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The MONTHLY BULLETIN will be sent to all health officers and deputies in the State. Health officers and deputies shall carefully read and file each copy for future reference. This is very important, for we expect to print instructions, rules and general information, which it will be necessary for officers to preserve.

ABSTRACT OF MORTALITY STATISTICS FOR APRIL, 1904.

The total number of deaths reported was 3,322, a rate of 15.2. In the preceding month there were 3,860 deaths, a rate of 18.1; in the corresponding month last year, 2,637 deaths, a rate of 12.7. This increase of 685 deaths over April of last year was caused principally by an increase in deaths from typhoid, diphtheria, scarlet fever, measles, pneumonia and influenza. Deaths by important ages were: Under 1 year 532, or 16.9 per cent. of the total; 1 to 5 years 250, or 7.9 per cent. of the total; 5 to 10 years 85, or 2.7 per cent.; 10 to 15 years 73, or 2.3 per cent.; 15 to 20 years 144, or 4.5 per cent.; 65 and over 880, or 28 per cent. Some important causes of death were: Pulmonary tuberculosis 385, typhoid fever 56, diphtheria 30, scarlet fever 21, measles 40, whoopingcough 14, pneumonia 557, diarrhoeal diseases 23, cerebro-spinal meningitis 41, influenza 72, puerperal fever 20, cancer 89, violence 134, smallpox 6.

SANITARY SECTIONS: THE NORTHERN SANITARY SECTION, population 889,376, reports 1,030 deaths, a rate of 14.01. This is 1.1 lower than the State rate and is .9 higher than in the corresponding month last year.

THE CENTRAL SANITARY SECTION, population 1,093,418, reports 1,404 deaths, a rate of 15.6. This rate is .4 higher than the State rate and 3.1 higher than the corresponding month last year.

SOUTHERN SANITARY SECTION, population 673,610, reports 880 deaths, a rate of 16.8. This is 1.6 higher than the State rate and 4.3 higher than the rate in the corresponding month last year.

REVIEW OF SECTIONS: The Southern Section shows the highest death rate. It also shows the highest per cent. of deaths under 1 and 1 to 5. The Northern Section shows the highest per cent. of deaths of 65 and over. The highest rate from consumption appears in the Southern

Section, also for diphtheria, measles, whoopingcough, pneumonia, diarrhoeal diseases, influenza and smallpox. It appears, therefore, on the whole, that the health of the Southern Section was poorer in the month than that of the other two.

BY COUNTIES: Orange County shows the highest death rate for the month, 24.2, and Brown County shows the lowest rate, which was 5. Counties having a death rate above the average for the whole State were: Allen 15.8, Cass 20.5, Fulton 16.5, Howard 17, Lake 16.1, Laporte 18.1, Porter 23.1, St. Joseph 15.5, Wabash 16.2, Whitley 18.3, Decatur 18.6, Fayette 17.7, Franklin 20.8, Hancock 19.2, Johnson 23.2, Marion 19.5, Montgomery 17.5, Randolph 18.1, Shelby 15.9, Tippecanoe 20.8, Tipton 17.6, Union 17.9, Vigo 20.5, Wayne 17.9, Clark 21.8, Crawford 16.2, Dearborn 16.4, Floyd 19.7, Gibson 22.5, Jackson 15.5, Jefferson 21.2, Jennings 15.8, Knox 19.8, Lawrence 19.5, Martin 18.7, Ohio 15.4, Orange 24.2, Scott 20.1, Sullivan 16.8, Vanderburgh 16.5.

COUNTRY: The country reports 1,872 deaths, a rate of 13.1. This is 2.1 lower than the State rate and 2.7 higher than in the corresponding month last year. The country shows a higher death rate among old people than the cities, but in all diseases excepting influenza it shows a lower death rate.

CITIES BY CLASSES: CLASS A, having 50,000 population and over, total population 252,515, including Indianapolis and Evansville, reports 398 deaths, a rate of 19.2. This is 4 higher than the rate for the whole State, 1.6 lower than the preceding month, and 2.3 higher than the corresponding month last year. The Indianapolis death rate was 20.2 and that of Evansville 16.

CLASS B, having from 25,000 to 50,000 population, total population 126,969, reports 207 deaths, a rate of 19.8. This is 4.6 higher than the State rate, .2 lower than the corresponding month last year and .8 lower than the preceding month. This class includes Ft. Wayne, rate 18.2; South Bend 16.9, Terre Haute 24.9.

CLASS C, having under 10,000 population, total population 303,137, reports 470 deaths, a rate of 16.3. This is 1.1 higher than the State rate and 5.4 lower than the preceding month, and 1.6 higher than the corresponding month last year.

Chart showing deaths by Sanitary Sections will be found on page 45.

### THE STATISTICS FURNISH THE FOLLOWING SUMMARIES FOR APRIL.

Measles, for the third consecutive month, was the most prevalent disease. Pneumonia, which was second in March, is fourth this month, while rheumatism, which was fifth in March, is second in April. The order of area of prevalence was as follows:

Measles, rheumatism, bronchitis, pneumonia, tonsillitis, influenza, typhoid fever, pleuritis, intermittent fever, diarrhoea, scarlet fever, erysipelas, diphtheria and croup, inflammation of bowels, puerperal fever, whoopingcough, dysentery, cholera morbus, cerebro-spinal meningitis, cholera infantum.

The deaths from measles, which numbered 40, almost equalled those from diphtheria and scarlet fever together. Typhoid fever, which we expected to increase, has done so.

**SMALLPOX:** Two hundred and sixty cases of smallpox in 29 counties, with 6 deaths, were reported in April. In the preceding month there were 231 cases in 49 counties, and three deaths. We have, therefore, to record an increase by this comparison. In April, 1903, there were 590 cases in 56 counties and 21 deaths. By this comparison a decided decrease appears.

