massachusetts	90	25	50	45	0	0	12	21
Rhode Island	18	2	3	3	0	0	7	1
Connecticut	67	1	12	5	0	0	6	0
Middle Atlantic States:								
New York	600	48	77	49	1	1	42	28
New Jersey	97	3	29	16	0	0	11	16
Pennsylvania	8	9	76	62	0	0	37	56
East North Central States:								
Ohio	9	19	75	71	2	7	38	45
Indiana	3	4	10	17	5	13	7	12
Illinois	26	14	54	56	7	29	27	39
Michigan	33	6	59	41	7	20	7	8
Wisconsin	24	1	16	24	2	2	1	7
West North Central States:								
Minnesota	29	25	19	13	0	2	3	2
Iowa	1	2	10	1	9	4	3	1
Missouri	0	6	8	9	1	7	8	35
North Dakota	0	0	1	7	2	13	23	3
South Dakota	1	4	0	0	0	3	1	9
Nebraska	0	1	2	3	0	8	7	4
Kansas	0	17	12	6	3	12	7	26
South Atlantic States:								
Delaware	0	0	4	1	0	0	3	7
Maryland [2] [3]	1	1	10	8	0	0	22	65
District of Columbia	1	0	1	4	0	0	1	5
West Virginia	2	1	7	13	0	1	32	39
North Carolina [3]	10	2	29	34	0	3	50	68
South Carolina	0	0	5	9	0	0	70	41
Georgia [3]	1	2	4	7	2	0	69	50
Florida	0	0	2	3	0	0	4	6

[1] Week ended Friday.

[2] Typhus fever: 1931, 19 cases; 2 cases in Maryland; 1 case in North Carolina; 7 cases in Georgia; 5 cases in Alabama; and 4 cases in Texas.

[4] Figures for 1931 are exclusive of Oklahoma City and Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended August 15, 1931, and August 16, 1930—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug.16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930	Week ended Aug. 15, 1931	Week ended Aug. 16, 1930
East South Central States:								
Kentucky	0	0	7	4	0	13	65	50
Tennessee	0	0	18	7	34	0	94	104
Alabama [3]	0	0	14	13	0	0	44	32
Mississippi	1	3	8	9	12	0	22	28
West South Central States:								
Arkansas	0	3	3	1	2	0	56	34
Louisiana	0	20	4	3	1	0	51	56
Oklahoma [4]	1	14	9	6	0	3	42	57
Texas [3]	1	5	12	9	1	53	43	35
Mountain States:								
Montana	1	0	12	9	2	1	3	2
Idaho	0	1	0	0	0	2	2	0
Wyoming	0	0	0	4	0	0	0	0
Colorado	0	6	2	7	0	0	13	10
New Mexico	0	1	4	2	1	1	6	5
Arizona	0	1	1	3	0	0	0	4
Utah	0	0	2	3	0	0	2	2
Pacific States:								
Washington	3	1	5	14	5	10	4	3
Oregon	0	2	4	4	9	1	5	8
California	2	51	21	27	1	5	13	18

[3] Typhus fever: 1931, 19 cases; 2 cases in Maryland; 1 case in North Carolina; 7 cases in Georgia; 5 cases in Alabama; and 4 cases in Texas.
[4] Figures for 1931 are exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
June, 1931										
Arkansas	1	5	23	122	146	838	2	26	113	53
Colorado	1	23	----	----	480	1	2	73	26	20
July, 1931										
Idaho	5	4	----	----	15	----	0	17	8	2
Indiana	14	45	5	----	274	----	6	116	159	23
Maine	1	8	----	----	64	1	6	35	0	4
Maryland	7	36	5	3	306	3	1	72	1	63
Massachusetts	6	168	9	5	965	3	60	482	0	37
Michigan	13	93	1	1	541	1	29	462	39	19
New Jersey	10	91	1	----	771	----	40	244	1	21
Ohio	9	74	21	3	1,080	1	5	295	104	81
Porto Rico	----	46	1,228	3,561	14	2	0	----	0	28
West Virginia	4	13	----	----	235	2	2	29	7	73

June, 1931	Cases
Arkansas:	
Chicken pox	54
Hookworm disease	4
Mumps	18
Ophthalmia neonatorum	3
Trachoma	1
Whooping cough	41
Colorado:	
Chicken pox	169
German measles	2
Mumps	153
Paratyphoid fever	3
Rocky Mountain spotted or tick fever	1
Septic sore throat	2
Vincent's angina	5
Whooping cough	248

July, 1931	
Chicken pox:	
Idaho	10
Indiana	42
Maine	45
Maryland	72
Massachusetts	370
Michigan	343
New Jersey	324
Ohio	288
Porto Rico	5
West Virginia	29
Diarrhea:	
Maryland	54
Diarrhea and enteritis:	
Ohio (under 2 years)	41
Dysentery:	
Maryland	19
Michigan	1
New Jersey	4
Ohio	2
Porto Rico	12
Filariasis:	
Porto Rico	3
Food poisoning:	
Ohio	37
German measles:	
Maine	2
Maryland	10
Massachusetts	71
New Jersey	50
Ohio	35
Impetigo contagiosa:	
Maryland	8
Lead poisoning:	
Massachusetts	2
New Jersey	1
Leprosy:	
Porto Rico	1
Lethargic encephalitis:	
Maine	1
Michigan	8
New Jersey	4
Ohio	3
Mumps:	
Idaho	5
Indiana	14
Maine	55
Maryland	57
Massachusetts	270
Michigan	222
New Jersey	129
Ohio	427
Porto Rico	8
Ophthalmia neonatorum:	
Massachusetts	108
New Jersey	4
Ohio	74
Porto Rico	4
Paratyphoid fever:	
New Jersey	1
Porto Rico	1
Puerperal septicemia:	
Ohio	9
Porto Rico	7
Rabies in animals:	
Maryland	5
Rabies in man:	
Massachusetts	1
Michigan	1
Ohio	1
Rocky Mountain spotted or tick fever:	
Maryland	4
Septic sore throat:	
Indiana	1
Maryland	6
Massachusetts	14
Michigan	4
Ohio	48
Tetanus:	
Maine	1
Maryland	3
Massachusetts	6
New Jersey	1
Ohio	9
Porto Rico	6
Tetanus, infantile:	
Porto Rico	18
Trachoma:	
Massachusetts	3
Tularaemia:	
Ohio	1
Typhus fever:	
Maryland	3
Undulant fever:	
Idaho	2
Maine	1
Maryland	7
Massachusetts	1
Michigan	1
New Jersey	3
Ohio	7
Vincent's angina:	
Maine	13
Maryland	9
Whooping cough:	
Idaho	8
Indiana	337
Maine	55
Maryland	433
Massachusetts	520
Michigan	1,370
New Jersey	1,536
Porto Rico	338
West Virginia	252

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 96 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 32,555,000. The estimated population of the 89 cities reporting deaths is more than 31,010,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended August 8, 1931, and August 9, 1930

	1931	1930	Estimated expectancy
Cases reported			
Diphtheria:			
46 States	476	571	----------
96 cities	201	230	389
Measles:			
45 States	1,238	1,109	----------
96 cities	377	306	----------
Meningococcus meningitis:			
45 States	72	94	----------
96 cities	24	54	----------
Poliomyelitis:			
46 States	1,029	253	----------
Scarlet fever:			
46 States	812	621	----------
96 cities	296	194	250
Smallpox:			
45 States	159	259	----------
96 cities	20	17	16
Typhoid fever:			
46 States	999	980	----------
96 cities	140	107	133
Deaths reported			
Influenza and pneumonia:			
89 cities	300	324	----------
Smallpox:			
89 cities	1	0	----------
Minneapolis, Minn	1	0	----------

City reports for week ended August 8, 1931

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 nonepidemic 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 1922 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	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	0	0	1	----------	0	0	0	
New Hampshire:								
Concord	0	0	0	----------	0	0	0	0
Nashua	0	0	0	----------	0	0	0	0

