PUBLIC HEALTH REPORTS

VOL. 53 DECEMBER 16, 1938 NO. 50

THE PROBLEM OF DRUG ADDICTION[1]

By THOMAS PARRAN, *Surgeon General, United States Public Health Service*

The search for pleasure and the avoidance of pain are healthy human motives, universal in their appeal, constructive when properly directed and kept within their normal relation to other motives. When allowed to dominate the personality, they lead to disaster. Because of harsh environments or innate weaknesses or a combination of the two, man often fails in the pursuit of these motives. He may then turn in upon himself to get by artificial means the satisfaction out of life that the more fortunate or normal man gets by facing and fighting his problems in the open. When such a frustrated individual attempts to lift himself up by the use of narcotics, a drug addict is born. There are many of these individuals, but the remedy that they use, though often pleasing at first, is never permanently successful and is always harmful in the long run.

Drug addiction is not a new thing. There have always been persons who have tried to get unusual sensations and pleasure either by the use of stimulating drugs that put them in more vivid contact with the environment, or by the use of depressing drugs that enable them to forget or ignore the disagreeable features of it. The stimulating drugs are more harmful, but the depressing drugs are more important, as they satisfy a fundamental urge for peace and calm. For that reason they are more likely to cause addiction.

Although addiction in one form or another has been known since ancient times, the harmful effect of it was not appreciated, and very little attention was paid to it anywhere until about 125 years ago. At about that time some serious efforts were made to control the use of opium in China. Western countries did not wake up to the seriousness of the problem until the latter half of the past century. Increased facilities for transportation and the ingenuity of chemists had in the meantime forged ahead of medical knowledge and practice by giving ready access to new drugs, valuable when properly used for a medical purpose, but tempting and dangerous.

The first concern of the United States with narcotic drugs was revenue and trade. By a treaty with Siam in 1833, Americans were

[1] Address delivered at the dedication of the United States Public Health Service Hospital, Fort Worth, Tex., October 28, 1938.

forbidden to engage in the opium traffic with Siamese. There were a number of commercial treaties with different countries after this, mostly with China. It is interesting to note that by a treaty enacted as late as 1903 the importation of opium into China by American citizens and the importation of opium into the United States by Chinese citizens was prohibited. In the same year, a commission was appointed to study the problem in the Philippines. As a result of its report the importation of opium into the Philippines, except for medicinal purposes, was prohibited. We took pains to protect the Filipino before we did anything about the problem at home. It was legal to import opium for smoking purposes into the United States as late as 1909. In that year 118,000 pounds were imported and used for smoking in various parts of the country without interference by the authorities. But by that time the seriousness of the problem was recognized everywhere and the First International Opium Commission was called by the United States to meet at Shanghai in 1909. Since then, there have been several other international commissions called for the purpose of devising means to regulate the distribution of narcotic drugs so that the evils arising from the use of these drugs for dissipation might be abated. The United States now leads the world both in what it does to control the use of narcotics at home and in urging the adoption of international agreements to regulate the manufacture and flow of narcotics in trade so that they can be limited to strictly medicinal uses.

By 1914 the public conscience in the United States was fully aroused to the necessity for additional measures of internal control; and as a result, the Harrison Narcotic Act was passed. Under the provisions of this act the Government regulates the handling of narcotics from the time they are imported until they reach the ultimate consumer. The Harrison Narcotic Act and other laws more recently enacted have been effective in protecting innocent people from addiction and in impelling persons already addicted to seek cure. But errors were at first made in the treatment meted out to addicts. From doing nothing about the narcotic problem we started in a sudden burst of enthusiasm to clean up the situation without proper regard for human values and without considering the suffering and distress entailed in a rigid enforcement of the law as it then stood. The law, in effect, made criminals out of persons who were guilty only of suffering from the effects of a weakness that they could not control. Many of them were sent to prisons, where they received good treatment as prisoners, but where, from the very nature of things, the weaknesses that formed the basis of their addiction could not be adequately treated. It soon became evident that we were in danger of losing by too harsh application of repressive measures what we were gaining by more

intelligent attention to some phases of the addiction problem. We often completed the ruin of individuals whom it was our duty to save.

If the Government insists, as it should, upon suppressing the non-medical use of narcotics, it should also provide for the medical treatment of those unfortunates who are caught in the web of suppressive measures. It is appreciated that some restraint is necessary for certain types of addicts, but the restraint should be tempered by the helpful atmosphere of medical and psychiatric treatment as far removed from prison influence as it is possible to remove it, and still retain control of the patient. In response to this more constructive idea, Congress in 1929 authorized the establishment of this hospital and of a similar hospital at Lexington, Ky., where male addicts are treated; and more recently money has been allotted for the construction of a unit at Lexington for the treatment of females.

The medical profession was not alone in its efforts to bring about this more scientific and humane handling of the problem. The Director of the Bureau of Prisons, Mr. James V. Bennett, saw the necessity for the change and was in the forefront of those who advocated it. The former Director, Mr. Sanford Bates, came into the picture later and actively cooperated in bringing about the necessary changes in procedure. Special tribute is due to the late Congressman Stephen G. Porter, chairman of the Committee on Foreign Relations, of the House of Representatives, through whose untiring efforts the Congress was made to feel the necessity for special facilities for the treatment of addicts. He labelled these institutions "narcotic farms," but he intended them to be what they are—hospitals.

The purpose of these hospitals is to rehabilitate, restore to health, and train to be self-supporting and self-reliant, persons who are admitted to them. Addicts to opium, cocaine, cannabis indica, and peyote, or to any preparations or derivatives of these four drugs, are eligible for treatment.

Because it makes physical as well as mental slaves of its habitual users, opium is the most important addicting drug. The vast majority of addicts under treatment are users of opium in one form or another. Some of these acquired their addiction through legitimate medical practice, but the majority began to use the drug on the suggestion of associates and continued because of the seductive ease and calm that it is capable of giving to certain types of persons.

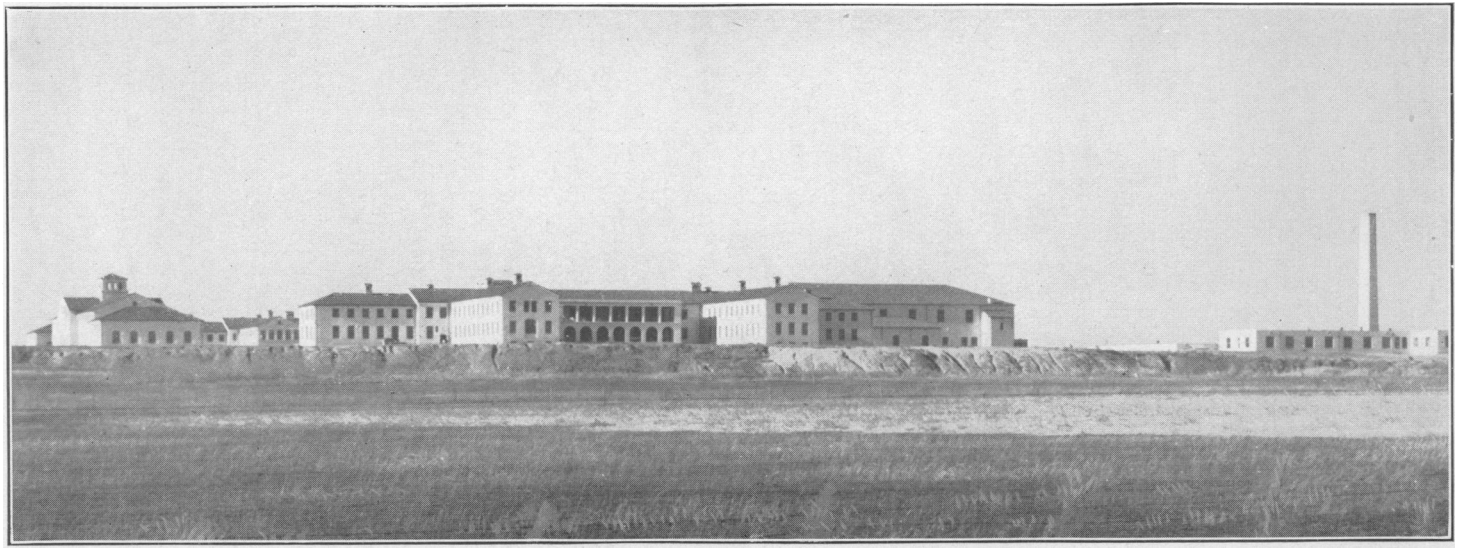
The vast majority of addicts want to be relieved of the habit, but only a few can afford adequate sanitarium treatment; the week or ten days' free treatment that some others receive in special hospitals is not sufficient. Punishment alone is never effective. The States and municipalities have not provided for addicts except in isolated instances. They have been despised and neglected by society for no good reason. The urge for cure has been so great and the means of

