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AN OUTBREAK OF DERMATITIS FROM AIRPLANE ENGINE COVERS[1]

By Louis Schwartz, *Medical Director*, and Samuel M. Peck, *Surgeon (R)*, *United States Public Health Service*

A recent outbreak of dermatitis among workers in a factory making airplane engine covers was investigated with a view of discovering the cause, and, if possible, effective means of prevention. Although the number of cases was small the outbreak is significant, since airplane engine covers are being used extensively to replace the usual antirust compounds with which engines are covered before they are shipped to the assembly plant, where these compounds must be removed and the engine cleaned before being tested and installed. As a labor-saving measure, therefore, wider use of these covers is to be expected. In this factory the covers are made of pliofilm, a material that has been in use for many years with no record of resultant dermatitis. In fact, pliofilm has been recommended as a suitable material for sleeves and aprons to protect certain workers against industrial skin irritants.

The investigation was begun with an inspection of the factory from which the pliofilm was obtained, to observe the actual process of manufacture and to obtain materials for testing purposes. It was found that for the past year a special type of pliofilm has been manufactured especially for airplane engine covers and that an unusual number of cases of dermatitis has occurred among persons engaged in this work.

MANUFACTURING PROCESS

Pliofilm (rubber hydrochloride) is made from natural rubber by first dissolving the rubber in benzol and reacting the solution with hydrochloric acid gas, then neutralizing with an alkali. Various sensitizers are added during the neutralization process. The special pliofilm for engine covers was made in this manner, but a chemical known at the factory as R. M. F. was added to prevent the pliofilm from deteriorating when exposed to light. The outbreak of dermatitis among the workers was noted soon after this chemical was introduced into the manufacture of the special pliofilm.

[1] From the Dermatoses Investigations Section, Division of Industrial Hygiene, National Institute of Health.

The manufacturing process is divided into two stages, one the "wet" stage and the other the "dry" stage. It was found that both processes were well enclosed, but not totally so. As stated above, only an occasional case of dermatitis occurred among the workers before the manufacture of the special pliofilm was begun, and these occasional cases occurred only among workers engaged in the "wet" stage of manufacture, the alkalies, acids, and solvents used in the "wet" stage being the cause of these occasional cases of dermatitis.

Since the introduction of R. M. F. into the pliofilm, not only has there been a marked increase in the number of cases of dermatitis occurring in workers in the "wet" stage of manufacture, but workers in the "dry" stage of manufacture have also been affected. There were some cases even among workers who handled only the finished product. Of 10 workers seen in the department where the special pliofilm was manufactured, all stated that they had had dermatitis at some time since they began working with the new product. Actually, however, only three cases were seen in this department at the time of the inspection. One other case of dermatitis was seen among 3 workers who handled only the finished new product.

Patch tests performed on the workers in this plant showed that R. M. F. was the actual cause of the dermatitis. This substance is a crystalline product soluble in benzol but insoluble in water. It has the property of counteracting the deteriorating action which light has upon ordinary pliofilm. The actual chemical composition of R. M. F. is a trade secret and cannot be revealed. In the process of experimentation to determine the quantity necessary to prevent the deterioration of pliofilm, amounts varying from 1 percent to 5 percent had been incorporated in various batches of the material.

The name of the plant where the special pliofilm was laminated was obtained from the manufacturers of the pliofilm and this plant was next visited. It was found that this plant not only laminated the pliofilm but also made some of it into airplane engine covers. Pliofilm sheets are laminated (cemented together) by means of a rubber cement. The workers on these machines have but little contact with the pliofilm, the process being automatic. There were no cases of dermatitis observed among them.

In another part of the plant 65 girls are employed in making and folding the bags made from the laminated pliofilm. Some of the girls heat-seal the fabric by means of a hot electric iron. A certain amount of fuming occurs in this operation and the fumes strike the operator's face and may cause dermatitis, most marked on the thin skin around the eyes (fig. 1).

When the finished bags are being folded for shipment, the girls must insert their arms into the bags and in doing this they actually rub the flexor surface of the forearms and elbows against the pliofilm. Twenty

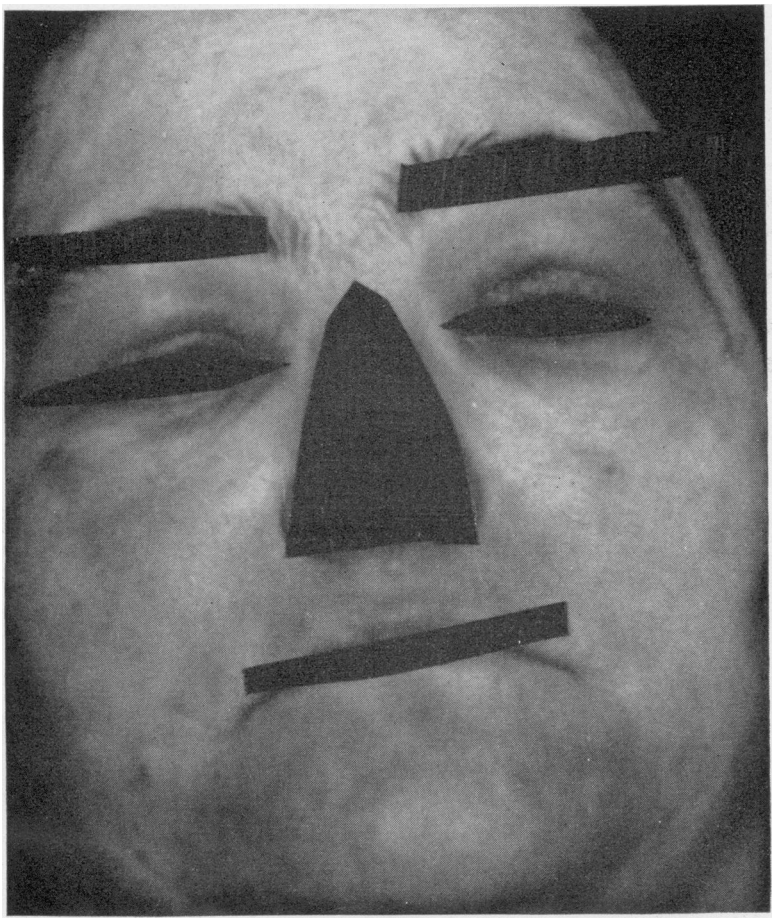

FIGURE 1.—Note inflammation of face.

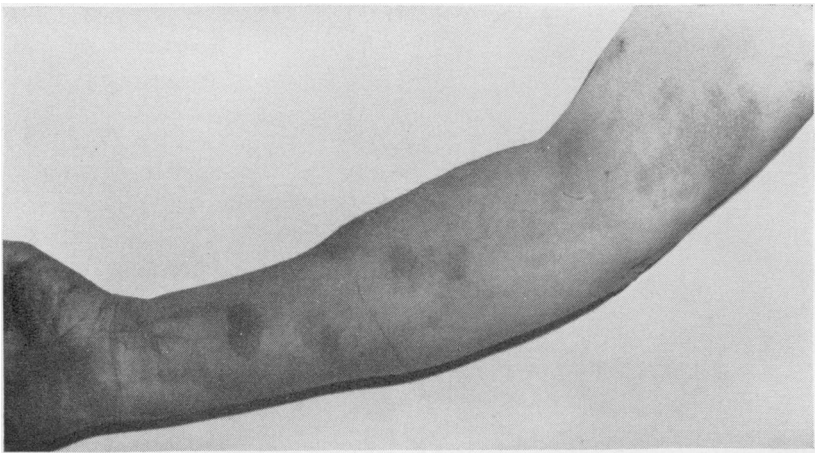

FIGURE 2.—Dermatitis of flexor surfaces of arms.

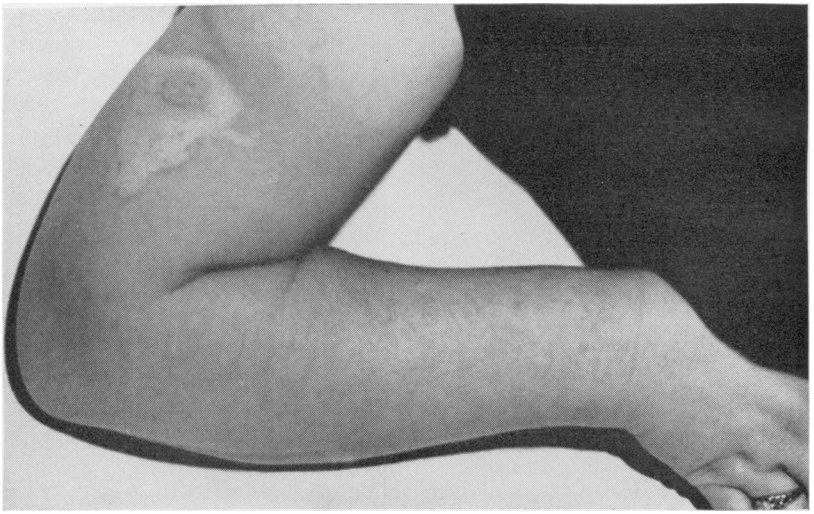

FIGURE 3.—Positive patch test to inhibitor in pliofilm.

cases of dermatitis occurred among these girls. Two of the cases were among those who heat-seal the fabric and the others occurred among the girls who fold the bags. The dermatitis was mild and none of the girls affected lost time from work. At the time of the investigation three cases of dermatitis were observed. Mild scaling and erythema of the flexor surface of the forearms (fig. 2) and the elbows was noted, especially on the right elbow and its cubital space. Two such cases occurred among the girls who fold the bags and one employed at heat-sealing had, in addition to dermatitis of the forearms and elbows, a scaling eruption on the sides of the neck. In this plant it was also found that dermatitis appeared shortly after the women began working with the new pliofilm. Examinations of various batches of pliofilm sheets showed that some of the batches had on them a whitish deposit of powder, or "bloom."

With this information, the plant from which the original complaint was made was visited. In this plant, airplane engine covers are manufactured from the laminated pliofilm in exactly the same manner as in the plant previously described. Girls were employed in the pliofilm department. The medical records of the company showed that 15 cases of dermatitis had occurred among the 80 workers and that all the cases had occurred since the introduction of the special pliofilm. Although the workers who had developed dermatitis were still working at the plant, some had been moved to work in which they were not required to handle the pliofilm. It was usual in this plant to transfer a girl who developed a severe dermatitis to the job of cementing gaskets which were then placed on the pliofilm by another worker, one who had not developed dermatitis. However, since the whole process was performed in one room, contact with the pliofilm was almost unavoidable. Many of these girls recovered from their dermatitis while cementing gaskets, but it was impossible to determine whether this was "hardening" or whether it was due to insufficient contact with the material. Fourteen of the fifteen patients with dermatitis were actually examined. One still had a severe eruption, 10 had a mild eruption, and in 3 it had entirely disappeared.

The time from first exposure to the appearance of dermatitis varied from 2 weeks to 11 months (table 1). Most of the cases began to develop about 4 months after exposure.

Among those employed in heat-sealing, the eruptions occurred mostly on the face, especially the eyelids, nose, mouth, and chin. A few of these girls also developed eruptions on the sides of the neck and the lobes of the ears. As the duration of exposure continued, the forearms and even the hands became involved.

Girls employed in bag folding had the forearms and the cubital space first affected and then the sides of the neck, the face, and eyelids. The palms were free of lesions in all cases.

TABLE 1

Number	Patient	Contact with special pliofilm	Occupation	Onset of dermatitis (time before examination)	Results of patch tests (a)	(b)	(c)	(d)	(e)	(f)	Remarks
1	H. S.	9 months	Forelady	6 months	0	+++	+	0	0	0	Slight dermatitis on forearms. No flare-up.
2	L. C.	1 year	Heat sealer	11 months	0	++++	0	0	0	0	Lesions on face which were quiescent, lit up.
3	D. H.	1 year	do	5 months	0	+++	0	0	0	0	Marked flare-up of lesions on face, hands, and shoulders.
4	— K.	7 months	do	3 months	0	++++	0	0	0	0	Was previously free of eruption after patch marked flare-up.
5	B.	8 months	Bag folder	5 months	0	+++	0	0	0	0	Marked flare-up of face, eyes almost closed.
6	Ku.	1 year	do	9 months	0	++++	+	0	+	+	Marked flare-up of face and arms.
7	L.	6 months	Heat sealer	6 weeks	0	++	0	0	0	0	No flare-up. Original dermatitis slight.
8	S.	1 year	do	7 months	0	++	0	0	0	0	Flare-up finger, neck as a diffuse erythema previously clear.
9	H.	7 months	do	4 months	0	++++	0	0	0	0	Marked flare-up of face and arms.
10	K.	6 months	Sealer and folder	5 months	++	++++	+	0	0	0	Moderate flare-up.
11	T.	6 months	Bag folder	6 weeks	0	++++	+++	0	+	0	Slight flare-up.
12	O. P.	7 months	Scrap handler	2 weeks	0	+++	++	0	0	+	Moderate flare-up.
13	H. R.	1 year	Bag folder	7 months	0	++	0	0	0	0	Moderate flare-up.
14		3½ months	Heat sealer	2 weeks	0	++	0	0	0	0	Flare-up.
15	Control S. L.	Control			0	++	0	0	0	0	
16	B. P.	Control			0	++	0	0	0	0	
17	P. Q.	Control			0	++	0	0	0	0	
18	D. S.	Control			0	++	0	0	0	0	Positive reaction developed in 48 hours—72 hours vesiculation. For 6 hours after removal of patch, very little reaction.