City reports for week ended August 8, 1931—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND—con.								
Vermont:								
Barre	0	0	0		0	0	0	0
Burlington	0	0	0		0	0	2	0
Massachusetts:								
Boston	6	15	21	1	1	2	4	4
Fall River	0	1	0		0	8	2	0
Springfield	1	1	0		0	4	1	2
Worcester	5	2	0		0	1	3	1
Rhode Island:								
Pawtucket	0	0	0		0	1	0	0
Providence	3	2	4		0	34	5	4
Connecticut:								
Bridgeport	0	2	0		0	5	1	0
Hartford	0	1	1		0	1	0	3
New Haven	2	0	0		0	0	2	0
MIDDLE ATLANTIC								
New York:								
Buffalo	2	7	3		0	8	4	5
New York	23	104	43	1	0	69	15	81
Rochester	0	2	1	1	0	16	6	3
Syracuse	0	1	0		0	12	0	0
New Jersey:								
Camden	0	3	0		0	0	0	4
Newark	4	8	1	1	0	5	2	4
Trenton	0	1	0	1	0	2	3	1
Pennsylvania:								
Philadelphia	24	28	6	6	4	13	12	9
Pittsburgh	1	10	5	2	2	2	13	9
Reading	1	1	0		0	0	0	1
EAST NORTH CENTRAL								
Ohio:								
Cincinnati	1	3	0		0	1	1	4
Cleveland	7	14	2	5	0	30	24	6
Columbus	1	2	2	1	0	0	1	1
Toledo	6	2	1		1	6	1	3
Indiana:								
Fort Wayne	0	1	1		0	0	0	1
Indianapolis	0	2	0		0	1	5	9
South Bend	2	1	0		0	0	0	1
Terre Haute	1	0	0		0	0	0	0
Illinois:								
Chicago	6	52	33		1	52	8	22
Springfield	0	0	0		0	1	4	2
Michigan:								
Detroit	4	23	9		1	6	1	6
Flint	3	1	3		0	0	1	0
Grand Rapids	1	1	0		0	3	1	1
Wisconsin:								
Kenosha	0	0	0		0	0	11	0
Madison	1	0	0			0	6	
Milwaukee	12	6	1		0	48	21	2
Racine	1	1	0		0	1	7	0
Superior	3	1	0		0	0	0	2
WEST NORTH CENTRAL								
Minnesota:								
Duluth	2	0	0		0	0	1	0
Minneapolis	1	8	3		0	3	3	1
St. Paul		4						
Iowa:								
Des Moines	0	1	0			0	0	
Sioux City	1	0	2			0	0	
Waterloo	0	0	1			0	1	
Missouri:								
Kansas City	0	1	2		0	0	0	7
St. Joseph	0	0	1		0	0	0	1
St. Louis	0	13	5			0	4	8

City reports for week ended August 8, 1931—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
WEST NORTH CENTRAL—Contd.								
North Dakota:								
Fargo	0	0	0	----	0	1	1	0
Grand Forks	0	0	0	----	----	0	0	----
South Dakota:								
Aberdeen	1	0	0	----	----	0	0	----
Sioux Falls	0	0	0	----	----	0	0	----
Nebraska:								
Omaha	1	2	1	----	0	0	0	3
Kansas:								
Topeka	1	0	0	----	0	2	11	0
Wichita	0	1	0	----	0	1	0	0
SOUTH ATLANTIC								
Delaware:								
Wilmington	0	0	1	----	0	0	2	3
Maryland:								
Baltimore	2	9	4	----	0	6	4	15
Cumberland	0	0	0	----	0	0	0	0
Frederick	0	0	0	----	0	0	0	0
District of Columbia:								
Washington	3	5	4	----	0	4	0	5
Virginia:								
Lynchburg	2	0	1	----	0	1	0	1
Norfolk	0	0	0	----	0	0	0	0
Richmond	0	2	1	----	0	0	0	3
Roanoke	0	0	0	----	0	1	0	0
West Virginia:								
Charleston	0	0	0	----	0	0	0	0
Wheeling	0	1	0	----	0	3	0	0
North Carolina:								
Raleigh	0	0	0	----	0	1	0	3
Wilmington	0	0	1	----	0	0	0	1
Winston-Salem	0	1	0	----	0	0	0	1
South Carolina:								
Charleston	0	0	0	7	0	0	0	3
Columbia	0	0	0	----	0	0	0	2
Greenville	0	0	0	----	0	0	0	0
Georgia:								
Atlanta	0	2	0	----	0	0	0	1
Brunswick	0	0	0	----	0	0	0	0
Savannah	0	1	1	2	0	1	0	0
Florida:								
Miami	0	1	0	----	0	0	0	0
Tampa	0	0	0	----	0	0	0	2
EAST SOUTH CENTRAL								
Kentucky:								
Covington	0	0	1	----	0	0	0	2
Tennessee:								
Memphis	0	1	3	----	2	0	0	3
Nashville	0	1	1	----	0	1	0	2
Alabama:								
Birmingham	0	1	1	----	0	1	0	1
Mobile	0	0	1	----	0	0	0	2
Montgomery	0	0	0	----	----	0	0	----
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith	0	0	0	----	----	0	0	----
Little Rock	0	0	1	----	0	0	0	2
Louisiana:								
New Orleans	2	5	6	1	1	0	0	7
Shreveport	0	0	1	----	0	1	0	1
Oklahoma:								
Oklahoma City	0	1	2	----	2	0	0	3
Texas:								
Dallas	0	3	4	----	0	0	0	3
Fort Worth	0	2	0	----	0	1	0	2
Galveston	0	0	0	----	0	0	0	0
Houston	0	2	5	----	0	0	0	3
San Antonio	9	1	2	----	0	0	1	2

City reports for week ended August 8, 1931—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
MOUNTAIN								
Montana:								
Billings	1	0	0		0	3	0	0
Great Falls	1	0	0		0	2	2	2
Helena	0	0	0		0	0	0	0
Missoula	0	0	0		0	0	0	0
Idaho:								
Boise	0	0	0		0	1	3	0
Colorado:								
Denver	9	6	3		0	2	5	3
Pueblo	1	0	0		0	0	0	0
New Mexico:								
Albuquerque	0	0	1		0	0	0	0
Arizona:								
Phoenix	0	0	0		0	0	0	1
Utah:								
Salt Lake City	1	1	0		0	0	1	0
Nevada:								
Reno	0	0	0		0	0	0	0
PACIFIC								
Washington:								
Seattle	5	1	0			4	3	
Spokane	0	1	0			1	0	
Tacoma	1	2	1		0	0	1	2
Oregon:								
Portland	0	4	0		0	1	2	2
Salem	0	0	0		0	0	0	0
California:								
Los Angeles	13	20	5	8	2	10	13	8
Sacramento	0	1	1		0	1	6	0
San Francisco		7						

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	0	0	0	0	0	2	0	0	0	7	19
New Hampshire:											
Concord	0	0	0	0	0	1	0	9	0	0	10
Nashua	0	0	0	0	0	0	0	0	0	0	
Vermont:											
Barre	0	0	0	0	0	0	0	0	0	0	5
Burlington	0	0	0	2	0	0	0	0	0	3	12
Massachusetts:											
Boston	17	8	0	0	0	10	2	3	0	33	174
Fall River	1	2	0	0	0	0	0	1	0	2	15
Springfield	1	1	0	0	0	2	0	0	1	6	23
Worcester	2	3	0	0	0	0	0	0	0	22	40
Rhode Island:											
Pawtucket	0	0	0	0	0	0	0	0	0	0	14
Providence	3	3	0	0	0	0	1	1	0	3	45
Connecticut:											
Bridgeport	2	0	0	0	0	0	0	1	0	9	28
Hartford	1	1	0	0	0	2	0	0	1	9	40
New Haven	0	0	0	0	0	1	1	0	0	2	36
MIDDLE ATLANTIC											
New York:											
Buffalo	6	6	0	0	0	6	0	0	0	7	119
New York	30	29	0	0	0	79	23	25	2	254	1,360
Rochester	2	18	0	0	0	3	1	0	0	7	53
Syracuse	1	10	0	0	0	0	0	0	0	16	43