The counties reporting the disease were: Allen 9 cases; Benton 2; Boone 3; Clark 9; Clay 56; Clinton 5; Dearborn 1 case, 1 death; Decatur 1 case; Dekalb 4; Delaware 5; Dubois 5; Floyd 5 cases, 1 death; Grant 24 cases; Huntington 6; Jay 3; Kosciusko 9; Madison 1; Marion 5; Marshall 5; Orange 1 case, 1 death; Parke 6 cases; Perry 5; Porter 1; Posey 7; St. Joseph 1 case, 1 death; Steuben 1 case; Sullivan 2; Tippecanoe 7; Tipton 4; Vanderburgh 8; Vermillion 1; Vigo 45 cases, 2 deaths; Warrick 24 cases; Wells 8.

The epidemic of smallpox at Etna Green, which all four resident physicians failed to diagnose, and persisted in their error, has continued into April. At the town of Bourbon, four miles distant, vaccination was done and quarantine rigid. In consequence, this town has gone almost free from the disease. Clay county, in which smallpox originally appeared in virulent form and extended area, still suffers from the disease, and presented more cases than any other county, namely, 56. The people of Vigo county also seem to take pleasure in having smallpox, for 45 cases were reported, with 2 deaths. As said heretofore, several times, it is plain smallpox will continue with us until all susceptible persons are attacked.

**TUBERCULOSIS:** Four hundred and thirty-five deaths from tuberculosis were reported for April, a rate of 199.7 per 100,000. In the preceding month the deaths numbered 532, a rate of 220.8 per 100,000, and in the corresponding month last year the deaths numbered 387, a rate of 187.6. Compared with the preceding month this is a decrease, but compared with the corresponding month last year (normal comparison) it is an increase. By age periods the deaths were: Under 1 year, 14; 1 to 5 years, 19; 5 to 10 years, 8; 10 to 15 years, 12; 15 to 20 years, 50; 20 to 30 years, 114; 30 to 40 years, 95; 40 to 50 years, 44; 50 to 60 years, 33; 60 to 70 years, 23; 70

to 80 years, 19; 80 and over, 5. The female deaths numbered 244 and the male 191. Of the females, 85 were married and between the ages of 18 and 40, and left 176 orphans under 12 years of age. Of the males, 29 were married and between the ages of 18 and 40, and left 61 orphans under 12 years of age. This awful disease, therefore, made in April 237 orphans under 12 years of age and rendered 114 homes either fatherless or motherless. The question is, how many of these orphans left without parental direction will find their way into orphan asylums, and how many will finally appear in the courts for punishment on account of transgressions of the law? The Supreme Court on May 13 affirmed a judgment of a lower court for \$2,500 against the Big Four Railroad for the death of a boy 11 years old. This month consumption (preventable) killed 22 between the ages of 10 and 20. At the value fixed by the Supreme Court the loss was \$55,000. In one year the loss at this rate would be \$180,000 on this age period alone. The appropriation for prevention is \$13,400.

**TYPHOID FEVER:** Fifty-six deaths were reported from typhoid fever, 1 more than in the preceding month and 12 more than in the corresponding month last year. One hundred and eighty-seven cases were reported from 35 counties. Marion county reported 67, Clark 15, Parke 15, Huntington 10, Laporte 8, and the other counties all reporting less than 5 each. Of course all cases were not reported, for it is well known that about 50 per cent. of typhoid cases are reported and considered as malaria.

**PNEUMONIA:** Five hundred and fifty-seven deaths were reported from pneumonia, a rate of 255.8 per 100,000. In April last year, 317 cases were reported, a rate of 355.4. There is, therefore, to be recorded a decided decline as compared with the preceding month, and a large increase as compared with the corresponding month last year, this increase being 75.7 per cent. A general summary of the weather would be chilly, cool and humid. The mean temperature was 53. The number of clear days 11 and the prevailing direction of the wind, northwest. The prevalence of measles and influenza was considerably less than in the preceding month.

**VIOLENCE:** One hundred and thirty-four deaths were reported from violence, 102 males and 35 females. There was 1 murder, 22 suicides and the remainder being accidental. Of the suicides, 5 were females and 16 males. The methods used were gunshots, males 5; hanging, males 5; drowning, female 1; poisons, males 6, females 4. Of the accidental deaths, 2 were caused by lightning, 12 drowning, concussion of skull and spine 10, railroad accidents 28, trolley cars 1, falling trees 2, burns and scalds 17, gunshots 9, horses 4, falls 5, dynamite 2, and poisons 9.

### FRESH AIR AND SUNSHINE.

Let us see! Without air we would die within eight minutes. Without sunshine we would gradually lose health, become white and colorless, strength would depart and we would be wrecked. If going without air entirely would kill us, then it follows that we must suffer in proportion as we cut down the quantity from the normal. Then why cut it down?

Air is abundant. There is no tariff upon it; trusts cannot corner it. Why do we build schoolhouses, courthouses, churches and homes, and not make provisions whereby an abundance of air may be introduced at all times without draughts? Why cut out the air, when it is absolutely necessary to have it in abundance if we are to preserve our health? We have the good sense to put on roofs to keep out the rain and to provide windows to let in the light, then why, why, why, do we so carefully keep out the air? Do we like to have consumption? Consumption is induced by breathing foul air. Do we like to have pneumonia, influenza, coughs and colds? It seems we do, for we persist in keeping the good air out of our houses, and bad air lowers our vitality and makes it possible for the causative microbes of these maladies to grow in our air passages and elaborate the toxins which sicken us. Why oppose nature? Why not be practical and conform to her requirements? It is not wise to kick against the pricks.

As to sunshine, who has not noticed the wonderfully good effect it has everywhere? Take away sunshine and leave all other conditions as they are, and we could not grow corn, wheat, flowers or fruits. Let permanent darkness settle over the earth, and life in this world would go out. Stop to think how the direct sun rays tan the skin, blister it if there is excessive exposure; how they take photographs, give color to the grass, the flowers and all vegetation, and then you will realize how potent they must be to bring health. Therefore, give yourself proper exposure to sunshine and enjoy better sleep, better appetite and better health generally.

