

TREASURY DEPARTMENT  
UNITED STATES PUBLIC HEALTH SERVICE

PUBLIC HEALTH BULLETIN No. 98

# HEALTH ALMANAC

FOR

1919

Compiled by

R. C. WILLIAMS

*Assistant Surgeon  
United States Public Health Service*



PREPARED BY DIRECTION OF THE SURGEON GENERAL



WASHINGTON  
GOVERNMENT PRINTING OFFICE

1919





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# HEALTH ALMANAC

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## OUR DUTY.

It is the patriotic duty of every loyal American to keep well. Our country needs every bit of assistance from every individual. We must produce more food than ever before to feed our own soldiers in Europe as well as those of our allies. We must eliminate waste and inefficiency. More lumber with which to build ships and carry on reconstruction work must be produced. Cotton and wool for the needs of the world must be made available. The mines and mineral industries must be kept up to the maximum of production. In order to accomplish this the prevalence of disease must be kept at the minimum. Sickness from preventable diseases means loss of time, money, and decreased efficiency and will impede America in her reconstruction work.

Each individual should take especial pains to safeguard his health and the health of his country. The proper disposal of human wastes, a clean water supply, protection against flies and mosquitoes, and protection of the food supply are the simple but important measures to which every loyal American should lend his efforts.

Every person has a share in the protection of the public health of our country. The industrial workers of the country must not lack efficiency because of disease or sickness.

In certain sections of the United States the working ability of the population is so affected by disease that there is a shortage of growing food crops, cotton, or lumber. Intelligent and well-directed efforts must be instituted against such serious economic loss. Examples of community or individual effort along this line are plentiful. Many communities and towns have realized that malaria, typhoid fever, diarrheal diseases of children were placing upon them a serious economic handicap, and by coordinated efforts have practically eradicated these diseases. The nation that fails to preserve its national health invites disaster.

Through the Public Health Service we are securing real conservation of our human resources, the first of all of our natural resources. Conservation of our material natural resources will be enhanced and simplified if conservation of our human natural resources is of the right sort. A vigorous, virile, and healthful race is of superlative importance. By a wise enlargement of the functions and a rational extension of the facilities of the Public Health Service through constantly generous, but not prodigal, appropriations this vital end may be achieved. (Hon. William G. McAdoo.)

## PNEUMONIA.

Pneumonia occurs in all climates, at all seasons, and affects all ages. It is more prevalent during the seasons of bad weather, winter and spring. Prolonged exposure, together with lowered vitality, is a frequent cause. Anything that will lower the power of resistance predisposes to pneumonia. The material coughed and spit up by pneumonia patients contains the pneumonia germs. All such material should be destroyed by burning.

In a large percentage of cases pneumonia is readily communicable from one person to another. Each case of pneumonia should be regarded as a point from which the disease may spread. The pneumonia patient should be isolated as far as possible. All articles used by the pneumonia patients, as dishes, handkerchiefs, bed linen, and clothing, should be cleansed by boiling before being used again. The room occupied by pneumonia patients should be carefully cleaned each day, care being taken to avoid the stirring up of dust. Upon completion of the case the bedroom occupied by the pneumonia patient should be thoroughly cleansed, walls as well as floor, then aired and sunned for several days before being put in use again.

To protect against pneumonia:

Wear sufficient clothing.

Avoid unnecessary contact with pneumonia patients.

Have plenty of fresh air in sleeping room.

Avoid alcoholic drinks.

Keep in good physical condition.

Avoid prolonged exposure to cold.

## CONSERVING THE NATION'S MAN POWER.

It is necessary to encompass not only the fighting man with every safeguard which modern science has devised, but, what is perhaps even more important, it is absolutely essential to maintain at the highest state of efficiency the health of the farmer, the industrial operative, the transportation employee, and all the rest of the general public upon whom the soldier must rely for food, clothing, and weapons.

If the soldier and the sailor are to be kept well, the civilian with whom they come in contact must not be permitted to have a communicable disease, and the civil environment which the fighting man enters in the search of recreation must be kept in a clean and wholesome condition. (Surg. Gen. Rupert Blue, United States Public Health Service.)



MOON'S PHASES, EASTERN TIME.

	D.	H.	M.
New moon.....	2	3	24 a. m.
First quarter.....	9	5	55 a. m.
Full moon.....	16	3	44 a. m.
Last quarter.....	23	11	22 p. m.
New moon.....	31	6	7 p. m.

To obtain moon's phases in central time subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

This table calculated for Washington, D. C.; Virginia, Kentucky, Missouri, Kansas, Colorado, Utah, Nevada, and central California. Exact time for rising and setting of sun may vary 2 to 15 minutes more or less from this table, in other sections of the United States, depending upon the parallel of latitude upon which a given place is located.

Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1.....	Wednesday.	New Year's Day; resolve to be a true loyal American this year.....	7. 19	4. 48
2.....	Thursday...	Fresh air is essential to good health.....	7. 19	4. 49
3.....	Friday.....	Keep physically fit.....	7. 19	4. 50
4.....	Saturday.....	A penny saved is a penny earned; buy thrift stamps.....	7. 19	4. 51
5.....	Sunday.....	The shop, office, or store needs fresh air.....	7. 19	4. 52
6.....	Monday.....	Pneumonia often attacks persons in the best of health.....	7. 19	4. 53
7.....	Tuesday.....	Do your share in conserving food for our soldiers and sailors.....	7. 19	4. 54
8.....	Wednesday.	"Hygiene can prevent more crime than law".....	7. 19	4. 54
9.....	Thursday.....	Sore eyes in new-born babies should receive prompt attention.....	7. 19	4. 55
10.....	Friday.....	Every birth and death should be reported to the local registrar.....	7. 19	4. 56
11.....	Saturday.....	Pneumonia kills more people in the United States than any other disease excepting heart disease.....	7. 19	4. 57
12.....	Sunday.....	Now is the time America needs your loyalty.....	7. 18	4. 58
13.....	Monday.....	Cover up your coughs and sneezes.....	7. 18	4. 59
14.....	Tuesday.....	Does your cold hang on? Have your lungs examined.....	7. 18	5. 01
15.....	Wednesday.	American National Red Cross incorporated 1905.....	7. 18	5. 02
16.....	Thursday.....	Veneral diseases are preventable.....	7. 17	5. 03
17.....	Friday.....	Keep warmly clad during cold weather.....	7. 17	5. 04
18.....	Saturday.....	Dust carries disease germs; avoid stirring it up by sweeping.....	7. 16	5. 05
19.....	Sunday.....	Keep the bedroom windows open.....	7. 16	5. 06
20.....	Monday.....	Contagious or infectious diseases should be reported to the health officer.....	7. 16	5. 07
21.....	Tuesday.....	Conservation of the civilian health is as important as the protection of the military forces.....	7. 15	5. 08
22.....	Wednesday.	Alcoholic excesses lower the resistance of the body.....	7. 15	5. 09
23.....	Thursday.....	You can do a part of your "bit" by keeping well.....	7. 13	5. 10
24.....	Friday.....	Veneral diseases constitute a serious menace to the health of the Nation.....	7. 13	5. 12
25.....	Saturday.....	Pneumonia can be contracted from a person sick with the disease.....	7. 13	5. 13
26.....	Sunday.....	"No true patriot will fail to buy United States Liberty bonds".....	7. 12	5. 14
27.....	Monday.....	Arsphenamine is the name now given to the drug formerly sold under trade name salvarsan.....	7. 11	5. 15
28.....	Tuesday.....	Every person has a part in the protection of the public health.....	7. 10	5. 16
29.....	Wednesday.	Literally, health is wealth.....	7. 10	5. 17
30.....	Thursday.....	Last case of bubonic plague reported in San Francisco, 1908.....	7. 09	5. 18
31.....	Friday.....	Germany announces unrestricted submarine warfare, 1917.....	7. 08	5. 20

PREVENTION OF VENEREAL DISEASE.

The prevalence of venereal disease in the civil population must be reduced. It is not necessary to discuss the reasons for a vigorous campaign for the control of venereal disease at this time. The reasons are too obvious and well recognized. The tremendous social and economic losses resulting from these diseases in times of peace are multiplied by the extraordinary conditions arising out of the world war. Furthermore, the winning of the war demands that these diseases be controlled in the entire civil population to insure the protection of the industrial army as well as that of the soldiers and sailors. To accomplish it it is not sufficient to inaugurate the campaign in the camps and a limited zone about the camp, but the control measures should include the largest cities and all parts of every State in the Union. (Asst. Surg. Gen. A. J. McLaughlin, United States Public Health Service.)

## TUBERCULOSIS.

Tuberculosis is a communicable, preventable, and curable disease. The disease is spread by coming in contact with excretions from the bodies of those suffering from it. Intimate personal contact with a consumptive, as kissing, using same dishes, sleeping in same beds, will render one likely to contract the disease. All discharges from the nose or throat, bowels, or kidneys of the consumptive may contain the germs of tuberculosis, therefore such discharges are dangerous.

Tuberculosis is caused by a small germ which is too small to be seen with the unaided eye. These little seeds or germs of consumption are contained in the discharges from the body, especially in secretions and discharges from the lungs. "Droplet infection" is also a factor in spreading the disease. By this is meant that a small particle of sputum containing hundreds of tuberculosis germs will be carried directly from the sick person to a well person by coughing, sneezing, or kissing. Tuberculosis may also be contracted by drinking milk from cows which have tuberculosis of the udder. Children often contract the disease from milk of tuberculous cows.

The prevention of tuberculosis is accomplished by observing the following precautions:

1. Live and sleep in plenty of fresh air. Sleep with windows up in bedroom or use a sleeping porch. Allow plenty of fresh air in the place where you work.

2. Keep the vitality of the body high by avoiding excesses of alcohol, exposure, and overwork.

3. Eat plenty of wholesome food.

4. Avoid intimate contact with consumptives.

5. Be examined physically once or twice each year.

The enemies of tuberculosis are:

1. Fresh air.

2. Rest.

3. Good food.

4. Competent medical supervision.

Avoid patent medicines.

## CONTROL OF COMMUNICABLE DISEASES.

In order to control the communicable diseases it is necessary to exercise careful supervision over the sick person, for it is the individual suffering with a communicable disease or harboring the causative organism who is the real danger to the community. He it is who spreads his infection through the fresh discharges from his mouth, nose, throat, intestines, etc., to those with whom he comes in contact. (Surg. Carroll Fox, United States Public Health Service.)

## MOON'S PHASES, EASTERN TIME.

	D.	H.	M.
First Quarter.....	7	1	52 p. m.
Full Moon.....	14	6	38 p. m.
Last Quarter.....	22	8	47 p. m.

To obtain moon's phases in central time, subtract 1 hour;  
mountain time, subtract 2 hours; Pacific time, subtract 3  
hours.

This table calculated for Washington, D. C., Virginia, Kentucky, Missouri, Kansas, Colorado, Utah, Nevada, and central California. Exact time for rising and setting of sun may vary 2 to 15 minutes more or less from this table, in other sections of the United States depending upon the parallel of latitude upon which a given place is located.

Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1	Saturday....	Tuberculosis is curable if recognized in time.....	7.07	5.21
2	Sunday.....	Groundhog Day.....	7.06	5.22
3	Monday.....	The death rate from tuberculosis has decreased greatly during the past 15 years.	7.05	5.23
4	Tuesday....	War Savings Stamps are a good investment. Buy them.....	7.04	5.24
5	Wednesday..	Avoid intimate personal contact with consumptives.....	7.03	5.25
6	Thursday....	Money spent for patent medicines is worse than wasted.....	7.02	5.27
7	Friday.....	Tuberculosis has been known for centuries.....	7.01	5.28
8	Saturday....	Fresh air and sunshine destroy germs.....	7.00	5.29
9	Sunday.....	America must conserve its food; do your part.....	6.59	5.30
10	Monday.....	Patent medicine consumption cures are worthless.....	6.58	5.31
11	Tuesday....	Have your family physician give you a thorough examination once or twice each year.	6.57	5.32
12	Wednesday..	Abraham Lincoln born 1809.....	6.56	5.33
13	Thursday....	Dr. O. W. Holmes presented paper in Boston on contagious nature of [child] bed fever 1843.	6.55	5.35
14	Friday.....	Civilian health is the foundation upon which military efficiency rests....	6.54	5.36
15	Saturday....	Autocracy is a close collector. Defeat it by buying Liberty Bonds....	6.52	5.37
16	Sunday.....	Refrain from excessive use of the arm after vaccination.....	6.51	5.38
17	Monday.....	Human beings are the great agencies in the spread of human diseases	6.50	5.39
18	Tuesday....	Tuberculosis is not an hereditary disease.....	6.49	5.40
19	Wednesday..	Births and deaths are important records, they should be reported to the local registrar.	6.47	5.41
20	Thursday....	Smallpox vaccination is safe preventive against the disease.....	6.46	5.42
21	Friday.....	Wholesome food keeps the body resistance high.....	6.45	5.43
22	Saturday....	George Washington's birthday.....	6.43	5.45
23	Sunday.....	Careless spitting is criminal.....	6.42	5.46
24	Monday.....	Universal public health conservation is the duty of the Nation.....	6.41	5.47
25	Tuesday....	Do you sleep with your bedroom windows open?.....	6.39	5.48
26	Wednesday..	Report cases of contagious or infectious disease to local health officer..	6.38	5.49
27	Thursday....	Tuberculosis is certainly preventable.....	6.36	5.50
28	Friday.....	"Gold that buys sanitation can never be ill spent".....	6.35	5.51

## SMALLPOX VACCINATION.

Smallpox is probably the oldest of all the historic epidemic diseases. Outbreaks of smallpox still occur in the United States. Smallpox can be absolutely prevented by vaccination. Every child should be vaccinated by the time it reaches the age of 1 year. Physicians and nurses have no other means of protecting themselves against this disease, yet they seldom contract it. Universal vaccination will banish smallpox permanently.