accomplishing it so meager that even women addicts have been forced to plead guilty to crimes they did not commit in order to secure in jails the inadequate service that such places have to offer. The addict, in short, is a sick person who has no place to go; hence the necessity for Government hospitals where voluntary patients, as well as prisoners, can be treated.

The excessive and continued use of narcotics, especially opiates, brings about changes in the physical constitution that must be corrected. The continued use of these drugs denotes in many cases an emotional imbalance or distortion of personality that must be corrected if permanent cure is to be effected. Cure cannot be brought about merely by telling the individual that he is throwing his life away or by punishing him. The latter method often makes a bad condition worse. There must be an understanding of the causative factors; the patient must be shown these and taught how to overcome or adjust to them. Since painstaking work by competent psychiatrists is necessary, the Public Health Service has developed a corps of officers who are efficient in this particular field. The rehabilitation of an addict requires time during which, in addition to receiving special treatment, he is encouraged to develop healthful habits through work and recreation, replacing his old habit of solving his problems by blotting them out through the use of narcotics. For these purposes, a farm, shops, a library, and recreational facilities are provided, all of which are to be used with the primary purpose in view of benefiting the patients. It is not expected that all addicts will be cured in these institutions. Some are too defective for that. Their addiction is only a symptom of an underlying mental defect. This needs to be attacked in a broad program for conserving the Nation's mental health, which, in turn, is a part of the national health program recently presented to the country at the suggestion of the President.

A function of the Public Health Service in connection with these hospitals is to make studies in drug addiction that will be generally useful for the protection and cure of addicts and for the solution of the addiction problem. Our studies include cooperative efforts with other groups in an effort to produce and investigate the properties of drugs that may have the beneficial effects of opiates minus the addicting property. Laboratory studies designed to uncover the fundamental mechanism of addiction and the pathological changes of function caused by narcotics are under way at Lexington. Also, at both Lexington and Fort Worth, studies are to be made in the psychology of addiction, as well as in the social factors involved, to the end that, by a better understanding of these factors, additional measures may be taken to solve the addiction problem.

The Fort Worth hospital includes all the essential features of a medical and scientific center. It is to be enlarged by the addition of



From left: Administration building, maximum custody unit, infirmary, auditorium, and powerhouse, U. S. Public Health Service Hospital, Fort Worth, Tex.

Administration building, U. S. Public Health Service Hospital, Fort Worth, Tex.

more than 700 beds in order to increase its field of usefulness. We feel that any community should be proud to have in its midst an institution that promises so much for the advancement of science and the relief of suffering as this one does; and as Surgeon General of the Public Health Service I take pleasure in dedicating it to these purposes.

(NOTE.—A narcotic addict desirous of entering the United States Public Health Service Hospital at Lexington, Ky., or Fort Worth, Tex., for treatment as a voluntary patient will, upon application to the Surgeon General of the United States Public Health Service, Washington, D. C., be furnished the necessary blanks and instructions. A charge of $1 per day is made; but if an applicant is impecunious, this charge will be waived upon presentation of certain proof. In order to be eligible for treatment, a person must be a citizen of the United States and be an habitual user of opium or coca leaves or their derivatives, or of Indian hemp or peyote. A medical examination by a physician designated by the applicant, or by a United States Public Health Service medical officer, is required. Should the report of this medical examination indicate the applicant is an addict, the Surgeon General addresses a letter to him authorizing his admission any time within 4 weeks of the date of the letter. He cannot be confined without his consent. At the present time there are no accommodations for women patients, but it is anticipated that such accommodations will be available early in 1940.)

SPONTANEOUS LUNG CARCINOMA IN MICE[1]

By JOHN J. BITTNER, *Research Fellow, United States Public Health Service* and *Research Associate, Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine*

The inheritance of pulmonary tumors in mice may be investigated by observation on either spontaneous or induced tumors. Experiments dealing with spontaneous growths require at least 3 years to complete, owing to slow development of the growths, whereas tumors induced by carcinogenic agents appear within a few months. The results of both methods may be complicated by the development of subcutaneous and internal neoplasms.

Mating males from a pen-inbred high lung tumor strain of mice to females from a low tumor stock, Lynch (*1*, *2*) found that spontaneous lung cancer was dominant or semidominant in its inheritance. The number of genetic factors was not determined. By observing virgin mice of both sexes in the reciprocal F_1 and F_2 generation hybrids between the high tumor "A" and the low tumor "B" (C57 black) strains, Bittner and Little (*3*), in a preliminary report on this work, found that one or more dominant factors were involved in the etiology of primary lung tumors. There was no maternal influence observed as is the case with breast cancer in mice.

[1] This work has been supported by a grant-in-aid from the National Cancer Institute, U. S. Public Health Service.

Since the work of Murphy and Sturm (*4*) on the production of lung tumors in mice following the painting with tar, numerous investigations have been made. Also using tar as the carcinogenic agent, Lynch (*5*) concluded that tar-induced lung tumors are inherited. In a later paper, Lynch (*6*) stated that one or more factors must be involved. In 1937 Lynch (*7*) reported on further work in which she observed that there was no maternal influence on induced tar tumors in first generation and back-cross mice. The data gave a one factor ratio.

Considerable work has been published by Andervont on the production of pulmonary tumors following the injection of hydrocarbons. Using reciprocal hybrid mice obtained by crossing the A and B strains, Andervont (*8*) reported that the susceptibility to induced lung tumors following the subcutaneous injection of lard-dibenzanthracene was inherited in a dominant manner. These results were confirmed in back-cross generation animals by Andervont (*11*).

A possible complicating factor between the relationship of the susceptibility of strains of inbred mice to spontaneous and induced pulmonary tumors was presented in some of Andervont's work. In one article (*9*) Andervont found that it was possible to induce pulmonary tumors in the C_3H strain of mice, an inbred stock known to have a very low spontaneous lung tumor ratio (*12*, *13*). In another work (*10*) Andervont demonstrated that, by direct contact, lung tumors could be produced in some mice of the B, or C57 black, strain as well as C_3H stock mice. A quotation from Andervont's work (*9*) gives his conclusions very clearly.

> From the results of these experiments with C_3H mice it may be said that subcutaneous or intravenous injections of dibenzanthracene have induced pulmonary tumors in members of a strain of mice which do not possess a tendency to develop many of them spontaneously. It is known that the susceptibility of the lungs of certain mice to the development of both spontaneous and induced tumors is inherited, and, as stated previously, the appearance of induced lung tumors in mice possessing this tendency may be interpreted as the influence exerted by the genetic constitution of the animal. It is also known that both high and low spontaneous mammary cancer lines of mice are susceptible to the induction of subcutaneous tumors by carcinogenic compounds and it now appears as though an inherited organ susceptibility to development of spontaneous pulmonary neoplasms is not essential for the production of induced lung tumors. The difference in the susceptibility of various strains of mice to induced pulmonary tumors may be a matter of degree only.