**THE CONTROL OF DIPHTHERIA:** That virulent diphtheria bacilli are found in the throats of persons who have come in contact with disease has been definitely shown by a considerable number of investigators. These bacilli may occur in throats of healthy persons, i. e., those who show no clinical manifestations of the disease, or they may be associated with cases of more or less mild sore throats which are not likely to come under the observation of a physician. Sore throats are so common among children, and so frequently considered to be mere "colds" that they usually pass unnoticed. Yet it is such cases that are frequently sources of infection, should they be associated with the presence of virulent diphtheria bacilli. Children thus affected are liable to attend school, or to come in contact with other children, and are thus capable of scattering infection.

In instances where several children live in the same household with one who is stricken with diphtheria, any decent quarantine will include all the members of the family, whether or not the other children have come into contact with the disease. But this is not enough; a school room becomes a dangerous center of the disease when it harbors a pupil who carries the germs in the throat. Hence, whenever a case of diphtheria occurs among the pupils of a school, the throats of all the pupils should be examined bacteriologically, and such persons kept at home who show the presence of the bacilli. The necessity of this

is apparent from certain cases cited by G. S. Graham Smith (Jour. of Hygiene, Vol. III, No. 2, 193).

Goadby examined a school with 600 children where 21 cases of diphtheria had previously occurred. He found diphtheria bacilli present in 190 cases (34.1 per cent.). The morphology in culture was alone relied on.

Berry and Washbourn out of 142 girls examined in a school, in which several cases of diphtheria had occurred, discovered diphtheria in 17 (11.9 per cent.).

Amongst 200 scholars in a truant school Denny found 22 with diphtheria bacilli shortly after four cases of true diphtheria had occurred.

The secret in the control of diphtheria consists in keeping persons who harbor diphtheria bacilli in their throats from contact with the public. These persons are first those who have come in contact with the disease or with infected persons who are well, and second, convalescents who have practically recovered and have been discharged. To accomplish this it is necessary to make bacteriological examinations of the throats of all such persons when known, to quarantine those who show diphtheria bacilli in their throats, and to maintain that quarantine until further bacteriological tests are negative.

Particularly important is it to maintain quarantine of all cases of diphtheria until the bacteriological tests prove negative.

This is not done in Delaware, it being left to the discretion of the individual physician to say when the patient shall be released, or else a fixed period of quarantine is maintained, which are both irrational and at times unnecessarily burdensome. The point being to maintain the quarantine until the patient is no longer a source of infection, whether it be one or six weeks.

### ON REPORTING TUBERCULOSIS.

Resolution recently passed by the Wayne County Medical Society:

**WHEREAS,** The fearful prevalence and high mortality from tuberculosis (causing as it does one death in every seven, in general, and one death in every eight in Richmond and Wayne county), entailing an inestimable amount of suffering and financial loss upon individuals and communities; and,

**WHEREAS,** Systematic instruction of patients and their friends and of the public generally has, in many places, brought about a striking decrease in incidence and mortality; and,

**WHEREAS,** The State Board of Health proposes to initiate and carry on in Indiana such a work against tuberculosis as has proven beneficent and effective in other states, and to this end, in the absence of legislation, must rely on the voluntary co-operation and help of physicians in gathering statistics;

**RESOLVED,** That it is the sense of the Wayne County Medical Society that a vigorous and persistent campaign should be waged against tuberculosis in State, city and county; that every physician should report promptly to the proper health officer every case of pulmonary tuberculosis that comes under his observation, giving name, age, sex, residence, for statistical purposes only and not for publication. And that physicians should co-operate heartily with the State and local health officers in instructing the public as to the nature of the disease, the best methods of preventing its spread, and especially by advising the prompt disinfection of premises after removal, by death or otherwise, of a case of pulmonary tuberculosis.

### DESCRIPTION OF A SEWAGE-PURIFICATION PLANT AT THE EASTERN INDIANA HOSPITAL FOR THE INSANE, RICHMOND, INDIANA.

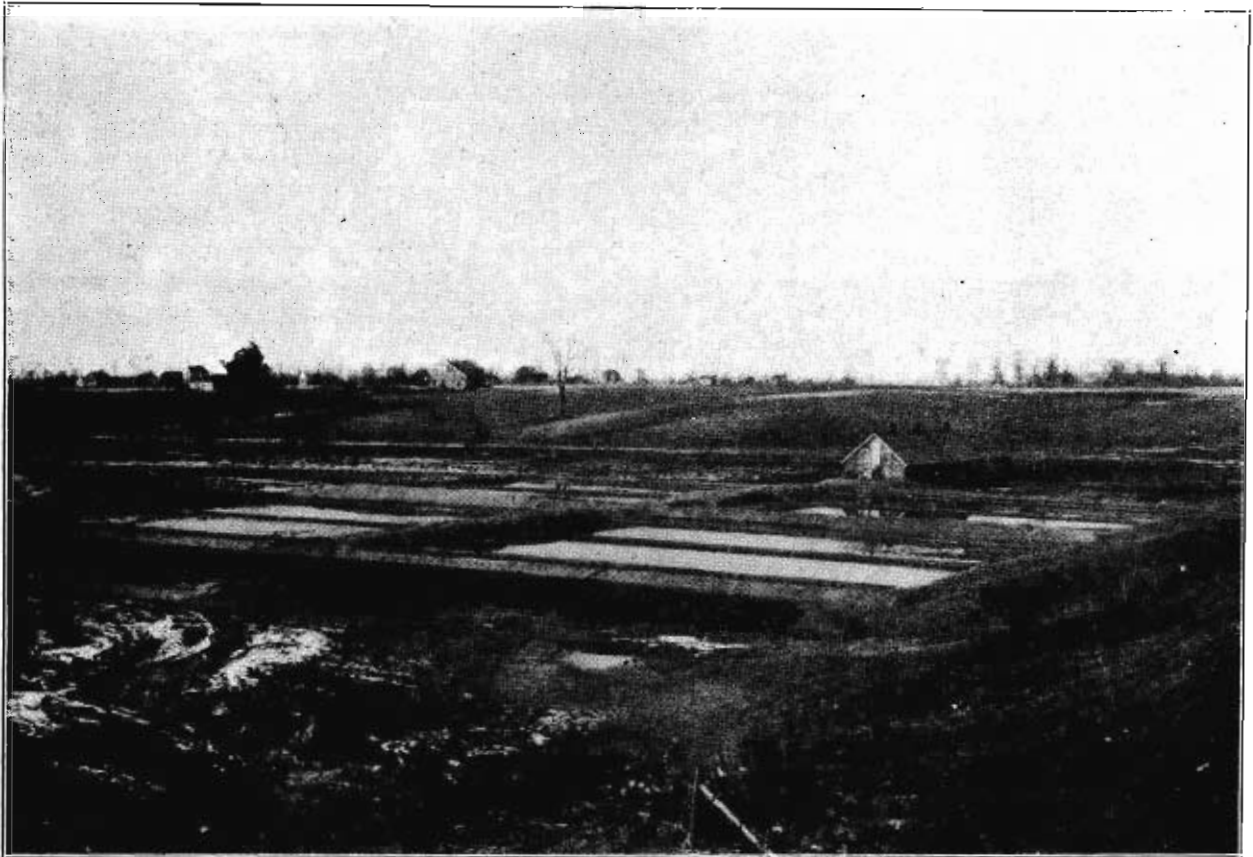
In 1903 R. L. Sackett, Professor of Civil Engineering at Earlham College, was commissioned to design a sewage-purification plant for the Insane Hospital at Richmond.