Patch test materials:

(a) Cement used in laminating the pliofilm.
(b) R. M. F. 50 percent solution in benzol.
(c) Finished laminated special pliofilm.
(d) Ordinary pliofilm.
(e) Pliofilm containing 1 percent of R. M. F. before lamination.
(f) Finished laminated special pliofilm, covered with "bloom."

Discoloration of several of the fingernails was observed in one patient. This symptom was said to be present in some of the other workers but was not noted at the time of examination.

There were several distinct types of lesions seen in the same individual. One was an oval, erythematous, sharply circumscribed lesion neither papular nor vesicular; it resembled a well developed lesion of pityriasis rosea. Another type was similar but had a tendency to clear in the center with papules and vesicles at the periphery. Still another type showed various sized irregularly round patches arranged in irregular semicircles resembling an erythema multiforme, but differing in that the lesion was covered with fine scales. This type of eruption tended to be symmetrical and occurred on the flexor surface of the forearms. In some of the affected workers, almost the whole flexor surface of the forearm was erythematous and scaly with some extension even to the extensor surface. A number of the cases exhibited a frank contact dermatitis with papules, vesicles, crusting, fissures, etc., occurring on the dorsum of the hands, the fingers, and the ulnar surface of the forearms.

Lesions on the face consisted mainly of erythema, edema, and superficial scaling. The lobes of the ears showed vesiculation and crusting.

In table 1 is given the data on the results of patch tests which were performed on 14 employees who had had dermatitis from the special pliofilm, and on 4 controls. The patch tests were performed with (a) the cement used in laminating the pliofilm, (b) the R. M. F. in 50 percent solution in benzol, (c) the finished laminated special pliofilm, (d) a sample of ordinary pliofilm, (e) a sheet of pliofilm containing 1 percent of R. M. F. before lamination, and (f) finished laminated special pliofilm which was then being used in this plant for making airplane bags. Sample "f" was covered with a distinct "bloom."

In applying the cement patch, it was first placed on a piece of gauze and then allowed to dry in order to eliminate the action of the solvent on the skin. The same method was followed with patch "b." The patches were allowed to remain on for 24 hours. Positive reactions to patch tests with R. M. F. were observed in the 14 who had had pliofilm dermatitis and also in the 4 controls, giving evidence that R. M. F. is a primary skin irritant.

Nearly all the patients who had had pliofilm dermatitis showed an extension of the reaction beyond the actual area of the skin covered by the patch, while the reaction on the controls was sharply limited to the area covered by the patch. The reaction on the girls who had had dermatitis was marked, the erythema, inflammation, and vesicles being more pronounced than on the controls.

Five of the 14 girls showed a positive patch test to the pliofilm which contained the R. M. F. (fig. 3). Two of the 5 also showed a reaction to patch "e" which was known to contain only 1 percent of R. M. F. One of the 2 was also sensitive to patch "f" and one other girl who was not sensitive to patch "e" but was sensitive to patch "f" was also sensitive to patch "c." It will be noted that those who gave the strongest positive reactions to the R. M. F. itself were the ones who showed reactions to the special pliofilm containing R. M. F.

The chemical nature of the "bloom" noted on the special pliofilm was not ascertained, but it may be possible that covers which contained the most "bloom" caused the most dermatitis, since samples obtained at the factory showed more "bloom" than any of the others tested.

Of the 14 cases of pliofilm dermatitis patch tested, 12 showed a flare-up of the previous eruptions, even though these eruptions had disappeared several weeks or months before. The flare-up in one case was severe, swelling of the eyes and face necessitating hospitalization.

Results of the patch testing show that the outbreak of the dermatitis was due to the presence of R. M. F. in the pliofilm and that R. M. F. is not only a primary skin irritant but also a sensitizer.

The oval patches of dermatitis resembling pityriasis rosea described above were probably due to primary irritation of the arms by the R. M. F. since the special pliofilm rubbed against the skin. The symmetrical lesions resembling erythema multiforme may be accounted for as being an allergic eruption due to the absorption of the R. M. F. through the skin. The eczematoid eruptions were contact allergic dermatitis. The fact that such a high percentage of those tested showed a flare-up demonstrates that R. M. F. is a powerful sensitizer.

The patch test with the R. M. F. itself was performed in order to find out whether it is a primary irritant and also if it accentuates the reaction that may occur from the patch test with the film.

Contact of the finished fabric with the skin under a patch test may not simulate actual conditions and may not bring a sufficient amount of the sensitizing substance in contact with the skin to elicit a reaction. When a sensitized person comes in contact many times with different pieces of fabric containing the same sensitizer sufficient quantities come off the fabric and come in contact with the skin to cause dermatitis, whereas one small piece of the fabric contained in a patch test may not have sufficient amount of the chemical to cause dermatitis except in persons who are highly sensitive. When sufficient amount of the sensitizer in the form of the R. M. F. patch tests was placed in contact with the skin, not only did the positive reaction develop but

there was also a generalized flare-up caused by absorption of the substance through the skin.

The flare-up which occurred in 12 of the girls furnished the strongest proof that this was a sensitizer in spite of the primary irritant reaction.

The presence of a positive reaction to the patch test in all of the workers who had given a history of dermatitis also proved that complete "hardening" had not occurred.

SUMMARY

1. An outbreak of dermatitis was observed among workers manufacturing airplane engine covers made from a special pliofilm.

2. R. M. F., a chemical added to the pliofilm to prevent deterioration from light, was found to be the actual cause of the outbreak.

3. R. M. F. is both a primary irritant and a sensitizer.

RECOMMENDATIONS

In order to prevent further attacks of dermatitis, it is suggested that workers handling pliofilm containing the R. M. F. should wear protective sleeves and aprons made of ordinary pliofilm, vinylite, koroseal, or laminated cellophane. The hands may be protected by wearing gloves made of washable leather or finely knitted cotton. Persons on the job of heat-sealing can protect their faces from the irritant fumes developed during the operation by the use of a protective ointment of the invisible glove type. It is recommended that all workers adopt these measures.

Workers who continue to have dermatitis after observing the recommended precautions should be removed from further exposure to the material.

MURINE TYPHUS FEVER CONTROL [1]

By C. R. Eskey, *Medical Director, United States Public Health Service*

During the 10-year period 1932 to 1941 approximately 20,000 cases of murine typhus fever were recorded officially in the United States. The number of cases reported increased from 900 in 1932 to 2,700 in 1941. During 1942, more than 3,700 cases were reported.

From evidence gathered in the field, however, it is apparent that this disease is much more prevalent than is indicated by official records. For example, after making a survey of the incidence of typhus in a southern State one investigator reported that in his opinion not over one-fifth of the cases occurring in the State were being reported. This conclusion is supported by the 1942 records for certain counties in the same State which show that these counties

[1] From the States Relations Division.

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report less than one-fifth as many cases as neighboring counties in two adjacent States. In another State it was found that during 1941 four hospitals in a certain city treated over 100 cases of typhus fever whereas only 40 cases were reported in the entire county in which the hospitals were located. While investigating a single reported case during the summer of 1941, a county health officer in this State discovered 5 persons ill with typhus fever. Many local health officers admit that the disease is much more prevalent than is indicated by official records, and some of them in southern localities believe it is becoming as serious a problem as malaria in the areas under their jurisdiction.

European, or epidemic typhus, has a much higher death rate than murine typhus. Nevertheless, the latter form of the disease should not be regarded lightly. If the patient with murine typhus is more than 60 years old, the chances of recovery are not good; young adults are usually acutely ill for 2 weeks. The febrile stage is commonly followed by a convalescence period of 2 months or more before the patient fully regains his strength. Since most cases of murine typhus occur among adults over 18 years of age, it is evident that typhus fever presents a serious economic problem. Not only is medical treatment costly, but wages are lost during the frequently prolonged period of disability.

Most cases of human infection with the rickettsiae of murine typhus are traceable to typhus-infected domestic rats. Control of the disease therefore is based on the difficult task of eradicating the rodent reservoir of infection. This can be accomplished only by exterminating infected rats from places where they come in close contact with man or by reducing the rat population of the infected area to the point where the opportunity for spread of the disease from rat to rat becomes negligible. The measures necessary to achieve either of these objectives will depend upon the degree of rat infestation and upon the local environmental factors favoring the existence of the parasitic vectors.

Statistics of the prevalence of typhus fever in the United States indicate that the conditions suitable for its dissemination vary greatly from north to south. During 1941 only 2 percent of the reported cases occurred in States north of a line extending across the country at the level of the southern boundary of Kentucky. Only 18 percent of the cases were reported from the area between this line and another one traversing the northern boundary of Louisiana. This area includes approximately the territory between 36°30′ and 33° north latitude.

In the region south of 33° north latitude, where murine typhus is most prevalent, many cases are reported from farms and small villages. In tracing the incidence of infection northward, however,

it is found that the farther north the disease occurs the more the infection tends to be limited to the larger urban communities. The prevalence of rural typhus in the deep South may be attributed, in part at least, to the large rural rat population in this region. In the deep South the length of the warm season and the types of crops favor the existence and multiplication of domestic rats in the fields during the greater part of the year. Other factors besides the degree of rat infestation, however, must play a part in determining the incidence of murine typhus in the different latitudes of the United States. This is evident from a comparison of the incidence of typhus fever in five port cities shown in table 1. There is no reason to believe that the rat infestation in any one of these cities is substantially greater than in any of the others. Therefore it seems likely that the varying prevalence of the disease in these cities is attributable to differences in climate. Climatic conditions in the more northern cities are less suited to the existence of the parasitic vectors of the infection.

TABLE 1.—*Reported incidence of typhus fever in five port cities*

City	Population	Approximate latitude	Cases of typhus reported, 1938-41
Philadelphia, Pa	1,931,344	40°	3
Baltimore, Md	859,100	39°30′	11
Norfolk, Va	144,332	36°40′	17
Charleston, S. C	[1] 121,105	32°40′	[1] 176
Savannah, Ga	[1] 117,970	32°	[1] 350

[1] These figures are for the county in which the city is located.

If the incidence of human typhus can be considered an index of the degree of rat infection in different localities, it would seem that measures which might eradicate the disease in the northern part of the endemic area would not achieve comparable results in places farther south. In the northern communities foci of infection may be limited to rats in certain buildings, while in the more southern localities rat infection is much more widespread, sometimes involving the rats living in the fields. By carefully tracing the sources of infection in regions where rat infection appears to be limited to certain buildings, and then by properly treating the small areas involved, it may be possible to eradicate the disease in northern communities. In the southern portion of the endemic area, where the infection seems to involve the entire rat population, adequate control measures must include all places in the community where rats associate closely with man.

There are no new spectacular methods for destroying domestic rats. The old types of traps, poisons, and fumigants must still be used. By intensive trapping, poisoning, or fumigation, singly or in

combination, it is possible to reduce the rat population of any community to a marked degree. When intensively applied, all of these methods are expensive and each has its disadvantages. Poisoning is the least expensive method and therefore the one most commonly employed. It is simple enough to prepare and distribute poison baits, but it is an entirely different matter to get rats to eat them. Even the most attractive baits so far devised are generally ineffective for eradicating rats from places where there is an abundant supply of food for them, and it is in such places that they are usually most numerous. Under these circumstances unbaited steel traps placed in rat runs are likely to be more effective than poisons. Fumigants are dangerous but they are particularly effective for eradicating rats from large food establishments, provided the gas can penetrate to all places where rats are harboring. Most campaigns to control rats by trapping and poisoning are of short duration because these measures are too expensive to permit city officials to continue them indefinitely. Moreover, no matter how intensively the eradicative measures are conducted, a residue of rats always remains; when the campaign is discontinued these soon multiply and reach their original number.

Properly conducted trapping and poisoning campaigns would undoubtedly tend to reduce the incidence of murine typhus in all parts of the endemic zone. In the northern part of this zone even short-term programs may eradicate the disease until the community is reinfected from outside sources. In the southern region, however, the infection seems to be so widely established among the rat population that it can never be completely eradicated. Hence, sporadic campaigns to destroy rats will lower the incidence of typhus only during the period in which the projects are in effect, or for a short time afterwards. To protect residents in the areas where the disease is most prevalent, control of rats should be placed on a permanent basis.

The costs of permanent programs to control typhus can be brought within the budget of most communities by combining exterior ratproofing of buildings—a type of ratproofing advocated by the Georgia State Department of Health for several years—with the eradicative measures discussed above. This form of rat control consists simply of eliminating all avenues by which rats may enter buildings and then eradicating the rats already present within them. The complete eradication of rats from the interior of the rat-stopped buildings is the most difficult part of such a project; sometimes several months may elapse before the last rat is destroyed.