## THE FILTH FLY.

The common house fly, or typhoid fly, is not only an annoying pest but a potent factor in the spread of communicable diseases. The number of flies in a community is a fair sanitary index of that community. Flies and filth are synonymous, because flies grow and develop in filth; the absence of flies indicates the absence of filth.

Flies are instrumental in spreading many diseases; they spread disease germs mechanically by transferring filth, which is carried on their bodies and legs, to food or directly to hands or mouths of persons, particularly small children. Fly specks, or the excreta from flies, contain numbers of germs and are another important means by which flies spread disease germs.

Flies live in filth. After spending the winter in out-of-the-way places, such as cellars, barns, and attics, a fly comes out in the warm weather, and after feeding soon begins to lay eggs. Most flies are hatched in stable manure, although open privy vaults, garbage cans, and other places where refuse or filth may collect furnish breeding places for a considerable number. The manure from stables should be removed and hauled away to be scattered or spread out and allowed to dry at least every week. Privy vaults should be made fly proof, garbage cans fly tight, and every other effort made to prevent the breeding and growth of flies. A campaign directed toward the elimination of the breeding places for flies will prove more effective than a "swat-the-fly" effort.

To prevent the fly from conveying disease the following is suggested:

- Destroy the wintering and breeding places.
- Screen the house, particularly the kitchen.
- Render privies and privy vaults fly proof.
- Keep flies away from the sick and their discharges.

## TRACHOMA.

Trachoma is a chronic inflammatory disease of the eyelids. In the mountain districts of Virginia, Kentucky, West Virginia, and Tennessee the disease is quite common. Many cases are also found among the Indians in the Western States.

Trachoma is communicable. It is contracted by coming in contact with the discharge from the eyes of persons suffering from the disease. The public towel, use of bowl or washpan after an infected person, use of infected handkerchief, or use of other articles that might carry the infection to the eyes, are the methods by which the disease is spread. Many cases of blindness result from trachoma. The United States Public Health Service maintains dispensaries and hospitals for the free treatment of trachoma in the mountainous regions of the eastern United States where it is most prevalent.



## MOON'S PHASES, EASTERN TIME.

	D.	H.	M.
New moon.....	2	6	11 a. m.
First quarter.....	8	10	14 p. m.
Full moon.....	16	10	41 a. m.
Last quarter.....	24	3	33 p. m.
New moon.....	31	4	4 p. m.

To obtain moon's phases in central time, subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

This table calculated for Washington, D. C., Virginia, Kentucky, Missouri, Kansas, Colorado, Utah, Nevada, and central California. Exact time for rising and setting of sun may vary 2 to 15 minutes more or less from this table in other sections of the United States, depending upon the parallel of latitude upon which a given place is located.

Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1	Saturday....	All for America.....	6.34	5.52
2	Sunday.....	Begin your campaign against the fly early.....	6.32	5.53
3	Monday.....	Milk is one of the most important of human foods.....	6.31	5.54
4	Tuesday.....	President Wilson inaugurated second term, 1917.....	6.29	5.55
5	Wednesday....	Skim milk is good milk.....	6.28	5.56
6	Thursday....	First case of bubonic plague reported in San Francisco, Cal., 1900; first outbreak.....	6.27	5.57
7	Friday.....	The time to "swat 'em" is now.....	6.25	5.58
8	Saturday....	Public health is purchasable. Why not invest.....	6.23	5.59
9	Sunday.....	Milk should be obtained from healthy cows.....	6.22	6.00
10	Monday.....	First telephone used in United States, at Boston, Mass., 1876.....	6.20	6.01
11	Tuesday....	Bagdad captured by British under Gen. Maude, 1917.....	6.19	6.02
12	Wednesday....	Springs on screen doors will prevent children holding them open.....	6.17	6.03
13	Thursday....	Open garbage cans attract flies; keep the garbage can closed.....	6.16	6.04
14	Friday.....	Each Thrift Stamp costs only 25 cents, but it helps America.....	6.14	6.05
15	Saturday....	Keep the screens in good repair.....	6.13	6.06
16	Sunday.....	Milk is Nature's food.....	6.11	6.07
17	Monday.....	Retirement of Germans to "Hindenburg line," 1917.....	6.09	6.08
18	Tuesday....	Trachoma is a very old eye disease; it was known to the ancient Egyptians.....	6.08	6.09
19	Wednesday....	Stables and lots offer excellent breeding places for flies unless cleaned regularly.....	6.06	6.10
20	Thursday....	Remember to report the births and deaths to the local registrar.....	6.05	6.11
21	Friday.....	The public towel is instrumental in the spread of many diseases.....	6.03	6.12
22	Saturday....	Milk should be protected from flies and other filth.....	6.02	6.13
23	Sunday.....	"Your proud privilege as an American: Own a Liberty bond".....	6.00	6.14
24	Monday.....	Save animal fats. Peanuts and nuts should be used instead of animal fats, where possible.....	5.58	6.15
25	Tuesday....	A good fly is a dead fly.....	5.57	6.16
26	Wednesday....	The control of communicable diseases depends upon knowledge as to their existence. Report all such diseases to the local health officer.....	5.55	6.17
27	Thursday....	The little housefly is a big danger.....	5.54	6.18
28	Friday.....	Small children and infants should be carefully protected from flies.....	5.52	6.19
29	Saturday....	Consult a qualified physician if sick; do not waste time and money on patent medicines.....	5.51	6.20
30	Sunday.....	Flies serve to remind us of the proximity of filth.....	5.49	6.21
31	Monday.....	Kill that winter fly now. You'll not be able to kill his million offspring later.....	5.47	6.22

The following are essentials in the preparation of good milk:

1. Healthy cows.
2. A careful milker.
3. Only covered or hooded milking pails should be used.
4. Sterile containers only should be used.
5. Milk should be properly refrigerated.

(Supplement 31 to Public Health Reports.)

## PLANT A GARDEN.

A small garden intensively cultivated is better than a large lot which is given indifferent attention. On a plot of ground 60 by 100 feet it is possible to produce enough vegetables to supply a family of five for a year.

In beginning a garden it should be remembered that real work and continued work will be necessary, not merely a few days of planting seed and then a period of leisure waiting for the vegetables to become mature enough to eat. Gratifying results can certainly be obtained on a small plot intelligently cultivated.

Prepare the ground thoroughly before planting. Use sufficient fertilizing material.

Do not plant seeds too thick or too deep.

Plant plenty of potatoes, beans, watermelons, cantaloupes, corn, squashes, okra, pepper plants, sweet potatoes, and onions. Tomatoes are desirable for any garden.

If the rainfall is very small and uncertain, arrange to irrigate the garden. Remember that cultivation is as essential as planting.

When the vegetables begin to mature, do not waste them. If there is more than can be used, can or preserve the surplus.

The production of vegetables by each family will increase the amount of food produced and thus help our country to win the war.

A garden is not only a means of helping our country by producing more food, but it provides a welcome and healthful variety of food and materially assists in reducing the cost of living.

## RATS.

Few people realize the enormous amount of foodstuffs destroyed by rats. It is estimated that over \$200,000,000 is lost through the agency of rats each year in the United States. Rats are not only costly because they destroy foodstuffs but certain varieties are the means of spreading disease. Bubonic plague is spread by the fleas which infest a particular species of rats. Epidemic jaundice is also believed to be spread by means of rats.

In the average town it is estimated that the rat population equals the human population. Rural districts usually have about 10 rat inhabitants for every human inhabitant. It requires about \$2 to support a rat for one year. Rats are both dangerous and costly.

Exterminate the rats around your premises!

## MOON'S PHASES, EASTERN TIME.

	D.	H.	M.
First quarter.....	7	7	38 a. m.
Full moon.....	15	3	25 a. m.
Last quarter.....	23	6	21 a. m.
New moon.....	30	0	30 a. m.

To obtain moon's phases in Central time, subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

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Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1	Tuesday....	All Fools Day;	5.46	6.23
2	Wednesday....	The body requires a certain amount of fresh vegetables.....	5.44	6.24
3	Thursday....	To grow a garden shows thrift.....	5.43	6.25
4	Friday.....	A good patriot will make an effort to have a good garden.....	5.41	6.26
5	Saturday.....	Pure food, pure water, pure air is the right of every person.....	5.40	6.27
6	Sunday.....	United States declared war on Germany, 1917; third Liberty loan offered 1918.	5.38	6.28
7	Monday.....	There is a certain satisfaction in eating vegetables from your own garden that can be obtained in no other way.	5.37	6.29
8	Tuesday....	Communicable diseases should be brought to the attention of the local health officer.	5.35	6.30
9	Wednesday....	Grow a garden this year.....	5.34	6.31
10	Thursday....	Teach the children to keep their fingers out of the milk.....	5.32	6.32
11	Friday.....	Time to swat and poison all flies.....	5.30	6.33
12	Saturday....	A good garden is well worth the while.....	5.29	6.33
13	Sunday.....	Bat the rat, trap and poison them too.....	5.28	6.34
14	Monday.....	See that the births of your children are recorded.....	5.26	6.35
15	Tuesday....	Save money and serve America; buy war savings stamps.....	5.25	6.36
16	Wednesday....	Can all fruits and vegetables not used by the family.....	5.23	6.37
17	Thursday....	Second battle of Ypres began 1915; Germans employ asphyxiating gas for first time.	5.22	6.38
18	Friday.....	Much valuable food material is used in the manufacture of alcoholic beverages.	5.20	6.39
19	Saturday....	The costly rat should not be tolerated.....	5.19	6.40
20	Sunday.....	Easter Sunday.....	5.17	6.41
21	Monday.....	Good health is the foundation of personal usefulness.....	5.16	6.42
22	Tuesday....	Buildings can be made rat proof.....	5.15	6.43
23	Wednesday....	William Shakespeare born 1564.....	5.13	6.44
24	Thursday....	Records of births and deaths are important; report them to the local registrar.	5.12	6.45
25	Friday.....	The county agricultural agent can give you many valuable suggestions.	5.11	6.46
26	Saturday....	Confederate Memorial Day.....	5.09	6.47
27	Sunday.....	Vital statistics are a necessary part of modern civilization.....	5.08	6.48
28	Monday.....	Storehouses, barns and dwellings should be made rat proof.....	5.07	6.49
29	Tuesday....	Fresh vegetables are very healthful.....	5.05	6.50
30	Wednesday....	George Washington inaugurated first President of the United States, 1789.	5.04	6.51

## THE CARE OF THE MILK IN THE HOME.

The care of milk in the home is not the least important of the measures for disease prevention. The container should be removed to the refrigerator as soon after it is received as possible, and not be permitted to stand in the sun or even remain at room temperature. The small insulated boxes which have recently come on the market for the reception of the bottle when delivered serve a useful purpose. Refrigeration at the home is fully as necessary as at other places, and in order to insure a pure supply ice must be used. The temperature of the refrigerator ought not to be above 50° F. All surfaces should be maintained sweet and clean, inasmuch as a dirty and foul refrigerator may be responsible for bacterial contamination. (Safe Milk: An Important Food Problem.)

## CLEAN DRINKING WATER.

Persons living in small towns or rural districts obtain their drinking water almost entirely from wells or springs. Almost every person who has a well or spring takes particular pride in explaining that his water supply is the best in the county, the fact that the water is cool and clear is triumphantly cited to prove the purity of the water.

Investigations of the water supply at a large number of rural homes has shown that at least 26 per cent of all rural wells are actually polluted and that 25 per cent more are so situated as to be easily polluted from the stable, cow lot, or privy.

Every well should be situated some distance from the stable or privy and the drainage from these should be in the opposite direction from the well. Water-tight curbing should protect the well against surface drainage. A pump and not a filthy bucket and rope should be used in drawing the water.

Typhoid fever, diarrhea, dysentery, and cholera arise from drinking filthy water.

Boiling will render any water safe for drinking purposes.

## CARE OF THE TEETH.

The first step in digestion of food is chewing. By this means the food is ground up to a fine pulp and thoroughly mixed with the saliva. In order to properly prepare the food for digestion good teeth are necessary. The importance of the care and preservation of the teeth can not be too strongly emphasized. Defective teeth are a menace to health as they cause the food to be improperly masticated. And the constant absorption of material from decaying teeth may affect both digestion and the general health.