There are about 750 inmates, and using some 77,000 gallons of water each day. To this there is added roof water and surface water entering at manholes. During the recent heavy rains probably 85,000 to 90,000 gallons of waste have been treated in a day—a quantity as great as that from a small city of 1,500 inhabitants.

tank. The old sewer was retained as a relief in case of excessive storms, a stationary controlling device serving to prevent flooding the septic tank.

#### SEPTIC TANK.

This is a concrete building, shown in the photographs, 20 feet wide and 67 feet long. The sewage first flows into a small chamber, which first collects the fine sand. From here the sewage goes into a large tank 7 feet deep. There it stands for about a day while important chemical changes take place. Through the agency of bacteria, which thrive without light or air, the solid portion of the sewage is liquefied and the effluent, while discolored, contains less solid matter, and this is in a finely divided state



The sewage formerly flowed into Clear creek, a stream which diluted the sewage sufficiently except in the summer time when the stream was very small. Dr. Smith and the board of trustees believed that the State should be first in maintaining the purity of our streams and in demonstrating the efficiency and economy of the method selected.

There are four parts to the plant. The intercepting sewer, which carries the sewage to the septic tank. From here it goes to the filter beds. Sewage may also be used for irrigation.

#### INTERCEPTOR SEWER.

The old sewer was intercepted near the buildings by a new one 1,535 feet long, which passes under a highway and beneath the P., C., C. & St. L. Railway. This necessitated the use of an inverted siphon of cast iron water pipe, which finally discharged the waste into the septic

ready for the remaining process of oxidation which takes place in the filter beds.

After the septic process is completed the sewage flows into and gradually fills a separate tank holding from 3,000 to 5,000 gallons, as desired. After the tank is filled it automatically discharges through a pipe leading to one of four filter beds. The apparatus requires no attendance and works night and day, emptying the "dose" on each of the four filter beds in rotation at periods of about one hour.

#### FILTER BEDS.

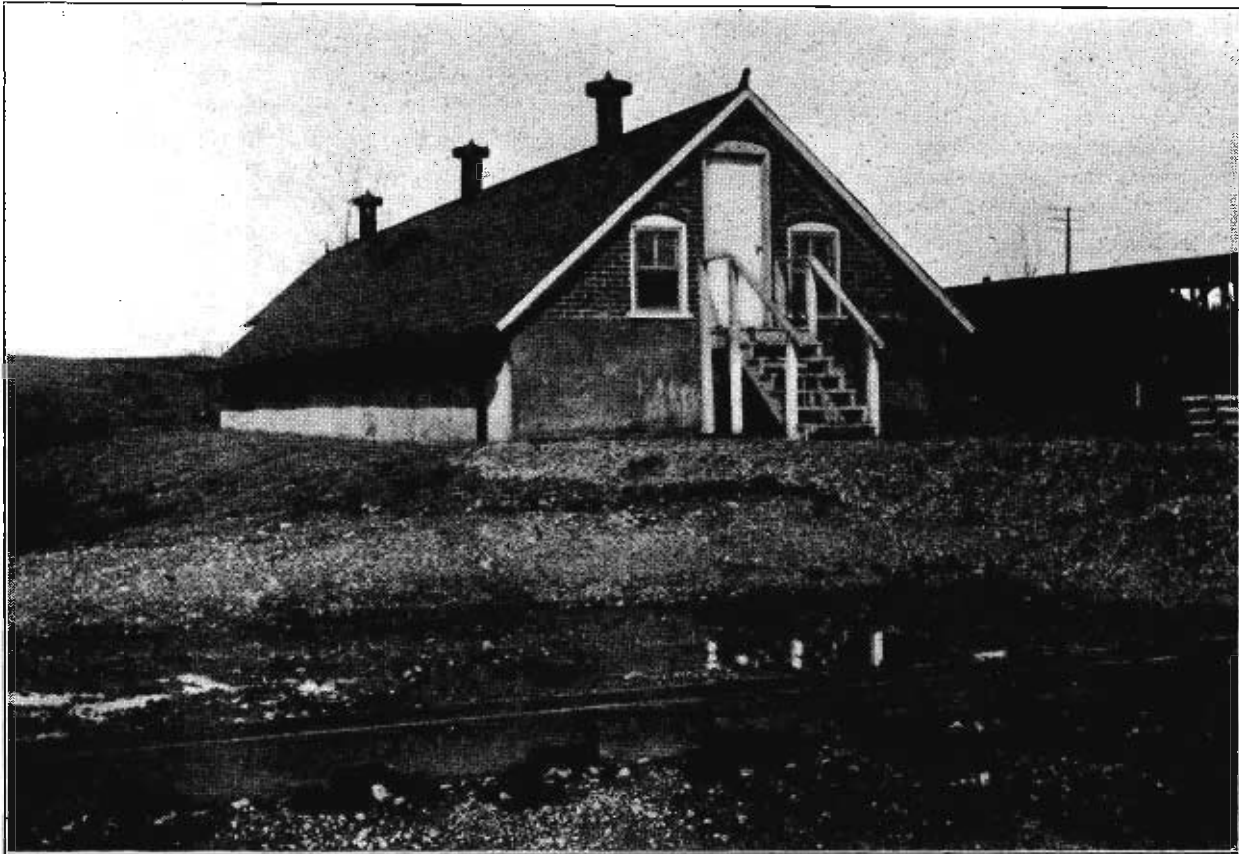
These are built of sand and gravel and cover an area of one-fourth acre. The sewage as it comes from the septic tank is discharged through wooden troughs with perforated sides. By these it is distributed uniformly over each bed in turn, covering it to a depth of about an inch. This bed