The standard form of ratproofing, which includes the elimination of all inside harborage, is without doubt the most effective means known for controlling rat infestation of buildings. This type of ratproofing can be instituted at slight extra expense at the time of construction, and it should be required in all building codes. When

applied to old buildings it is generally a very expensive procedure, and for this reason it is impracticable to require complete ratproofing of old buildings in conducting typhus control projects. On the other hand, exterior ratproofing, i. e., rat stoppage, is very inexpensive. The costs rarely exceed $100 per establishment. The measures necessary to seal a building against rats naturally vary with the type and condition of the structure. In the case of three different cities the costs of exterior ratproofing per establishment were $5, $12, and $45. The highest figure represents the costs incurred in one of the oldest cities in the United States.

The Georgia authorities have designated external ratproofing as "vent-stoppage," thus indicating that the procedure consists of closing openings in the exterior walls. But there are other means by which rats may enter buildings, such as burrowing under foundations. Therefore the term "ratstoppage" seems to be more appropriate.

There are two general plans under which ratproofing programs have been conducted in different localities. Under one plan the owners or occupants are expected to make such alterations as are necessary to ratproof their buildings, either doing the work themselves or engaging contractors to do it in accordance with directions furnished by health department inspectors. Under the second plan operations are conducted systematically by personnel of the health department who treat each establishment in sequence as they proceed around a city block. Both methods may be undertaken with or without city ordinances to enforce compliance, but experience has demonstrated that compelling ordinances are essential to obtain optimum results from any rodent control project based on external ratproofing. It is undoubtedly better to have the work done by the health department than by a private contractor. In fact, a project carried out systematically by health department personnel without suitable ordinances is likely to be more effective than one conducted with the aid of enforcing ordinances but dependent upon the owners or occupants of buildings for the actual work necessary to ratproof them. This is true for a number of reasons, of which the following are the most important:

(1) Many persons are willing to have the exteriors of their buildings ratproofed, but they do not want to take the trouble either to do the work themselves or to hire a contractor to do it. Such persons readily consent to have the health department do the job while they pay the moderate costs.

(2) Exterior ratproofing is done more cheaply and efficiently by trained personnel of the health department, who know exactly how to handle each situation, than by most contractors.

(3) During a systematically conducted program the owners of establishments near those where operations are being carried on see

the nature of the work and hear about its benefits from their neighbors. Propaganda such as this frequently sells the program in advance. This type of propaganda is not so readily obtained when private individuals have to institute the measures necessary for exterior ratproofing.

(4) During their surveys for determining the measures necessary for exterior ratproofing, even the best trained inspectors will not always locate all places where rats may enter buildings. Leaks of this nature are often discovered by the health department crew and corrected while they are working on the premises. Sometimes such leaks are not found until an intensive search is made for them as a result of lack of success in freeing the building of rats. Leaks other than those specified are not likely to be discovered or corrected by private contractors. If they are discovered after the owner or occupant has once carried out directions for ratproofing his premises, it may be difficult to induce him to reemploy the contractor.

(5) Finally, exterior ratproofing in itself will not reduce the rat population of a community; not only must rats be kept out of buildings but all the rats inside the treated buildings must be destroyed. The eradication of rats inside buildings can be accomplished much more readily when the rat-stoppage work proceeds regularly block by block than when it is carried out irregularly in scattered areas about the city, as is the case when the initiative is left to owners or occupants.

Municipal governments and other public agencies in some instances have paid part or all of the costs for the exterior ratproofing of private buildings, but few communities are able to raise sufficient funds to conduct rodent control programs in this manner. Furthermore, it is questionable if public funds should be used for this purpose since ratproofing may be considered to increase the value of the buildings treated. Many of the measures employed to prevent rats from entering buildings consist simply of repairs that should have been made regardless of their ratproofing value. The chief economic benefits of exterior ratproofing and interior extermination of rats are derived from the elimination of rat damage to the buildings and their contents. Not infrequently the losses caused by such damage amount to several hundred dollars in a single year. Therefore, from the economic standpoint alone, it would seem reasonable to assess private individuals for the costs of exterior ratproofing of their establishments in the course of a typhus control program. In most instances they will be reimbursed within a short time by savings accruing from the elimination of rat damage.

In practically all typhus control programs of the type under discussion ratproofing operations have been limited to the business sections of cities. The work is started in blocks containing establish-

ments which have been implicated as the probable sources of human infection. From these blocks activities are extended to others containing rat-infested food establishments or areas where rats are numerous. Programs are now under way in which ratproofing is applied only to buildings housing food establishments; all other buildings are passed by unless they are known to harbor many rats. If rats cannot be eradicated readily from a building that has been passed by, the construction crew returns and ratproofs it. If garbage or waste food is properly stored, and if the exteriors of all food establishments are ratproofed, the food supply of the rats will be eliminated in that part of the city and they will not be able to survive there. In areas where typhus is most prevalent, ratproofing operations should be extended to all outlying food establishments, including buildings where domestic animals are housed, and in some instances even to private dwellings.

If a permanent typhus control program based on external ratproofing is to be carried out successfully, it must be understood at the outset that there are no means by which the exteriors of buildings can be ratproofed permanently. Damage caused by trucks backing into doors, or failure to replace broken screens, may open up new avenues for reinfestation. Rats may also gnaw their way into ratproofed buildings, or they may gain entrance through doors or windows left open. Periodic inspections must be made of the ratproofed areas so that new leaks can be located and signs of reinfestation discovered before a new rat population has time to develop. Unless continuous surveillance can be maintained over rat-stopped buildings, many of them will soon harbor as many rats as they did prior to treatment. The local health department of a city of 20,000 should employ at least one thoroughly trained man to make the necessary inspections and two laborers to do trapping and construction work. Larger cities will require proportionally more personnel to maintain the treated buildings in a ratproof condition and to eradicate rats that may find entrance into them. Such a maintenance force is much smaller than that needed to carry on a continuous trapping and poisoning campaign without the assistance of ratproofing.

Ordinances enacted by city councils to insure success of a typhus control program based on permanent reduction of rats through exterior ratproofing should:

(1) Require all business places and other structures which may harbor rats to be ratproofed exteriorly as directed by the health officer and maintained in a rat-free condition.

(2) Require the owner, agent, or occupant to institute such other measures as are necessary to ratproof their premises according to the directions of the health officer or pay the costs of such measures when carried out by the health department.

(3) Require all waste food or garbage upon which rats may feed to be stored so that it is inaccessible to the rodents.

(4) Require that all premises be kept free of rubbish that may afford harborage for rats, and that materials kept out-of-doors be stored so that rats cannot harbor in or under them.

(5) Require that all new buildings be ratproofed during construction.

(6) Provide penalties for noncompliance.

There is no question that a great reduction in rat population may be obtained by systematic rodent control projects based on exterior ratproofing of buildings, but the sustained effect of such programs on the incidence of murine typhus will depend upon the extension and maintenance of the projects.

TYPHUS FEVER CONTROL UNIT OF THE UNITED STATES PUBLIC HEALTH SERVICE

The Typhus Fever Control Unit of the Public Health Service, with offices at 41 Exchange Place, Atlanta, Ga., is cooperating with State and local health departments in several programs based on exterior ratproofing in order to control the incidence of murine typhus fever in military or war industry areas. These projects not only serve a wartime purpose in reducing the morbidity from this infection, but they also demonstrate that rat infestation can be controlled permanently at a relatively low cost to the local health departments. Furthermore, the programs afford opportunity for training local personnel in all aspects of rodent control so that the work can be continued and maintained after withdrawal of the Public Health Service.

The Public Health Service is willing to cooperate in typhus control programs to the full extent of its resources in all defense areas where murine typhus is a serious public health problem, provided local authorities will comply with the following requirements which are necessary to insure the success of the projects:

(1) Enact suitable ordinances.

(2) Provide one or more inspectors for training so that the program may continue after the Public Health Service withdraws its personnel.

(3) Provide someone to handle all local finances.

(4) Provide the laborers needed to do the construction work and trapping. The laborers' wages can be charged against the owners or occupants of buildings that are ratproofed.

(5) Obtain a loan from the city, chamber of commerce, or other agency in order to purchase in advance sufficient critical materials and tools to carry out the proposed project. This money will be paid back as collections are made for work completed.

(6) The local health department must agree to extend and maintain the program.

At the present time the Typhus Control Unit is able to furnish the following assistance to local health departments for conducting programs to limit the spread of murine typhus:

(1) Provide, according to the requirements of each program, one or more trained sanitary inspectors capable of conducting all the different activities of a typhus control project as follows:

(*a*) Make preliminary surveys to determine the extent of rat infestation of each building, the measures necessary for ratproofing it, and the costs of each job.

(*b*) Supervise the work of the laborers engaged in ratproofing.

(*c*) Supervise the trapping and poisoning operations.

(*d*) Train local personnel assigned to the program in all aspects of the work.

(2) Provide trained personnel and apparatus needed for cyanide fumigation of rat-infested buildings when this is necessary.

(3) Furnish some of the automotive equipment needed to carry on rodent control operations.

(4) Provide from two to four laborers to assist in rat eradicative measures, to service Government property, and to collect parasites for classification and study.

(5) Lend sufficient rat-traps for the programs.

(6) Assist in procuring critical materials.

(7) Provide senior personnel to inspect the progress and character of the work at frequent intervals.

(8) Assist local health departments in promotional activities, and make preliminary surveys to determine the approximate amount of materials needed for the programs.

(9) Assist in formulating suitable local ordinances.

The Typhus Control Unit cannot provide assistance indefinitely, but it will assist in the conduct of local programs until the personnel of the health department is capable of carrying on the work in a satisfactory manner. Generally the local health department should be able to conduct all operations in from 4 to 6 months after a program is started.

The results obtained thus far from all typhus control programs in which the Public Health Service has participated have been very gratifying. Local health officers have all expressed satisfaction with the projects, while many occupants of treated buildings have been especially generous in their praise of the work. After an exterior ratproofing program gets under way, word of its value in reducing rat damage soon spreads from one business man to another and makes extension of the project relatively easy.

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PLAGUE INFECTION REPORTED IN THE UNITED STATES DURING 1942

IN HUMAN BEINGS

One case of plague in human beings was reported in the United States during the calendar year 1942. The case occurred in Siskiyou County, Calif., in a child 2½ years of age, with onset on November 8 or 9. The patient recovered. The diagnosis was confirmed at the United States Plague Laboratory in San Francisco, Calif.

The source of the infection was not definitely determined. For about 2 weeks prior to the onset of the disease, the father of the child had been hauling hay from a known rodent plague area in the county in which two fatal cases occurred in 1941,[1] and where several pools of fleas from ground squirrels were subsequently found to be plague-infected. The patient had played in the hay in the barn, where pack rats had been observed. Evidence of mice infestation was found in the home, but there were no visible signs of the presence of ground squirrels in the vicinity. The ground was covered with snow, however, and the weather was cold. Plague infection was found during the year in specimens of tissue and in fleas from ground squirrels taken in several localities of the county.

IN RODENTS AND ECTOPARASITES

During the year the number of mobile laboratories utilized by the Public Health Service in making field plague surveys was increased from 4 to 10. In addition, the following named States operated field units: California (8 units), Oregon (2), Montana (1), Idaho (1), and Washington (1). Six Public Health Service units were engaged in making a survey from the Rio Grande to the Canadian border between the 100th and the 105th longitude meridians for the purpose of determining the eastern limits to which the infection had been spread. The United States Public Health Service Plague Laboratory in San Francisco examined all specimens submitted by all these field units.

Plague infection was reported during the calendar year 1942 in rats, wild rodents, or ectoparasites from rodents in six western States—California, Idaho, Montana, Nevada, Oregon, and Washington. Surveys were made in the environs of nearly all the principal military establishments situated in the Western States, with particular attention being directed to cantonments in or near locations where plague infection had been found in recent years.

Plague infection was reported in the following named animals, or their ectoparasites, in addition to ground squirrels: California—jack rabbits, marmot, chipmunks, mice, wood rats, pack rats, cottontail

[1] Public Health Reports, *57:* 903: 1879-80 (1942).

rabbits, brush rabbits, and gopher; Idaho—marmots; Oregon—marmots and badger; Washington—rats. The infected ectoparasites include fleas, lice, and ticks.

Infection was reported in fleas from rats in Oakland, Calif., in animal tissue and pools of fleas and lice from rats in Tacoma, Wash., in ectoparasites or tissues from animals taken at Fort Cronkhite, Camp Mendell, and Fort Baker, Marin County, Calif., on the Fort Ord and the Hunter Liggett military reservations, Monterey, Calif., at various localities in Siskiyou County, Calif., where the human case occurred during the latter part of the year, and near Gowen Field Air Base at Boise, Idaho.

The accompanying table lists the areas in which plague infection was reported to the Public Health Service during 1942. It is not to be inferred that these reports give the complete picture of the area of infection among field rodents in the Western States, as the field forces engaged in the work, the areas included in the investigations, and the seasonal periods during which the work can be undertaken are limited. They do, however, demonstrate the continuance of a wide distribution of plague infection in western United States.

The presence of plague infection in animal tissues or parasites was demonstrated by laboratory examination, inoculation of laboratory animals with tissue from rodents, and mass inoculation with emulsions of parasites.