City reports for week ended August 8, 1931—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
MIDDLE ATLANTIC—continued											
New Jersey:											
Camden	1	3	0	0	0	1	1	0	0	0	28
Newark	4	5	0	0	0	4	1	0	0	162	78
Trenton	0	1	0	0	0	3	0	1	0	7	33
Pennsylvania:											
Philadelphia	16	29	0	0	0	30	6	8	0	97	427
Pittsburgh	7	14	0	0	0	7	2	1	0	65	143
Reading	0	0	0	0	0	0	0	1	0	2	25
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	4	9	1	0	0	9	2	1	1	4	147
Cleveland	10	12	0	0	0	10	3	1	1	80	166
Columbus	2	1	0	0	0	3	1	0	0	0	65
Toledo	2	0	0	0	0	2	2	0	0	36	82
Indiana:											
Fort Wayne	0	0	1	0	0	2	0	0	0	0	39
Indianapolis	2	3	2	3	0	1	1	0	0	26	----
South Bend	1	0	0	0	0	0	0	0	0	0	16
Terre Haute	0	1	0	0	0	0	0	0	0	0	20
Illinois:											
Chicago	31	38	1	0	0	46	5	7	0	179	627
Springfield	1	1	0	0	0	1	0	3	0	0	23
Michigan:											
Detroit	24	16	0	1	0	22	4	2	0	151	198
Flint	4	2	1	0	0	0	0	0	0	3	7
Grand Rapids	3	1	0	0	0	0	0	0	0	6	28
Wisconsin:											
Kenosha	0	3	1	0	0	0	0	0	0	0	6
Madison	1	0	0	0	----	----	0	1	----	2	----
Milwaukee	5	5	0	0	0	7	1	2	0	84	96
Racine	1	5	0	0	0	0	0	0	0	21	21
Superior	2	1	0	0	0	0	0	0	0	0	11
WEST NORTH CENTRAL											
Minnesota:											
Duluth	4	0	0	0	0	0	0	0	0	0	26
Minneapolis	10	5	0	2	1	4	0	1	0	0	78
St. Paul	6	----	0	----	----	----	2	----	----	----	----
Iowa:											
Davenport	----	----	----	----	----	----	----	----	----	----	----
Des Moines	2	0	0	3	----	----	0	0	----	0	25
Sioux City	1	0	0	0	----	----	0	0	----	6	----
Waterloo	0	0	1	0	----	----	0	0	----	2	----
Missouri:											
Kansas City	2	1	0	0	0	11	3	3	1	7	104
St. Joseph	0	2	0	0	0	1	1	0	0	0	39
St. Louis	7	2	0	3	0	20	5	4	3	85	211
North Dakota:											
Fargo	1	0	0	0	0	0	0	0	0	3	2
Grand Forks	0	0	1	0	----	----	0	0	----	0	----
South Dakota:											
Aberdeen	0	0	0	0	----	----	0	0	----	4	----
Sioux Falls	1	0	0	0	----	----	0	0	----	0	11
Nebraska:											
Omaha	1	0	0	2	0	2	0	1	0	5	68
Kansas:											
Topeka	0	0	0	0	0	0	1	1	0	9	7
Wichita	1	0	1	0	0	0	0	0	0	0	----
SOUTH ATLANTIC											
Delaware:											
Wilmington	0	0	0	0	0	2	0	0	0	3	31
Maryland:											
Baltimore	5	4	0	0	0	15	7	4	0	101	223
Cumberland	0	0	0	0	0	0	0	1	0	0	13
Frederick	0	0	0	0	0	0	0	0	0	0	3

City reports for week ended August 8, 1931—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
SOUTH ATLANTIC—continued											
District of Columbia:											
Washington	4	5	0	0	0	9	3	1	1	25	146
Virginia:											
Lynchburg	0	0	0	0	0	0	1	3	1	0	18
Norfolk	0	3	0	0	0	1	1	1	0	2	
Richmond	2	4	0	0	0	4	2	0	0	15	51
Roanoke	1	0	1	0	0	3	0	1	0	10	20
West Virginia:											
Charleston	0	0	0	0	0	0	1	1	0	4	22
Wheeling	1	0	0	0	0	1	0	1	1	11	21
North Carolina:											
Raleigh	0	1	0	0	0	2	1	0	0	9	16
Wilmington	0	0	0	0	0	1	0	0	0	7	8
Winston-Salem	1	0	0	0	0	0	1	0	0	25	10
South Carolina:											
Charleston	0	0	0	0	0	1	2	4	0	1	22
Columbia	0	0	0	0	0	1	2	0	0	3	21
Greenville	0	0	0	0	0	0	1	0	0	0	
Georgia:											
Atlanta	2	5	0	1	0	5	3	8	0	0	50
Brunswick	0	0	0	0	0	0	0	0	0	0	2
Savannah	0	0	0	0	0	1	1	2	1	0	33
Florida:											
Miami	0	1	0	0	0	2	0	0	0	2	21
Tampa	0	0	0	0	0	1	0	1	0	0	24
EAST SOUTH CENTRAL											
Kentucky:											
Covington	0	2	0	0	0	1	1	0	0	0	26
Tennessee:											
Memphis	1	1	0	0	0	4	10	2	0	25	70
Nashville	1	0	0	0	0	5	5	2	1	6	54
Alabama:											
Birmingham	1	3	0	0	0	2	5	0	1	12	61
Mobile	0	1	0	0	0	1	1	1	0	0	18
Montgomery	0	0	0	0			2	0		0	
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	1	0	0	0			0	2		1	
Little Rock	0	1	0	0	0	3	1	0	0	0	6
Louisiana:											
New Orleans	3	8	0	0	0	19	4	[1] 18	5	0	128
Shreveport	0	0	0	0	0	0	1	5	1	4	21
Oklahoma:											
Oklahoma City	0	0	0	0	0	1	3	3	1	0	31
Texas:											
Dallas	2	0	2	0	0	5	3	2	0	5	52
Fort Worth	1	2	0	0	0	1	2	3	1	0	32
Galveston	0	0	0	0	0	3	0	0	0	0	15
Houston	1	3	0	0	0	3	1	0	0	0	53
San Antonio	1	0	0	0	0	10	1	1	0	0	60
MOUNTAIN											
Montana:											
Billings	0	0	1	0	0	0	0	0	0	3	6
Great Falls	0	1	0	0	0	0	0	0	0	3	6
Helena	0	0	0	1	0	0	0	0	0	0	7
Missoula	0	0	0	0	0	0	0	0	0	0	
Idaho:											
Boise	0	0	0	0	0	0	0	0	0	1	6
Colorado:											
Denver	3	5	0	0	0	8	1	0	0	29	52
Pueblo	0	0	0	0	0	1	0	5	1	1	11
New Mexico:											
Albuquerque	0	0	0	0	0	4	0	3	0		1

City reports for week ended August 8, 1931—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
MOUNTAIN—con.											
Arizona:											
Phoenix	0	0	0	0	0	1	0	0	0	0	
Utah:											
Salt Lake City	1	1	0	0	0	0	2	0	0	5	22
Nevada:											
Reno	0	0	0	0	0	0	0	0	0	0	[1] 8
PACIFIC											
Washington:											
Seattle	3	3	1	1			1	0		19	
Spokane	1	1	0	1			0	0		5	
Tacoma	2	1	1	0	0	2	1	2	0	2	16
Oregon:											
Portland	2	0	4	8	0	1	0	1	0	1	58
Salem	0	0	0	0	0	0	0	0	0	0	
California:											
Los Angeles	11	5	1	4	0	24	3	5	0	32	216
Sacramento	1	0	0	1	0	2	1	0	0	0	22
San Francisco	5		1				1				