Further refinement of the methods used in this work may show that there is little or no relationship between the susceptibility to primary lung tumors and the ability to induce such growths by the use of carcinogenic agents, at least in some strains of mice, or that the spontaneous lung tumor incidence has not been determined accurately.

In an earlier preliminary report (*3*) some data were given on the incidence of primary lung cancer in reciprocal hybrids between the

A high lung tumor strain and the B (C57 black) low lung tumor stock. Approximately 90 percent of the animals in the hybrid generations have succumbed and, since it will be some months before the last of these mice will have died, it was considered advisable to present a progress report of this work. The tumors have been diagnosed as primary bronchial carcinomas by Dr. A. M. Cloudman. Only animals which had tumors which could be seen grossly are included, as facilities were not available to make serial histological examination of the tissues to detect microscopic nodules.

The A stock females used to determine the lung tumor ratio were kept as virgins. They totaled 223, and 89.2 percent showed carcinomas at an average age of 19.5 months (table 1). The incidence in A stock males was determined on mice which had been used as breeders. This method is not very satisfactory, as the males when placed together after breeding were quite pugnacious, which naturally shortened their lives and consequently reduced the tumor ratio. The 172 males observed gave a tumor ratio of 74.4 percent at an average age of 16.1 months.

The lung tumor ratio in B or C57 black stock has been determined by Doctor Little and is less than 1 percent.

Reciprocal F_1 and F_2 hybrids were obtained by crossing these two strains which differed markedly in their lung tumor ratios. All the hybrids were kept as virgins.

No significant differences were observed in tumor ratios between the sexes of the ABF_1 (A ♀ + B ♂) and BAF_1 (B ♀ + A ♂) generations. The ratios for the totals in these respective groups were 76.4 percent and 76.7 percent. If the generations are combined, a total of 405 mice was observed, with a lung tumor incidence of 76.5 percent; the average age was 26.7 months (table 1).

TABLE 1.—*The incidence of spontaneous pulmonary carcinoma arising in A stock mice and reciprocal hybrids between the A and C 57 black stocks*

Stock	Sex	Number	Percent of mice with lung carcinomas	Average age (months)
A	Female	223	89.2	19.5
A	Male	172	74.4	16.1
ABF_1	Female	102	75.5	26.4
ABF_1	Male	101	77.2	25.6
Total		203	76.4	26.0
BAF_1	Female	96	80.2	28.3
BAF_1	Male	106	73.6	26.4
Total		202	76.7	27.3
ABF_2	Female	106	50.9	24.4
ABF_2	Male	98	68.4	23.3
Total		204	59.3	23.8
BAF_2	Female	107	60.7	24.8
BAF_2	Male	115	47.8	22.0
Total		222	54.1	23.5
F_1 (total)		405	76.5	26.7
F_2 (total)		426	56.6	23.7

In the second generation the differences between the lung tumor ratios for the sexes were 17.5 percent in the ABF_2 and 12.9 percent in the BAF_2 generation. The degree of significance was 2.4 and 1.9 times the probable error, respectively. The entire ABF_2 group of 204 mice had a primary pulmonary tumor ratio of 59.3 percent and the BAF_2 mice gave 54.1 percent in the 222 animals observed. The difference between these ratios was 5.2 percent (1.6 × P. E.). Combining the F_2 population gave a total of 426 mice, of which 56.5 percent had primary lung tumors. The average age was 23.7 months.

DISCUSSION

From the results of this experiment on the proportion of hybrid mice obtained by reciprocal matings between high and low tumor strains of mice, which develop lung neoplasms, it is apparent that spontaneous lung tumor susceptibility may be transmitted through either parent of the high tumor stock to the progeny (*3*). No evidence of maternal or extra-chromosomal influence was observed in the inheritance of these tumors, confirming the conclusions of Andervont (*8*) and Lynch (*7*) for induced lung cancer.

Since no significant sexual difference was observed in any generation, the ratios for the total may be used in comparing the observations with the expectations for various factorial combinations. The results in the hybrid generations were: ABF_1, 76.4 percent; BAF_1, 76.7 percent; ABF_2, 59.3 percent, and BAF_2, 54.1 percent. All the first generation animals gave a lung tumor ratio of 76.5 percent and the F_2 animals had an incidence of 56.6 percent. The average ages were 26.7 months and 23.7 months, respectively.

If lung tumors were inherited as a recessive characteristic, the first generation mice would not be expected to have any lung cancers. Since tumors were observed in the first generation, this hypothesis need not be considered.

Because lung tumors were observed in a large percentage of the first generation hybrids, it is probable that lung cancer susceptibility is inherited as a dominant character. Assuming the high tumor stock mice to be homozygous for lung tumor susceptibility, we would theoretically expect, for a one-factor ratio, all of the first generation hybrids and 75 percent of the second filial generation to develop spontaneous pulmonary carcinoma. The theoretic expectation in the second generation for a two-factor ratio is 56.3 percent. For the first generation it would be the same as stated above, namely 100 percent.

The characteristics of spontaneous cancer are such that one cannot hope to obtain these expected ratios either in pure stock or hybrid mice. The age range between the observation of tumors in individuals of minimum and maximum age may be as great as 2 years. Thus, any animal dying from other causes must be classified as noncancerous,

although had it lived a few months longer it might have developed cancer. Other mice of an inbred high tumor strain or their hybrids may live to an extreme age and die nontumorous. Such mice usually transmit the expected cancer susceptibility or influence and thus may be considered as cancerous parents (*12*, *14*, *15*). Thus, in cancer work the observed data may not express accurately the percentage of potentially cancerous individuals as determined by the ability to transmit cancer susceptibility to future generations. The ratios for one particular type of growth may also be altered by the appearance of other classes of neoplasms, as will be pointed out in another article.

By taking the observed lung tumor observations in the reciprocal first generation hybrids between the A and the B strains, we obtain 76.5 percent, instead of the theoretical expectation of 100 percent. Based on this observed ratio in this generation, the expectation in the F_2 hybrids for one and two factor ratios would be 75 percent (3+: 1−) and 56.3 percent (9+: 7−) of the first generation observation or 57.4 percent and 43.1 percent, respectively. The observed incidence in all F_2 mice was 56.6 percent, which would indicate that one dominant Mendelian factor was involved in the inheritance of spontaneous lung tumor susceptibility in mice.

CONCLUSION

Susceptibility in mice to spontaneous pulmonary tumors is probably transmitted by a single dominant Mendelian factor.

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A SUPPLEMENTARY BASIC TECHNIQUE FOR THE RECOVERY OF PROTOZOAN CYSTS AND HELMINTH EGGS IN FECES

(Preliminary Communication)

By JOSEPH S. D'ANTONI and VADA ODOM [1]

In a recent communication,[2] a technique was presented for making a homogeneous suspension of feces for use as a common denominator in a comparative quantitative study of diagnostic methods for protozoan cysts and helminth eggs. In the application of this method to hookworm eggs, a complication arose which made it necessary to introduce a further step in the preparation of the suspension. Examination of the residue showed that eggs were being held back by the metal sieve, which has a screened bottom containing 60 squares per linear inch. It therefore became necessary to determine the actual number of eggs present in the residue and, in turn, the percentage of eggs held back by the sieve.

The original moist feces were sieved to allow only fine particles to pass into the suspension, so that accurate quantities of this suspension could be pipetted in amounts of 10 cubic millimeters for greater accuracy and to facilitate counting. A method has now been devised which is essentially the same as the preparation of the original suspension, except that moist washed fecal residue is used instead of original feces.