Plague infection in rats, wild rodents, and their ectoparasites reported to the Public Health Service during 1942

State and county	Date[1]	Infection found in—
California:		
Alameda County	Sept. 19	Pool of fleas from 9 ground squirrels (*C. beecheyi*) taken 2 miles south of Pleasanton.
Do	Oct. 14-16	4 pools of fleas from rats taken in Oakland districts.
Alpine County	Sept. 15	2 pools of fleas from 4 wood rats and 23 chipmunks taken 1 mile west of Woodford.
Eldorado County	July 27	3 specimens of tissue and 2 pools of fleas from ground squirrels (*C. beldingi*) taken 3 miles north of Meyers.
Do	Aug. 3-6	5 specimens of tissue from ground squirrels and chipmunks taken 3 miles north of Meyers, and 1 specimen of tissue from 10 ground squirrels taken 1 mile north of Meyers.
Do	Aug. 4	2 pools of fleas from golden mantled ground squirrels and chipmunks collected near Meyers.
Do	Aug. 7	Tissue from ground squirrels taken 1 mile north of Meyers.
Kern County	Apr. 30	Pool of fleas taken from ground squirrel burrows near California State Institution for Women.
Do	May 4	Pool of fleas from chipmunks (*Eutamias* sp.) taken 2 miles south of Davis Ranger Station.
Do	May 5-6	3 pools of fleas collected from ground squirrels (*C. beecheyi*) and burrows 1 mile east of Lebec.
Do	June 9	Pool of lice from 73 ground squirrels (*C. beecheyi*) taken near Castac Lake.
Do	July 29	Pool of fleas from ground squirrels taken near El Tejon School, and another pool of 2 ticks from 1 jack rabbit taken 10 miles west of Wheeler Ridge.
Do	July 30	2 pools of fleas and lice from ground squirrels collected 12 miles east of Wheeler Ridge, and 1 pool of fleas from ground squirrels taken near Tehachapi.
Do	Aug. 5	Pool of fleas from 9 ground squirrels (*C. beecheyi*) taken near Lebec.

[1] In most instances the date when the specimens were collected.

Plague infection in rats, wild rodents, and their ectoparasites reported to the Public Health Service during 1942—Continued

State and county	Date	Infection found in—
California—Continued.		
Lassen County	Apr. 15	2 pools of fleas from ground squirrels (*C. beecheyi*) collected near Doyle and 2 pools of fleas from ground squirrels (same species) taken near Milford.
Do	Apr. 16	Pool of fleas from 1 ground squirrel (*C. beldingi*) taken near Doyle.
Do	Apr. 20	Pool of fleas from ground squirrels (*C. beecheyi*) taken 1½ miles south of Milford.
Do	Apr. 21	Pool of fleas from 1 ground squirrel (*C. beecheyi*) taken near Doyle.
Do	Apr. 22	Pool of flees from ground squirrels (*C. townsendi*), and tissue from 1 ground squirrel (*C. oregonus*) taken 3 miles south and 9 miles east of Amedee.
Do	May 21	Tissue from 1 marmot taken southeast of Adin.
Do	May 31	Pool of fleas from 1 ground squirrel (*C. beldingi*) and tissue from 1 ground squirrel (same sp.) collected 3 miles south and 9 miles east of Amedee.
Do	June 2	Tissue from 1 ground squirrel (*C. beldingi*) taken 3 miles south and 9 miles east of Amedee.
Do	June 3	Tissue from 1 ground squirrel (*C. beldingi*) taken 17½ miles south and 28 miles east of Susanville.
Do	June 20	Pool of fleas from 43 ground squirrels (*C. oregonus*) taken near Janesville.
Do	June 25–27	Tissue from 3 ground squirrels (*C. oregonus*) taken near Susanville.
Los Angeles County	July 14	Pool of fleas from 13 ground squirrels (*C. beecheyi*) taken 2½ miles south of Gorman.
Do	July 17	Pool of fleas from 24 ground squirrels (*C. fisheri*) collected near Big Pines.
Do	July 21	4 pools of fleas from ground squirrels (*C. fisheri*) taken near Big Pines.
Do	July 22	2 pools of fleas from ground squirrels (*C. fisheri*) and wood rats taken near Big Pines.
Do	July 23	Pool of fleas from 14 ground squirrels (*C. fisheri*) taken near Big Pines, and a pool of fleas from 17 ground squirrels (*C. beecheyi*) and tissue from 1 squirrel (same sp.) caught 1 mile west of Gorman.
Do	July 24	Pool of fleas from ground squirrels (*C. fisheri*) taken near Big Pines.
Do	July 27	Pool of fleas from 4 ground squirrels (*C. beecheyi*) taken ½ mile south of Ridge Tavern.
Do	July 28	1 tick from 1 jack rabbit taken 9 miles west of Fairmont.
Marin County	Sept. 15–18	5 pools of fleas from mice (*M. californicus* and *M. peromyscus truei*) and 1 pool of fleas from 17 rats (*R. norvegicus*) taken at Fort Cronkhite.
Do	Sept. 16–18	3 pools of fleas from rats (*R. norvegicus*) and 1 pool of fleas from mice taken at Camp Mendell.
Do	Sept. 16–17	Pool of fleas from 4 rats and pool of lice from 3 rats (all *R. norvegicus*) taken at Fort Baker.
Modoc County	May 22	Pool of fleas from 72 ground squirrels (*C. oregonus*) collected 1 mile west of Gamby.
Do	July 3	Tissue from 1 ground squirrel (*C. oregonus*) and 1 pool of fleas from 16 chipmunks taken in Modoc National Forest, 9 miles west of Likely.
Mono County	Sept. 4	3 pools of fleas from ground squirrels (*C. beldingi, C. fisheri,* and *C. lateralis*) and 1 pool of fleas from 27 chipmunks taken near Mammoth.
Do	Sept. 8	3 pools of fleas from ground squirrels (*C. beldingi* and *C. lateralis*) and 1 pool of fleas from 23 chipmunks taken near Mammoth.
Do	Sept. 9	Pool of fleas from 22 chipmunks collected near Mammoth and tissue from 1 chipmunk found dead 1 mile east and 4 miles south of June Lake.
Do	Sept. 21	Pool of fleas from 16 golden mantled ground squirrels collected near Mammoth.
Monterey County	Mar. 20	2 pools of fleas from 7 mice (*Peromyscus truei*) and 1 brush rabbit (*Sylvilagus bachmani*) taken near Bradley Road.
Do	Apr. 28	Pool of fleas from 1 ground squirrel (*C. beecheyi*), tissue from 1 ground squirrel (same species), and pool of fleas from 14 wood rats (*Neotoma fuscipes*) taken in Lugo Canyon, west of San Antonio River.
Do	May 5	Tissue from 1 pack rat (*Neotoma fuscipes*) taken in Lugo Canyon.
Do	May 14	Tissue from 5 ground squirrels (*C. beecheyi*) collected 3 miles northwest of Lockwood.
Do	May 15	Tissue from 3 ground squirrels (*C. beecheyi*) collected 3 miles northwest of Lockwood, and 1 pool of fleas from 15 ground squirrels (*C. beldingi*) taken at Ft. Ord Military Reservation, 12 miles southwest of Salinas.
Do	May 20	Organs from 5 wood rats taken 8 miles northeast of Lockwood.
Do	June 2	Tissue from 1 ground squirrel (*C. beecheyi*) taken at the upper end of Lugo Canyon.

Plague infection in rats, wild rodents, and their ectoparasites reported to the Public Health Service during 1942—Continued

State and county	Date	Infection found in—
California—Continued.		
Monterey County	June 3	Pool of fleas from 17 ground squirrels (*C. beecheyi*) collected 12 miles southwest of Salinas (Ft. Ord).
Do	June 13	Tissue from 15 ground squirrels (*C. beecheyi*) taken 12 miles southwest of Salinas.
Do	June 18-20	Pool of fleas from ground squirrel burrows, 7 pools of fleas from ground squirrels, and tissue from 2 squirrels (all squirrels *C. beecheyi*) collected 12 miles southwest of Salinas.
Do	June 22	2 pools of lice and fleas from ground squirrels (*C. beecheyi*) taken 12 miles southwest of Salinas.
Do	June 23	Pool of fleas from ground squirrels (*C. beecheyi*) taken on the Ft. Ord Military Reservation.
Do	June 24	Pool of fleas from ground squirrels (*C. beecheyi*) taken 12 miles southwest of Salinas (Ft. Ord).
Do	June 25	Pool of fleas from 21 ground squirrels (*C. beecheyi*) taken 13 miles southwest of Salinas.
Do	June 26	Pool of fleas from ground squirrels (*C. beecheyi*) taken 6 miles southwest of Salinas, and pool of fleas from ground squirrels collected 12 miles southwest of Salinas.
Do	June 27	Pool of fleas from ground squirrels (*C. beecheyi*) taken at Ft. Ord.
Do	June 30	Pool of fleas from ground squirrels (*C. beecheyi*) taken 6 miles southwest of Salinas.
Do	July 2	Pool of fleas and ticks from wood rats (*Neotoma fuscipes*) taken on the Hunter Liggett Military Reservation.
Do	July 10	Pool of fleas from 30 ground squirrels (*C. beecheyi*) taken 12 miles southwest of Salinas.
Do	July 20	Pool of fleas from ground squirrels (*C. beecheyi*) taken 5½ miles south, 2½ miles west of Salinas.
Do	July 21	Tissue from ground squirrels, ticks from 52 ground squirrels taken 16 miles south of Salinas, and a pool of fleas from 36 ground squirrels taken 20 miles southeast of Monterey. (All squirrels *C. beecheyi*.)
Do	July 22	Pool of fleas, 1 pool of ticks and fleas, and 1 of tissue from ground squirrels (*C. beecheyi*) taken near Salinas.
Do	Aug. 5	2 pools of fleas from ground squirrels and tissue from 1 squirrel (all *C. beecheyi*) taken on the Ft. Ord Reservation.
Do	Aug. 6	3 pools of fleas from ground squirrels and tissue from 2 squirrels (all *C. beecheyi*) taken near Salinas.
Do	Aug. 7	Tissue from 1 ground squirrel, 2 pools of fleas from ground squirrels (*C. beecheyi*), and a pool of ticks from 1 cottontail rabbit taken on the Ft. Ord Military Reservation.
Placer County	June 20	Pool of fleas from 4 chipmunks taken ½ mile north of Tahoe Vista.
Do	June 23	Pool of fleas from 7 ground squirrels (*C. beecheyi*) taken 1 mile north of Tahoe City.
Riverside County	May 2	Pool of fleas from 12 ground squirrels (*C. fisheri*) taken 6 miles west of Beaumont.
San Bernardino County	Apr. 6	Pool of fleas from 6 desert antelope squirrels (*Ammospermophilus leucurus*) taken at Helendale Airport.
Do	Apr. 14	Pool of fleas from 7 desert antelope squirrels (*Ammospermophilus leucurus*) taken 25 miles west and 5 miles north of Needles.
Do	Apr. 15	Pool of fleas from 5 fuzztail squirrels taken 7 miles west and 3 miles north of Needles.
Do	May 15	Pool of fleas from 12 wood rats taken 4 miles west and 2 miles north of Big Bear Lake.
Do	June 29	Pool of fleas from 15 golden mantled ground squirrels collected 1 mile north of Fawnskin P. O.
Do	July 16-20	5 pools of fleas from ground squirrels (*C. fisheri*) taken near Wrightwood.
San Diego County	May 4	Pool of fleas from 8 ground squirrels (*C. fisheri*) taken at the Scripps Institute at La Jolla.
San Luis Obispo County	Apr. 24	Pool of fleas from 10 ground squirrels (*C. beecheyi*) taken 3½ miles east of Santa Margarita.
Do	May 21, June 2, 3, 4, and 12.	Pool of fleas from 64 ground squirrels (*C. beecheyi*) taken 2½ miles north, 8 miles east of Santa Maria.
Do	May 27	Pool of fleas from 12 and organs from 9 ground squirrels (*C. beecheyi*) taken near Santa Maria (Alamo Creek area). Organs from 1 jack rabbit (*Lepus californicus*) and organs from 1 gopher taken near Arroyo Grande.
Do	May 28	Organs from 1 brush rabbit and 1 ground squirrel (*C. beecheyi*) taken in the Alamo Creek area northeast of Santa Maria.
Do	June 2-4	3 pools of fleas from ground squirrels (*C. beecheyi*) collected 12 miles east and 6 miles south of Arroyo Grande.
Do	June 3-10	3 pools of organs and 1 pool of fleas from ground squirrels (*C. beecheyi*) taken 2½ miles north and 8 miles east of Santa Maria.
Do	June 7	Organs from 10 ground squirrels (*C. beecheyi*) taken 43 miles east of Arroyo Grande, and organs from 13 squirrels (same species) taken near Santa Maria.