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases estimated expectancy	Cases	Deaths
NEW ENGLAND									
Maine:									
Portland	0	0	0	2	0	0	0	0	0
New Hampshire:									
Nashua	0	0	0	0	0	0	0	1	0
Massachusetts:									
Boston	0	0	0	0	0	0	1	41	4
Fall River	1	0	0	0	0	0	0	1	0
Worcester	0	0	0	0	0	0	1	1	0
Rhode Island:									
Pawtucket	0	0	0	0	0	0	0	1	0
Providence	0	0	0	0	0	0	0	13	0
Connecticut:									
Bridgeport	0	0	0	0	0	0	0	3	0
Hartford	0	0	0	0	0	0	0	14	1
New Haven	0	0	0	0	0	0	0	26	0
MIDDLE ATLANTIC									
New York:									
Buffalo	0	0	0	0	0	0	1	1	0
New York	3	1	3	0	0	0	7	591	70
Rochester	0	0	0	0	0	0	0	1	0
New Jersey:									
Camden	0	0	0	0	0	0	0	2	0
Newark	1	0	0	0	0	0	0	5	1
Pennsylvania:									
Philadelphia	3	1	0	0	0	0	1	2	0
Pittsburgh	1	0	2	1	0	0	0	1	0

[1] 12 nonresident.

City reports for week ended August 8, 1931—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases estimated expectancy	Cases	Deaths
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	2	1	0	0	0	0	0	2	1
Cleveland	0	0	0	0	0	1	0	1	0
Columbus	0	0	0	0	0	0	0	1	0
Indiana:									
Indianapolis	1	1	0	0	0	0	0	0	0
Illinois:									
Chicago	3	2	0	0	0	0	1	7	0
Michigan:									
Detroit	0	2	1	0	0	0	0	5	2
Flint	0	0	0	0	0	0	0	1	0
Grand Rapids	0	0	0	0	0	0	0	2	0
Wisconsin:									
Milwaukee	0	0	0	0	0	0	0	1	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	0	0	1	0	0	0	0	7	0
Minneapolis	1	0	0	0	0	0	1	2	0
Missouri:									
St. Joseph	0	0	0	0	0	0	0	1	0
St. Louis	1	0	0	0	0	0	1	1	0
Nebraska:									
Omaha	1	0	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Delaware:									
Wilmington	0	0	0	0	0	0	0	1	0
Maryland:									
Baltimore	0	0	1	1	0	0	0	0	0
District of Columbia:									
Washington	0	0	0	0	0	0	0	1	0
North Carolina:									
Winston-Salem	0	0	0	0	1	0	0	0	0
South Carolina:									
Charleston	1	0	0	0	9	1	0	0	0
Columbia	0	0	0	0	0	1	0	0	0
Greenville	1	0	0	0	0	0	0	0	0
Georgia:									
Atlanta [1]	0	0	0	0	4	4	0	2	0
Savannah [2]	0	0	0	0	4	1	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis	2	0	0	0	0	0	0	0	0
Alabama:									
Birmingham	0	1	0	0	1	2	0	0	0
Mobile	0	0	0	0	3	0	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Little Rock	0	0	0	0	0	1	0	0	0
Louisiana:									
New Orleans	0	0	0	0	1	1	0	0	0
Texas:									
Dallas	0	0	0	0	1	0	0	0	0
PACIFIC									
Washington:									
Seattle	0	0	0	0	0	0	0	1	0
Spokane	0	0	0	0	0	0	0	3	0
Tacoma	0	0	0	0	0	0	0	2	0
California:									
Los Angeles	3	2	0	0	0	0	2	4	0

[1] Typhus fever, 1 case at Atlanta, Ga.

[2] Dengue, 1 case at Savannah, Ga.

The following tables give the rates per 100,000 population for 98 cities for the 5-week period ended August 8, 1931, compared with those for a like period ended August 9, 1930. The population figures used in computing the rates are estimated midyear populations for 1930 and 1931, respectively, derived from the 1930 census. The 98 cities reporting cases have an estimated aggregate population of more than 33,000,000. The 91 cities reporting deaths have more than 31,500,000 estimated population.

Summary of weekly reports from cities, July 5 to Aug. 8, 1931.—Annual rates per 100,000 population, compared with rates for the corresponding period of 1930 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	July 11, 1931	July 12, 1930	July 18, 1931	July 19, 1930	July 25, 1931	July 26, 1930	Aug. 1, 1931	Aug. 2, 1930	Aug. 8, 1931	Aug. 9, 1930
98 cities	43	58	42	48	33	37	[2] 36	38	[3] 32	37
New England	60	41	65	36	50	24	53	36	65	34
Middle Atlantic	50	49	35	46	34	33	31	34	26	32
East North Central	41	86	52	66	39	49	[4] 38	48	31	48
West North Central	31	68	31	39	33	35	17	35	[5] 32	29
South Atlantic	18	32	24	46	28	38	32	40	26	18
East South Central	23	24	29	12	12	24	12	6	41	18
West South Central	61	59	47	35	24	31	61	35	64	49
Mountain	17	26	61	70	35	70	35	35	26	18
Pacific	41	53	51	32	16	28	[6] 62	45	[6] 18	57

MEASLES CASE RATES

98 cities	316	252	181	147	133	105	[2] 94	67	[3] 60	49
New England	351	460	317	256	209	191	132	106	135	99
Middle Atlantic	311	305	142	195	111	144	84	87	57	61
East North Central	527	154	320	70	214	59	[4] 155	33	87	27
West North Central	103	130	61	50	34	64	27	43	[5] 15	52
South Atlantic	259	142	107	122	83	50	47	60	34	24
East South Central	116	179	116	42	105	54	47	36	12	18
West South Central	27	17	17	10	14	7	10	10	3	10
Mountain	122	582	122	247	174	176	209	159	70	115
Pacific	182	482	123	310	125	164	[6] 54	105	[6] 41	63

SCARLET FEVER CASE RATES

98 cities	79	71	70	53	53	49	[2] 47	38	[3] 47	31
New England	142	73	149	65	111	73	82	60	43	46
Middle Atlantic	89	49	64	35	56	34	52	21	51	20
East North Central	90	114	111	86	69	76	[4] 53	50	60	45
West North Central	44	85	42	43	29	31	31	48	[5] 21	27
South Atlantic	49	68	34	48	38	40	41	44	38	20
East South Central	52	42	23	18	6	48	35	6	41	12
West South Central	34	35	34	21	44	45	20	52	41	35
Mountain	52	88	26	79	0	26	61	62	61	70
Pacific	49	43	12	49	12	38	[6] 16	34	[6] 26	38

[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, 1931, and 1930, respectively.
[2] South Bend, Ind., and San Francisco, Calif., not included.
[3] St. Paul, Minn., and San Francisco, Calif., not included.
[4] South Bend, Ind., not included.
[5] St. Paul, Minn., not included.
[6] San Francisco, Calif., not included.