METHOD

The fecal residue in the sieve container is weighed (the weight of the sieve without the feces having been previously determined). The fecal residue is then homogenized, about one-tenth of it is placed in a previously weighed petri dish, and the weight of this residue is obtained. The petri dish and its contents are placed in a drying oven at 105° C. for 6 to 8 hours. They are thereafter reweighed and

[1] Parasitology Laboratory, Department of Tropical Medicine, Tulane University, New Orleans, La. This communication is one of a series entitled "A Critical Study of Clinical Laboratory Technics for the Diagnosis of Protozoan Cysts and Helminth Eggs in Feces," by the Amebiasis Unit of the National Institute of Health at Tulane University, under the direction of Ernest Carroll Faust.

[2] Faust, Ernest Carroll, D'Antoni, Joseph S., Odom, Vada, Miller, Max J., Peres, Charles, Sawitz, Willi, Thomen, Luis F., Tobie, John, and Walker, J. Henry: A critical study of clinical laboratory techniques for the diagnosis of protozoan cysts and helminth eggs in feces. I. Preliminary communication. Am. J. Trop. Med., 18: 169 (1938).

the weight of the dried feces is thus determined. From these data it is easy to calculate (1) the percentage of moisture in the fecal residue, (2) the entire amount of dried feces in the sieve container, and (3) the amount of original moist feces in the residue. This third step is calculated by means of a series of proportions. The relation of original moist feces to dry feces has been previously calculated by taking a definite amount of original moist feces, drying it, and weighing the dry remainder. This relationship of moist to dry feces is used to determine the amount of original moist feces corresponding to the amount of fecal residue which was dried. After this ratio has been determined, by a simple proportion the number of grams of original moist feces removed by the sieving process, that is, the number of grams of original moist feces in the residue, can be calculated as follows:

First proportion: Let X equal the weight in grams of dry feces in the total residue. Then the weight of that portion of moist fecal residue in the petri dish is to the weight of that same portion after drying as the weight of the total original moist residue in the sieve container is to X.

Second proportion: Let X equal the weight in grams of original moist feces in the residue, that is, the amount of original moist feces retained in the sieve. Then the weight of original moist feces is to the weight of original dry feces as X is to the weight of dry feces in the residue determined in the first proportion.

The fecal residue remaining in the sieve container is washed into a stender dish with sufficient decinormal NaOH solution to make a 1 in 15 dilution. This diluent is used to saponify the fats in the fecal residue. The suspension is left in the ice box overnight, and after 24 hours suitable dilutions are made and the eggs counted. From these counts the entire number of eggs held back by the sieve can be calculated and also the percentage of eggs.

By these additional steps in technique and by alteration of the patient's diet, the following information has been determined: (1) In making up a quantitative basic suspension the sieve itself has little or no effect in retarding hookworm eggs, since by putting a patient on a low residue diet only 0.2 percent of the eggs is held back.

(2) By adding gelatinous (i. e., adhesive) substances to the diet the percentage of eggs held back may be greatly increased; by adding bran to the diet the percentage of eggs retained by the sieve reaches 4 percent.

(3) In a normal diet the percentage of eggs remaining in the sieve is about 2.5 percent.

SUMMARY AND CONCLUSIONS

By the introduction of an additional step in the preparation of a sieved basic suspension, the percentage of eggs retained in the sieved residue is determinable, so that the total number of eggs in the fecal sample, including both those passed through the sieve and those held back in the fecal residue, may be readily calculated.

PSITTACOSIS IN WASHINGTON, D. C.

Three Human Cases in November and December 1938 Traced to Parakeets

The following information regarding the occurrence of three human cases of psittacosis in Washington, D. C., during November, in which the infection was traced to parakeets, was furnished by Dr. George C. Ruhland, health officer of the District of Columbia.

On October 15 and November 6, 1938, a local merchant received shipments of a total of 200 shell parakeets from a southern California dealer. At the time of arrival in Washington the birds in both shipments appeared to be healthy. By October 26 about one-half of these birds had been sold.

On October 24 the merchant sold, to a local family, a pair of these birds, both of which later became sick and died—one dying on November 11 and the other on November 23. Three cases of psittacosis developed in members of this family, the first becoming ill on November 9, the second on November 16, and the third on December 2.

The remaining birds of these shipments which had not been sold were inspected on November 30 by the District Health Department. Three of them were found to be droopy, with ruffled feathers and diarrhea, and were isolated for further observation. The presence of the disease in these birds was confirmed by the National Institute of Health, and all of the remaining parakeets were killed. It is worthy of note that the pathologists of the National Institute of Health reported that the psittacosis virus was also found in apparently healthy birds of these shipments.

DEATHS DURING WEEK ENDED NOVEMBER 26, 1938

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

	Week ended Nov. 26, 1938	Corresponding week, 1937
Data from 88 large cities of the United States:		
Total deaths	7,882	[1] 7,806
Average for 3 prior years	[1] 8,108	
Total deaths, first 47 weeks of year	380,113	405,147
Deaths under 1 year of age	518	[1] 456
Average for 3 prior years	[1] 505	
Deaths under 1 year of age, first 47 weeks of year	24,577	26,001
Data from industrial insurance companies:		
Policies in force	68,303,373	69,959,008
Number of death claims	10,443	10,433
Death claims per 1,000 policies in force, annual rate	8.0	7.8
Death claims per 1,000 policies, first 47 weeks of year, annual rate	9.2	9.7

[1] Data for 86 cities.

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.

In these and the following tables, a zero (0) indicates a positive report and has the same significance as any other figure, while leaders (----) represent no report, with the implication that cases or deaths may have occurred but were not reported to the State health officer.

Cases of certain diseases reported by telegraph by State health officers for the week ended December 3, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median

Division and State	Diphtheria				Influenza				Measles			
	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37 median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37 median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37 median
NEW ENG.												
Maine	274	45	0	2	18	3	-------	1	97	16	40	12
New Hampshire	10	1	0	0	-------	-------	-------	-------	-------	-------	47	17
Vermont	0	0	0	0	-------	-------	-------	-------	14	1	63	35
Massachusetts	8	7	1	7	-------	-------	-------	-------	249	211	78	98
Rhode Island	0	0	0	2	-------	-------	-------	-------	-------	-------	-------	1
Connecticut	9	3	14	4	21	7	6	4	219	73	6	29
MID ATL.												
New York	12	29	28	42	[1] 8	[1] 11	[1] 21	[1] 21	248	616	130	363
New Jersey	14	12	30	23	12	10	18	18	25	21	596	44
Pennsylvania	31	61	30	35	-------	-------	-------	-------	25	48	1,378	258
E. NO. CEN.												
Ohio	48	62	41	89	-------	-------	2	58	9	11	269	114
Indiana	39	26	39	47	48	32	64	35	20	13	143	31
Illinois	31	47	39	43	7	10	30	19	19	28	628	36
Michigan [2]	23	21	39	30	1	1	3	3	168	156	172	52
Wisconsin	5	3	5	5	86	48	47	24	180	101	82	81
W. NO. CEN.												
Minnesota	4	2	9	9	2	1	1	1	499	254	5	49
Iowa	39	19	6	17	-------	-------	1	1	100	49	8	5
Missouri	38	29	17	51	27	21	48	70	3	2	151	41
North Dakota	15	2	2	2	126	17	2	2	2,164	293	2	12
South Dakota	53	7	0	1	23	3	-------	-------	912	121	-------	3
Nebraska	15	4	9	7	38	10	-------	-------	8	2	1	6
Kansas	17	6	6	11	28	10	4	1	25	9	20	8

Cases of certain diseases reported by telegraph by State health officers for the week ended December 3, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median—Continued