now rests for three hours, while the three remaining beds each receive in order an equal amount of sewage. Each bed is thus given about 19,000 gallons of sewage per 24 hours.

During the period of rest the sewage last received is passing slowly downward through the sand and gravel. As it filters air is dragged down with the liquid, and here a second bacteriological action takes place. By the aid of bacteria which thrive on air and light, oxygen from the air is added, thus completing the process of nitrification or reduction which, if perfect, would leave only chemically pure water to flow into Clear creek.

The plant, consisting of septic tank and filter beds, cost about \$6,500.

**TUBERCULOSIS INFECTION THROUGH THE INTESTINAL CANAL:** The declaration of Koch two years ago, to the effect that bovine tuberculosis was not transmissible to the human being, was productive of great good, for it set hundreds of men to working hard upon the subject, and now the truth is known. Among the workers is Dr. Mazyke P. Ravenel, of Philadelphia. Dr. Ravenel is a well-known bacteriologist and pathologist, and is assistant medical director of the Henry Phipps Insti-



The filtrate is clear, has no odor after standing three months, shows no plant growths, and is chemically much purer than the English standard.

During the extreme winter just passed the filter beds at all times produced a satisfactory effluent without any attention or repairs. One would suppose that the surface of the filter beds, after being flooded, would freeze when the temperature was 20 degrees below zero, but the sewage in the septic tank was never below 50 degrees and sufficient heat was generated in the process so that the creek was always open near the outlet.

Sewage irrigation was provided for about 20 acres of ground used in gardening. There is provision for using raw sewage or for flushing the septic tank and distributing the deposited material over the ground as fertilizer without manual labor. The quantity deposited in the septic tank after five months' use is immaterial.

tute for the study, treatment and prevention of tuberculosis. By direct experiment, Dr. Ravenel has found that tubercle organisms may enter the human economy through the stomach or intestines, and finally establish the first and oldest lesion in the lungs. Dr. Ravenel made numerous experiments upon dogs. He first would keep them under observation some days to determine if they were entirely healthy. Then castor-oil was given to clear out the intestines, after which the animal was fasted for twenty-four hours. At the end of this time, a single meal consisting of equal parts of melted butter and warm water, made into an emulsion in which tubercle were stirred, was given. After three or four hours, during active digestion, the dog was chloroformed, and as much chyle as possible collected, together with the mesenteric glands. The intestines of the dog were in every instance examined thoroughly, and in two instances microscopic sections were



made from several parts of the intestines. In all cases they were found to be entirely normal. In ten animals he experimented on, he found tubercle bacilli in eight, showing that the tubercle bacilli can pass through a perfectly healthy intestine without leaving any trace, and this takes place in a very short space of time. Dr. Ravenel says: "When we remember that chyle goes directly into the thoracic duct and is thrown into circulation near the heart, from which it passes to the lungs immediately, we can understand that infection from the intestines may readily show itself first in the lungs." Dr. Theobald Smith and Dr. D. E. Salmon have secured equally as positive evidence of the possibility of infection by tubercle bacilli through the intestines, producing the primary and oldest lesion in the lungs. Supplementary to this actual clinical work, are the investigations of Miss Lillian Brandt among the Hebrews of New York City. Miss Brandt is statistician of the Committee on the Prevention of Tuberculosis of the Charity Organization of New York City. She made a study of the density of the population in New York City, and presented shaded maps, illustrating its density. By this means it was found that the East side, through which Grand street runs, the population was most dense, and was occupied by Jews to the exclusion of the other races. In New York there are upwards of 700,000 Jews, which is about half of all the Jews in the world, and the district above defined is more thickly populated than any other in the world. Of course, the natural result of this crowding is vitiation of the atmosphere, not only in the houses, but in the streets and small yards outside. These people are all hardworking, and thousands of them earn their living in sweat-shops. Such are held in a constrained position from morning until night, and all ages are occupied with the work. Every condition which prevents lung expansion is present. In spite of this, a second map prepared by Miss Brandt, to determine in what district tuberculosis prevails, shows this Jewish quarter with no shading at all, and that tuberculosis is rare among the Hebrews. Dr. John B. Huber, the well-known tuberculosis expert, in reviewing this matter, attributes the immunity of the Hebrews from tuberculosis, to the character of their food. It makes no difference how poor a Hebrew may be, he will not eat meat except it be prepared according to Mosaic law. This law requires that the meat shall be inspected and approved by a rabbi appointed for that purpose. The animals are slaughtered by him, and if the slightest sign of disease is found, the carcass is rejected. It is found that nearly one-half of the carcasses are rejected by the Hebrews, and then sold for Christian consumption. Dr. Huber states: "There appears to me to be evidence strongly corroborative of the present-day scientific opinion, that the alimentary canal is the region most concerned in the spread of tuberculosis with the organism; that even pulmonary tuberculosis results generally from infection, often latent, by means of bacilli-containing foodstuffs, the lacteals and the lymphatics carrying the bacilli from the intestines through the thoracic duct, vena cava, the right heart, and finally to the pulmonary parenchyma."