Summary of weekly reports from cities, July 5 to Aug. 8, 1931.—Annual rates per 100,000 population, compared with rates for the corresponding period of 1930— Continued

SMALLPOX CASE RATES

	Week ended—									
	July 11, 1931	July 12, 1930	July 18, 1931	July 19, 1930	July 25, 1931	July 26, 1930	Aug. 1, 1931	Aug. 2, 1930	Aug. 8, 1931	Aug. 9, 1930
98 cities	2	7	3	6	3	7	[2] 2	4	[2] 3	3
New England	2	0	0	0	0	0	0	0	0	0
Middle Atlantic	0	0	0	0	0	0	0	0	0	0
East North Central	1	9	4	10	2	8	[4] 1	2	2	6
West North Central	4	10	4	14	10	21	11	12	[5] 15	6
South Atlantic	4	0	0	4	0	2	2	4	2	2
East South Central	6	18	0	0	6	18	6	0	0	0
West South Central	10	7	7	7	0	3	3	14	0	7
Mountain	0	9	0	18	0	18	0	0	9	0
Pacific	8	36	22	18	20	22	[6] 5	22	[6] 18	4

TYPHOID FEVER CASE RATES

98 cities	14	16	13	16	16	18	[2] 27	18	[2] 22	17
New England	2	5	12	10	10	7	12	7	14	5
Middle Atlantic	8	10	7	4	8	7	13	5	16	10
East North Central	5	6	6	9	5	13	[4] 11	12	10	11
West North Central	19	10	2	23	19	48	31	23	[5] 21	19
South Atlantic	28	60	47	44	69	42	77	52	53	66
East South Central	58	84	35	60	47	66	64	108	29	69
West South Central	81	35	57	59	10	38	169	42	95	14
Mountain	35	0	26	26	0	18	17	26	44	35
Pacific	6	14	6	16	27	10	[6] 5	16	[6] 18	10

INFLUENZA DEATH RATES

91 cities	3	3	2	2	1	2	[2] 3	1	[2] 2	3
New England	2	0	0	0	0	0	2	0	2	0
Middle Atlantic	4	4	0	3	1	1	4	0	3	2
East North Central	2	3	4	2	2	3	[4] 2	1	1	1
West North Central	0	6	3	6	0	3	0	0	[5] 0	3
South Atlantic	4	2	4	0	2	4	6	6	0	10
East South Central	6	13	0	0	0	0	13	0	13	6
West South Central	7	7	3	11	3	11	0	0	3	0
Mountain	0	0	0	9	0	0	0	0	0	18
Pacific	0	2	0	5	2	2	[6] 7	2	[6] 7	5

PNEUMONIA DEATH RATES

91 cities	59	53	47	43	44	56	[2] 49	52	[2] 48	52
New England	79	44	50	39	31	44	41	41	34	46
Middle Atlantic	59	54	61	54	55	68	59	59	52	50
East North Central	47	37	32	32	32	38	[4] 30	43	35	47
West North Central	88	75	71	39	53	57	47	48	[5] 52	45
South Atlantic	71	60	39	54	43	86	65	66	79	72
East South Central	50	71	44	52	44	91	50	52	63	45
West South Central	86	78	45	46	52	71	59	75	62	53
Mountain	61	106	35	53	17	79	44	62	44	70
Pacific	31	50	24	15	43	7	[6] 51	35	[6] 34	35

[2] South Bend, Ind., and San Francisco, Calif., not included.
[4] St. Paul, Minn., and San Francisco, Calif., not included.
[4] South Bend, Ind., not included.
[5] St. Paul, Minn., not included.
[6] San Francisco, Calif., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended August 1, 1931.—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended August 1, 1931, as follows:

Province	Cerebro-spinal fever	Dysentery	Lethargic encephalitis	Typhoid fever	Influenza	Poliomyelitis	Smallpox
Prince Edward Island [1]							
Nova Scotia					1		
New Brunswick				2			
Quebec	1			25	1	1	
Ontario			1	22		1	2
Manitoba				5			
Saskatchewan				6			11
Alberta				1			
British Columbia		8		2			
Total	1	8	1	63	2	2	13

[1] No case of any disease included in the table was reported during the week.

Quebec Province—Communicable diseases—Week ended August 8, 1931.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended August 8, 1931, as follows:

Disease	Cases	Disease	Cases
Chicken pox	14	Poliomyelitis	11
Diphtheria	25	Scarlet fever	23
Erysipelas	3	Tuberculosis (pulmonary)	48
German measles	1	Typhoid fever	16
Measles	29	Whooping cough	11
Mumps	1		

VIRGIN ISLANDS

Communicable diseases—July, 1931.—During the month of July, 1931, cases of certain communicable diseases were reported in the Virigin Islands as follows:

St. Thomas and St. John:	Cases	St. Croix:	Cases
Gonorrhea	1	Dengue	17
Syphilis	2	Tetanus	1
Tuberculosis, chronic pulmonary	1	Whooping cough	1

CHOLERA, PLAGUE, 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		Jan. 11–Feb. 7, 1931	Feb. 8–Mar. 7, 1931	Mar. 8–Apr. 4, 1931	Apr. 5–May 2, 1931	Week ended— May, 1931				June, 1931				July, 1931				August, 1931		
						9	16	23	30	6	13	20	27	4	11	18	25	1	8	15
Ceylon: Colombo	C			1					1	1										
	D								1	1										
China:																				
Canton	C				1			2				1								
	D							1												
Shanghai	C														P					
Swatow	C										3	1	6	7						
Tientsin	C								1		2	8								
	D								1			1								
India	C	15,334	11,541	8,968	11,462	3,242	3,013	3,565	3,784	3,932	4,657	4,687								
	D	8,123	6,131	4,550	5,767	1,806	1,598	1,845	2,021	2,146	2,656	2,704								
Bombay	C	21			2										1	11	11			
	D	9			1											6	10			
Calcutta	C	121	170	436	310	72	89	49	55	94	74	50	74	72	62	55	48			
	D	86	112	256	176	39	44	34	32	57	47	26	38	35	34	58	28			
Karikal	C		9	12	19	10		1	1											
	D		8	12	14	5		1	1											
Madras	C	99	72	20	26	18	23	11		3	6			2	2					
	D	47	29	10	18	6	8	2	1		4									
Moulmein	C															1				
	D															1				
Negapatam	D	3	3																	
Rangoon	C								2		2		2		1	2	1			
	D	1							1		1		1			1				
Tuticorin	C	1	1																	
Vizagapatam	C												1							
India (French):																				
Chandernagor	C	1	5	7	6	3		1			1	2		1	1	1				
	D	1	5	6	5	3		1			1	2			1					
Pondicherry	C	19	100	100	24	3	8	2	4	1	1	1						1		
	D	11	34	18	4		3		4	1	1	1						1		
Indo-China (see also table below):																				
Cochin-China—Raohgia	C																	P		
Pnompenh	C	4	9		2					1					1	4				
	D	2	5	1	1	2				1					1	1				

Saigon and Cholon	C	6	4	5	27	25	23	34	22	18	16	14	13	8	3	3				
	D	3	4	5	22	20	18	25	13	9	14	9	9	3	2	2				
Iraq: Basra	C																	3	9	263
	D																	2	8	140
Persia: Rafsanjan [1]	C					31	1	4												
	D					12		2												
Philippine Islands: [2]																				
Iloilo	C	2																		
	D	2																		
Provinces—																				
Capiz	C	59	186	48	29	11	3		3	4										
	D	47	146	41	24	11	3		1	4										
Cebu	C																		1	1
	D																		1	1
Iloilo	C	145	95	7						8	7	5	6	24	3					
	D	110	65	4						6	5	6	4	22	3					
Masbate	C			21																
	D			9																
Negros, Occidental	C	90	4										2							
	D	56	4										1							
Negros, Oriental	C	1																		
	D	1																		
Pampanga	C					1														
Siam	C	3	1	10	16	11	2	1			1	3		1	1					
	D	1		2	4	3	1	1			1	1			1					
Ayudhaya District	C			1																
Bangkok	C	3	2	3	3	1	1	1					1	1			3			
	D	1	1	2	2			1					1				2			
Bismulok Province	C			8																
	D			2																
On vessel:																				
S. S. Arankola, at Rangoon from Calcutta	C								1											
S. S. City of Eastborne, at Calcutta from Cocanada	C									1										
S. S. Tairea, at Penang from Calcutta	C										1									

Place		December, 1930	January, 1931	February, 1931	March, 1931			April, 1931			May, 1931			June, 1931	
					1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20
Indo-China (French) (see also table above):															
Cambodia [3]	C	28	62	125	14		65	36	22			44	40	83	96
Cochin-China [1]	C	8	24	29	39	33	33	22	40		1	52	75	71	69

[1] From May 3 to 25, 1931, 152 cases of cholera with 75 deaths were reported in Rafsanjan and vicinity, Karman district, Persia.
[2] Figures for cholera in the Philippine Islands are subject to correction.
[3] Reports incomplete.