Division and State	Diphtheria				Influenza				Measles			
	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37 median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37 median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37 median
SO. ATL.												
Delaware	100	5	0	1					60	3		1
Maryland [3]	9	3	20	20	37	12	4	7	196	63	8	15
Dist. of Col	17	2	6	14	25	3	1	1	17	2	5	2
Virginia	110	57	34	55	247	128			17	9	102	46
West Virginia	81	29	29	47	22	8	24	25	17	6	141	9
North Carolina [3]	90	64	70	62	1	1	3	6	211	141	321	230
South Carolina [3]	56	20	12	12	815	293	371	239	19	7	21	17
Georgia [3]	34	20	22	24	106	63			79	47		
Florida [3]	3	1	16	15	3	1	12	3	22	7	40	1
E. SO. CEN.												
Kentucky	37	21	16	36	29	16	35	35	136	76	69	31
Tennessee [3]	36	20	27	42	72	40	72	40	20	11	127	28
Alabama [3]	77	43	31	36	101	56	151	103	34	19	18	18
Mississippi [3]	44	17	17	13								
W. SO. CEN.												
Arkansas	41	16	23	22	239	94	95	51	18	7	22	4
Louisiana [3]	73	30	16	25	27	11	4	5	203	83		3
Oklahoma	43	21	33	20	178	87	88	66	45	22	8	7
Texas [3]	45	53	57	83	226	268	354	139	10	12	80	19
MOUNTAIN												
Montana	58	6	1	1	39	4		3	2,032	210	10	10
Idaho	21	2	2	1			3	1	582	55	49	6
Wyoming	0	0	0	0					67	3	1	2
Colorado	63	13	7	7	136	28			39	8	61	10
New Mexico	62	5	3	3	37	3	1	2	37	3	43	31
Arizona	76	6	11	8	1,531	121	79	54	25	2		1
Utah [2 4]	0	0	2	1	111	11			70	7	48	9
PACIFIC												
Washington	9	3	5	4					164	52	34	113
Oregon [4]	5	1	10	0	76	15	17	18	36	7	8	11
California [3]	33	39	44	45	53	63	27	28	456	538	57	111
Total	36	883	829	1,142	74	1,510	1,588	1,123	140	3,425	5,092	3,388
48 weeks	23	27,139	25,336	34,173	60	58,689	284,737	149,838	667	781,008	269,401	359,881

Division and State	Meningitis, meningococcus				Poliomyelitis				Scarlet fever			
	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37, median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37, median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37, median
NEW ENG.												
Maine	6	1	0	0	0	0	0	1	110	18	79	18
New Hampshire	0	0	0	0	0	0	0	0	82	8	19	16
Vermont	0	0	0	0	0	0	0	0	123	9	8	9
Massachusetts	1.2	1	1	1	0	0	1	1	111	94	161	161
Rhode Island	0	0	0	0	0	0	0	0	92	12	23	20
Connecticut	0	0	1	2	0	0	1	1	129	43	71	38
MID. ATL.												
New York	2	5	7	6	1.2	3	4	4	117	292	371	371
New Jersey	0	0	3	1	0	0	0	0	88	73	97	97
Pennsylvania	0.5	1	5	3	0	0	2	2	137	267	298	296

See footnotes at end of table.

Cases of certain diseases reported by telegraph by State health officers for the week ended December 3, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median—Continued

Division and State	Meningitis, meningococcus				Poliomyelitis				Scarlet fever			
	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37, median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37, median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37, median
E. NO. CEN.												
Ohio	0.8	1	3	2	0	0	1	3	228	295	317	444
Indiana	1.5	1	2	2	0	0	0	0	242	161	196	176
Illinois	0	0	3	5	0	0	6	6	234	354	429	429
Michigan [3]	2.2	2	0	0	0	0	3	2	575	533	468	201
Wisconsin	0	0	0	1	0	0	5	2	283	159	162	232
W. NO. CEN.												
Minnesota	2	1	4	1	0	0	4	3	230	117	131	131
Iowa	0	0	1	1	0	0	1	0	145	71	254	86
Missouri	0	0	1	3	1.3	1	5	2	158	121	162	141
North Dakota	0	0	0	0	0	0	0	0	140	19	45	45
South Dakota	0	0	0	0	0	0	0	0	264	35	25	25
Nebraska	0	0	0	0	0	0	0	0	149	39	33	33
Kansas	0	0	0	1	0	0	0	1	405	145	139	120
SO. ATL.												
Delaware	0	0	0	0	0	0	0	0	499	25	7	7
Maryland [3]	3	1	4	3	0	0	0	1	53	17	75	86
Dist. of Col	0	0	3	0	8	1	0	0	116	14	17	13
Virginia	6	3	3	3	0	0	1	1	66	34	41	54
West Virginia	11	4	2	2	2.8	1	0	1	179	64	92	92
North Carolina [3]	3	2	3	3	0	0	1	1	88	59	62	73
South Carolina [3]	0	0	3	0	6	2	0	0	36	13	10	10
Georgia [3]	1.7	1	1	1	1.7	1	0	0	37	22	34	28
Florida [3]	3	1	1	0	0	0	0	0	0	0	16	7
E. SO. CEN.												
Kentucky	0	0	6	1	0	0	0	1	184	103	82	79
Tennessee [3]	1.8	1	3	2	0	0	0	0	110	61	48	67
Alabama [3]	9	5	1	1	4	2	4	2	40	22	27	27
Mississippi [3]	0	0	0	0	5	2	1	1	26	10	15	24
W. SO. CEN.												
Arkansas	0	0	3	0	5	2	0	0	56	22	40	18
Louisiana [3]	0	0	1	0	0	0	1	1	64	26	3	14
Oklahoma	0	0	0	0	0	0	2	0	86	42	64	43
Texas [3]	2.5	3	2	1	0	0	6	4	76	90	110	85
MOUNTAIN												
Montana	10	1	0	0	0	0	0	0	319	33	18	18
Idaho	11	1	0	0	0	0	1	1	180	17	42	23
Wyoming	0	0	0	0	0	0	0	0	178	8	7	8
Colorado	5	1	1	1	0	0	3	1	200	41	49	49
New Mexico	0	0	0	0	0	0	0	1	185	15	40	19
Arizona	13	1	2	0	0	0	1	1	63	5	6	17
Utah [3 4]	0	0	0	0	0	0	0	0	241	24	75	28
PACIFIC												
Washington	0	0	2	2	0	0	4	2	195	62	46	46
Oregon [4]	5	1	1	1	0	0	1	2	228	45	45	49
California [3]	0.8	1	2	2	1.7	2	9	9	186	220	176	185
Total	1.6	40	75	75	0.7	17	68	70	160	3,959	4,735	4,735
48 weeks	2.2	2,666	5,073	5,073	1.4	1,633	9,316	7,091	144	171,461	204,483	204,483

See footnotes at end of table.

Cases of certain diseases reported by telegraph by State health officers for the week ended December 3, 1938, rates per 100,000 population (annual basis), and comparison with corresponding week of 1937 and 5-year median—Continued