Every person should visit a dentist at least twice each year. This will enable the dentist to keep the teeth in good condition and afford an opportunity to treat any decayed or diseased teeth before much harm is done.

The teeth should be brushed at least once each day, preferably at night. Children should be taught to brush their teeth regularly. Defective teeth in children often cause serious impairment of the health and impede progress in school.



## MOON'S PHASES, EASTERN TIME.

	D.	H.	M.
First quarter.....	6	6	33 p. m.
Full moon.....	14	8	1 p. m.
Last quarter.....	22	5	3 p. m.
New moon.....	29	8	11 p. m.

To obtain moon's phases in Central time, subtract 1 hour; Mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

This table calculated for Washington, D. C., Virginia, Kentucky, Missouri, Kansas, Colorado, Utah, Nevada, and central California. Exact time for rising and setting of sun may vary 2 to 15 minutes, more or less, from this table in other sections of the United States, depending upon the parallel of latitude upon which a given place is located.

Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1.....	Thursday...	The purity of water can not be judged by its clearness.....	5.03	6.52
2.....	Friday.....	Use vegetable oils or butter substitutes for cooking.....	5.02	6.53
3.....	Saturday.....	Dr. H. T. Ricketts died of typhus fever contracted while making investigations of this disease, 1910.	5.01	6.54
4.....	Sunday.....	American naval vessels arrived in British waters ready for action, 1917.	4.59	6.55
5.....	Monday.....	Protect the well or spring against surface drainage.....	4.58	6.56
6.....	Tuesday.....	The reporting of communicable diseases is a fundamental in the prevention of diseases.	4.57	6.57
7.....	Wednesday.	American Medical Association organized 1847; Dr. Nathaniel Chapman was elected first president.	4.56	6.58
8.....	Thursday...	Clean water is important for the preservation of health.....	4.55	6.58
9.....	Friday.....	Help the children to buy thrift stamps.....	4.54	6.59
10.....	Saturday.....	Do not locate the well near the stable or privy.....	4.53	6.57
11.....	Sunday.....	First ligation of innominate artery 1818.....	4.52	7.01
12.....	Monday.....	Good teeth are a valuable asset to any person.....	4.51	7.02
13.....	Tuesday.....	Make regular visits to the dentist at least twice a year.....	4.50	7.03
14.....	Wednesday.	First Liberty loan of 1917 offered.....	4.49	7.04
15.....	Thursday.....	When in doubt as to the purity of water, boil it.....	4.48	7.05
16.....	Friday.....	We must save and sacrifice to invest in Liberty bonds.....	4.47	7.06
17.....	Saturday.....	The care of individual and family health is the patriotic duty of every citizen.	4.46	7.07
18.....	Sunday.....	President Wilson signs selective service act 1917.....	4.45	7.08
19.....	Monday.....	Provide every member of the family above 2 years of age with a toothbrush.	4.45	7.09
20.....	Tuesday.....	Time to think of fighting the mosquito pest.....	4.44	7.09
21.....	Wednesday.	Children's teeth require attention as well as those of adults.....	4.43	7.10
22.....	Thursday.....	Infantile paralysis is a communicable disease.....	4.42	7.11
23.....	Friday.....	Italy declared war on Austria, 1915.....	4.42	7.12
24.....	Saturday.....	Yellow Fever Commission appointed, 1900.....	4.41	7.13
25.....	Sunday.....	Boiling water is a simple and effective means of rendering it safe for human use.	4.40	7.14
26.....	Monday.....	Every true patriot will help America; save food.....	4.40	7.14
27.....	Tuesday.....	The local registrar should be informed of all births and deaths.....	4.39	7.15
28.....	Wednesday.	"Sanitation is the common sense application of the principles of cleanliness."	4.38	7.16
29.....	Thursday.....	Discovery of organism which caused syphilis announced, 1905.....	4.38	7.17
30.....	Friday.....	Decoration Day. Surg. Gen. Rupert Blue, United States Public Health Service, born 1867.	4.37	7.17
31.....	Saturday.....	Infantile paralysis is preventable.....	4.37	7.18

## INFANTILE PARALYSIS.

1. Infantile paralysis is communicated by personal contact.
2. Slight paralytic and nonparalytic cases are the most frequent sources of infection, as these cases arouse less suspicion and others come in contact with them.
3. The disease usually develops from 3 to 10 days after exposure.
4. Previous good health does not confer immunity from attack.

## MALARIA.

Malaria is caused by a germ which lives in the blood of persons or the stomach of mosquitoes. This germ is spread from person to person by a particular species of mosquito. Malaria is not contracted from "bad air" or fruit, but only from mosquitoes which have bitten some other person who has malaria.

Malaria is preventable. By ridding a community of all mosquitoes and curing all the chronic cases of malaria the disease can be eradicated.

Mosquitoes breed in stagnant water. Wherever water may stand or accumulate mosquitoes are likely to breed. In order to prevent this, drain all ponds, lakes, or other places where water may accumulate. If this is impractical, use oil on the accumulated water once a week.

Houses should be screened to assist in protecting against mosquitoes. In districts where mosquitoes are particularly numerous netting or screens should be used over the beds to protect from mosquitoes while asleep.

In communities where malaria is very prevalent quinine may be used in connection with the other measures mentioned above.

For adults, two doses of 5 grains each, to be taken in the morning and evening of two successive days each week, preferably Saturday and Sunday.

For individuals less than 15 years of age the dosage is determined by estimating 1 grain for each 3 years of age. When quinine is thus used for adults or children it should be used from May 1 until November 1.

## A CAREFUL MILKER.

Milk that comes in contact with the hands of the ordinary milker is not clean, and the danger of producing disease in this manner is evident. The hands should first be thoroughly washed before the milking is begun, carefully dried, and kept dry during the milking process. The milker should avoid the raising of dust and should prevent the entrance of organic matter into the milk containers. Carelessness in coughing, sneezing, and the dissemination of secretions is also to be avoided. (Safe Milk: An Important Food Problem; Supplement No. 31 to the Public Health Reports.)

## FACTS OF IMPORTANCE TO PARENTS.

Children who are ill from any cause should be kept away from others until it is definitely certain that the ill child has not a communicable disease.

If one's own child develops suspicious symptoms, the child should be kept away from the others until it is known that it has not a communicable disease.

## MOON'S PHASES, EASTERN TIME.

	D.	H.	M.
First quarter.....	5	7	21 a. m.
Full moon.....	13	11	28 a. m.
Last quarter.....	21	0	32 a. m.
New moon.....	27	3	52 p. m.

To obtain moon's phases in central time subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

This table calculated for Washington, D. C., Virginia, Kentucky, Missouri, Kansas, Colorado, Utah, Nevada, and central California. Exact time for rising and setting of sun may vary 2 to 15 minutes more or less from this table, in other sections of the United States depending upon the parallel of latitude upon which a given place is located.

Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1	Sunday.....	Universal support of the Government is needed: be loyal and patriotic	4.37	7.19
2	Monday.....	Teach children patriotism.....	4.36	7.20
3	Tuesday.....	Vegetables planted late will furnish a pleasing variety for early fall.....	4.36	7.20
4	Wednesday.....	Beans and peas may be kept by drying.....	4.35	7.21
5	Thursday.....	All males in America between 21 and 31 registered 1917.....	4.35	7.22
6	Friday.....	A person sick with malarial fever should be protected against mosquitoes.	4.35	7.22
7	Saturday.....	Malaria is spread by mosquitoes.....	4.35	7.23
8	Sunday.....	Quinine properly administered will prevent malaria.....	4.34	7.23
9	Monday.....	Walk a mile in the open air twice a day.....	4.34	7.24
10	Tuesday.....	Can fruit for use next winter.....	4.34	7.24
11	Wednesday.....	Waste and extravagance are allies of the Hun. Buy War Savings Stamps.	4.34	7.25
12	Thursday.....	Eat less wheat and use less meat.....	4.34	7.25
13	Friday.....	The building of the Panama Canal is an example of what sanitation can accomplish.	4.34	7.26
14	Saturday.....	Flag Day. First case of bubonic plague reported in New Orleans 1614.	4.34	7.22
15	Sunday.....	Subscriptions closed for First Liberty Loan, 1917. Do you own a bond?	4.34	7.27
16	Monday.....	Malaria can not spread unless mosquitoes are present to spread it.....	4.34	7.27
17	Tuesday.....	When shopping take your change in Thrift Stamps.....	4.34	7.27
18	Wednesday.....	Make your ground work for you and America. Plant a garden.....	4.34	7.28
19	Thursday.....	Alcoholic stimulants in the guise of patent medicines are especially harmful.	4.34	7.28
20	Friday.....	Report to the local health officer cases of communicable diseases.....	4.34	7.28
21	Saturday.....	Do not knowingly expose your children to disease.....	4.34	7.29
22	Sunday.....	Save fruit by drying it.....	4.35	7.29
23	Monday.....	The so-called diseases of childhood are more dangerous than is generally supposed.	4.35	7.29
24	Tuesday.....	Banish the mosquito and rid the community of malaria.....	4.35	7.29
25	Wednesday.....	Chronic cases of malaria should be treated and cured.....	4.35	7.29
26	Thursday.....	Malaria incapacitates many people each year in the United States.....	4.36	7.29
27	Friday.....	Save food and help make our national resources sufficient to sustain our allies.	4.36	7.29
28	Saturday.....	American troops landed in France 81 days after declaration of war on Germany, 1917.	4.36	7.29
29	Sunday.....	A record of births and deaths is important. See your local registrar.....	4.37	7.29
30	Monday.....	Allow no fruit or vegetables to waste; can or preserve them.....	4.37	7.29

## DRYING FRUIT.

If impractical to can or preserve fruit, drying may be used to prevent waste. No fruit should be allowed to waste. If it can not be canned, preserved, or pickled, it should be dried. The drying of fruit is inexpensive and easily accomplished. The only requirements are utensils for cutting and peeling, and sunshine for drying. Save the fruit which helps to save food.

## TYPHOID FEVER.

Typhoid fever is a preventable disease and is peculiar to man. Typhoid fever is produced by very small germs, these germs grow in the intestines of human beings. The intestinal and urinary discharges from a person who has typhoid fever or who is harboring the germs, a "carrier," contains many millions of typhoid germs.

Should these discharges which contain typhoid germs get into the stomach or intestines of healthy persons through food or drinking water the healthy person is likely to contract typhoid fever.

Typhoid fever is a filth disease; it results from the intestinal or urinary filth of persons sick with the disease or recovering from the disease reaching the mouths of persons not sick with the disease.

Typhoid fever may be prevented by the proper disposal of all human filth. This is accomplished by providing with each and every human habitation a sanitary privy or a properly constructed water

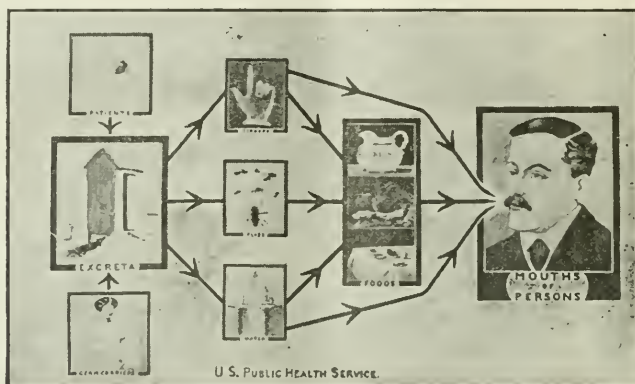


FIG. 1.—How typhoid fever, dysentery, and cholera are spread from person to person.

closet. Vaccination is also used to prevent typhoid fever. However, protection by vaccination against typhoid fever should not cause any relaxation in our sanitary precautions. All human filth is potentially dangerous. Sanitary privies or properly constructed water-closets are the safe methods by which we may dispose of this ever-present danger.

To prevent typhoid fever the following are necessary:

1. Pure water.
2. Sanitary privies or sewer connections.
3. Clean milk.
4. Clean food.

#### TYPHOID VACCINATION.

Vaccination as a protective measure against typhoid fever is widely practiced and is safe and effective. Children as well as adults are given the vaccination. The vaccination is accomplished by means of three hypodermic injections usually given at intervals of 10 days. See your family physician for full particulars.



## MOON'S PHASES, EASTERN TIME.

	D.	H.	M.
First quarter .....	4	10	17 p. m.
Full moon .....	13	1	2 a. m.
Last quarter .....	20	6	3 a. m.
New moon .....	27	0	21 a. m.

To obtain moon's phases in central time subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

This table calculated for Washington, D. C., Virginia, Kentucky, Missouri, Kansas, Colorado, Utah, Nevada, and central California. Exact time for rising and setting of sun may vary 2 to 15 minutes more or less from this table, in other sections of the United States depending upon the parallel of latitude upon which a given place is located.

Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun. sets.
1	Tuesday	Battle of Somme began 1916.	4.38	7.29
2	Wednesday	The United States Public Health Service issues bulletins on public health matters of interest to the general public.	4.38	7.29
3	Thursday	Clean water, clean food.	4.39	7.29
4	Friday	Independence Day. Tetanus antitoxin prevents lockjaw.	4.39	7.39
5	Saturday	Loyalty in little things is the foundation of national thrift.	4.40	7.29
6	Sunday	Pasteur first began inoculation of human beings against hydrophobia.	4.40	7.28
7	Monday	A community with a low typhoid rate indicates that cleanliness is predominant.	4.41	7.28
8	Tuesday	Make good your pledge; observe the food rules.	4.41	7.28
9	Wednesday	Food, fingers, flies, assist in spreading typhoid.	4.42	7.28
10	Thursday	Every home should have a sanitary privy or water-closet.	4.43	7.27
11	Friday	Many epidemics of typhoid come from filthy water.	4.43	7.27
12	Saturday	Last yellow fever epidemic in United States began 1905 at New Orleans.	4.44	7.26
13	Sunday	Sanitation is simply cleanliness.	4.45	7.26
14	Monday	Lend your savings to your country; own a liberty bond.	4.45	7.26
15	Tuesday	Sanitary privies are cheaper than coffins.	4.46	7.25
16	Wednesday	United States Public Health Service established 1798.	4.47	7.24
17	Thursday	One must swallow typhoid germs in order to get typhoid fever.	4.48	7.24
18	Friday	Do not spend thoughtlessly and unnecessarily, buy Thrift Stamps.	4.48	7.23
19	Saturday	Sickness is costly; help prevent it.	4.49	7.23
20	Sunday	Drawing at Washington of names for First National Army under selective draft, 1917.	4.50	7.22
21	Monday	Build a sanitary privy at your home.	4.51	7.21
22	Tuesday	We waste food when we eat more than we need.	4.51	7.21
23	Wednesday	Take care of the health of the whole nation and the health of the military forces will be greatly improved.	4.52	7.20
24	Thursday	Cases of communicable diseases should be reported to the local health officer.	4.53	7.19
25	Friday	Become a war saver and buy War Savings Stamps.	4.54	7.18
26	Saturday	Typhoid fever causes about 10 per cent of the deaths that occur in the United States each year.	4.55	7.17
27	Sunday	Flies, filth, fever; banish them.	4.56	7.17
28	Monday	Austria declared war on Serbia, 1914.	4.56	7.16
29	Tuesday	"Public health education is more important than public health legislation."	4.57	7.15
30	Wednesday	See your physician about typhoid vaccination.	4.59	7.13
31	Thursday	Help the local registrar make his records complete; report all births and deaths.	4.59	7.13

PRESERVE THE HEALTH OF THE WHOLE COUNTRY AND THUS PROTECT THE HEALTH OF THE MILITARY-NAVAL FORCES.

UNIVERSAL SANITATION PREVENTS HUMAN SUFFERING.  
UNITED STATES PUBLIC HEALTH SERVICE

## GENERAL SUGGESTIONS FOR THE CARE AND FEEDING OF INFANTS.

1. The most loving act a mother can do is to nurse her baby. When the baby nurses it not only gets the best food, but it is less liable to many diseases, such as "summer complaint," convulsions, and tuberculosis. Out of every 100 bottle-fed babies an average of 30 die in the first year, while of the breast-fed babies only about 7 out of every 100 die in the first year.

2. Nearly every mother can nurse her baby during the first 3 or 4 months of its life, and if she can nurse it for 10 months, so much the better.

3. There may be an abundant supply of milk after the first few weeks, even if there is but little at first; the act of suckling causes the milk to come into the breasts and increases the supply. It is very important that the baby nurse regularly.

4. If the baby is too weak to nurse, a healthy infant can be used to excite the flow of milk until the baby has grown strong enough to nurse. This should not be done without a physician's advice.

5. The only way to tell how much food the baby is getting is to weigh it before and after each nursing for at least 24 hours. The clothes need not be removed, but the baby should be dressed in exactly the same way when weighed after nursing as before. (If the baby should soil its diaper after the first weighing, do not change it until after the second weighing.) In case the baby is not getting enough breast milk, the quantity lacking should be made up by properly prepared cow's milk. Let a physician decide this. This may be only a temporary shortage on the mother's part, and with suitable care the milk will probably increase so that the baby will eventually be satisfied with the breast only.

6. The following things influence the milk supply: Peace of mind is necessary for the mother. She must not worry; she should not get overtired. She should eat freely of her customary diet. The total quantity of fluids taken by her in 24 hours should not be less than 2 quarts; in hot weather more. Stuffing, however, is unnecessary and undesirable.

7. Consumption in the mother is practically the only disease that always forbids nursing. Paleness, nervousness, fatigue, pains in the back and chest, or the return of the monthly sickness are not sufficient reasons for weaning, but when these symptoms are present or pregnancy ensues, a physician should be consulted at once.

8. Shortly after birth boiled water, without sugar, may be given to the baby at regular intervals until the mother's milk supply is established. The baby, however, should be put to the breast at stated times, as often as the mother's condition permits.

9. After the fourth month it is well to give every baby orange juice once a day between feedings, especially if it is fed boiled or pasteurized milk. (The Care of the Baby, Public Health Reports.)

MOON'S PHASES, EASTERN TIME.		D. H. M.	
First quarter.....		3	3 11 p. m.
Full moon.....		11	0 39 p. m.
Last quarter.....		18	10 56 a. m.
New moon.....		25	10 37 a. m.

To obtain moon's phases in central time subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

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Day of month.	Day of week.	Health hints and notable events.	Sun riscs.	Sun sets.
1	Friday.....	Forego personal luxuries and help win the war.....	5.00	7.12
2	Saturday.....	If baby becomes sick send for a physician.....	5.01	7.11
3	Sunday.....	Germany declared war on France 1914.....	5.02	7.10
4	Monday.....	Belgium invaded 1914.....	5.03	7.09
5	Tuesday.....	Do not limit the food of growing children.....	5.04	7.08
6	Wednesday.....	Feed your family first; do not feed high-priced food to dogs and chickens.....	5.04	7.07
7	Thursday.....	Put your dimes and quarters at work; buy thrift stamps.....	5.05	7.05
8	Friday.....	Sanitary privies, water closets, and clean drinking water are important necessities for any community.....	5.06	7.04
9	Saturday.....	Trial trip of first steamboat, the Clermont, invented by Robert Fulton in 1807.....	5.07	7.03
10	Sunday.....	Food and fuel control bill passed by Congress 1917.....	5.08	7.02
11	Monday.....	No community is really successful without a clean system of sewage disposal.....	5.09	7.01
12	Tuesday.....	Help your country; buy war savings stamps.....	5.10	6.59
13	Wednesday.....	Dr. T. B. McClintock died of Rocky Mountain Spotted Fever contracted during investigations 1912.....	5.11	6.58
14	Thursday.....	Weigh the baby regularly.....	5.12	6.57
15	Friday.....	National registration in Great Britain 1916.....	5.13	6.56
16	Saturday.....	Do not give baby soothing syrup or any patent medicine.....	5.14	6.54
17	Sunday.....	Eat sufficient food to maintain health; America needs strong people.....	5.14	6.53
18	Monday.....	Many babies die from preventable causes.....	5.15	6.52
19	Tuesday.....	During hot weather clothe the baby sensibly.....	5.16	6.50
20	Wednesday.....	Anopheline mosquito first noted by Dr. Ross 1897.....	5.17	6.49
21	Thursday.....	Protect baby from flies.....	5.18	6.48
22	Friday.....	Infantile diarrhea is preventable.....	5.19	6.46
23	Saturday.....	Make simplicity in dress and living your motto; buy liberty bonds.....	5.20	6.45
24	Sunday.....	Baby needs fresh air.....	5.21	6.43
25	Monday.....	Births and deaths should be reported to the local registrar.....	5.22	6.42
26	Tuesday.....	Germans destroyed Louvain 1914.....	5.23	6.40
27	Wednesday.....	Roumania entered war on side of allies 1916.....	5.24	6.39
28	Thursday.....	Italy declared war against Germany 1916.....	5.24	6.37
29	Friday.....	Raw cow's milk should not be given a baby; boil or pasteurize it.....	5.25	6.36
30	Saturday.....	The local health officer should be informed as to the presence of cases of communicable diseases.....	5.26	6.34
31	Sunday.....	Mother's milk is best for babies.....	5.27	6.33

## SEWAGE DISPOSAL.

Although the filthiness of human refuse is an important consideration, the danger of this matter to health and life is of still greater importance. To soil hands and feet with it is filthy. To swallow water or food that is contaminated with it is filthy and dangerous. If, therefore, we are to dispose of human filth intelligently, we must do so in a manner that will prevent it from gaining access either to the inside or outside of our bodies. (Public Health Bulletin No. 69, Lumsden, Stiles, and Freeman, United States Public Health Service.)

## PELLAGRA.

Studies by the United States Public Health Service indicate that pellagra is not communicable and is caused by an unbalanced diet, consisting mainly of cereals, starches, and fats, with but very little of the animal flesh foods or milk. Therefore the disease may be prevented by a well-balanced diet, including sufficient quantities of milk, lean meat, beans, peas, and green vegetables. The same diet will cure cases of pellagra which are not too far advanced.

The Public Health Service recommends the following bill of fare as an illustration of the diet which will prevent pellagra:

## BREAKFAST.

Sweet milk daily.

Boiled oatmeal with butter or milk every other day.

Boiled hominy, grits, or mush, with a meat gravy or milk, every other day.

Light bread or biscuits with butter, daily.

## DINNER.

A meat dish (beef stew, hash, or pot roast; ham or shoulder of pork; boiled or roast fowl; broiled or fried fish; cream salmon or codfish cakes, etc.), at least every other day.

Macaroni with cheese once a week.

Dried beans (boiled cowpeas, with or without a little meat; baked or boiled soya beans, with or without a little meat), two or three times a week.

Potatoes, Irish or sweet, four of five times a week.

Rice, two or three times a week, on days with meat stew or beans.

Green vegetables (cabbage, collards, turnip greens, spinach, snap beans, or okra), three or four times a week.

Corn bread daily.

Buttermilk daily.

## SUPPER.

Light bread or biscuit daily.

Butter daily.

Milk (sweet or buttermilk) daily.

Stewed fruit (apples, peaches, prunes, apricots) three or four times a week, on days when there is no green vegetables for dinner.

Peanut butter once or twice a week.

Sirup once or twice a week.

For the cure of pellagra the only medicine we have is the diet. The only use that medicines serve in pellagra is the alleviation of painful symptoms and in the treatment of complicating conditions. The sooner this is realized the sooner will the quacks, both within and without the profession, be put out of business. The money that is now being wasted on useless and quack medicines is well-nigh sufficient to procure for the poor deluded sufferers the food from the lack of which they are suffering. (Pellagra: Its Nature and Prevention. Reprint No. 461.)



## MOON'S PHASES, EASTERN TIME.

	D.	H.	M.
First quarter.....	2	9	21 a. m.
Full moon.....	9	10	54 p. m.
Last quarter.....	16	4	31 p. m.
New moon.....	23	11	33 p. m.

To obtain moon's phases in central time, subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

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Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1	Monday.....	Labor Day. Insist on healthful surroundings in your workshop.....	5.28	6.31
2	Tuesday.....	Pellagra was first recognized in the United States about 1906.....	5.29	6.30
3	Wednesday.....	Eat plenty of beans and peas.....	5.30	6.28
4	Thursday.....	A balanced or proper diet will cure and prevent pellagra.....	5.31	6.27
5	Friday.....	Democracy must triumph; as loyal Americans let us help.....	5.32	6.25
6	Saturday.....	Battle of Marne begins 1914.....	5.33	6.24
7	Sunday.....	United States Senate ratifies purchase of Danish West Indies.....	5.33	6.22
8	Monday.....	Now is the test of patriotism; measure up to what is expected of you.....	5.34	6.21
9	Tuesday.....	Pellagra is caused by eating an unbalanced diet.....	5.35	6.19
10	Wednesday.....	Food is wasted when not properly prepared.....	5.36	6.17
11	Thursday.....	Pellagra is not communicable.....	5.37	6.16
12	Friday.....	Help yourself and help your country; buy thrift stamps.....	5.38	6.14
13	Saturday.....	Every State, county, and municipality should have a system of vital statistics.....	5.39	6.13
14	Sunday.....	Eggs are a valuable part of any diet.....	5.40	6.11
15	Monday.....	Russia proclaimed a republic, 1917.....	5.41	6.09
16	Tuesday.....	Have your children been examined by the doctor?.....	5.42	6.08
17	Wednesday.....	"War saving stamps mark an epoch in our national life," Secretary McAdoo.....	5.42	6.06
18	Thursday.....	A diet which includes eggs, milk, peas, beans, and red meat will prevent pellagra.....	5.43	6.05
19	Friday.....	Keep a cow if possible, milk is valuable food.....	5.44	6.03
20	Saturday.....	Patent medicines will not cure pellagra.....	5.45	6.01
21	Sunday.....	Fresh-fruit juices are palatable and healthful.....	5.46	6.00
22	Monday.....	High wages and work for every one gives an opportunity for all to buy Liberty Bonds.....	5.47	5.58
23	Tuesday.....	Buy only clothing that is necessary; assist in saving wool.....	5.48	5.57
24	Wednesday.....	Hoarding food in households is both selfish and unnecessary.....	5.49	5.55
25	Thursday.....	Do you produce anything?.....	5.50	5.53
26	Friday.....	The local registrar must have a complete record of all births and deaths. Help him.....	5.51	5.52
27	Saturday.....	Place yourself under the care of a physician if you have pellagra.....	5.51	5.50
28	Sunday.....	Pellagra has been known for more than one hundred and fifty years in Europe.....	5.52	5.49
29	Monday.....	Contagious and communicable diseases should be reported to the local health officer.....	5.53	5.47
30	Tuesday.....	Eat economically, but eat wisely.....	5.54	5.45

"NO HEALTH DEPARTMENT, STATE OR LOCAL, CAN EFFECTIVELY PREVENT OR CONTROL DISEASE WITHOUT KNOWLEDGE OF WHEN, WHERE, AND UNDER WHAT CONDITIONS CASES ARE OCCURRING."