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

PLAGUE

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

Place		Jan. 11–Feb. 7, 1931	Feb. 8–Mar. 7, 1931	Mar. 8–Apr. 4, 1931	Apr. 5–May 2, 1931	Week ended— May, 1931				June, 1931				July, 1931				August, 1931	
						9	16	23	30	6	13	20	27	4	11	18	25	1	8
Algeria:																			
Algiers	C	2	1	1													2		
	D			1															
Bone	C	1								1									
Constantine, vicinity of	C	1	1																
	D	1																	
Philippeville	C																		1
	D																		1
Argentina:																			
Cordoba Province	C	1	2																
Entre Rios Province—Diamante	C		2																
Jujuy Province—Palpala	C	1	1																
San Juan Province	C														P	P			
Santa Fe	C		2																
Belgian Congo	C			2							1								
	D			2							1								
British East Africa (see also table below):																			
Tanganyika	C		22	8	18	17	5	7	17	4	7	5							
	D		4	1	21	11	2	8	9	2	4	1							
Uganda	C	25	15	19	35	11	33	31	63		91	106	101						
	D	24	15	19	32	11	26	28	61		87	100	99						
Ceylon: Colombo	C	8	11	8	4	1	1		1		1		1				1	4	
	D	6	13	7	3	1	1		1		1		1				1	4	
Plague infected rats		2	3	4	1			5										1	
China: Amoy [1]	C					1													
	D					1													
Dutch East Indies:																			
Batavia and West Java	C	180	141	84	74	18	12	14	15	15	25	11	15						
	D	168	128	80	71	18	12	14	15	15	25	11	15						
East Java and Madura	C	4	1	4	1	1													
	D	4	1	4	1	1													
Java and Madura	D	427	376	277	243	47	41	46	42	41	58	48	45	59	55				

Egypt:																			
Alexandria	C	1	2	1								3	1	1	1	2	9	4	3
	D											3	1	1			4	1	2
Plague-infected rats		1	1																
Assiout	C	26	41	13	32	4	5	8	1	4		5	2						
	D	6	11	6	17	2	4	1					1						
Beni-Suef	C	1			12	3		2											
	D	1			3	1		2											
Beheira	C																		
Cairo	C			1														1	
Dakahlia	C																		
Deirout	C	21	16		3	7	1		2	3						1			2
	D	4	4		1	2	2			1									
Gharbieh	C	1									1								
	D	1									1								
Girga	C	1		86	44	1	1		5					1					
	D	1		24	22	1	1												
Kena	C			5	3			1											
	D			2	1			1											
Manfalut	C	30	15	17															
	D	6	5	3															
Minieh	C	2		3	1	5		1		3				10		2			
	D	1		2		2		1		1				2		1	1		
Port Said	C										1	1	1	1	1	2	1		
	D							1				1	1	1					
Hawaii Territory:																			
Hawaii—Hamakua—Plague-infected rats								1											
Maui Island—Kula District	C																	1	
	D																	1	
India	C	5,335	5,457	9,139	6,142	434	139	130	49	39	24	9							
	D	3,422	3,661	7,037	5,199	385	143	131	33	25	14	2							
Bassein	C	4	1		1			1						1			3		
	D	3	1		1			1						1			2		
Bombay	C	1	1	4	11	5	1	1	1					1					
	D	1	1	3	11	4	1	1											
Plague-infected rats		34	32	70	137	26	30	17	21	10	10	10	7	11	16	9	12		
Calcutta	C				2														
	D				2														
Madras Presidency	C	312	74	23	3	1	1				1								
	D	182	46	21	2		1				1								
Rangoon	C	2		1	1	1			1		1					2			
	D	1		1	1	1			1		1					1			
Plague-infected rats		4	8	7	4	1	1	3	2		3			1	2	2	1		
Indo-China (see also table below): Pnompenh	C	7	1							1		1							
	D	7	4	6	4					1		1							
Iraq:																			
Baghdad	C	5	3	8	23	7	10	4	2	10	6	1	6	1	1				
	D	4	2	5	8	3	4	2		1	4	1	3	1					
Maudhan	C								2										
Madagascar (see also table below): Tamatave	C	9																1	

[1] On July 27, 1931, 1,250 cases of plague were reported in Chiobe and Changchow, China, since April.

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

PLAGUE—Continued

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

Place		Jan. 11–Feb. 7, 1931	Feb. 8–Mar. 7, 1931	Mar. 8–Apr. 4, 1931	Apr. 5–May 2, 1931	Week ended— May, 1931				June, 1931				July, 1931				August, 1931	
						9	16	23	30	6	13	20	27	4	11	18	25	1	8
Morocco	C	13																	
	D	4																	
Nigeria: Lagos	C	1			5														
	D	1			5														
Plague-infected rats					6														
Peru (see table below).																			
Senegal (see table below).																			
Siam	C	4	18	31	1	1			1	1									
	D	2	14	7	1	1			1	1									
Bangkok	C	8	6	29															
	D	8	5	6															
Nagara Rajsima	C	9	7	1															
	D	10	6																
Syria: Beirut	C	1	1												1		1		
Tripolitania	C	8	1																
	D	3																	
Tunisia: Tunis	C	1	14	10	16	7		8	1		8	2	1						
	D		7	4	8	3					1								
Union of Socialist Soviet Republics:																			
Gouranduz	D	28																	
Transcaucasia—Karabakh	C	6																	
Union of South Africa:																			
Cape Province	C				3														
Orange Free State	C	P	1	6	2			1	1										
	D		1	1	2				2										

Place		Jan., 1931	Feb., 1931	Mar., 1931	Apr., 1931	May, 1931	June, 1931
British East Africa (see also table above):							
Kenya	C	69	21	7	345	245	154
Indo-China (see also table above)	C	------	------	4	2	------	2
Madagascar (see also table above):							
Ambositra Province	C	100	92	70	30	------	------
	D	96	88	66	29	------	------
Antisirabe Province	C	66	84	83	48	------	------
	D	57	79	74	47	------	------
Miarinarivo Province	C	28	31	19	6	------	------
	D	26	29	19	6	------	------
Moramanga Province	C	7	7	1	------	------	------
	D	5	7	1	------	------	------
Tananarive Province	C	92	145	90	41	------	------
	D	89	139	81	40	------	------
Peru	C	29	12	------	------	------	------
	D	8	6	------	------	------	------
Senegal:							
Baol [1]	C	------	------	------	------	4	------
	D	------	------	------	------	3	------
Dakar [1]	C	------	------	------	2	63	64
	D	------	------	------	1	49	56
Louga [1]	C	------	------	14	1	5	------
	D	------	------	6	------	2	------
Rufisque [1]	C	------	2	------	------	1	2
Thies [1]	C	------	------	------	------	------	12
	D	------	------	------	------	------	3
Tivaouane [1]	C	------	------	------	4	19	3
	D	------	------	------	------	11	2

[1] Reports incomplete.

SMALLPOX

Place		Jan. 11–Feb. 7, 1931	Feb. 8–Mar. 7, 1931	Mar. 8–Apr. 4, 1931	Week ended— April, 1931			May, 1931					June, 1931				July, 1931		
					11	18	25	2	9	16	23	30	6	13	20	27	4	11	18
Algeria:																			
Algiers	C	1	1	2	------	2	------	------	------	------	1	------	------	7	1	------	------	------	1
Bone	C	1	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Constantine	C	------	------	1	------	------	------	------	1	------	------	------	------	------	------	------	1	------	------
Arabia: Aden	C	1	1	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Belgian Congo	C	50	------	------	------	------	------	------	------	7	10	30	------	------	------	------	------	------	------
Belgium	C	------	1	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Bolivia.[1]																			
Brazil: Porto Alegre (alastrim)	C	3	7	49	20	19	8	6	2	4	7	6	2	3	------	------	9	------	------
	D	------	1	1	------	------	------	------	------	------	------	------	1	------	------	------	------	------	------
British East Africa: Tanganyika	C	70	91	8	------	------	------	------	------	13	------	------	------	------	1	6	37	------	------
	D	5	13	3	------	------	------	------	------	------	------	------	------	------	------	------	7	------	------
British South Africa: Southern Rhodesia	C	13	------	------	------	------	------	------	------	------	------	------	------	1	------	------	------	------	------

[1] An epidemic of smallpox was reported on May 13 with 716 cases and 314 deaths since the middle of April, 1931, in Mendez Province, Bolivia.