Dr. Huber, continuing, says: "Besides this food factor, others may occur to one. The Jews are generally temperate as regards alcohol, so that absence of this cause might further explain the rarity of tuberculosis among them. Again, the Jewish race may, through many centuries, have gradually acquired an immunity from the disease. I believe, however, these last considerations are subordinate to the first one set forth. If further investigation and study confirms these ideas, our understanding of tuberculosis will be greatly enlarged, and consequently our power to combat the disease."

**THE FIRST INTERNATIONAL CONGRESS OF SCHOOL HYGIENE:** This Congress was held at Neuremberg, April 4th to 9th. Twelve hundred and forty-seven members were in attendance and twenty countries were officially represented. North America was represented by 11 members, Russia 60, Great Britain 48, Holland 51, Cuba, Turkey and Uruguay 1 each. The English delegation comprised representatives of medical societies, school and public health boards, child study and teachers' associations. Sir Lauder Brunton was the president of the English delegation, and he was formally elected president of the next Congress, which will be held in London in 1907. The phases of school hygiene were considered. Great emphasis was laid upon the importance of the teaching of hygiene in schools. The general opinion was that the first step to be taken was the constructing of strictly sanitary schoolhouses. This example must be set to the children before practical teaching of school hygiene could be entered into. The committee on schoolhouse ventilation reported that in a schoolhouse containing more than eight rooms the ventilation should be forced. The air should be set in motion by large fans running at low speeds. The air ducts should be as large as could be afforded and outlets of low resistance provided. The minimum supply of air should be 2,000 cubic feet per capita per hour, and the air should be well moistened, for dry air is an important factor in the causation of diseases of the air passages. The committee on school medical inspectors was very emphatic in its report concerning the necessity of the medical inspection of school children. Teachers should carefully look over their charges twice a day to discover any child which exhibited the least symptom of illness. If in any instance fever or evident illness were discovered, the medical inspector should be called and proper action taken.

Dr. Hueppe, of Prague, in his address on infectious diseases, arraigned the medical profession for the systematic methods in which needed reforms were asked for from the administrative authorities. "The things asked for are usually vaguely put and the grounds for the demands are not set forth in a convincing manner. Physicians must learn to help themselves; they must not go too far, and what they want must be stated clearly." He classified infectious diseases in three groups. The first comprises measles and whoopingcough, the typical school infections, in which susceptibility and predisposition do not count in comparison to the opportunity for infection. Mumps and

chickenpox comprise the second group, and are easily checked by isolation. The third group includes scarlet fever and diphtheria, which, although dangerous diseases, yet from the point of view of the school are of less importance than those of the other two groups. He thinks that disinfection might be dispensed with if the school-rooms were carefully cleaned every day. The smaller the number of children in a room the less danger from school epidemics. Tuberculosis in the teacher is a grave danger. The danger of tuberculosis is peculiarly enhanced by the dust constantly stirred up in the air and the large number of persons in the room. The danger is further enhanced with the common use of many articles, pencils, erasers, pens, etc., and moistening the fingers with saliva to turn leaves and for other purposes. Prophylaxis should include reduction of the number of pupils in a room, better ventilation, prohibition of dry sweeping and rejection of the candidates for positions who are already tuberculous. Children particularly disposed to tuberculosis should have special attention, and at the first moment of alarm should be removed from school.

There were eight principal addresses delivered before the Congress, and in addition there were 153 communications presented. There was a fine exhibition of things pertaining to school architecture and equipment.

#### SOME REASONS FOR THE ESTABLISHMENT OF A STATE SANATORIUM FOR CONSUMPTIVES IN INDIANA.

At no epoch in the history of medicine has tuberculosis occupied the minds of sanitarians, physicians, philanthropists and statesmen as much as at the present time. The reasons for this awakening are several: The sanitarian, through Koch's immortal discovery of the microbic origin of the disease, has learned that tuberculosis, while highly communicable, is nevertheless a preventable disease. To the physician tuberculosis, particularly in its pulmonary form, is no longer an incurable disease, a divine visitation, in regard to which his skill is of no avail; but he knows, through the works of Brehmer and Dettweiler, of Germany; Bennett, Williams and Weber, of England; Grancher and Letulle, of France; Alfred Loomis, Trudeau, Bowditch and Millett, of our own country, that by proper hygienic and dietetic means, under constant medical supervision, even independent of special climate advantages, the consumptive can be cured, and lastingly so.

To the philanthropist particular interest in tuberculosis has been awakened by the fact that it is shown to be most prevalent among the poor, and that dark, dreary and badly-ventilated tenements, and malnutrition, are some of the prime factors which render the poor so susceptible to the invasion of the bacilli. So by improving the condition of the poor he seeks to combat tuberculosis from the start. If opportunity is offered, philanthropists also take deep interest in the creation of sanatoria for the consumptive poor.

The modern statesman interests himself in the problem of tuberculosis for economic reasons, and it does not re-

quire great calculations to show his wisdom in doing so. The following table shows the deaths from tuberculosis in Indiana during the year 1903. From it we learn that the total number of deaths from tuberculosis during the past year was no less than 4,740. As is usual, the greatest mortality from the dreadful disease is at the age when the individual should be a breadwinner, useful citizen, and, if possible, the supporter of a family. Thus we have from that one form of tuberculosis alone which we usually designate as phthisis pulmonalis:

318	cases	between	the	ages	of	15	and	20
543	"	"	"	"	"	20	"	25
491	"	"	"	"	"	25	"	30
338	"	"	"	"	"	30	"	35
289	"	"	"	"	"	35	"	40
252	"	"	"	"	"	40	"	45
199	"	"	"	"	"	45	"	50
2,430	"	"	"	"	"	15	"	50

This gives us 2,430 people taken away in the prime of life by a disease which is eminently preventable and curable.