## FULL-TIME HEALTH OFFICER.

Within the past few years the general public has come to realize more fully the importance of sanitation and public-health protection. With this growth of the knowledge of the necessity of public-health work has come a realization of the increasing need for full-time health officers. The term "full-time health officer" is applied to the health official who is not permitted to engage in other gainful occupation, but devotes his entire time to the work of protecting the health of the district, county, or city by whom he is employed.

A person who has to engage in some other occupation for a livelihood and who attends to the duties incumbent upon the health officer during spare time can not be expected to render the best service. A competent full-time official who has complete supervision of the health affairs is the best protection for the health of the public that can be obtained.

A full-time health officer has many important duties to perform. The presence of cases of communicable diseases must be known before their occurrence can be controlled, hence one of the most important duties of a health officer is to collect statistics as to the prevalence of disease, births, and deaths. In order to combat the disease in a given community it must be known what diseases are occurring and where such cases are located. The public must be educated as to the cause, modes of spread, and prevention of the more common preventable diseases. Inspection of schools and school buildings are a part of the work of health officials. Supervision of the public water supply and sewage-disposal system come under the domain of the health officer. Special campaign direction toward the eradication of the more prevalent preventable diseases in a community require the attention of the full-time health officer. In fact, the work of a full-time health official is very broad and can be extended and developed in many ways.

The average rural county in the United States with a population of 30,000 loses at least \$60,000 each year from preventable diseases. Would it not be more economical from the standpoint of dollars and cents, not considering the humanitarian standpoint of the saving of needless deaths and unnecessary suffering, to establish full-time health officials in all communities and thus prevent the needless waste of human lives and money?

## MOONS' PHASES, EASTERN TIME.

	D.	H.	M.
First quarter.....	2	3	37 a. m.
Full moon.....	9	8	38 a. m.
Last Quarter.....	16	0	4 a. m.
New moon.....	23	3	39 p. m.
First quarter.....	31	8	43 p. m.

To obtain moon's phases in central time, subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

This table calculated for Washington, D. C., Virginia, Kentucky, Missouri, Kansas, Colorado, Utah, Nevada, and central California. Exact time for rising and setting of sun may vary 2 to 15 minutes more or less from this table, in other sections of the United States depending upon the parallel of latitude upon which a given place is located.

Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1	Wednesday.	Second Liberty Loan of 1917 offered.....	5.55	5.44
2	Thursday....	Have your children been vaccinated?.....	5.56	5.42
3	Friday.....	Money spent for full time competent health officers can be spent for no better purpose.....	5.57	5.41
4	Saturday....	Last case of bubonic plague reported in New Orleans 1914.....	5.58	5.39
5	Sunday.....	Take an inventory of your physical condition every year.....	5.59	5.38
6	Monday.....	Periodical physical examinations keep you informed as to your physical condition.....	6.00	5.36
7	Tuesday....	Red cross first incorporated in America, 1881.....	6.01	5.36
8	Wednesday..	Rural counties need full time health officials.....	6.02	5.33
9	Thursday....	War savings stamps are profitable, simple, secure.....	6.03	5.31
10	Friday.....	American troops entered front line trenches in France, 1917.....	6.04	5.30
11	Saturday....	Make every day a fat-saving day.....	6.05	5.28
12	Sunday.....	Columbus discovered America 1492.....	6.06	5.27
13	Monday.....	Full time health officers are necessary for the proper preservation of the public health.....	6.07	5.25
14	Tuesday....	Do not prepare too much food for a meal and then have it wasted....	6.08	5.24
15	Wednesday..	Help conserve the fuel.....	6.09	5.23
16	Thursday....	Ether first used as anesthetic 1846.....	6.10	5.20
17	Friday.....	Every man, woman, and child can buy Thrift Stamps.....	6.12	5.18
18	Saturday....	How much does your country spend per capita for health protection?..	6.13	5.17
19	Sunday.....	The rural sick rate is always high; full time health officers will assist in reducing it.....	6.14	5.16
20	Monday.....	Preach and practice the "gospel of the clean plate.".....	6.15	5.14
21	Tuesday....	Sale of alcohol forbidden in Russia until end of war, 1914.....	6.16	5.13
22	Wednesday..	Education of the public to the importance of public health work is necessary.....	6.16	5.13
23	Thursday....	Contagious and communicable diseases are unnecessary. Report their presence to the local health officer.....	6.17	5.11
24	Friday.....	A Liberty Bond in the pocket is worth a half dozen flags on the coat..	6.18	5.10
25	Saturday....	Full time health officers are necessary to protect the civilian health....	6.19	5.09
26	Sunday.....	Brazil declared war on Germany 1917.....	6.20	5.08
27	Monday.....	President Wilson signed Public Health Reserve act.....	6.21	5.06
28	Tuesday....	Have a competent physician examine you at least once each year....	6.22	5.05
29	Wednesday..	All births and deaths occurring this month should be reported to the local registrar.....	6.23	5.04
30	Thursday....	Many serious diseases begin very insidiously.....	6.24	5.03
31	Friday.....	Honorable W. G. McAdoo, Secretary of the Treasury, born 1863.....	6.25	5.01

## PERIODICAL PHYSICAL EXAMINATIONS.

Among the many valuable things emphasized by public-health workers within the past few years is the necessity for periodical physical examinations for all persons. There are many serious diseases whose beginnings are insidious and not noticeable to the average person. If such diseases are recognized in time, many such conditions can be arrested or improved by proper treatment.

The practice of having periodical physical examinations at intervals of six months or one year is to be strongly recommended to every person interested in the preservation of health. Consult your family physician about it.

## HOOKWORM DISEASE.

Hookworm disease is a condition due to the presence in the intestines of small worms. These worms are about the size of No. 8 sewing thread and vary in length from one-quarter to one-half inch. Hookworm disease is more prevalent in the warmer climates, the Southern States of our own country having many cases of this disease.

The hookworms gain entrance into the body through the skin. Mud or dirt which has been contaminated by the intestinal filth from persons who have the disease are the means of spreading the infection from one person to another. From this contaminated mud or dirt the worms bore through the skin, producing an intense itching which is variously termed "ground itch," "toe itch," or "dew poison." Within about six weeks after going through the skin these little worms appear in the intestines where they attach themselves to the wall of the intestine. Each worm draws a drop of blood each day, makes a small ulcer, injects a small amount of poison, and lays 300 to 3,000 eggs each day. The eggs are thrown off in the bowel discharges and are likely to infect other persons unless subjected to proper disposal.

Persons who are affected with hookworm disease are pale, anemic, lack energy, and complain of indigestion. The diagnosis is made by a microscopic examination of the stools.

The treatment is simple, safe, and effective, and can be given by any qualified physician.

Hookworm disease is prevented by proper sewage disposal; that is, by the construction and use of sanitary privies or water-closets. In districts where hookworm disease is prevalent children should wear shoes during rainy weather to protect against infection from the mud.

## "CARRIERS."

A "carrier" is a person who, although apparently healthy, harbors the germs of a certain disease in his body and is constantly throwing off these disease germs in the discharges from the body. A typhoid "carrier" is constantly throwing off typhoid germs in the bowel and urinary discharges from his body. A "carrier" of diphtheria, meningitis, or infantile paralysis throws off germs of these diseases in the discharges from the nose and throat. A malaria "carrier" has the malarial organism in his blood. When bitten by the anopheline mosquito some of his blood enters the stomach of the mosquito; later when the mosquito bites some one else the malarial parasite is transferred from the mosquito to the well person.

Chronic "carriers" of venereal diseases are also an important public-health problem.

"Carriers" are very important factors in the spread of communicable diseases.



MOON'S PHASES, EASTERN TIME.		D. H. M.	
Full moon.....		7	6 35 p. m.
Last quarter.....		14	10 40 a. m.
New moon.....		22	10 19 a. m.
First quarter.....		30	11 46 a. m.

To obtain moon's phases in central time, subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

This table calculated for Washington, D. C., Virginia, Kentucky, Missouri, Kansas, Colorado, Utah, Nevada, and central California. Exact time for rising and setting of sun may vary 2 to 15 minutes more or less from this table, in other sections of the United States depending upon the parallel of latitude upon which a given place is located.

Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1	Saturday....	Hookworm disease is prevalent in practically all the Southern States...	6.27	5.00
2	Sunday....	Avoid sudden chilling of the body; a cold may result.....	6.28	4.59
3	Monday....	First clash of American troops with German soldiers 1917.....	6.29	4.58
4	Tuesday....	Laboratory tests are necessary to determine whether a person is a carrier of disease.	6.30	4.57
5	Wednesday....	Put all you can into war savings stamps.....	6.31	4.56
6	Thursday....	Malarial parasite discovered by Dr. Laveran 1880.....	6.32	4.55
7	Friday....	Hookworm disease is supposed to have been brought into America by the slaves imported from Africa.	6.33	4.54
8	Saturday....	Do not waste the food left over; prepare it in some other form.....	6.34	4.53
9	Sunday....	Prevent catching cold by wearing proper clothing.....	6.35	4.52
10	Monday....	Chloroform first used as an anesthetic 1847.....	6.37	4.51
11	Tuesday....	Armistice with Germany signed.....	6.38	4.50
12	Wednesday....	Typhoid vaccination announced 1896.....	6.39	4.49
13	Thursday....	Pasteur Institute established in Paris 1888.....	6.40	4.48
14	Friday....	Hookworm disease can not be cured by patent medicines.....	6.41	4.48
15	Saturday....	Hookworm disease is curable.....	6.42	4.47
16	Sunday....	Last case of yellow fever in the United States reported at New Orleans 1905.	6.43	4.46
17	Monday....	Avoid intimate contact with a person who has a cold.....	6.44	4.45
18	Tuesday....	Hookworm disease is a widespread disease in all tropical and semi-tropical climates.	6.45	4.45
19	Wednesday....	You will never find a better road to prosperity; buy Liberty bonds..	6.46	4.44
20	Thursday....	Surg. Gen. Walter Wyman, United States Public Health Service, died 1911.	6.48	4.43
21	Friday....	Save sugar every day.....	6.49	4.43
22	Saturday....	All births and deaths for this month should be reported to the local registrar.	6.50	4.42
23	Sunday....	Dr. Walter Reed, discoverer of the means by which yellow fever is spread, died 1902.	6.51	4.42
24	Monday....	It is a simple matter to detect the "carriers" of most of the communicable diseases.	6.52	4.41
25	Tuesday....	A cold may lead to serious consequences.....	6.53	4.41
26	Wednesday....	You must help America; save everything.....	6.54	4.40
27	Thursday....	Thanksgiving Day.....	6.55	4.40
28	Friday....	Communicable diseases are dangerous; report such cases to the local health officers.	6.56	4.39
29	Saturday....	Save: Buy thrift stamps.....	6.57	4.39
30	Sunday....	Common colds are contagious.....	6.58	4.39

## COMMON COLDS.

To prevent a cold it is necessary first of all to keep the body resistance at a high point of efficiency. This means that the body machinery should be kept in good order at all times. Good wholesome food in proper amounts, plenty of sleep, the careful attendance to the voiding of the body waste, the taking of regular exercise in the open air, keeping the body clean, keeping the mouth and nose clean, the avoidance of hot, stuffy, dusty rooms, the avoidance of exposure to sudden changes of temperature, the prevention of the chilling of the body either by cold or wet are all protective measures. It should be borne in mind, however, that even robust persons may contract colds from people who have them.

The germs of colds leave the body in the secretions of the mouth and nose. They enter the body through the same route. (Surg. W. C. Rucker. United States Public Health Service.)