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

SMALLPOX—Continued

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

Place		Jan. 11–Feb. 7, 1931	Feb. 8–Mar. 7, 1931	Mar. 8–Apr. 4, 1931	Week ended— April, 1931			May, 1931					June, 1931				July, 1931		
					11	18	25	2	9	16	23	30	6	13	20	27	4	11	18
Canada:																			
Alberta	C	7	1																
British Columbia	C	2	8																
Manitoba	C	1	1						4										
Winnipeg	C		1																
Nova Scotia	C	1		1															
Ontario	C	49	29	9	4		6	7	17	5		3		4	3	14	3	6	12
Kingston	C	1	1				2	3											
North Bay	C		1																
Ottawa	C	3	1												1				
Sault Ste. Marie	C	30	2		3	1				1									
Toronto	C			2		4			1						1				
Quebec	C	2															1		
Saskatchewan	C	38	63	58	5	16	3	22	7	15	18	8	7	16	18	13		13	10
Regina	C		1	2			2		2										
Canary Islands: Las Palmas	C			1															
Chile:																			
Antofagasta	C																1		
Chanaral	C											1							
China:																			
Amoy	C			1				2	2	1	1	2	1	2		1	1	1	
	D			1				1	1		1	1	1	1		1	1	1	
Canton	C		3	7	1	2	1				1	2			1		1		
Foochow	C	P	P	P	P			P				P		P					
Hankow	C																1		
Hong Kong	C	1	9	2		1	2					1							
	D		3	2			1		1			1							
Manchuria—																			
Harbin	C	1	4	2					1	1		1							
Kwantung—Dairen	C			2			1	1	1			1	1						
Nanking	C	P	P	P	P	P	P	P	P	P	P								
Shanghai—																			
Foreigners only	C	12	16	6	2	1	2	2	1	4	1	1	2	6	2	1	2	1	
Including natives	D	13	14	10	2	7	4	5	1		3	3	1	5	4	3	2	1	2

Swatow	D	7	13	26	2														
Tientsin	C	1							2									2	
Chosen (see table below).																			
Colombia: Cali	D								1										
Dutch East Indies:																			
Batavia and West Java	C	29	2	1						1	1								
	D	2	1																
East Java and Madura	C											1							
Finland	C					1													
France (see table below).																			
Great Britain:																			
England and Wales	C	958	745	795	177	163	212	192	186	166	111	107	83	94	62	48	56	45	50
Bradford	C	4	1	2	1		1	4	1	3	1	3			5				
Leeds	C			1		1	1		1		1								
London	C	140	98	147	51	39	84	53	66	44	37	36	25	52	31	16	21	9	12
London and Great Towns	C	693	683	544	142	126	162	128	139	108	84	72	57	84	49	38	53	33	
	D		1		1		1						1				1		
Sheffield	C	3	32	10	4	2	1												
Stoke-on-Trent	C	1	1																
Greece (see table below).																			
Honduras:																			
Amapala	C		1																
Ocotopeque and Gracias districts	C		P																
Puerto Castilla	C	11	3																
Tegucigalpa	C						1												
Tela	C				1														
India	C	9,629	12,222	11,791	3,980	3,749	3,468	3,068	3,422	2,836	2,477	2,668	2,170	1,856	1,622				
	D	2,245	2,660	2,261	807	684	680	752	709	572	538	530	465	474	376				
Bassein	C											1							
Bombay	C	7	6	10	2	2	1	3	2		6	1		2	1	3		1	3
	D	1	3	4	1			4	1	1	1	1		1	1	3		1	3
Calcutta	C	143	251	283	101	60	61	65	24	30	19	16	14	19	14		11	6	3
	D	100	188	203	78	42	50	54	18	25	17	15	12	18	11		9	4	3
Cochin	C	29	59	46	10	11	12	6	3										
	D		3																
Karachi	C	3	4	4		5		1							2				
	D	2		2											1				
Madras	C	16	8	22	12	4	1	2	1	3	3	1			1	1		2	
	D		1	3	2	1	1	1		1	5					1			
Moulmein	C	2																	
Negapatam	C				1	1		1											
Rangoon	C		4	3	2	2	1	6	7	5		1		1	2	1			
	D			1				1	2	1	1	1		1	4	1	2		1
Vizagapatam	C	1	8	2	2	2	4	2			5	1	2	1		1	1		
	D		2	1	1		1				1			1		3	2		2
India (French):																1	1		
Chandernagor	C	9	12	14	3	1	4	2	3		4				1		2		1
	D	1	1	2	3	1	2	1	3		2						2		
Karikal	C	5	19	8		1	1	2	1	1	1	1	1	2		3	1	1	1
	D	4	18			1		2	1	1	1	1	1	2		3	1	1	1
Pondicherry Province	C	45	19	14	3			3	1	2	7	1	3	2	1	1	4	1	
	D	45	19	14	3	3		3	1	2	7	1	3	2	1	1	4	1	

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

SMALLPOX—Continued

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

Place		Jan. 11–Feb. 7, 1931	Feb. 8–Mar. 7, 1931	Mar. 8–Apr. 4, 1931	Week ended— April, 1931			May, 1931					June, 1931				July, 1931		
					11	18	25	2	9	16	23	30	6	13	20	27	4	11	18
India (Portuguese)	C	5	14	8		19	2				3								
	D		3	3		4	2				1								
Indo-China (see also table below):																			
Pnompenh	C	1		1							1		2						
	D	1									1								
Saigon and Cholon	C	6	4	8	1					1		1					1		
	D	4	1	8	1					1							1		
Iraq:																			
Baghdad	C		9				1	1			1	2		1					
	D											2							
Basra	C											2		1					
Mosul Liwa	C	3	5																1
	D		1																
Ivory Coast (see table below).																			
Japan:																			
Kobe	C		2																
Nagoya	C																		1
Taiwan	C	1																	
Mexico (see also table below):	C																		
Jalisco (State)—Guadalajara	D	1		1				1	1		1			1			1	1	
Mexico City and surrounding territory	C		23	33	17	9	11	6	4	10	10	21	5	4	16		12	5	4
	D	1	8	22	4	6	4		4	3	2	2	4	3	6		4	3	1
Monterrey	C												1						
Torreon	C					1				1					1	2			
	D					2									1	1			
Vera Cruz	C		3	2		1		1	1										
Morocco (see table below).																			
Nigeria: Lagos	C			2															
Panama Canal Zone	C	2																	
Poland	C		1									3	1	1		1		17	
Portugal: Lisbon	C	103	40	52	8	18	11	19	19	14	16	18	5	17	12	14	15	12	18
Rumania (see table below).																			
Siam	C	4	2				1				3	3			4	1		1	
	D											1				1			
Spain	C	P	P	P														5	7
Straits Settlements	C	7	2	4	1		9					2							
	D	1	1	1	1	1	3					2							