Division and State	Smallpox				Typhoid and paratyphoid fever				Whooping cough		
	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37 median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases	1933–37 median	Dec. 3, 1938, rate	Dec. 3, 1938, cases	Dec. 4, 1937, cases
NEW ENG.											
Maine	0	0	0	0	18	3	1	1	341	56	33
New Hampshire	0	0	0	0	0	0	0	0	0	0	15
Vermont	0	0	0	0	0	0	0	0	708	52	47
Massachusetts	0	0	0	0	1	1	8	1	39	33	172
Rhode Island	0	0	0	0	8	1	1	0	230	30	33
Connecticut	0	0	0	0	0	0	2	0	231	77	37
MID. ATL.											
New York	0	0	0	0	3	8	14	9	257	639	393
New Jersey	0	0	0	0	2	2	4	4	433	361	163
Pennsylvania	0	0	0	0	1	2	28	16	196	382	371
E. NO. CEN.											
Ohio	2	3	1	2	2	3	7	8	103	133	638
Indiana	71	47	21	3	8	5	0	4	21	14	28
Illinois	1	1	2	2	4	6	8	14	377	569	75
Michigan [2]	11	10	2	1	3	3	5	5	404	374	239
Wisconsin	5	3	6	9	0	0	0	2	759	426	177
W. NO. CEN.											
Minnesota	18	9	15	2	2	1	0	0	26	13	43
Iowa	33	16	24	5	6	3	0	1	53	26	34
Missouri	24	18	7	2	8	6	12	12	20	15	95
North Dakota	30	4	12	1	0	0	2	1	59	8	24
South Dakota	8	1	10	6	8	1	0	0	15	2	34
Nebraska	4	1	4	4	0	0	1	2	11	3	26
Kansas	3	1	1	5	6	2	0	3	62	22	83
SO. ATL.											
Delaware	0	0	0	0	0	0	0	0	240	12	7
Maryland [2]	0	0	0	0	16	5	2	5	96	31	76
Dist. of Col	0	0	0	0	0	0	0	1	166	20	5
Virginia	0	0	0	0	12	6	7	8	112	58	72
West Virginia	0	0	0	0	8	3	3	6	117	42	102
North Carolina [3]	0	0	0	0	1	1	3	5	329	220	215
South Carolina [3]	0	0	0	0	0	0	0	2	97	35	59
Georgia [3]	0	0	0	0	8	5	6	6	8	5	14
Florida [3]	0	0	0	0	0	0	0	1	0	0	7
E. SO. CEN.											
Kentucky	0	0	1	0	5	3	3	14	36	20	36
Tennessee [2]	0	0	1	1	2	1	4	4	45	25	35
Alabama [3]	0	0	0	0	2	1	2	5	25	14	44
Mississippi [2]	0	0	0	0	0	0	1	7	-----	-----	-----
W. SO. CEN.											
Arkansas	0	0	2	1	8		6	4	74	29	24
Louisiana [3]	0	0	0	0	17	3	4	10	64	26	26
Oklahoma	37	18	2	2	10	7	16	14	8	4	18
Texas [3]	7	8	0	1	8	5	37	33	38	45	164
MOUNTAIN						9					
Montana	10	1	23	23	10	1	1	0	310	32	22
Idaho	85	8	8	1	11	1	3	3	0	0	9
Wyoming	0	0	6	1	0	0	5	0	67	3	10
Colorado	39	8	14	6	19	4	5	1	365	75	7
New Mexico	12	1	0	0	86	7	13	7	111	9	27
Arizona	0	0	0	0	13	1	5	1	25	2	-----
Utah [2 4]	0	0	0	0	0	0	1	0	100	10	6
PACIFIC											
Washington	16	5	16	16	13	4	1	4	129	41	105
Oregon [4]	5	1	9	7	5	1	2	2	122	24	-----
California [3]	0	0	13	6	2	2	11	11	128	151	279
Total	7	164	200	135	5	117	234	246	171	4,168	4,130
48 weeks	12	13,686	9,771	6,685	12	13,719	14,555	16,739	167	194,975	-----

[1] New York City only.
[2] Period ended earlier than Saturday.
[3] Typhus fever, week ended Dec. 3, 1938, 40 cases as follows: North Carolina, 2; South Carolina, 6; Georgia, 14; Florida, 2; Tennessee, 2; Alabama, 7; Louisiana, 1; Texas, 2; California, 4.
[4] Rocky Mountain spotted fever, week ended Dec. 3, 1938, 2 cases as follows: Utah, 1; Oregon, 1.

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	Meningitis, meningococcus	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid and paratyphoid fever
October 1938										
Hawaii Territory	0	5	17		6		0	0	0	11
Massachusetts	5	18			236	2	5	276	0	7
New Hampshire	0	0					0	8	0	0
Utah	0	2	20		48			36	0	4
Vermont	0	0			8		0	19	0	4
Virginia	7	481	443	32	69	12	10	218	0	56
November 1938										
Arkansas	3	105	254	257	28	47	3	90	8	21
Delaware	0	8			14		1	53	0	1
Nebraska	0	14	2		10		0	74	2	1
North Carolina	5	413	11	35	608	22	4	362	0	23

October 1938

	Cases
Chickenpox:	
Hawaii Territory	41
Massachusetts	390
Utah	173
Vermont	204
Virginia	116
Conjunctivitis, epidemic:	
Hawaii Territory	2
Dysentery:	
Hawaii Territory (amoebic)	1
Hawaii Territory (bacillary)	3
Massachusetts (bacillary)	19
Virginia (bacillary)	150
Encephalitis, epidemic or lethargic:	
Massachusetts	3
Virginia	1
German measles:	
Massachusetts	11
Utah	3
Hookworm disease:	
Hawaii Territory	7
Impetigo contagiosa:	
Hawaii Territory	22
Vermont	6
Leprosy:	
Hawaii Territory	4
Mumps:	
Hawaii Territory	30
Massachusetts	204
Utah	94
Vermont	42
Virginia	84
Ophthalmia neonatorum:	
Hawaii Territory	2
Massachusetts	27
Rabies in animals:	
Massachusetts	3

October 1938—Continued

	Cases
Rocky Mountain spotted fever:	
Virginia	1
Septic sore throat:	
Massachusetts	6
Virginia	79
Tetanus:	
Hawaii Territory	3
Massachusetts	2
Virginia	2
Trachoma:	
Hawaii Territory	15
Utah	4
Virginia	7
Trichinosis:	
Massachusetts	3
Tularaemia:	
Utah	2
Virginia	2
Typhus fever:	
Hawaii Territory	11
Undulant fever:	
Hawaii Territory	1
Massachusetts	1
Utah	2
Vermont	2
Virginia	3
Vincent's infection:	
Vermont	6
Whooping cough:	
Hawaii Territory	122
Massachusetts	376
Utah	68
Vermont	220
Virginia	153

November 1938

Chickenpox:	
Arkansas	44
Delaware	75

November 1938—Continued

	Cases
Chickenpox—Continued	
Nebraska	76
North Carolina	312
Dysentery:	
Arkansas (amoebic)	3
Arkansas (bacillary)	5
German measles:	
Delaware	1
North Carolina	13
Mumps:	
Arkansas	12
Delaware	47
Nebraska	27
Ophthalmia neonatorum:	
Arkansas	1
Puerperal septicemia:	
Arkansas	6
Rabies in animals:	
Arkansas	27
Septic sore throat:	
Arkansas	24
North Carolina	12
Tetanus:	
Delaware	1
Trachoma:	
Arkansas	1
Tularaemia:	
Arkansas	14
North Carolina	1
Typhus fever:	
North Carolina	11
Undulant fever:	
Arkansas	1
North Carolina	2
Whooping cough:	
Arkansas	75
Delaware	36
Nebraska	26
North Carolina	909

PLAGUE INFECTION IN FLEAS FROM GROUND SQUIRRELS IN SAN BENITO COUNTY, CALIF.

Under date of November 29, 1938, Dr. W. M. Dickie, director of public health of California, reported plague infection proved by animal inoculation in a pool of 259 fleas from 52 *beecheyi* squirrels taken on a ranch located 6 miles north and 9 miles east of Hollister, San Benito County, and submitted to the laboratory on October 25.

WEEKLY REPORTS FROM CITIES

City reports for week ended November 26, 1938

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table.