Plague infection in rats, wild rodents, and their ectoparasites reported to the Public Health Service during 1942—Continued

State and county	Date	Infection found in—
California—Continued.		
San Luis Obispo County	June 9–10	Pool of fleas from 3 ground squirrels and organs from 1 ground squirrel (*C. beecheyi*) taken near Arroyo Grande.
Do	Oct. 7	Tissue from 5 meadow mice taken 5 miles northwest of San Luis Obispo.
San Mateo County	June 8	Pool of fleas from ground squirrels (*C. beecheyi*) taken ¼ mile west of Colma.
Do	June 9	2 pools of fleas from ground squirrels (*C. beecheyi*) taken near Skyline Blvd., Alpine District.
Do	June 10	Pool of fleas from 1 ground squirrel (*C. beecheyi*) taken ½ mile east of Atherton.
Do	June 11	Pool of fleas from ground squirrels taken near Brisbane, and 1 pool of lice from 1 ground squirrel taken ½ mile east of Atherton.
Do	June 12	Pool of lice from 1 ground squirrel (*C. beecheyi*) taken 2½ miles west of San Bruno.
Do	June 15	Pool of fleas from 1 ground squirrel (*C. beecheyi*) taken 1 mile west of Redwood City.
Santa Barbara County	Apr. 29	Pool of fleas from ground squirrel (*C. beecheyi*) taken 10 miles east of Santa Maria.
Do	June 1–7	3 pools of tissue from ground squirrels (*C. beecheyi*) taken near Santa Maria.
Do	June 4–11	3 pools of fleas from ground squirrels (*C. beecheyi*) taken near Santa Maria.
Do	June 8	Pool of fleas from ground squirrels (*C. beecheyi*) taken 9 miles south of Casmalia.
Santa Clara County	Apr. 7	2 pools of fleas from ground squirrels (*C. beecheyi*) taken near Calero Dam.
Do	Apr. 8	3 pools of fleas from ground squirrels (*C. beecheyi*) taken near Morgan Hill.
Do	Apr. 9	Pool of fleas from ground squirrels (*C. beecheyi*) taken 2 miles north and 3 miles west of Gilroy.
Do	Apr. 10	Pool of fleas from ground squirrels (*C. beecheyi*) taken near Calero Dam.
Do	July 31	Tissue from 5 ground squirrels (*C. beecheyi*) taken near Calaveras Dam.
Siskiyou County	May 27–29	4 pools of fleas from ground squirrels (*C. douglasii*) taken near Montague and 1 pool of fleas from ground squirrels taken near Yreka.
Do	June 3	1 specimen of tissue from 7 and a pool of fleas from 7 ground squirrels (*C. douglasii*) taken 4 miles north of Montague.
Do	June 4	Pool of fleas from golden mantled ground squirrels taken near Grass Lake, 22 miles north of Weed.
Do	June 5	Pool of fleas from field mice and 1 pool of fleas from ground squirrels (*C. douglasii*) taken near Montague, and a specimen of tissue from ground squirrels (*C. douglasii*) taken 1½ miles south of Yreka.
Do	June 8	Pool of fleas from ground squirrels (*C. douglasii*) taken 9 miles northeast of Ager.
Do	June 10	2 pools of fleas from ground squirrels taken 6–7 miles east of Grenada and 1 pool of fleas from ground squirrels taken 6 miles south of Yreka.
Do	June 11	Pool of fleas from ground squirrels (*C. douglasii*) taken ½ mile north of Hilt.
Do	June 12	3 pools of fleas from ground squirrels (*C. douglasii*) taken near Yreka.
Do	June 17	Pool of fleas from ground squirrels taken near Montague Airport, 1 pool of fleas from ground squirrels taken 4 miles east of Yreka, and 1 pool of fleas from ground squirrels (*C. douglasii*) taken 12 miles north of Weed.
Do	July 30	Pool of fleas from ground squirrels (*C. douglasii*) taken 5 miles east of Callahan.
Do	July 31	Pool of fleas from ground squirrels (*C. douglasii*) collected 2 miles south of Etna.
Do	Sept. 14–16	3 pools of fleas from ground squirrels (*C. douglasii*) taken near Gazelle.
Do	Sept. 16	Pool of fleas from ground squirrels (*C. douglasii*) taken 3½ miles south of Grenada.
Do	Sept. 17	Pool of fleas from ground squirrels (*C. douglasii*) taken 12 miles north of Weed.
Do	Sept. 18	2 pools of fleas from ground squirrels (*C. douglasii*) taken near Edgewood.
Ventura County	June 16	2 pools of lice from ground squirrels (*C. beecheyi*) taken 1 mile north of Oxnard.
Do	June 22	Pool of lice from 20 ground squirrels (*C. beecheyi*) taken near Ventura.
Do	June 23	Pool of fleas from ground squirrels (*C. beecheyi*) taken 5 miles northeast of Santa Paula.
Do	June 24	2 pools of ticks from cottontail rabbits taken near Somis and 1 pool of fleas from ground squirrels (*C. beecheyi*) taken near Piru.

Plague infection in rats, wild rodents, and their ectoparasites reported to the Public Health Service during 1942—Continued

State and county	Date	Infection found in—
California—Continued.		
Ventura County	July 2	Pool of fleas from ground squirrels (*C. beecheyi*) taken 8 miles west of Ventura.
Do	Sept. 1	Pool of fleas from 12 ground squirrels (*C. beecheyi*) taken 1 mile north of Seacliff, 8 miles west of Ventura.
Idaho:		
Ada County	May 6	In a pool of fleas from 3 marmots (*Marmota flaviventris*) taken south of Boise.
Do	May 7	Tissue from 2 sick ground squirrels (*C. townsendi mollis*) (also fleas and lice from same), taken southeast of Gowen Field Air Base, Boise. Pool of 50 fleas from ground squirrels (same species) taken southeast of Gowen Field.
Do	May 8	Tissue and fleas from ground squirrels (*C. townsendi*) taken south of Gowen Field.
Canyon County	May 13	Tissue and fleas from 1 ground squirrel (*C. townsendi*) taken north of junction of U. S. Route 30 and State Route 44.
Montana:		
Beaverhead County	July 14	Pool of fleas and ticks from ground squirrels (*C. columbianus*) taken 15 miles northwest of Wisdom.
		Tissue from 1 ground squirrel (*C. columbianus*) taken 3 miles north of Bighole Battlefield.
Nevada:		
Washoe County	July 10	Tissue from 32 ground squirrels (*C. townsendi*) taken about 20 miles southeast of Doyle, Calif.
Oregon:		
Grant County	May 24	Pool of fleas, lice, and ticks from 83 ground squirrels (*C. oregonus*) taken near Mt. Vernon.
Do	May 25	Tissue from 1 ground squirrel (*C. oregonus*) taken near Mt. Vernon.
Do	May 27	Pools of lice and fleas from 90 ground squirrels (*C. oregonus*) taken south of Beech Creek.
Do	May 31	Pool of fleas and lice from 7 marmots (*M. flaviventris*) taken south of Mt. Vernon.
Harney County	May 14	Pool of fleas from marmot (*M. flaviventris*) taken southwest of Folly farm.
Do	June 19	Pool of fleas from 161 ground squirrels (*C. oregonus*) taken southeast of French Glen.
Jackson County	Mar. 21	Pool of fleas from 8 ground squirrels (*C. douglasii*) taken in Little Butte Creek area.
Do	Mar. 23	Pool of fleas from 17 ground squirrels (*C. douglasii*) taken 4–9 miles south of Ruch.
Josephine County	Mar. 23	Pool of fleas from 12 ground squirrels (*C. douglasii*) taken near Selma.
Klamath County	Apr. 29	Pool of fleas from 1 ground squirrel (*C. oregonus*) taken at Sprague River.
Lake County	May 8	Pool of fleas from marmots (*M. flaviventris*) taken at Albert Lake, north of Valley Falls.
Malheur County	June 6	Pool of fleas from 5 marmots (*M. flaviventris*) taken east of Jordan Valley.
Do	June 8	Pool of fleas from 6 marmots (*M. flaviventris*) taken south of Danner.
Do	June 9	Pool of fleas and lice from 9 ground squirrels (*C. mollis*) taken north of McDermitt.
Do	June 10	Pool of fleas from 27 ground squirrels (*C. oregonus*) taken west of Jordan Valley.
Do	July 9	Pool of 2 ticks from 1 western badger (*Taxidea taxus neglecta*) taken southwest of Jordan Valley.
Union County	Apr. 30	Pool of fleas and lice from ground squirrels (*C. oregonus*) taken west of North Powder.
Washington:		
Pierce County:		
Tacoma	Sept. 22 to Dec. 30	16 pools of fleas from rats (*R. norvegicus*).
Do	Oct. 9	Pool of fleas and lice from 53 rats (*R. norvegicus*).
Do	Nov. 25 to Dec. 24	16 specimens of tissue from rats (*R. norvegicus*).
Do	Dec. 16	Pool of fleas from rats (*R. rattus*).
Do	Dec. 18	Pool of fleas from rats (*R. alexandrinus*).

POSITIVE PLAGUE AND TULAREMIA SPECIMENS REPORTED IN CANADA DURING 1942

The following summary of positive findings of plague and tularemia infection in specimens collected in the Provinces of Alberta and British Columbia, Canada, during the 1942 season has been received from Dr. C. P. Brown, Chief, Division of Quarantine, Department of Pensions and National Health:

Plague, Alberta Province.—In 10 pools of fleas and 1 specimen of animal tissue, as follows: 2 pools of fleas taken near Stanmore, 2 near Suffield, 1 pool near Sunnynook, 1 near Youngstown, 1 near Hanna, 3 pools, locality not specified, and in tissue of animal taken near Suffield. All positive tissues and fleas were from ground squirrels (*Citellus richardsonii*).

Tularemia, Alberta Province.—In 4 pools of ticks taken, respectively, near Seven Person's Coulee, Whitla, Bullshead Coulee, and Double Summits, and in tissue from a rabbit taken near Seven Person's Coulee.

"BATTLE STATIONS FOR ALL"

Of interest to public health workers is a new publication of the Office of War Information entitled "Battle Stations for All—The Story of the Fight to Control Living Costs."* This booklet is the story behind the President's seven-point economic stabilization program and its relationship to the current war effort and postwar planning for the general public welfare. While not directly concerned with problems of public health, it presents a clear-cut, unacademic picture of the basic principles underlying the inflationary spiral and its attendant dislocations in the life of a people.

To win the war, to share the war's burdens and hardships democratically, and to win the peace that follows—these aims are set forth as the basic objectives of our civilian economy, a tripod on which rests not only our own domestic welfare but that of our fighting men, our allies, and war sufferers abroad. For this we pay with butter as well as with guns, in things physical and material, "in labor, in blood, and in sweat."

"Battle Stations for All" discusses the significance of the inflationary gap, the need for the control of the cost of living, taxation, savings, payment of debts, the conservation of supplies and husbanding of resources, stabilization of wages and prices, rental ceilings, farm parity, and rationing—including the assurance of an adequate diet, a fair share of fuel, and other items of public necessity.

*Copies may be secured from the Division of Public Inquiries, Office of War Information, Washington, D. C. 128 pp. February 1943.

PROVISIONAL BIRTH, DEATH, AND INFANT MORTALITY RATES FOR 1942

Provisional birth, death, and infant mortality rates for 1942 have recently been issued by the Bureau of the Census. Previous comparisons indicate that while the discrepancy between the provisional and final figures may be significant in some States, the total provisional figures for the reporting States are very close approximations of the final figures.

The crude death rate and the infant death rate for the United States for 1942 were the lowest on record for the registration States. The provisional crude death rate (based on returns from 41 States and the District of Columbia) was 10.3 per 1,000 population, as compared with 10.5 in 1941, the previous low, 10.7 in 1940 and 10.6 in both 1939 and 1938. The provisional infant death rate (based on returns from 39 States and the District of Columbia) was 40.8 per 1,000 live births, as compared with 45.3 (final figures) in 1941, 47.0 in 1940, 48.0 in 1939, 51.0 in 1938, and 99.9 in 1915.

The crude birth rate (based on reports from 41 States and the District of Columbia) in 1942 was 20.7 per 1,000 estimated population, as compared with 18.7 for 1941, 17.9 for 1940, and 17.3 in 1939. The birth rate for 1942 is the highest recorded for the United States since 1926, in which year the rate was the same, 20.7. The lowest rate of record for the birth registration area of the United States, established in 1915, is 16.6, in 1933.

During the first World War, 1914–18, the birth rate declined sharply in most of the belligerent countries. So far, declines of similar magnitude have not been reported in the countries at war, although smaller decreases have occurred. The high birth rate for the United States during 1942 continued during January 1943, the rate for that month for 41 States and the District of Columbia being 22.1 per 1,000 estimated population, as compared with 18.6 for the corresponding month of 1942—an increase of 18.8 percent. If the war continues, however, a pronounced decline in the birth rate may be anticipated.

PREVALENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES

February 28–March 27, 1943

The accompanying table summarizes the prevalence of nine important communicable diseases, based on weekly telegraphic reports from State health departments. The reports from each State are published in the Public Health Reports under the section "Prevalence of disease." The table gives the number of cases of these dis-

eases for the 4-week period ended March 27, 1943, the number reported for the corresponding period in 1942, and the median number for the years 1938–42.