Statistics from sanatoria show that in the early stages the pulmonary form of tuberculosis is curable in at least 75 per cent. of cases. Now, I venture to say that of those 2,430 people, at least 1,800 belonged to the laboring class, who had earning capacity of about two dollars a day. Through their untimely death the community must have sustained a great economic loss, and hundreds of families probably plunged in sorrow, and not infrequently in misery and want. A large number of tuberculous invalids have doubtlessly also been for months a burden to the community, for humanity demands that the hopelessly-sick consumptive, no matter how poor, should be tenderly cared for until his end. The average consumptive, if not properly treated in time, may live from one to three years. The majority of cases are usually incapacitated for work for at least one year. The maintenance of such a patient, whether in a private home, a general hospital, or an almshouse, can not be estimated at less than one dollar a day. Thus there is a loss to either the community or the poorer classes of population of 1,800 times \$365 a year, or \$657,000.

What would have been the cost if the State would have given these people 75 per cent. of chances of cure in a properly-conducted sanatorium for the treatment of pulmonary tuberculosis. The weekly cost of a patient in one of our best conducted and most successful American sanatoria, the Adirondack Cottage Sanatorium, is \$8 per week. In the equally good but more recent Massachusetts State Sanatorium, at Rutland, Mass., where the physicians are paid for their services, it is \$8.40.

Taking the average, it requires about nine months to cure these 75 per cent. of consumptives in a sanatorium. But let us say even forty weeks at \$8.20 per patient per week—that is to say, to cure 75 out of 100 consumptives and make of them the breadwinners of their families costs \$328 per patient. To let them die costs at least \$365. This leaves a difference of \$37, which would be one of the items of the direct financial loss of which we may know. This amounts to 1,800x37, that is to say, \$66,600, which

is spent uselessly on 1,800 citizens of Indiana suffering from tuberculosis, and with no other aim in view than allowing them to die.

But we must not forget that every consumptive not properly treated, since he can expectorate seven billions of bacilli a day, may, if he is careless and ignorant, infect any number of his friends, neighbors, or whoever he may come in contact with, by his carelessly deposited sputum, and thus indirectly multiply the loss of money and lives many times over.

Now, a properly conducted sanatorium for the exclusive treatment of tuberculous diseases is not only an institution where consumptives are treated, but also one where they are trained. The patient is not only taught how to take care of his expectoration, how not to infect others or to re-infect himself, but he also will learn how to live a sober, regular and hygienic life, and will, on his return home, constitute a hygienic factor among his family, friends and neighbors. The value of such an institution to the State or a community is simply inestimable. Properly conducted, it can never become a danger to the neighborhood, but, on the contrary, a school of hygiene for whoever has lived in it, visited it, or learned to know of its workings through an immediate neighborhood.

I do not think that any further argument for the urgent necessity of creating a State sanatorium for consumptives in Indiana is needed. Through the establishment of such an institution thousands of lives will be spared, thousands of dollars saved to the State and municipal treasuries, and thousands of families will be made happy and prosperous because one of their members, instead of being doomed to an untimely death, has been given back to join them in a useful and happy life.

S. A. KNOPP, M. D.,

16 West Ninety-Fifth Street, New York.

#### EPIDEMIC CEREBRO-SPINAL MENINGITIS— SPOTTED FEVER.

Very fatal epidemics have occurred from time to time in many places both in this country and in Europe. Its presence in a sporadic form (as it is reported by physicians) has been almost continuous in Connecticut for many years. During the decade ending with December, 1903, 573 deaths were attributed to it, an average of 57 per year.

This disease has many symptoms in common with other affections of the brain and spinal cord. Consequently the diagnosis is often obscure and may be erroneous. It is quite certain that many of the cases reported were errors of diagnosis. Over 27 per cent. were of babies under a year old. Yet all authorities agree that it is a disease of childhood and early manhood and rarely attacks an infant in its first year. But other forms of infantile disease, with some of the symptoms of meningitis, are very common. Hence it is a fair inference that a large portion of the 27 per cent. were examples of other brain disorders.

In the first three months of the present year only six cases were reported. But during the month of April the disease assumed suddenly an epidemic character. Forty-three cases were reported in Hartford, with 20 deaths during the month.

Reports of its presence have been received since April 1 from other towns, to wit: Ansonia, 1; Bridgeport, 2; Bristol, 1; East Hartford, 7; Fairfield, 1; Farmington, 1; Glastonbury, 2; Harwinton, 1; Hartford, 43; Meriden, 1; New Britain, 1; New Haven, 5 deaths (cases not reported); New London, 1; New Milford, 1; Norwich, 1; Rockville, 1; Southington, 5; Suffield, 1. Total, 76.

A peculiar characteristic of its epidemic appearance is its tendency to develop in a community in a number of individuals at the same time; persons who have no social or other relations with each other and respecting whom there is no traceable exposure to a common source of infection. This feature is conspicuous in the present outbreak in Hartford and elsewhere. In 1857 it appeared simultaneously in North Carolina and Western New York. Instances of the same peculiarity are numerous.

The spotted fever is caused by a special germ. Other forms of meningitis are produced by other germs, as the tubercular meningitis and the meningitis from the germ that causes pneumonia. The portals through which the infection enters the system are not known, nor the processes of its elimination. But the seat of its activity being enclosed in bony cavities explains its non-contagious nature.

There may be secondary complications with discharges, as from middle ear inflammations, which may contain the infection, but the evidence is that it is not communicated from the sick to the well. Hence rigid restrictions as to quarantine, public funerals, etc., are not thought necessary.—Bulletin of Connecticut State Board of Health.