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Data for 90 cities:											
5-year average	273	170	48	760	603	1,229	9	347	36	1,006	----
Current week	154	84	24	689	422	861	12	289	28	1,298	----
Maine:											
Portland	2	----	0	5	2	1	0	0	0	0	16
New Hampshire:											
Concord	0	----	0	0	1	0	0	1	0	0	13
Nashua	0	----	0	0	0	0	0	0	0	0	2
Vermont:											
Barre	0	----	0	0	0	2	0	1	0	1	2
Burlington	0	----	0	0	0	0	0	0	0	7	9
Rutland	0	----	0	0	0	0	0	0	0	0	10
Massachusetts:											
Boston	1	----	0	13	12	21	0	9	0	40	172
Fall River	0	----	0	0	0	1	0	0	0	0	27
Springfield	0	----	0	16	1	2	0	0	0	4	31
Worcester	0	----	0	1	3	10	0	0	0	13	41
Rhode Island:											
Pawtucket	1	----	0	1	1	1	0	0	0	4	20
Providence	0	----	0	0	1	5	0	0	1	9	63
Connecticut:											
Bridgeport	0	----	0	0	1	0	0	0	0	0	26
Hartford	1	----	0	0	3	5	0	1	0	0	47
New Haven	1	1	----	2	3	0	0	2	2	8	41
New York:											
Buffalo	0	----	1	14	4	30	0	7	0	14	142
New York	18	14	2	26	62	47	0	57	4	175	1,278
Rochester	0	----	0	3	4	8	0	0	0	7	63
Syracuse	0	----	0	1	3	7	0	1	0	21	47
New Jersey:											
Camden	2	----	0	3	0	6	0	0	0	0	24
Newark	0	1	0	2	2	9	0	6	1	55	92
Trenton	1	----	0	1	2	3	0	1	0	8	27
Pennsylvania:											
Philadelphia	0	----	0	10	14	38	0	19	1	127	438
Pittsburgh	1	1	0	0	8	18	0	8	0	12	164
Reading	3	----	0	1	1	1	0	0	0	0	31
Scranton	0	----	----	0	----	9	0	----	0	8	----
Ohio:											
Cincinnati	14	1	1	2	9	19	0	2	0	13	104
Cleveland	2	15	1	2	10	34	0	6	0	51	190
Columbus	5	1	1	1	3	4	0	1	0	3	54
Toledo	0	----	0	2	1	16	0	2	0	6	72
Indiana:											
Anderson	0	----	0	1	2	0	0	0	0	0	10
Fort Wayne	1	----	1	0	3	4	0	0	0	0	33
Indianapolis	6	----	0	2	9	34	11	4	1	2	91
Muncie	0	----	0	0	5	3	1	0	0	0	13
South Bend	0	----	0	0	0	1	0	0	0	1	15
Terre Haute	1	----	0	0	0	0	0	0	0	0	15

City reports for week ended November 26, 1938—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Illinois:											
Alton	0	------	0	0	0	1	0	0	0	0	7
Chicago	18	7	0	8	35	93	0	25	0	270	633
Elgin	0	------	0	0	1	3	0	0	0	0	13
Moline	0	------	0	0	0	0	0	0	0	1	12
Springfield	0	------	0	0	3	1	0	0	1	2	19
Michigan:											
Detroit	15	1	0	5	12	105	0	12	0	121	280
Flint	0	------	0	7	5	41	0	0	0	0	25
Grand Rapids	0	------	0	2	3	13	0	0	0	5	22
Wisconsin:											
Kenosha	0	------	0	0	0	2	0	0	0	20	14
Madison	0	------	0	1	0	4	0	0	0	6	17
Milwaukee	1	------	0	5	3	44	0	3	0	115	99
Racine	0	------	0	0	0	4	1	0	0	3	10
Superior	0	------	0	1	1	2	0	0	0	0	15
Minnesota:											
Duluth	0	------	0	0	1	3	0	0	1	4	33
Minneapolis	0	------	2	60	5	18	0	0	0	2	84
St. Paul	0	------	1	46	10	6	0	1	0	14	65
Iowa:											
Cedar Rapids	0	------	--------	0	-------	1	0	-------	32	3	--------
Davenport	3	------	--------	0	-------	2	0	-------	0	0	--------
Des Moines	0	------	0	0	0	12	0	0	0	0	44
Sioux City	0	------	--------	39	-------	5	0	-------	0	3	--------
Waterloo	7	------	--------	1	-------	8	0	-------	0	1	--------
Missouri:											
Kansas City	3	------	0	0	10	24	0	4	0	1	73
St. Joseph	0	------	0	0	4	0	0	0	0	0	31
St. Louis	5	------	0	2	6	14	0	13	1	7	232
North Dakota:											
Fargo	0	------	0	157	1	2	0	0	0	0	8
Grand Forks	0	------	--------	0	-------	0	0	-------	0	0	--------
Minot	0	------	0	4	0	1	2	0	0	0	--------
South Dakota:											
Aberdeen	4	------	--------	1	-------	0	0	-------	0	0	--------
Sioux Falls	0	------	0	15	0	5	0	0	0	0	8
Nebraska:											
Lincoln	1	------	--------	0	-------	1	1	-------	0	1	--------
Omaha	0	------	0	0	5	4	0	1	0	0	44
Kansas:											
Lawrence	0	2	0	0	0	0	0	0	0	0	4
Topeka	0	------	0	0	2	7	0	1	0	2	16
Wichita	0	------	0	2	4	5	0	1	0	0	33
Delaware:											
Wilmington	0	------	0	2	2	2	0	1	0	0	27
Maryland:											
Baltimore	0	1	0	36	4	10	0	9	3	23	198
Cumberland	0	------	0	0	0	0	0	0	0	0	16
Frederick	0	------	0	0	0	0	0	0	0	0	2
Dist. of Columbia:											
Washington	7	------	0	1	14	14	0	8	2	12	135
Virginia:											
Lynchburg	4	------	1	0	3	1	0	1	0	3	13
Norfolk	0	------	0	0	1	5	0	1	0	0	29
Richmond	0	------	1	0	7	4	0	2	0	3	56
Roanoke	1	------	0	0	2	0	0	0	1	0	18
West Virginia:											
Charleston	0	------	0	0	0	1	0	1	1	0	24
Wheeling	1	------	0	1	1	0	0	0	0	9	20
North Carolina:											
Gastonia	0	------	--------	0	-------	0	0	-------	0	0	--------
Raleigh	1	------	0	0	0	0	0	0	0	0	15
Wilmington	0	------	0	0	0	1	0	0	0	3	10
Winston-Salem	1	------	0	8	2	2	0	0	0	0	9
South Carolina:											
Charleston	0	8	0	0	4	1	0	0	1	0	17
Florence	0	------	0	0	2	0	0	0	0	0	8
Greenville	2	------	0	0	2	1	0	1	0	0	14
Georgia:											
Atlanta	3	5	3	0	8	9	0	3	0	0	66
Brunswick	0	------	0	0	2	1	0	0	0	0	8
Savannah	0	3	1	0	1	1	0	0	0	1	37
Florida:											
Miami	0	------	0	0	3	0	0	1	0	0	39
Tampa	1	1	1	1	1	0	0	0	0	1	24