DISEASES ABOVE MEDIAN PREVALENCE

Meningococcus meningitis.—The number of cases of menigococcus meningitis rose from 1,677 cases during the preceding 4-week period to 2,272 cases for the 4 weeks ended March 27. The total was almost seven times that for the corresponding period in 1942 and more than eleven times the median figure (201 cases) for the same period in 1938–42. The incidence was the highest on record for this period, the nearest approach to it being in 1929 when 1,257 cases were reported for the period corresponding to the one under consideration.

The table shows, by geographic areas, the number of cases reported for recent weeks in comparison with the experience of the two preceding years and also that of the peak year of 1929. In all regions of the country the current incidence has been considerably in excess of that for recent years. Figures for the current period range from approximately eight times the median in the East North Central and South Central regions to twenty-three times the median in the New England region.

Meningococcus meningitis cases reported by weeks during 1943 with comparative data for the corresponding period in 1942, 1941, and 1929 [1]

Division	Week ended—													
	1943													
	Jan. 2	Jan. 9	Jan. 16	Jan. 23	Jan. 30	Feb. 6	Feb. 13	Feb. 20	Feb. 27	Mar. 6	Mar. 13	Mar. 20	Mar. 27	Apr. 3
All regions:														
1943	187	278	309	354	339	330	446	398	503	556	525	619	572	595
1942	47	45	68	52	65	60	42	84	87	70	88	91	90	111
1941	28	41	38	61	53	48	46	46	44	56	43	53	54	70
1929 [2]	160	213	218	232	268	226	256	196	303	297	332	325	330	326
New England:														
1943	23	35	55	46	50	42	49	60	52	61	56	76	88	59
1942	2	8	7	2	6	5	5	5	14	17	10	12	11	13
1941	2	4	0	1	3	1	3	3	3	2	3	4	4	4
1929	2	5	4	5	7	7	3	2	6	11	9	7	6	11
Middle Atlantic:														
1943	37	54	47	68	57	67	94	92	108	117	104	125	133	145
1942	9	12	10	8	19	17	10	18	16	14	19	29	31	40
1941	2	6	12	9	9	7	13	13	8	11	7	9	15	14
1929	29	46	45	47	66	55	58	51	61	54	68	55	27	79
East North Central:														
1943	21	21	10	34	39	38	26	46	41	44	58	40	57	67
1942	5	5	9	3	4	5	5	3	7	4	9	7	5	5
1941	3	7	3	7	3	5	4	4	2	8	8	7	4	7
1929	40	50	53	36	51	43	49	48	63	78	89	65	123	115
West North Central:														
1943	12	19	35	21	24	27	19	22	34	43	25	38	31	22
1942	3	4	3	2	2	3	3	1	4	2	2	2	2	3
1941	3	0	4	3	0	6	3	3	1	5	2	4	1	2
1929	37	21	31	38	24	32	40	33	46	49	42	63	30	29

See footnotes at end of table.

Meningococcus meningitis cases reported by weeks during 1943 with comparative data for the corresponding period in 1942, 1941, and 1929 [1]—Continued

Division	Week ended—													
	1943													
	Jan. 2	Jan. 9	Jan. 16	Jan. 23	Jan. 30	Feb. 6	Feb. 13	Feb. 20	Feb. 27	Mar. 6	Mar. 13	Mar. 20	Mar. 27	Apr. 3
South Atlantic:														
1943	29	65	57	68	68	71	116	72	[3] 104	[4] 105	105	159	95	106
1942	10	7	15	12	19	13	7	17	20	14	21	19	20	22
1941	6	10	2	19	19	5	7	7	17	10	8	8	13	21
1929	6	8	6	7	17	6	6	7	7	6	15	13	5	10
East South Central:														
1943	12	15	21	24	22	16	35	13	64	45	54	74	53	90
1942	6	2	6	4	7	7	3	3	10	3	6	5	8	6
1941	6	6	4	7	10	14	12	12	8	9	7	8	11	11
1929	1	3	4	1	8	7	6	5	5	2	8	12	6	6
West South Central:														
1943	6	14	14	23	21	16	31	18	29	27	45	48	46	29
1942	8	2	8	11	3	7	4	31	10	8	15	11	4	8
1941	4	4	7	10	8	7	2	2	1	8	4	5	4	7
1929	7	25	30	37	35	20	16	10	15	13	18	15	13	18
Mountain:														
1943	19	18	10	16	10	7	17	11	18	[5] 25	20	12	8	6
1942	3	1	4	1	1	2	1	2	3	1	1	1	0	1
1941	0	1	0	1	0	0	1	1	2	0	2	2	0	2
1929 [2]	20	26	34	34	38	35	54	25	61	54	56	41	50	34
Pacific:														
1943	28	37	60	54	48	46	59	64	53	89	58	47	61	71
1942	1	4	6	9	4	1	4	4	3	7	5	5	9	13
1941	2	3	6	4	1	3	1	1	2	3	2	6	2	2
1929	18	29	11	27	22	21	24	15	39	30	27	54	70	24

[1] A similar table appeared in Public Health Reports for March 19, 1943, page 494.
[2] Exclusive of Nevada.
[3] Delayed report of 19 cases in Virginia included.
[4] Delayed report of 15 cases in Virginia included.
[5] Delayed report of 10 cases in Arizona included.

For the United States as a whole the incidence has exceeded that of the 1929 maximum in each week of 1943. The weekly excess has been particularly marked in the East, with only the North Central and Mountain areas generally showing fewer reported cases than in 1929.

States in which the disease was most prevalent during the current period were New York (235 cases), Pennsylvania (131), New Jersey (113), Massachusetts (116), Maine (47), Rhode Island (83), Virginia (151), Maryland (81), Illinois (63), Missouri (90), North Carolina (76), Mississippi (88), and California (154).

Measles.—The number of cases of measles rose from approximately 59,500 during the preceding 4-week period to 86,596 cases during the current 4-week period. The number was, however, only slightly above the number reported in 1942, which figure (86,298) also represents the 1938–42 median incidence for the corresponding period. The incidence in the Middle Atlantic and East South Central regions was approximately three times the 1938–42 expectancy, while all other regions, except the South Atlantic, reported minor excesses; in the South Atlantic region the number of cases (5,222) was about 40 percent of the seasonal expectancy.

Poliomyelitis.—For the current period there were 92 cases of poliomyelitis reported, as compared with 80 in 1942 and a median of 74 cases for the corresponding period in 1938–42. Of the total cases, Texas reported 16, California 12, and Arizona 5—no more than 4 cases were reported from any other State. The lowest incidence of this disease is usually reached during the month of April.

DISEASES BELOW MEDIAN PREVALENCE

Diphtheria.—During the 4 weeks ended March 27 the incidence of diphtheria (957 cases) was about 25 percent lower than the 1938–42 median level (1,273 cases) for this same period. The number of cases in each geographic region of the country was relatively low.

Influenza.—For the current period there were 17,615 cases of influenza reported, as compared with 18,881, 32,019, and 33,101 cases during the corresponding period in 1942, 1941, and 1940, respectively. The highest incidence was still reported from the South Atlantic and West South Central regions, but in all regions the numbers of cases were considerably below the normal seasonal expectancy.

Scarlet fever.—The incidence of this disease was also relatively low, the 16,477 cases reported for the current 4-week period being only about 80 percent of the preceding 5-year median (20,341) cases. An increase over the median figure of approximately 85 percent was reported in the New England region, with smaller excesses in the South Atlantic and Mountain regions; in all other regions the incidence was comparatively low.

Smallpox.—Ninety cases of smallpox were reported during the 4 weeks ended March 27, as compared with 95 in 1942 and with a median of 309 cases for the corresponding period in 1938–42. Of the total cases, Indiana reported 16, North Carolina 13, Illinois 11, Ohio 10, Arkansas 7, and Nebraska and Oklahoma 5 each. No more than 3 cases were reported from any other State.

Typhoid and paratyphoid fever.—The incidence of this disease continued at the lowest level on record. For the current period the cases dropped below even the previous year, when 262 cases were reported for this period. The 1938–42 median for the period corresponding to the one under consideration was 337 cases. A very favorable situation exists in all sections of the country, the incidence in practically all areas being the lowest on record.

Whooping cough.—The incidence of whooping cough was in line with the number of cases that usually occur at this season of the year, the number (16,081) reported for the current period being only slightly lower than the 1938–42 median for the corresponding period. The Middle Atlantic, North Central, and South Central regions reported more cases than normally occur in those regions; the South Atlantic,

Mountain, and Pacific regions reported fewer cases than might be expected, and in the New England region the disease stood at the normal level.

MORTALITY, ALL CAUSES

For the 4 weeks ended March 27 there was an average of 9,923 deaths in 90 large cities reported to the Bureau of the Census, as compared with an average of 9,154 deaths for the corresponding weeks in the years 1940–42. The current figure represents an increase over the 3-year average of about 7.7 percent. Death rates for these cities will be published when current populations are available from the Bureau of the Census.

Number of reported cases of 9 communicable diseases in the United States during the 4-week period February 28, 1943, to March 27, 1943, the number for the corresponding period in 1942, and the median number of cases reported for the corresponding period, 1938–1942

Division	Current period	1942	5-year median	Current period	1942	5-year median	Current period	1942	5-year median
	Diphtheria			Influenza [1]			Measles [2]		
United States	957	1,175	1,273	17,615	18,831	32,019	86,596	86,298	86,298
New England	10	25	26	35	36	53	8,422	6,153	4,041
Middle Atlantic	140	178	180	110	108	245	25,237	8,552	8,552
East North Central	116	187	211	430	533	1,940	13,993	7,891	7,891
West North Central	79	80	115	183	231	645	7,641	9,483	6,092
South Atlantic	169	156	256	7,324	6,029	11,085	5,222	13,329	13,329
East South Central	88	156	115	1,213	1,732	2,777	6,189	1,898	1,898
West South Central	204	255	255	6,921	7,302	10,377	4,499	13,274	3,257
Mountain	52	54	76	949	2,019	1,257	6,924	3,807	3,501
Pacific	99	84	107	450	841	1,141	8,469	21,911	6,965
	Meningococcus meningitis			Poliomyelitis			Scarlet fever		
United States	2,272	339	201	92	80	74	16,477	18,079	20,341
New England	281	50	12	6	3	1	2,631	1,810	1,406
Middle Atlantic	479	93	44	12	7	7	4,153	5,269	5,405
East North Central	199	25	25	9	14	13	4,203	5,420	7,254
West North Central	137	8	11	5	9	2	1,708	2,005	2,005
South Atlantic	464	74	43	10	10	11	1,082	1,184	1,031
East South Central	226	22	27	7	9	9	541	794	768
West South Central	166	38	19	17	9	10	414	307	429
Mountain	65	3	6	8	6	5	848	552	552
Pacific	255	26	15	18	13	11	897	738	958
	Smallpox			Typhoid and paratyphoid fever			Whooping cough [2]		
United States	90	95	309	229	262	337	16,081	15,057	16,456
New England	0	0	0	6	8	11	1,445	1,835	1,465
Middle Atlantic	0	0	0	45	47	47	3,841	3,907	3,632
East North Central	38	18	58	31	29	37	3,383	3,059	3,059
West North Central	12	22	89	10	10	21	794	632	632
South Atlantic	14	2	8	59	66	66	1,972	1,626	2,661
East South Central	5	11	11	13	28	31	666	566	566
West South Central	16	39	98	34	40	47	1,982	838	907
Mountain	3	3	35	7	8	19	501	863	863
Pacific	2	0	18	24	26	26	1,497	1,731	1,731

[1] Mississippi, New York, and Pennsylvania excluded; New York City included.
[2] Mississippi excluded.

PREVALENCE OF DISEASE

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

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED APRIL 10, 1943

Summary

Of the nine common communicable diseases included in the following tables, and for which earlier comparable figures are available, the incidence of only three—measles, meningitis, and whooping cough—was above the respective 5-year (1938–42) medians, and the incidence of only one—whooping cough—increased as compared with the preceding week.

A total of 587 cases of meningococcus meningitis was reported for the week (exclusive of a delayed report of 19 cases in Oklahoma), as compared with 595 for the preceding week and 572 for the next earlier week. Increases as compared with the preceding week and with the average numbers of cases reported for the past 3 weeks were recorded in the New England, West North Central, West South Central, and Mountain States. An increase was also reported in the South Atlantic States, as compared with the immediately preceding week, but the figures were below the preceding 3-week average. States reporting the largest numbers for the week (the preceding week's figures in parentheses) were as follows: New York, 48 (68); Pennsylvania, 39 (38); Massachusetts, 38 (23); California, 38 (58); Missouri, 33 (12); Virginia, 29 (31); Texas, 29 (20); New Jersey, 28 (39); South Carolina, 25 (15); North Carolina, 20 (18); Idaho, 20 (0). The cumulative total for the first 14 weeks of the year is 6,432, representing an annual rate of 17.9 per 100,000 estimated population, as compared with 3,715 cases and a rate of 11.3 for the first 14 weeks of 1930, the highest incidence for the corresponding period of any year for which comparable records are available (since 1927).