Sudan (Anglo-Egyptian)	C	11	97	8				3		3		1								
	D	7	10	2								1								
Sudan (French) (see table below).																				
Syria (see table below).																				
Tunisia: Tunis	C	8		4																
Turkey (see table below).																				
Union of South Africa:																				
Cape Province	C	P	P	P	P	P	P		P	P										
Orange Free State	C	P	P	P	P	P	P		P	P	P	P	P	P						
Transvaal	C	P	P	P																
Upper Volta	C		18	3		3			1	2		85	11		1					
	D			1								1								
On vessel:																				
S. S. Clan Mactoggart at Suez	C		2																	
S. S. Matheran at Suez from Calcutta	C	1																		
S. S. Clan Buchanan at Suez	C		2																	
S. S. Rotterdam at Naples from Venice	C			1																
S. S. Clan McTavish at Manila from Chittagong	C					1														
S. S. Benvenue at Sydney from Shanghai	C	1																		
S. S. Clan MacBrayne at Cochin	C		1																	
S. S. Chilka at Rangoon	C		1																	
S. S. Taif (pilgrim ship) at Suakin from Jeddah	C							1												
S. S. Talodi at Suakin	C									1										

Place		December, 1930	January, 1931	February, 1931			March, 1931			April, 1931			May, 1931			June, 1931	
				1-10	11-20	21-28	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20
Indo-China (see also table above)	C	61	141	95	46	27	125		139	100	42			17	41	30	16
Ivory Coast	C	9															
Sudan (French)	C	139					4		P								
	D	20															
Syria: Beirut	C		1														1

Place		Dec., 1930	Jan., 1931	Feb., 1931	Mar., 1931	Apr., 1931	May, 1931
Chosen	C		1		11		1
	D		1		3		
France	C		4	16	15		
Greece	C	4		4			3
Mexico (see also table above)	D	1		3		1	1

Place		Dec., 1930	Jan., 1931	Feb., 1931	Mar., 1931	Apr., 1931	May, 1931
Morocco	C	25		4	6	7	49
Rumania	C				1		1
Turkey	C	116	63	37	1		9
	D	9	7	6			

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

TYPHUS FEVER

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

Place		Jan. 11–Feb. 7, 1931	Feb. 8–Mar. 7, 1931	Mar. 8–Apr. 4, 1931	Week ended— April, 1931			May, 1931					June, 1931				July, 1931		
					11	18	25	2	9	16	23	30	6	13	20	27	4	11	18
Algeria:																			
Algiers	C		2	3			2	1	3		1	3	4	4		1			1
Constantine Department	C	31	4	3	2		6	1	8	3	5	6	6	3	1	16	2		1
Oran	C	3	1				1					2	2						
Australia, Western	C			1					1										
Bulgaria	C	13	5	9		26	4			5	8	3	11	10	6	3			
	D			2		3				1		3	2	1	1	2			
Chile: Valparaiso	D		1																
China:																			
Canton	C	2		1															
Manchuria—Harbin	C	3	5	3			8								1	2			
Shanghai	C	2																	
Tientsin	C				1	1													
Chosen (see table below).																			
Czechoslovakia (see table below).																			
Egypt:																			
Alexandria	C					1								1	1		1		
Beheira Province	C				3	1													
	D				2														
Cairo	C	1																	
Port Said	C	1																	
Eritrea: Asmara	C			1															
Great Britain: Scotland	C	1																	
Fife County	C											1							
Glasgow	C	2																	
	D	1																	
Greece (see table below).																			
Guatemala.[1]																			
Iraq: Baghdad	C		5	2					2										
	D		1						2										
Irish Free State:																			
Cork County—																			
Schull	C													1		1	1	1	
Skibbereen	C																		

Kerry County—																			
Dingle	C							1											
Listowel	C														1				
Limerick County—																			
Limerick	C																		
Michelstown	C															2			
Mayo County—Belmullet	C															1			
Japan	C				1										1				
Latvia (see table below).																			
Lithuania (see table below).																			
Mexico (see also table below).																			
Durango	D	1																	
Mexico City, including municipalities in Federal District	C	39	35	216	67	34	38	31	16	27	17	15	7	12	27	28	9	7	
	D	34	16	84	18	7	17	14	9	7	7	10	4	4	11	4	3	2	
San Luis Potosi	D		5	5	1	2					1	1					1	3	
Morocco	C	8	28	7		1		12		13	29			31	42	28	37	20	24
	D	2	1					1		2	2			2	3	1	4	4	
Palestine	C	2	3	5	1	2		2	2	1	1			2	3		2		
Panama Canal Zone—Balboa	C									1	1								
Paraguay: Asuncion	D	4	1	1															
Poland	C	106	189	287	93	176	140	129	92	81	53	67		48	33	16	9	17	13
	D	8	19	15	8	7	6	7	6	4	5	3		2	1	1	2	1	1
Portugal: Oporto	C	1																	
Rumania	C	193	152	214	70				63	52	54		42	16	12	10	2	2	7
	D	16	24	16	8				10	5	3		4	7	2		2	2	1
Syria	C									1	3								
Tunisia:																			
Sbeitla, vicinity of	C			20	2			10											
	D			7															
Sfax	C			2															
Tunis	C	16	18	14	2		1	10	12	9	8			64	9		1		
	D								1	2				4					
Turkey (see table below).																			
Union of South Africa:																			
Cape Province	C	P	P	1	P	P	P		P	P	P	P	P	P					
Municipality of East London	C	3		P											1				
Natal	C	P	P	1	P	P	P	P	P		P	P	P	P					
Orange Free State	C	P	P	P	P	P	P			P	P	P	P	P					
Transvaal	C	P	P	P	P	P	P		P	P	P	P	P	P					
Yugoslavia (see table below).																			

[1] On Feb. 27, 1931, the Director General of Public Health of Guatemala reported an unusual outbreak of typhus fever in a small village in Guatemala.

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

TYPHUS FEVER—Continued

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

Place		Dec., 1930	Jan., 1931	Feb., 1931	Mar., 1931	Apr., 1931	May, 1931
Chosen: Seoul	C	1	1	-------	3	4	-------
Czechoslovakia	C	24	60	26	-------	5	-------
Greece	C	10	10	17	8	22	6
	D	-------	2	2	1	3	-------
Latvia	C	-------	-------	12	-------	-------	-------
Lithuania	C	6	26	3	99	34	10
	D	3	3	1	3	5	-------
Mexico (see also table above)	D	85	66	83	-------	-------	-------
Turkey	C	2	17	18	15	-------	3
Yugoslavia	C	1	20	12	10	43	14
	D	1	2	-------	1	5	-------

YELLOW FEVER

Place		Jan. 11–Feb. 7, 1931	Feb. 8–Mar. 7, 1931	Mar. 8–Apr. 4, 1931	Apr. 5–May 2, 1931	Week ended— May, 1931				June, 1931				July, 1931				August, 1931	
						9	16	23	30	6	13	20	27	4	11	18	25	1	8
Brazil:																			
Bahia State	C	-------	-------	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Ceara State	C	1	-------	2	2	-------	1	-------	-------	1	-------	-------	-------	-------	-------	-------	-------	-------	-------
	D	1	-------	-------	2	-------	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Minas Geraes State	C	-------	-------	2	5	1	-------	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
	D	-------	-------	1	2	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Rio de Janeiro State	C	-------	1	2	-------	-------	1	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
	D	-------	1	2	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Cambucy	C	3	2	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
	D	3	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Friburgo (imported)	C	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Padua	C	2	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
	D	2	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Sergipe State	C	-------	-------	-------	-------	-------	-------	-------	-------	-------	1	-------	-------	-------	-------	-------	-------	-------	-------
British Cameroons: Mamfe	C	-------	-------	-------	-------	-------	3	-------	-------	1	-------	1	-------	-------	-------	-------	-------	-------	-------
	D	-------	-------	-------	-------	-------	2	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Colombia—Magdalena Province—near Cienaga	C	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	4	-------	-------	-------

Gold Coast:																					
Akuse	C													2							
	D													1							
Kintampo	C															1					
	D															1					
Tamale	C														2						
	D														2						
Wale Wale	C																		1		
	D																		1		
Ivory Coast:																					
Bobo Dioulasso	C														1						
Grand Bassam	C																		2		
Kong Circle	C															4					
Nigeria: Abakaliki	C																			1	
	D																			1	
Sudan (French)	C															4					
Upper Volta—Banfora	C																2				

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