## SCHOOL INSPECTION.

The importance of the supervision of the health and hygienic conditions which surround the thousands of school children in the United States can no longer be questioned. Every school, whether situated in a rural community or in a town, requires adequate medical supervision. Medical inspection of schools means the saving of thousands of dollars to the public as well as to the parents. At least 10 per cent of the money spent each year in the United States upon the public schools is spent for children who could not attend because they are suffering from some physical defect or contagious disease. The families of these children spent in addition an equal amount for their care while sick.

In communities where school inspection has been properly carried out a remarkable reduction in the amount of contagious disease has been the result. This reduction of contagious disease was among the general population as well as the children attending school.

By means of school inspection defects which tend to lower individual resistance and increase the susceptibility of a child to contagious diseases are recognized. Such defects also retard mental development and prepare the way for degenerated diseases in later life. When defects are found parents are informed and urged to have them corrected.

A large number of men debarred from military service of the United States recently because of physical disability shows that many such defects which could have been corrected in childhood, had they been known, remain uncorrected. School inspection also assists in detecting cases of defective or retarded children, so that they may be given special instruction and encouragement.

Evidence of successful vaccination against smallpox should be one of the entrance requirements for every school in the United States.

Every school building should be provided with the following:

Adequate and safe system of sewage disposal. Properly constructed water-closets or sanitary privies.

Clean drinking-water supply and sanitary drinking fountains.

Proper lighting.

Adequate heating system.

Satisfactory ventilation.

A playground.

## MOON'S PHASES, EASTERN TIME.

	D.	H.	M.
Full moon.....	7	5	3 a. m.
Last quarter.....	14	1	2 a. m.
New moon.....	22	5	55 a. m.
First quarter.....	30	0	25 a. m.

To obtain moon's phases in central time, subtract 1 hour; mountain time, subtract 2 hours; Pacific time, subtract 3 hours.

This table calculated for Washington, D. C., Virginia, Kentucky, Missouri, Kansas, Colorado, Utah, Nevada, and central California. Exact time for rising and setting of sun may vary 2 to 15 minutes more or less from this table; in other sections of the United States depending upon the parallel of latitude upon which a given place is located.

Day of month.	Day of week.	Health hints and notable events.	Sun rises.	Sun sets.
1	Monday.....	The public must be educated to recognize the necessity of school inspection.	6.59	4.39
2	Tuesday....	Use local food supplies; it saves railroad transportation.....	7.00	4.38
3	Wednesday..	Clean hands as well as clean lives are urged by the Bible.....	7.01	4.38
4	Thursday....	Diphtheria antitoxin announced, 1894. President Wilson sails to attend the Peace Conference.	7.02	4.38
5	Friday.....	Medical inspection of school children reduces the amount of communicable diseases.	7.03	4.38
6	Saturday....	Halifax disaster, 1917.....	7.04	4.38
7	Sunday.....	United States declared war against Austria, 1917.....	7.05	4.38
8	Monday.....	Jerusalem surrenders to British, 1917.....	7.06	4.38
9	Tuesday....	Buy a war savings stamp.....	7.07	4.38
10	Wednesday..	Children of defective mentality are recognized by school inspection..	7.07	4.38
11	Thursday....	Buying Liberty bonds is not a sacrifice; it is an investment.....	7.08	4.38
12	Friday.....	First wireless message across Atlantic, 1901.....	7.09	4.38
13	Saturday....	America must feed herself and her allies; save food.....	7.10	4.38
14	Sunday.....	South Pole discovered, 1911.....	7.10	4.39
15	Monday.....	Pellagra investigations begun by United States Public Health Service, 1908.	7.11	4.39
16	Tuesday....	The person who hoards food is working against the common good....	7.12	4.39
17	Wednesday..	Cook less food, eat less food; you will feel better and save more, too..	7.13	4.39
18	Thursday....	As loyal Americans we must sacrifice until it hurts in order to help the Government.	7.13	4.40
19	Friday.....	British forces withdraw from Gallipoli Peninsula.....	7.14	4.40
20	Saturday....	Fresh air, the friend of man, the foe of disease germs.....	7.14	4.41
21	Sunday.....	Fill out your thrift card with thrift stamps.....	7.15	4.41
22	Monday.....	Special attention should be given to the teeth of children.....	7.15	4.42
23	Tuesday....	Communicable diseases are preventable; report them to the local health officer.	7.16	4.42
24	Wednesday..	Benjamin Rush, physician, signer of Declaration of Independence, born, 1745.	7.16	4.43
25	Thursday....	Christmas Day.....	7.17	4.43
26	Friday.....	President Wilson issues proclamation taking over the railroads.....	7.17	4.44
27	Saturday....	Every school child should have the protection of school inspection...	7.18	4.44
28	Sunday.....	President Wilson born 1856.....	7.18	4.45
29	Monday.....	Births and deaths are the items in the bookkeeping of vital statistics; report all cases to the local registrar.	7.18	4.46
30	Tuesday....	Five filthy fingers on each hand, they help to spread disease.....	7.18	4.47
31	Wednesday..	Teach the children to keep their hands clean.....	7.19	4.47

## THE HANDS AS DISEASE SPREADERS.

The great agent in the spread of those diseases whose causative organism is present in the secretions of the mouth and nose is the human hand; and if saliva was bright green we would be amazed at the color of our fingers. As a matter of fact most of us carry our fingers to our mouth or nose many times a day, there to implant the germs of disease which other careless people have spread about, there to collect a fresh cargo of infectious material to scatter for somebody else. (North Dakota Public Health Bulletin.)

## SOME IMPORTANT TRUTHS.

1. It is easier, better, and cheaper to prevent than to cure disease.
2. Everything that protects the mother before her baby is born improves the health of the baby after its birth.
3. Many of the diseases observed in older children and adults begin in infancy.
4. Healthy babies make strong men and women.
5. The baby's food, home, and surroundings play an important part in keeping it well or making it sick.
6. Mother's milk is the best food for babies.
7. Cow's milk which has become infected with disease germs kills many babies.
8. Extreme heat and impure air kill many babies in the summer, especially bottle-fed babies.
9. The health and happiness of the whole household are improved by everything done to protect the baby. (The Care of the Baby, Public Health Reports.)

## PASTEURIZATION OF MILK.

The word "pasteurization" is rather a formidable name for a somewhat simple process. The majority of persons upon first hearing the term conceive of an operation incapable of being performed by the average individual. Quite the opposite is true. Pasteurization, providing the proper apparatus is at hand, is no more difficult of accomplishment than many of the processes of cooking performed by the average housewife.

The purpose of pasteurization is to kill the harmful bacteria which milk contains. It has been found that when milk is heated to a temperature of 145 F. and sustained at that point for 30 minutes the disease-causing organisms are killed. If the milk is then immediately chilled and further contamination is prevented, it can no longer be considered dangerous to health. Milk which has been adequately pasteurized is therefore to be regarded as the safest milk which one can consume. (United States Public Health Service.)



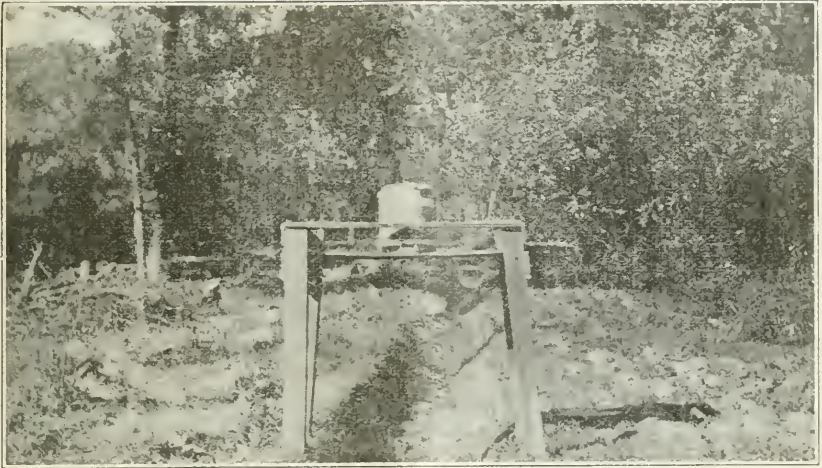


FIG. 2.—Oil can drip on stream for prevention of mosquitoes. Public Health Bulletin No. 88.



FIG. 3.—Knapsack sprayer used in mosquito prevention work. Public Health Bulletin No. 88.



FIG. 4.—Prolific source of mosquitoes, horse-lot drain. Public Health Bulletin No. 88.



FIG. 5.—Same as above after treatment. Public Health Bulletin No. 88.

## DIPHTHERIA.

Diphtheria is a communicable disease of the throat, nose, and air passages which is characterized by the formation of a membrane. The disease usually occurs in children, but occasionally adults contract it.

Diphtheria is contracted by coming in contact with the secretions from the nose or throat of a person who has the disease or who is carrying the germs of the disease in the throat. The use of common drinking cups, close personal contact, or using the same pencil, toys, or articles of food are the usual methods by which the disease is spread. Cats have been known to act as carriers. Those sick with a "cold" are usually the carriers.

Diphtheria is preventable, as well as curable. Avoiding contact with persons who are ill with the disease will prevent others being exposed. Every person ill of diphtheria should be isolated and not allowed to come in contact with persons susceptible to the disease until two successive negative cultures have been made from the throat.

The administration of diphtheria antitoxin will protect against the disease, also the antitoxin will cure the disease after it has been contracted. Since the use of diphtheritic antitoxin was introduced the death rate from diphtheria has decreased more than 50 per cent.

## PRENATAL CARE.

By this is meant the care and advice given to the mother before the birth of the baby in order that she may fit herself to bear and to care for it.

There is no doubt that the welfare of the baby depends largely upon the mother's health and that many mothers would be better able to nurse their babies if they had proper care, food, clothing, and exercise before the babies were born.

In order to secure the proper advice as early as possible, every prospective mother should consult a physician as soon as she knows she is to have a baby.

If, for any reason, the prospective mother can not see a competent physician at least once a month during her pregnancy, she should send a specimen of her urine to him regularly each month. During the last two months of pregnancy she should see her physician or send him a specimen of her urine every two weeks. She must drink enough liquid so that she will pass at least three pints of urine each 24 hours. Her bowels should move once a day. Persistent or sudden and severe headaches, swelling of the face or hands, increasing swelling of the ankles must be reported at once to the physician in charge. Any appearance of blood from the vagina demands instant summoning of the physician. As soon as a woman knows she is pregnant, she should go to the dentist and have her teeth put in good condition.



The above statements are the merest outlines of the fundamental care which every woman should have. It must be remembered that if the prospective mothers are intelligently supervised and will report all untoward symptoms at once deaths and disabilities of both mothers and babies will be less frequent. (The Care of the Baby, Public Health Reports.)

I AM THE ENEMY OF MANKIND.

I have destroyed more lives than all the wars of the world.

I destroy more than 600,000 lives in the United States each year.

I steal in the United States alone more than a billion dollars each year.

I tear homes asunder; I snatch babes from the mother's breast.

I am more powerful than the combined armies and navies of the world.

I have burdened mankind since the dawn of history.

I spread misery and desolation. Innocent children are my special prey.

I bring pain, sickness, death, yet few seek to escape me.

I destroy and maim; I give nothing, but take all.

I destroy health and wreck homes.

I am relentless, the rich and poor alike I seek. Both weak and strong, old and young are my victims.

I cause commerce to stand still; I depopulate cities and destroy nations.

*I am preventable disease.*

I AM THE CONQUEROR OF PREVENTABLE DISEASE.

I am stronger than all the nations of the world.

I am the co-worker of medicine and surgery.

I save thousands of lives each year.

I restore children to their parents.

I banish plague and pestilence.

I convert the fever-ridden jungles into health resorts.

I prevent sickness, disease, suffering.

I add years to the lives of thousands.

I am on guard at all times, my vigilance never ceases.

I bring cleanliness, good cheer, and wholesome living.

I make mankind happier, I bring prosperity. Towns spring up and grow under my protection.

I am necessary for the progress of the world. Trains and ships move under my protection.

I watch over the children in the schools, the soldiers in the camps and trenches, the sailors on the sea, and the people at home.

*I am sanitation.*

## A CONCRETE VAULT SANITARY PRIVY.

## MATERIALS NEEDED FOR CONSTRUCTION.

*For the vault.*—Eight sacks of cement; one-half cubic yard sand; 1 cubic yard gravel; 8 one-half-inch anchor bolts, 8 inches long; 50 feet barbed wire.