Although meningococcus meningitis is the only one of the important communicable diseases which has assumed epidemic proportions, the incidence of the following diseases for the first 14 weeks (ended April

10) of the current year is slightly above that for the corresponding period of last year: Dysentery (all forms), infectious encephalitis, measles, poliomyelitis, smallpox, endemic typhus fever, and whooping cough. The incidence of typhoid fever has been the lowest on record. A total of 743 cases has been reported to date this year, as compared with 1,043 for the same period last year, and a 5-year median of 1,080.

The number of deaths from all causes recorded for the week in 88 large cities of the United States was 9,464, as compared with 9,715 for the preceding week and a 3-year average of 8,559. The accumulated total for the first 14 weeks of the year is 138,871, as compared with 127,079 for the same period in 1942.

Telegraphic morbidity reports from State health officers for the week ended April 10, 1943, and comparison with corresponding week of 1942 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none were reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended		Median 1938–42	Week ended		Median 1938–42	Week ended		Median 1938–42	Week ended		Median 1938–42
	Apr. 10, 1943	Apr. 11, 1942		Apr. 10, 1943	Apr. 11, 1942		Apr. 10, 1943	Apr. 11, 1942		Apr. 10, 1943	Apr. 11, 1942	
NEW ENG.												
Maine	0	0	1	1	1	4	10	208	208	9	1	0
New Hampshire	0	0	0	-----	-----	-----	27	15	29	2	0	0
Vermont	0	0	0	-----	-----	-----	430	56	56	1	0	0
Massachusetts	1	3	2	-----	-----	-----	1,746	1,158	759	38	5	1
Rhode Island	0	0	0	1	-----	-----	14	358	30	16	1	0
Connecticut	0	0	0	4	3	5	341	656	209	13	6	1
MID. ATL.												
New York	21	10	18	[1] 13	[1] 10	[1] 13	2,756	633	1,563	48	15	3
New Jersey	10	4	7	19	11	11	1,754	907	907	28	8	1
Pennsylvania	15	10	24	2	-----	-----	2,041	1,068	1,068	39	15	7
E. NO. CEN.												
Ohio	9	5	12	13	8	8	925	376	376	8	0	0
Indiana	4	6	16	19	45	16	226	134	134	8	2	2
Illinois	19	17	22	12	7	16	1,391	758	758	17	6	2
Michigan [2]	5	3	9	34	21	20	1,370	279	409	14	0	0
Wisconsin	3	4	1	40	42	103	1,627	731	731	4	0	1
W. NO. CEN.												
Minnesota	1	2	2	2	2	2	141	937	227	1	0	0
Iowa	0	14	9	-----	1	8	245	221	194	0	0	0
Missouri	0	3	9	2	1	4	623	268	268	33	1	1
North Dakota	0	2	0	11	3	12	120	30	33	2	1	1
South Dakota	1	4	0	-----	-----	1	66	4	4	0	0	0
Nebraska	2	6	3	7	28	1	392	305	127	0	0	0
Kansas	3	3	3	5	13	13	797	532	532	2	1	1
SO. ATL.												
Delaware	0	0	0	-----	1	-----	93	8	8	2	0	0
Maryland [2]	2	2	1	3	14	16	91	792	344	18	9	0
Dist. of Col	0	1	1	-----	3	3	57	134	134	7	0	0
Virginia	8	7	10	323	378	378	559	182	438	29	4	3
West Virginia	5	5	8	5	24	58	79	184	184	5	1	1
North Carolina	1	9	15	47	18	22	202	825	825	20	2	1
South Carolina	8	6	6	618	402	415	207	200	200	25	3	1
Georgia	3	3	4	52	73	164	224	161	194	7	1	1
Florida	2	1	6	33	11	6	69	283	283	6	0	0
E. SO. CEN.												
Kentucky	4	6	7	4	4	13	455	87	146	12	3	1
Tennessee	0	5	5	61	48	96	398	129	129	13	1	2
Alabama	7	5	5	198	105	124	118	213	213	12	3	3
Mississippi [2]	0	4	4	-----	-----	-----	-----	-----	-----	15	1	2
W. SO. CEN.												
Arkansas	1	4	4	42	81	134	169	149	149	0	1	1
Louisiana	0	5	5	16	4	11	170	354	94	15	1	1
Oklahoma	2	5	5	89	68	74	66	359	112	[3] 22	2	1
Texas	40	37	30	1,372	726	882	1,150	2,457	890	29	7	3
MOUNTAIN												
Montana	1	3	2	-----	8	8	295	76	20	0	0	0
Idaho	3	0	1	-----	-----	2	318	52	35	20	0	0
Wyoming	0	0	1	19	116	-----	140	72	57	3	1	0
Colorado	14	6	9	38	72	34	356	245	245	6	1	0
New Mexico	1	3	2	2	5	1	22	84	84	0	0	0
Arizona	5	1	2	98	125	125	60	189	98	0	1	1
Utah [2]	0	0	0	13	26	26	239	286	286	1	0	0
Nevada	0	0	-----	-----	-----	-----	24	0	-----	0	0	-----
PACIFIC												
Washington	1	2	2	-----	9	2	564	354	354	4	3	1
Oregon	1	0	2	12	16	22	452	156	156	14	0	0
California	16	9	21	74	499	151	1,032	6,341	616	38	5	2
Total	219	225	307	3,304	3,032	3,412	24,651	24,006	24,006	[3] 606	112	65
14 weeks	3,898	4,262	5,213	60,738	64,484	123,386	235,059	228,957	228,957	6,432	1,064	719

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended April 10, 1943, and comparison with corresponding week of 1942 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended		Median 1938–42	Week ended		Median 1938–42	Week ended		Median 1938–42	Week ended		Median 1938–42
	Apr. 10, 1943	Apr. 11, 1942		Apr. 10, 1943	Apr. 11, 1942		Apr. 10, 1943	Apr. 11, 1942		Apr. 10, 1943	Apr. 11, 1942	
NEW ENG.												
Maine	0	0	0	18	8	11	0	0	0	0	1	1
New Hampshire	0	0	0	2	10	7	0	0	0	0	0	0
Vermont	0	0	0	15	13	13	0	0	0	0	0	0
Massachusetts	0	1	0	619	351	220	0	0	0	1	3	1
Rhode Island	0	0	0	24	8	12	0	0	0	0	0	0
Connecticut	0	0	0	93	31	117	0	0	0	2	1	1
MID. ATL.												
New York	0	2	2	567	482	662	0	0	0	6	10	6
New Jersey	0	0	0	158	202	202	0	0	0	0	2	3
Pennsylvania	0	2	1	337	421	406	0	0	0	2	7	7
E. NO. CEN.												
Ohio	0	0	1	254	324	361	0	1	1	3	3	3
Indiana	0	0	0	68	108	161	0	1	2	0	0	1
Illinois	3	0	0	180	233	487	0	0	5	3	0	1
Michigan [3]	0	0	0	128	227	365	0	1	1	3	0	3
Wisconsin	0	0	0	343	142	142	1	0	2	0	1	1
W. NO. CEN.												
Minnesota	0	0	0	76	80	74	0	0	2	0	0	0
Iowa	1	0	0	41	73	73	1	2	11	0	1	1
Missouri	0	0	0	192	56	111	1	1	1	0	1	1
North Dakota	0	0	0	5	23	15	0	0	1	0	4	1
South Dakota	0	0	0	17	38	18	0	0	2	0	0	0
Nebraska	0	0	0	56	31	31	0	0	3	0	0	0
Kansas	0	0	0	62	109	78	0	0	1	0	0	1
SO. ATL.												
Delaware	0	0	0	7	37	8	0	0	0	1	0	0
Maryland [3]	0	0	0	139	82	50	0	0	0	2	2	2
Dist. of Col	0	0	0	26	12	17	0	0	0	0	0	0
Virginia	0	1	1	56	34	49	0	0	0	0	2	2
West Virginia	0	1	1	24	32	49	0	0	0	1	0	1
North Carolina	1	0	0	30	14	31	0	0	0	0	1	1
South Carolina	1	0	0	4	1	3	0	0	0	0	0	0
Georgia	1	0	0	10	16	10	0	0	0	5	2	2
Florida	0	1	1	11	7	7	0	0	0	3	14	5
E. SO. CEN.												
Kentucky	1	0	0	43	90	89	0	1	1	1	5	3
Tennessee	0	0	1	35	68	68	4	0	0	2	1	2
Alabama	1	0	0	21	18	12	0	0	0	1	0	2
Mississippi [3]	1	0	1	5	13	6	0	1	1	0	1	2
W. SO. CEN.												
Arkansas	0	0	0	6	5	6	6	5	1	0	0	1
Louisiana	0	0	0	8	8	8	0	2	0	4	3	3
Oklahoma	0	0	0	39	13	16	0	0	3	0	2	1
Texas	1	3	2	76	41	60	6	3	3	3	5	7
MOUNTAIN												
Montana	0	0	0	6	5	16	0	0	0	1	1	1
Idaho	1	0	0	61	19	14	0	0	0	0	0	0
Wyoming	0	0	0	60	12	16	0	0	0	0	0	0
Colorado	0	1	0	50	46	38	0	0	1	2	0	2
New Mexico	0	1	0	4	4	6	0	0	0	3	0	1
Arizona	0	0	0	20	4	7	0	0	0	1	0	0
Utah [3]	2	0	0	45	22	22	1	0	0	0	0	0
Nevada	0	0	------	3	0	------	0	0	------	0	0	------
PACIFIC												
Washington	0	0	0	25	65	37	0	0	3	0	1	1
Oregon	0	0	0	33	6	20	0	2	2	0	0	1
California	5	0	1	144	76	124	1	0	2	1	3	3
Total	19	13	23	4,246	3,720	4,468	21	20	49	51	77	78
14 weeks	359	313	313	55,284	55,893	66,711	371	322	1,003	743	1,043	1,080

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended April 10, 1943, and comparison with corresponding week of 1942 and 5-year median—Con.

Division and State	Whooping cough			Week ended April 10, 1943								
	Week ended		Median 1938–42	Anthrax	Dysentery			Encephalitis, infectious	Leprosy	Rocky Mt. spotted fever	Tularemia	Typhus fever
	Apr. 10, 1943	Apr. 11, 1942			Amebic	Bacillary	Unspecified					
NEW ENG.												
Maine	35	6	61	0	0	0	0	0	0	0	0	0
New Hampshire	0	7	1	0	0	0	0	0	0	0	0	0
Vermont	65	40	31	0	0	0	0	0	0	0	0	0
Massachusetts	149	188	188	0	0	0	0	0	0	0	0	0
Rhode Island	45	48	26	0	0	0	0	0	0	0	0	0
Connecticut	47	89	72	0	0	0	0	0	0	0	0	0
MID. ATL.												
New York	373	419	419	1	7	29	0	2	0	0	0	0
New Jersey	202	314	158	1	0	0	0	2	0	0	0	0
Pennsylvania	289	231	270	0	0	0	0	0	0	0	0	0
E. NO. CEN.												
Ohio	155	143	143	0	0	1	0	1	0	0	0	0
Indiana	81	32	21	0	0	0	0	0	0	0	0	0
Illinois	139	194	148	0	0	2	0	3	0	0	0	0
Michigan [3]	216	176	176	0	0	0	0	0	0	0	0	0
Wisconsin	224	132	131	0	0	0	0	0	0	0	0	0
W. NO. CEN.												
Minnesota	93	45	30	0	1	0	0	0	0	0	0	0
Iowa	24	11	11	0	1	0	0	1	0	0	0	0
Missouri	39	13	33	0	0	0	2	1	0	0	0	0
North Dakota	17	13	13	0	0	0	0	0	0	0	0	0
South Dakota	1	0	5	0	0	0	0	0	0	0	0	0
Nebraska	13	7	8	0	0	0	0	0	0	0	0	0
Kansas	95	34	34	0	1	0	0	0	0	0	1	0
SO. ATL.												
Delaware	3	0	9	0	0	0	0	0	0	0	0	0
Maryland [2]	111	25	59	0	0	0	0	0	0	1	0	0
Dist. of Col.	26	14	14	0	0	0	0	0	0	0	0	0
Virginia	77	48	51	0	0	0	21	0	0	0	0	0
West Virginia	42	20	44	0	0	0	0	0	0	0	0	0
North Carolina	189	96	263	0	0	0	0	0	0	0	0	5
South Carolina	46	55	55	0	0	0	0	0	0	0	1	0
Georgia	91	28	28	0	0	0	0	0	0	0	2	6
Florida	42	13	19	0	1	1	0	0	0	0	0	3
E. SO. CEN.												
Kentucky	50	59	59	0	0	0	0	0	0	0	0	0
Tennessee	67	41	42	0	0	0	1	1	0	0	0	0
Alabama	52	20	23	0	0	0	0	0	0	0	0	12
Mississippi [2]	----	----	----	0	0	0	0	0	0	0	4	0
W. SO. CEN.												
Arkansas	9	8	33	0	0	0	0	0	0	0	1	0
Louisiana	18	11	5	0	1	0	0	0	0	0	0	3
Oklahoma	45	8	10	0	0	0	0	0	0	0	0	0
Texas	697	188	263	0	6	154	0	2	0	0	3	12
MOUNTAIN												
Montana	11	11	11	0	0	0	0	0	0	0	0	0
Idaho	0	0	8	0	0	0	0	0	0	0	0	0
Wyoming	2	8	3	0	0	0	0	0	0	0	0	0
Colorado	19	47	47	0	1	0	0	0	0	0	0	0
New Mexico	7	45	26	0	0	0	0	0	0	0	0	0
Arizona	35	46	38	0	0	0	26	0	0	0	0	0
Utah [2]	46	32	39	0	0	0	0	0	0	0	2	0
Nevada	0	12	----	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington	34	96	96	0	0	0	0	0	0	0	0	0
Oregon	19	34	25	0	0	0	0	0	0	0	0	0
California	416	286	372	0	3	7	0	1	2	0	0	1
Total	4,456	3,393	3,562	2	22	194	50	14	2	1	14	42
14 weeks	55,880	54,101	58,168	22	405	2,796	596	155	7	5	245	679

[1] New York City only. [2] Period ended earlier than Saturday. [3] Delayed report of 19 cases included.