City reports for week ended November 26, 1938—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Kentucky:											
Ashland	4	------	0	0	0	0	0	0	0	0	7
Covington	3	------	0	0	0	3	0	1	0	3	14
Lexington	1	------	0	0	0	0	0	1	1	0	19
Louisville	1	------	0	0	3	7	0	4	0	3	67
Tennessee:											
Knoxville	1	------	0	0	0	3	0	0	0	3	30
Memphis	0	------	1	0	11	4	0	7	0	6	89
Nashville	0	------	1	0	1	2	0	4	0	1	45
Alabama:											
Birmingham	0	2	1	2	4	7	0	3	0	0	71
Mobile	1	------	0	0	2	1	0	0	0	0	27
Montgomery	3	------	--------	0	-------	1	0	-------	0	0	--------
Arkansas:											
Fort Smith	1	------	--------	1	-------	0	0	-------	1	0	--------
Little Rock	0	------	0	0	4	1	0	2	0	0	7
Louisiana:											
Lake Charles	0	------	0	0	0	0	0	0	0	0	5
New Orleans	14	4	2	1	14	7	0	11	2	16	157
Shreveport	1	------	0	0	7	3	0	1	0	0	47
Oklahoma:											
Oklahoma City	0	4	0	0	4	6	0	1	0	0	42
Tulsa	4	------	0	0	0	4	0	0	1	0	2
Texas:											
Dallas	3	------	0	0	0	12	0	6	0	1	61
Fort Worth	0	------	1	0	6	2	0	0	0	0	30
Galveston	0	------	0	0	2	0	0	0	0	0	11
Houston	1	------	0	0	3	1	0	2	2	2	85
San Antonio	0	------	0	1	7	0	0	5	0	1	56
Montana:											
Billings	0	------	0	1	0	0	0	1	0	0	9
Great Falls	0	------	0	2	2	0	0	1	0	2	13
Helena	0	------	0	1	0	0	0	0	0	0	2
Missoula	0	------	0	0	0	1	0	0	0	0	3
Idaho:											
Boise	0	------	0	0	0	1	0	0	0	0	1
Colorado:											
Colorado Springs	0	------	0	1	4	3	0	1	0	2	12
Denver	4	------	0	6	6	7	0	2	0	37	78
Pueblo	0	------	0	0	1	1	0	0	0	0	10
New Mexico:											
Albuquerque	0	------	0	0	2	4	0	5	0	0	19
Utah:											
Salt Lake City	1	------	1	0	4	6	0	0	1	1	38
Washington:											
Seattle	0	------	0	0	5	7	0	4	1	2	103
Spokane	0	------	0	3	4	3	0	1	1	1	30
Tacoma	0	------	0	0	2	2	0	1	0	8	22
Oregon:											
Portland	0	1	0	0	4	10	0	0	0	0	81
Salem	0	------	--------	0	-------	1	0	-------	0	0	--------
California:											
Los Angeles	8	13	0	8	11	41	0	20	0	15	320
Sacramento	1	------	0	2	1	1	0	2	0	1	26
San Francisco	0	4	1	213	9	8	0	4	0	19	181

State and city	Meningitis, meningococcus		Poliomyelitis cases	State and city	Meningitis, meningococcus		Poliomyelitis cases
	Cases	Deaths			Cases	Deaths	
New York:				Minnesota:			
Buffalo	2	0	0	Minneapolis	1	1	0
New York	3	3	1	Missouri:			
Indiana:				Kansas City	1	0	0
Fort Wayne	1	1	0	Tennessee:			
Illinois:				Nashville	1	0	0
Chicago	1	0	0	Arkansas:			
Michigan:				Little Rock	0	1	0
Detroit	1	0	0	Louisiana:			
				New Orleans	0	1	0

Encephalitis, epidemic or lethargic.—Cases: New York, 1; Birmingham, 1.
Pellagra.—Cases: Savannah, 4; Memphis, 1; Dallas, 1.
Typhus fever.—Cases: Atlanta, 2; Savannah, 1; Nashville, 2.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—2 weeks ended November 19, 1938.—During the 2 weeks ended November 19, 1938, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada, as follows:

Disease	Prince Edward Island	Nova Scotia [1]	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis				5	8			1		14
Chickenpox		7	26	387	479	102	75	56	181	1,313
Diphtheria		6	9	206	10	27	7	6	1	272
Dysentery					17				13	30
Erysipelas				7	6	3	1	2	4	23
Influenza		6			21	1			6	34
Lethargic encephalitis				1						1
Measles		3	1	198	403	41	8	2	7	663
Mumps			1		45	44		10	8	108
Paratyphoid fever					2					2
Pneumonia		1			63		1		25	90
Poliomyelitis			1	2	4	9	4	2	1	23
Scarlet fever		27	27	241	269	105	63	42	47	821
Smallpox					2		6			8
Trachoma						1			4	5
Tuberculosis	1	79	42	136	83	3	2	7	35	388
Typhoid fever				35	12	4	2	4	2	59
Undulant fever				4	3					7
Whooping cough		36	3	237	520	47	7	1	38	889

[1] For 2 weeks ended Nov. 23, 1938.

CZECHOSLOVAKIA

Communicable diseases—August 1938.—During the month of August 1938, certain communicable diseases were reported in Czechoslovakia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	10		Paratyphoid fever	46	1
Cerebrospinal meningitis	28	10	Poliomyelitis	14	1
Chickenpox	40		Puerperal fever	12	4
Diphtheria	1,820	79	Scarlet fever	1,611	20
Dysentery	211	11	Trachoma	76	
Influenza	40		Typhoid fever	729	56
Malaria	1,173	3	Typhus fever	3	1

FINLAND

Communicable diseases—October 1938.—During the month of October 1938, cases of certain communicable diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Diphtheria	328	Poliomyelitis	184
Dysentery	4	Scarlet fever	551
Influenza	1,770	Typhoid fever	22
Lethargic encephalitis	1	Undulant fever	1
Paratyphoid fever	78		

SCOTLAND

Vital statistics—Quarter ended September 30, 1938.—Following are vital statistics for Scotland for the quarter ended September 30, 1938:

	Number	Rate per 1,000 population		Number	Rate per 1,000 population
Population	4,985,300		Deaths from—Continued		
Marriages	11,902	9.5	Influenza	59	.05
Births	21,417	17.0	Measles	18	.01
Deaths	13,804	11.0	Nephritis, acute and chronic	395	
Deaths under 1 year of age	1,232	[1] 58	Pneumonia (all forms)	637	.51
Deaths from:—			Puerperal sepsis	39	
Appendicitis	97		Scarlet fever	18	.01
Cancer	1,970	1.57	Senility	479	
Cerebral hemorrhage	1,413		Suicide	125	
Cerebrospinal fever	24	.02	Tuberculosis (all forms)	766	.61
Cirrhosis of the liver	37		Typhoid fever	4	
Diabetes mellitus	190		Whooping cough	58	.05
Diarrhea	247				
Diphtheria	78	.06			
Heart disease	3,223				

[1] Per 1,000 live births.

SWEDEN

Notifiable diseases—September 1938.—During the month of September 1938, cases of certain notifiable diseases were reported in Sweden as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	1	Poliomyelitis	[1] 392
Diphtheria	24	Scarlet fever	1,744
Dysentery	2	Syphilis	32
Encephalitis, epidemic	3	Typhoid fever	14
Gonorrhea	1,277	Undulant fever	10
Paratyphoid fever	21	Weil's disease	16

[1] Includes 151 cases nonparalytic at time of notification.

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

NOTE.—A table giving current information of the world prevalence of quarantinable diseases appeared in the PUBLIC HEALTH REPORTS for November 25, 1938, pages 2107–2119. A similar cumulative table will appear in future issues of the PUBLIC HEALTH REPORTS for the last Friday of each month.

Cholera

China.—Cholera has been reported in China as follows: Week ended November 26, 1938, Amoy, 7 cases; Hong Kong, 7 cases; Shanghai, 2 cases. Information dated November 29, 1938, states

that cholera has appeared in villages near Yunnanfu, where in 1 village of approximately 1,000 persons, 500 deaths are said to have occurred.

India (French)—Karikal Territory.—During the week ended October 29, 1938, 1 case of cholera with 1 death was reported in Karikal Territory, French India.

Plague

Hawaii Territory—Island of Hawaii—Hamakua District.—Rats proved positive for plague have been reported in Hamakua District, Island of Hawaii, Hawaii Territory, as follows: Hamakua Mill Sector—November 19, 1 rat; November 22, 4 rats; November 23, 1 rat. Paauhau Sector—November 19, 1938, 1 rat; November 25, 1 rat.

United States—California.—A report of plague-infected fleas in San Benito County, California, appears on page 2210 of this issue of PUBLIC HEALTH REPORTS.

Yellow Fever

Ivory Coast.—Yellow fever has been reported in Ivory Coast as follows: November 21, 1938, 1 case at Dedougou; November 27, 1 case at Aboure; November 28, 1 case on the S. S. *Saint Octave* at Grand Bassam Roadstead.

Nigeria—Port Harcourt.—On November 21, 1938, 1 case of yellow fever was reported in Port Harcourt, Nigeria.