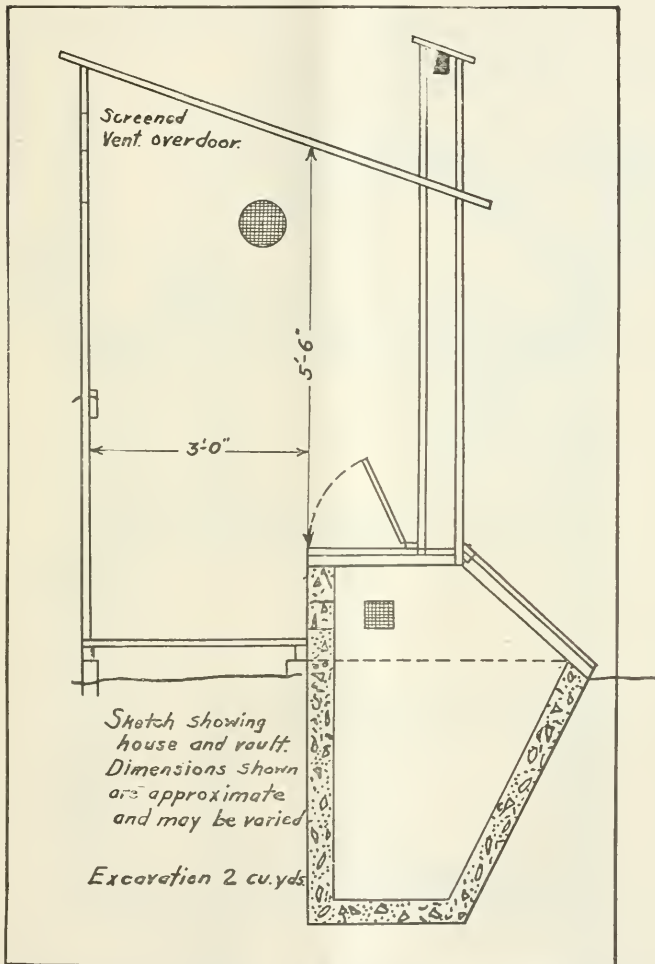


FIG. 6.—Water-tight concrete vault, fly-proof, well ventilated, economical.

*Lumber for seat, lids, back door, and flue.*—Fifty feet b. m. 1-inch boards; one 56-inch board, 12 inches wide; two, 2 by 4, 20 inches long; two, 2 by 4, 31 inches long; one, 2 by 4, 48 inches long; one, 2 by 4, 56 inches long; two, 2 by 4, 12 inches long.

*Hinges.*—Two hinges for back door; four hinges for seat covers.

## THE DISPOSAL OF HUMAN EXCRETA IN RURAL DISTRICTS.

*The problem.*—The disposal of human excreta in rural districts, where a modern sewerage system is a financial impossibility, presents a very vital problem. In those districts where the insanitary pit and surface privies are in use, typhoid fever, dysentery, “summer

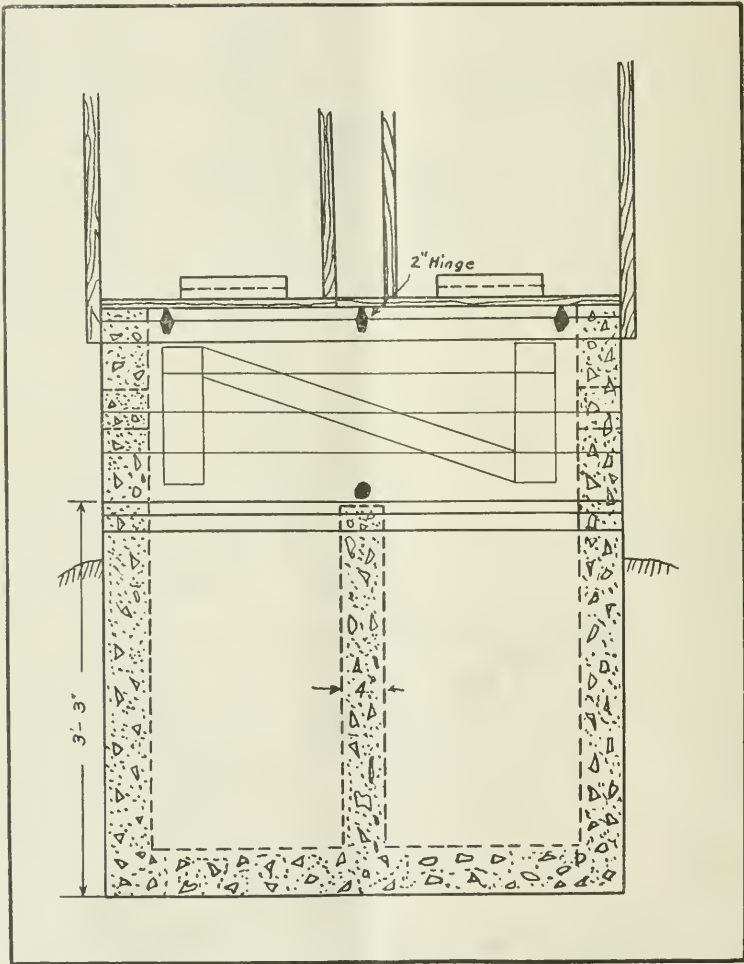


FIG. 7.

complaint,” hookworm, and many other serious diseases each year cause much needless sickness and death.

*The old system.*—These open, disgustingly insanitary privies violate every sense of decency and cleanliness and are a reflection upon the intelligence of the people using them.

They are open to flies, and throughout the fly season millions of these filthy insects swarm over and breed in this human filth, and

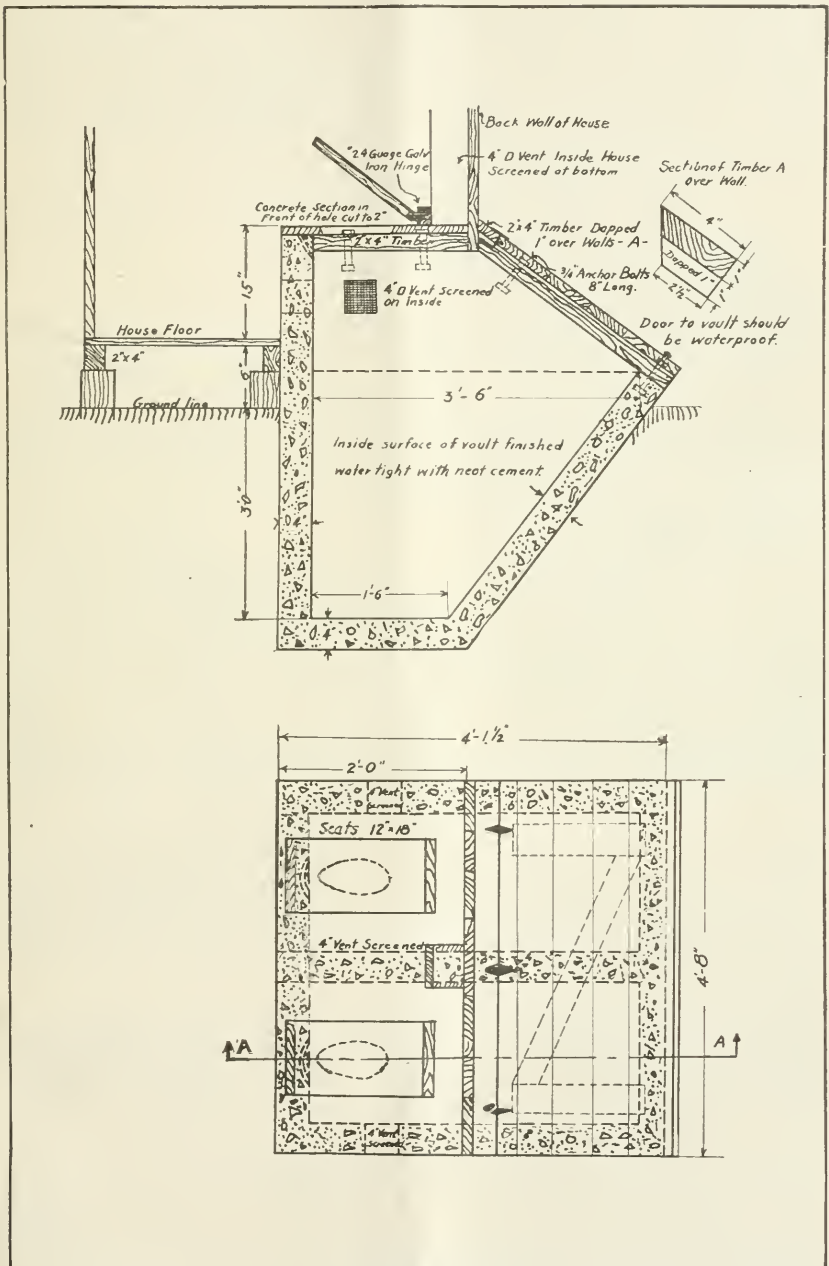


FIG. 8.

then go directly to dining rooms and kitchens, where they track this filth over people's food.

Chickens, cats, dogs, and other animals scatter the filth around the premises, often near the well, into which it is washed by the first rain.

This filth also seeps and soaks into the ground and contaminates wells and springs for a distance of several hundred yards or more.

#### CONSTRUCTION OF SANITARY PRIVY.

1. Study the designs carefully.
2. Dig the hole in the ground 5 inches larger than the outside dimensions of the vault.
3. Make suitable forms corresponding to the inside dimension of the vault.
4. Pour the bottom of the vault and allow the concrete to "set."
5. Place the forms accurately in the hole, leaving a 5-inch space on all sides.
6. Pour the walls, using barbed wire for reenforcing, and put in the anchor bolts.
7. When sufficiently dry, remove the forms and plaster the inside of the vault with rich concrete to make it positively water-tight.
8. Put on a new privy seat, flue, back lid, and covers over the seat holes, all to fit fly tight.
9. Nail screen wire over the bottom of the flue and over the inside of the three vent holes.
10. Remodel the old privy and fit it over the vault or build a new privy house.

#### OPERATION.

Nail down one seat cover, and use only one hole until the compartment is full; then nail down the seat cover over the full compartment and use only the other side until that is full. Then the first compartment is ready for cleaning.

The advantage of this method is that the excreta has had time to dry, much of the liquid has evaporated, and it is not offensive to handle. When using the privy add a little topsoil from time to time to help absorb the moisture.

#### FINAL DISPOSAL OF EXCRETA.

Bury the vault contents in a shallow furrow, as far as possible away from any source of water supply.



## ADVANTAGES OF THIS SANITARY PRIVY.

- Flies can not gain access to the excreta.
- Filth is not scattered around the premises.
- It is easily accessible for cleaning.
- There are no disagreeable odors.
- It is cheap to install and operate.
- It prevents disease and death.

(From pamphlet used by United States Public Health Service in extra cantonment sanitation, Chattanooga, Tenn.)

## THE SANITARY PAIL PRIVY.

The universal sanitary need of small towns and rural districts is sanitary privies. Insanitary privies are repulsive to the sense of decency as well as dangerous to health.

A sanitary privy is a labor-saving device for convenient and comfortable use in the safe and cleanly disposal of human excreta.

A sanitary privy must conform to the following specifications:

1. Be fly proof.
2. Have water-tight receptacle.
3. Be well ventilated.
4. Be easily accessible for cleaning.

The accompanying plans for the construction of a sanitary box which can be installed in any privy building has been devised by officers of the Public Health Service. These sanitary boxes have been used with gratifying results in many mining camps and industrial villages. They can be constructed at small cost and installed in any privy building already in use.

This type of sanitary privy is particularly suited to the milder climate of the Southern and Southwestern States.

## SPECIFICATIONS FOR CONSTRUCTION OF SANITARY PRIVY BOX.

The sanitary privy box should be constructed of sound seasoned lumber, tongued and grooved, free from knot holes and cracks, dressed on at least one side. The box to be securely made, well nailed, and all joints made tight. Inside dimensions for the box with single seat (can 15 inches by 15 inches) are: Length, 22 inches; breadth, 18 inches; depth, 17 inches. For box with two seats the dimensions should be as follows: Length, 48 inches; breadth, 18 inches; depth, 17 inches.

The lid of the box forms the seat for the privy. This lid should be made of sound lumber, and project over the front and both ends

of the box by 1 inch. Four strips 1 inch square are to be nailed to the under side of this lid in such manner that they will project on the inside of the box; this forms a fly-proof joint.

The front edge of the seat hole must be not less than 4 inches back from front edge of lid. The lid may be hinged at back so as to raise when can is removed by scavenger.

A cover to the hole must be made so that it overlaps the hole not less than 3 inches in all directions. Ordinary strap hinges may be used to retain cover to hole in place.