WEEKLY REPORTS FROM CITIES

City reports for week ended March 27, 1943

This table lists the reports from 87 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
Atlanta, Ga	0	0	15	3	34	0	2	0	3	0	0	4
Baltimore, Md	2	0	3	0	58	15	15	0	51	0	0	63
Billings, Mont	0	0	------	0	1	0	0	0	2	0	0	0
Birmingham, Ala	3	0	4	0	9	0	3	0	3	0	0	1
Boise, Idaho	0	0	------	0	0	0	0	0	0	0	0	0
Boston, Mass	0	0	------	1	210	16	20	0	225	0	0	38
Bridgeport, Conn	0	0	------	0	1	2	4	0	1	0	0	2
Brunswick, Ga	0	0	------	0	5	1	0	0	0	0	0	3
Buffalo, N. Y	0	0	1	1	135	2	16	0	15	0	0	9
Camden, N. J	2	0	2	1	53	0	3	0	1	0	0	4
Charleston, S. C	0	0	13	1	0	1	3	0	1	0	0	2
Charleston, W. Va	0	0	3	0	0	0	0	0	1	0	0	0
Chicago, Ill	9	0	7	3	586	8	34	0	67	0	1	66
Cincinnati, Ohio	2	0	------	0	174	0	3	0	42	0	0	1
Cleveland, Ohio	0	0	6	1	14	1	12	0	71	0	0	61
Columbus, Ohio	0	0	------	0	22	1	5	0	15	0	0	1
Concord, N. H	0	0	------	0	0	0	0	0	0	0	0	0
Cumberland, Md	0	0	------	0	0	0	1	0	1	0	0	0
Dallas, Tex	0	0	3	3	6	1	5	0	5	0	0	22
Denver, Colo	9	0	7	0	572	0	4	0	7	0	0	7
Detroit, Mich	0	0	4	3	381	9	30	0	39	0	1	99
Duluth, Minn	0	0	------	0	4	0	2	0	3	0	0	6
Fall River, Mass	0	0	------	0	51	2	3	0	1	0	0	18
Fargo, N. Dak	0	0	------	0	1	0	0	0	2	0	0	0
Flint, Mich	0	0	------	0	24	0	6	0	2	0	0	10
Fort Wayne, Ind	0	0	------	0	3	0	3	0	12	0	0	0
Frederick, Md	0	1	------	0	0	0	0	0	1	0	0	0
Galveston, Tex	0	0	------	0	2	0	3	0	1	0	0	0
Grand Rapids, Mich	0	0	------	0	7	0	1	0	5	0	0	21
Great Falls, Mont	0	0	------	0	35	0	1	0	3	0	0	3
Hartford, Conn	0	0	------	0	36	0	1	0	1	0	0	0
Helena, Mont	0	0	------	0	110	0	0	0	2	0	0	3
Houston, Tex	0	0	------	1	12	0	9	0	1	0	1	7
Indianapolis, Ind	0	0	------	0	225	0	12	0	26	0	0	13
Kansas City, Mo	1	0	------	2	98	1	5	0	44	0	1	3
Kenosha, Wis	0	0	------	0	0	0	1	0	4	0	0	0
Little Rock, Ark	0	0	2	0	11	1	9	0	2	0	0	1
Los Angeles, Calif	4	0	17	0	135	5	10	0	24	0	1	61
Lynchburg, Va	0	0	------	0	1	1	0	0	0	0	0	6
Memphis, Tenn	0	0	------	1	116	1	3	0	4	0	0	20
Milwaukee, Wis	0	0	------	0	351	2	2	0	138	0	0	39
Minneapolis, Minn	0	0	------	0	50	3	6	0	11	0	0	9
Missoula, Mont	0	0	------	0	1	0	1	0	1	0	0	0
Mobile, Ala	0	0	------	2	2	0	0	0	0	0	0	0
Nashville, Tenn	0	0	------	0	65	0	2	0	0	0	0	7
Newark, N. J	0	0	1	0	153	4	5	0	14	0	0	16
New Haven, Conn	0	0	1	0	3	0	1	0	2	0	0	2
New Orleans, La	0	0	2	1	81	6	12	0	6	0	0	1
New York, N. Y	20	0	12	3	609	35	93	0	394	0	2	55
Omaha, Nebr	0	0	------	0	8	0	7	0	9	0	0	2
Philadelphia, Pa	2	0	2	3	656	16	32	0	124	0	0	86
Pittsburgh, Pa	1	0	3	1	21	5	15	0	9	0	0	46
Portland, Me	0	0	------	0	1	10	9	0	0	0	0	8
Providence, R. I	0	0	2	0	2	14	8	0	5	0	0	41
Pueblo, Colo	0	0	------	0	7	0	2	0	1	0	0	6
Racine, Wis	0	0	------	0	8	0	0	0	16	0	0	1
Reading, Pa	0	0	------	1	194	0	1	0	0	0	0	3
Richmond, Va	0	0	------	0	21	2	4	0	2	0	0	0
Roanoke, Va	0	0	------	0	1	2	1	0	0	0	0	3
Rochester, N. Y	0	0	------	0	43	1	7	0	15	0	0	31
Sacramento, Calif	2	0	1	0	8	0	1	0	3	0	0	2
Saint Joseph, Mo	0	0	------	0	3	1	1	0	0	0	0	2
Saint Louis, Mo	1	0	3	1	52	11	15	0	22	0	0	22

City reports for week ended March 27, 1943—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
Saint Paul, Minn.	0	0	------	1	18	1	8	0	1	0	0	54
Salt Lake City, Utah	1	0	------	0	199	1	2	0	14	0	0	25
San Antonio, Tex.	4	0	1	1	13	0	5	1	0	0	0	2
San Francisco, Calif.	1	0	4	0	121	5	11	0	29	0	0	31
Savannah, Ga.	0	0	9	0	4	1	5	0	1	0	0	0
Seattle, Wash.	3	0	------	2	127	1	9	2	2	0	0	5
Shreveport, La.	0	0	------	0	0	1	3	0	0	0	0	0
South Bend, Ind.	0	0	------	0	13	0	0	0	2	0	0	0
Spokane, Wash.	0	0	1	1	146	1	2	0	3	0	0	5
Springfield, Mass.	0	0	------	0	3	0	0	0	103	0	0	0
Superior, Wis.	0	0	------	0	0	0	0	0	3	0	0	1
Syracuse, N. Y.	0	0	------	0	49	0	1	0	6	0	0	27
Tacoma, Wash.	1	0	------	0	13	0	0	0	2	0	0	0
Tampa, Fla.	0	0	1	1	5	0	2	0	2	0	0	1
Terre Haute, Ind.	0	0	------	0	3	0	7	0	2	0	0	0
Topeka, Kans.	0	0	------	0	301	0	3	0	3	0	0	8
Trenton, N. J.	0	0	------	0	113	0	0	0	7	0	0	2
Washington, D. C.	0	0	1	0	91	6	13	0	20	0	0	33
Wheeling, W. Va.	0	0	------	0	3	0	4	0	1	0	0	0
Wichita, Kans.	0	0	------	0	93	0	4	0	2	0	0	7
Wilmington, Del.	0	0	------	0	67	0	5	0	3	0	0	0
Wilmington, N. C.	0	0	------	5	20	1	0	0	2	0	0	6
Winston-Salem, N. C.	0	0	------	0	3	0	1	0	1	0	0	27
Worcester, Mass.	0	0	------	0	372	1	3	0	7	0	0	2
Total	68	1	131	44	7,249	199	542	3	1,676	0	7	1,173
Corresponding week 1942	78	0	167	45	4,974	49	534	4	1,647	1	13	1,130
Average, 1938–42	88	------	381	[1] 51	[2] 5,109	------	[1] 495	------	1,671	13	21	1,099

Dysentery, amebic.—Cases: Atlanta, 1; Boston, 1; Chicago, 1; Memphis, 1; New York, 16.
Dysentery, bacillary.—Cases: Baltimore, 1; Los Angeles, 1; Memphis, 2; New York, 2; Richmond, 1; St. Louis, 1.
Dysentery, unspecified.—Cases: San Antonio, 2.
Typhus fever.—Cases: Birmingham, 1; New Haven, 1; New Orleans, 1; Savannah, 3; Tampa, 2.

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

PLAGUE INFECTION IN TACOMA, WASH.

Plague infection has been reported proved in tissue and pools of fleas from rats, *R. norvegicus*, taken in frame buildings in industrial and commercial areas and one residential section of Tacoma, Wash., as follows: March 8, 8 fleas from 4 rats taken in a residential section; March 10, a pool of tissue from 5 rats and a pool of 10 fleas from 3 rats; March 12, 14 fleas from 7 rats; March 15, tissue from 1 rat; March 19, 15 fleas from 2 rats.

TERRITORIES AND POSSESSIONS

Hawaii Territory

Plague (human).—On March 28, 1943, one death from bubonic plague in a 9-year-old child was reported in Honokaa, Hamakua District, Island of Hawaii, T. H.

Plague (rodent).—During the week ended March 20, 1943, 15 rats proved positive for plague were reported in Hamakua District, Island of Hawaii, T. H., as follows: 6 rats in Honokaa area, 7 rats in Paauhau area, and 2 rats in Kapulena area.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended March 13, 1943.—During the week ended March 13, 1943, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		14	1	120	233	29	11	15	44	467
Diphtheria	1	16	15	27	3	9		3	1	75
Dysentery (bacillary)				9						9
Encephalitis (infectious)						1				1
German measles		2		28	29	1	5	3		68
Influenza		26	14		44	13	18		137	252
Measles		55	7	230	353	53	234	26	114	1,072
Meningitis, meningococcus			1	2	3		1			7
Mumps	1	158	1	47	1,189	162	116		164	1,838
Poliomyelitis					1					1
Scarlet fever		17	13	68	193	40	39	17	19	406
Tuberculosis (all forms)	1	7	7	101	53	26		2	23	220
Typhoid and paratyphoid fever		1		37	1					39
Undulant fever		1						1		2
Whooping cough				107	112	47	5	50	35	356

CUBA

Habana—Communicable diseases—4 weeks ended March 6, 1943.—During the 4 weeks ended March 6, 1943, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	29		Paratyphoid fever	2	
Leprosy	1		Tetanus	1	1
Malaria	3		Tuberculosis	4	1
Measles	11		Typhoid fever	42	3

REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual prevalence, only those places are included which had not previously reported any of the above-named diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.

A cumulative table showing the reported prevalence of these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday of each month.

(Few reports are available from the invaded countries of Europe and other nations in war zones.)

Typhus Fever

Algeria.—For the period February 21–28, 1943, 322 cases of typhus fever were reported in Algeria, including 10 cases in Algiers, 17 cases in Bone, 4 cases in Philippeville, 39 cases in Oran, and 1 case in Mostaganem.

Hungary.—For the period March 14–20, 1943, 89 cases of typhus fever were reported in Hungary.

Rumania.—For the period March 16–22, 1943, 532 cases of typhus fever were reported in Rumania, including 59 cases in Bucharest.

Nigeria—Lagos.—For the week ending March 6, 1943, one case of typhus fever was reported in Lagos, Nigeria.

Yellow Fever

Belgian Congo—Stanleyville.—On March 2, 1943, one death from yellow fever was reported at Stanleyville, Belgian Congo.

* * *

DEATHS DURING WEEK ENDED APRIL 3, 1943

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

	Week ended Apr. 3, 1943	Corresponding week, 1942
Data from 89 large cities of the United States:		
Total deaths	9,812	8,608
Average for 3 prior years	8,810	
Total deaths, first 13 weeks of year	130,970	119,905
Deaths under 1 year of age	615	521
Average for 3 prior years	512	
Deaths under 1 year of age, first 13 weeks of year	9,205	7,391
Data from industrial insurance companies:		
Policies in force	65,472,549	64,959,697
Number of death claims	13,792	11,809
Death claims per 1,000 policies in force, annual rate	11.0	9.5
Death claims per 1,000 policies, first 13 weeks of year, annual rate	10.7	10.3