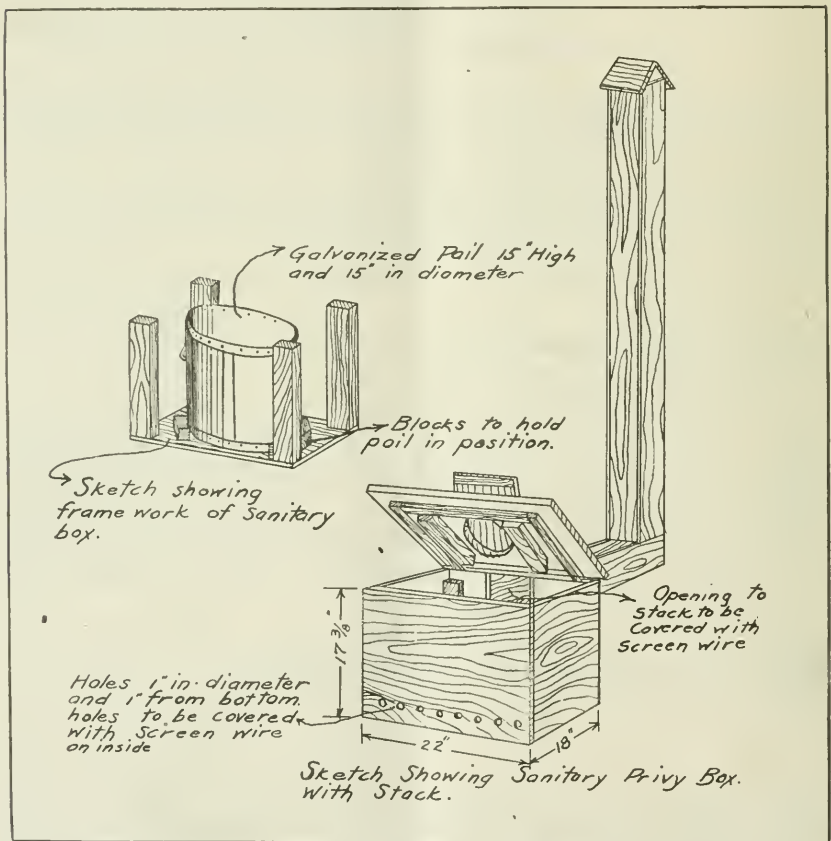


FIG. 9.

A horizontal series of eight holes 1 inch in diameter should be placed 1 inch from the floor in front wall of box; these holes to be covered with good-grade screen-wire gauze of at least 14-inch mesh. In the back wall an opening for the ventilation flue should be made  $4\frac{1}{2}$  by  $4\frac{1}{2}$  inches square. The ventilating flue should be made to measure at least 4 by 4 inches square, inside measurement. The short arm of the flue should be about 2 feet long, the long arm extending about

1 foot above the roof of the privy, joined to and at right angles to the short arm.

The ventilating flue should be securely attached to the outside wall of the privy.

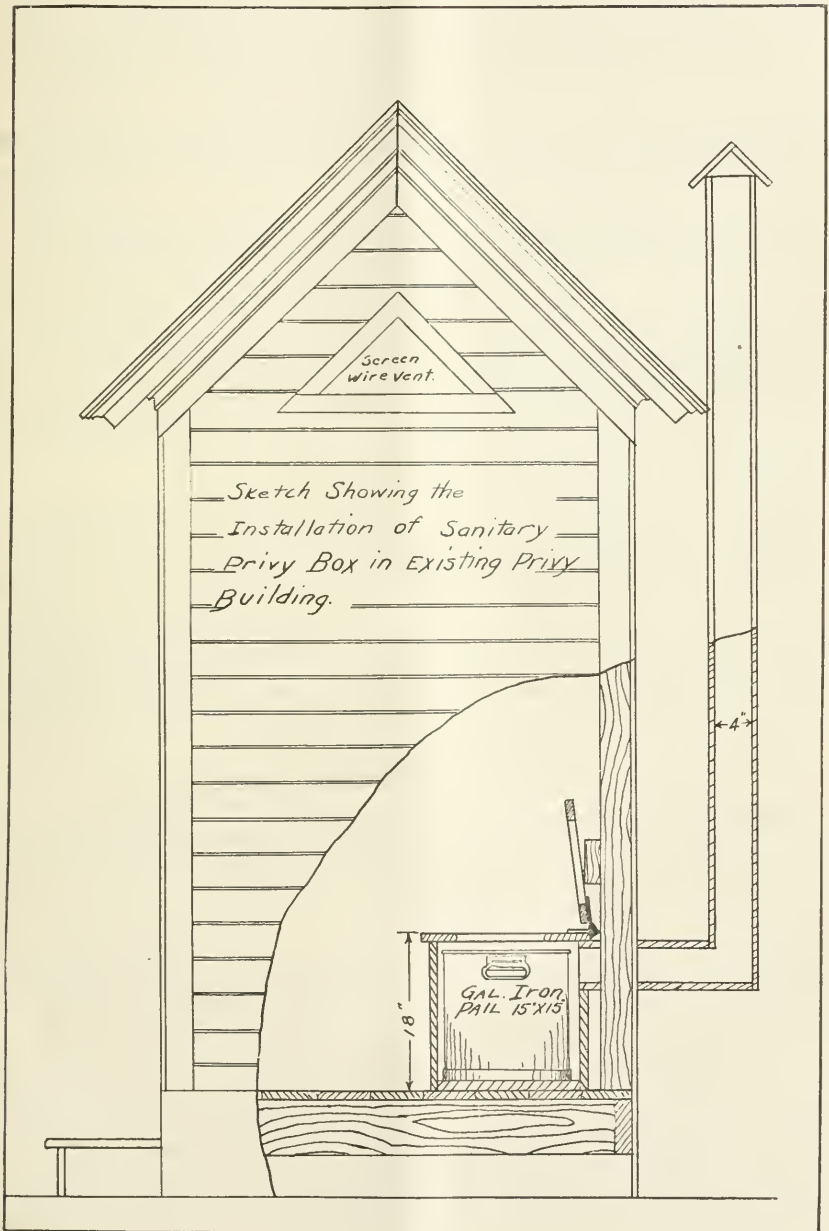


FIG. 10.

Small blocks of wood 2 inches thick should be tacked to the bottom of the box and so arranged as to hold the can in its proper place.

A block of wood fastened to inside of back wall of privy will prevent the lid of the seat hole reaching a perfectly vertical position, thus making it self-closing.

The can for use in the sanitary box should be constructed of galvanized iron 22 to 26 gauge, and should be 15 inches in diameter and 15 inches in height. Handles should be attached to the sides of the can.

*Final disposal of excreta.*—Bury the pail contents in a shallow furrow as far as possible away from any source of water supply.

WHAT THE UNITED STATES PUBLIC HEALTH SERVICE IS DOING TO PROTECT  
THE HEALTH OF THE PEOPLE OF THE UNITED STATES.

1. Maintains a rigid quarantine inspection for detection of the presence of disease among the passengers and crew of every vessel coming into the United States from a foreign port.

2. Makes a careful medical inspection of every immigrant who enters the United States. Those found to be suffering from any loathsome or communicable disease or who are idiots, criminals, or paupers are deported.

3. Inspects the sanitary conditions prevalent on all common carriers, railway trains, steamboats, etc.

4. Examines at regular intervals the drinking water provided on all common carriers.

5. Has supervision of the sanitation of extra-cantonment zones, surrounding 46 military camps in the United States.

6. Exercises supervision over the hygienic conditions in the various war industries, munition factories, etc.

7. Conducts particular investigations into the sanitary conditions surrounding those engaged in the mining industry.

8. Maintains the Hygienic Laboratory where technical studies in various public-health problems are conducted.

9. Exercises authority in the control of outbreaks of disease where interstate regulation is required.

10. Conducts studies in rural sanitation, with especial reference to the problems of sewage disposal, safe water supply, and disease prevention in the rural districts.

11. Inspects all serums, vaccines, and antitoxins offered for sale to the public.

12. Manufactures and provides free typhoid vaccine and provides free pneumonia vaccine upon request.

13. Provides free virus to Pasteur institutes, when so requested, for use in the treatment of hydrophobia.

14. Maintains marine hospitals for the free treatment of merchant sailors: also persons in the military and naval service of the United States.

15. Maintains laboratory cars which can be quickly transferred to any town or community in which there occurs an outbreak of disease.

16. Cooperates with State, municipal, or local authorities in the control of epidemics.

17. Maintains a tuberculosis hospital for the treatment of merchant seamen who are victims of this disease.

18. Conducts campaigns, in such States as are necessary, directed toward the extermination of rats and the prevention of bubonic plague.

19. Collects and publishes reports as to the prevalence of disease in the United States and other parts of the world.

20. Compiles the health laws of the several States and issues publications on this subject.

21. Publishes public health bulletins for the general dissemination of knowledge concerning sanitary subjects and prevention of disease.

#### RELATED PUBLICATIONS.

Available reprints and bulletins on typhoid fever, rural sanitation, water supplies, and sewage pollution issued by the Public Health Service.

Those marked "Exhausted" may be obtained from the Superintendent of Documents, Washington, D. C., at the indicated cost: all others may be obtained without cost from the Surgeon General, United States Public Health Service, Washington, D. C.

#### PUBLIC HEALTH BULLETINS.

35. The Relation of Climate to the Treatment of Pulmonary Tuberculosis. By F. C. Smith. (Revised edition, 1916.)

36. Tuberculosis: Its Nature and Prevention. By F. C. Smith. (Revised edition, 1917.)

37. The Sanitary Privy: Its Purpose and Construction. By Prof. C. W. Stiles. 1910.

68. Safe Disposal of Human Excreta at Unsewered Homes. By L. L. Lumsden, C. W. Stiles, and A. W. Freeman. April, 1915.

69. Typhoid Fever: Its Causation and Prevention. By L. L. Lumsden. May, 1915.

70. Good Water for Farm Homes. By A. W. Freeman. May, 1915.

73. Tuberculosis Among Industrial Workers: Report of an Investigation Made in Cincinnati with Special Reference to Predisposing Causes. By D. E. Robinson and J. G. Wilson. March, 1916.

76. Health Insurance: Its Relation to the Public Health. By B. S. Warren and Edgar Sydenstricker. March, 1916.



85. Miners' Consumption. A study of 433 cases of the disease among zinc miners in southwestern Missouri. By A. J. Lanza. With a chapter on Roentgen ray findings in miners' consumption. By Samuel B. Childs. January, 1917.
89. A Sanitary Privy System for Unsewered Towns and Villages. By L. L. Lumsden.

REPRINTS FROM PUBLIC HEALTH REPORTS.

72. Vegetables as a Possible Factor in the Dissemination of Typhoid Fever. By R. H. Creel. February 9, 1912.
76. The Necessity for Safe Water Supplies in the Control of Typhoid Fever. By A. J. McLaughlin. March 22, 1912.
100. Whooping Cough—Its Nature and Prevention. A Popular Discussion of a Widespread and Dangerous Disease for which Familiarity has Bred Contempt. By W. C. Rucker.
105. Antimalarial Measures for Farmhouses and Plantations. By Henry R. Carter. December 6, 1912.
150. The Citizen and the Public Health. The Individual's Relation to the Health of the Community. By John W. Trask. November 7, 1913.
195. Industrial Conditions. The Relation to the Public Health. By B. S. Warren. May 29, 1914.
197. Industrial Insurance. Medical Examination of Employees and Prevention of Sickness its proper foundation. By J. W. Schereschewsky. June 5, 1914.
204. What is a Safe Drinking Water? By Allan J. McLaughlin. June 26, 1914.
213. Safe Ice. By Hugh S. Cummings. August 7, 1914.
214. Studies on the Self-Purification of Streams. By Earle B. Phelps. August 14, 1914.
221. Tuberculosis. The Financial Aspect of the Sick Leaving Home in Search of a Beneficial Climate. By Thompson Frazer, M. D., Asheville, N. C. September 18, 1914.
225. The Chemical Disinfection of Water. By Earle B. Phelps. October 9, 1914.
234. Physical Examination of Workers. By J. W. Schereschewsky. November 20, 1914.
250. Sickness Insurance: Its relation to public health and the common welfare. By B. S. Warren. January 8, 1915.
380. Relationship of Milk Supplies to Typhoid Fever. By W. H. Frost. December 1, 1916.
387. Climate and Tuberculosis. The relation of climate to recovery. By John W. Trask. February 23, 1917.

SUPPLEMENTS TO PUBLIC HEALTH REPORTS.

1. Measles. By W. C. Rucker. January 24, 1913.
2. Indoor Tropics. The Injurious Effect of Overheated Dwellings, Schools, etc. By J. M. Eager. January 31, 1913.
3. Tuberculosis: Its Predisposing Causes. By F. C. Smith. February 7, 1913.
4. The Citizen and the Public Health. By A. M. Stimson. February 28, 1913.
5. Fighting Trim: The Importance of Right Living. By J. M. Eager. March 14, 1913.

7. Shower Baths for Country Houses. A Serviceable and Inexpensive Shower Bath Readily Improvised in Town or Country. By Carroll Fox. August 1, 1913.
10. The Care of the Baby. Prepared by a Committee of the American Association for the Study and Prevention of Infant Mortality and Presented to the Association at its annual meeting held in Washington, D. C., November 14-17, 1913.
11. What the Farmer Can do to Prevent Malaria. By R. H. Von Ezdorf. February 13, 1914.
14. Diphtheria: Its prevention and Control. By J. W. Schereschewsky. April 17, 1914.
16. The Summer Care of Infants. By W. C. Rucker and C. C. Pierce. June 19, 1914.
24. Exercise and Health. By F. C. Smith. May 7, 1915.
29. Transmission of Disease by Flies. By Earnest A. Sweet. April 14, 1916.
30. Common Colds. By W. C. Rucker. March 16, 1917.
31. Safe Milk: An Important Food Problem. By Earnest A. Sweet. May 25, 1917.