#### DEATHS LAST YEAR.

We publish in this issue our usual annual statement of deaths and their causes in Indiana for the year last past. It is prepared by the State Board of Health and is reliable. It is a mournful story. The grief is deepened by the knowledge that the mortality is occasioned in a large degree by preventable diseases, such as typhoid fever, diarrhoeal diseases, diphtheria, scarlet fever and tuberculosis. But we go right straight along year after year paying millions of dollars for medical treatment of these diseases while there is not a dollar spent for prevention and the elimination of all the consequent suffering, bereavement and orphanage that result from our neglect. We need a statesman to take hold of this great economic problem of disease prevention. Will not one rise to the occasion in the legislature next winter? Indiana is not poverty stricken in statesmanship, but the trouble seems to be that the question of the life or death of our citizens does not appeal with sufficient power to our law-makers to stir them to action. We support a noble system of charities in Indiana and many necessary institutions, and at the same time by neglecting to adopt preventive measures we are increasing orphanage, pauperism and perhaps criminals, and thus constantly augment the work of our boards and increase the population of our asylums. It seems an odd management to permit suffering and distress and death that might be prevented in large degree and then create boards and institutions to take care of the results of our lack of foresight—Brookville American, May 19, 1904.



CHART SHOWING GEOGRAPHICAL DISTRIBUTION OF DEATHS FROM CERTAIN COMMUNICABLE DISEASES IN APRIL, 1904.

**NORTHERN SANITARY SECTION.**

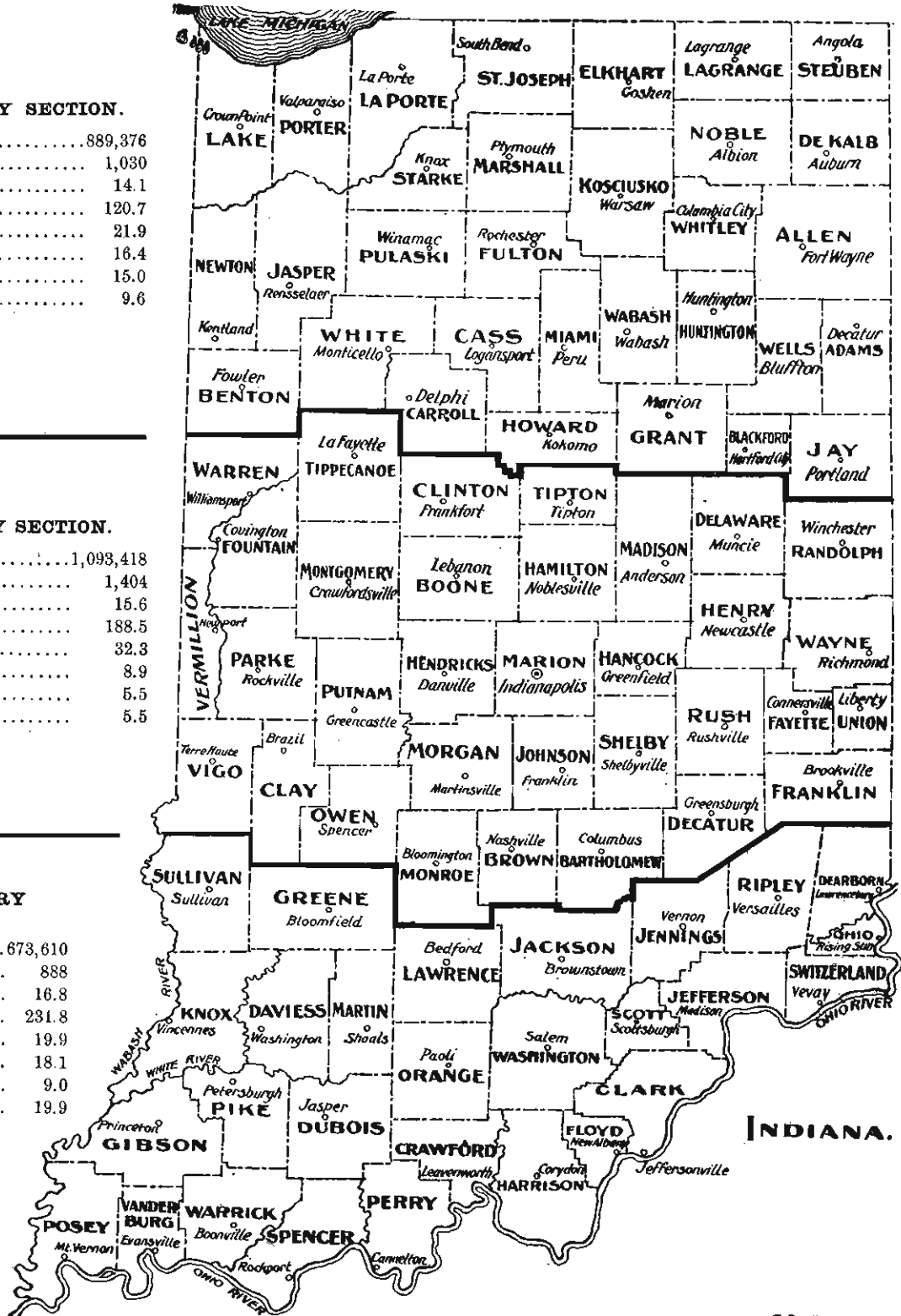
Total population	889,376
Total deaths	1,030
Death rate per 1,000	14.1
Consumption, rate per 100,000	120.7
Typhoid, rate per 100,000	21.9
Diphtheria, rate per 100,000	16.4
Scarlet fever, rate per 100,000	15.0
Diarrheal diseases, rate per 100,000	9.6

**CENTRAL SANITARY SECTION.**

Total population	1,093,418
Total deaths	1,404
Death rate per 1,000	15.6
Consumption, rate per 100,000	188.5
Typhoid, rate per 100,000	32.3
Diphtheria, rate per 100,000	8.9
Scarlet fever, rate per 100,000	5.5
Diarrheal diseases, rate per 100,000	5.5

**SOUTHERN SANITARY SECTION.**

Total population	673,610
Total deaths	888
Death rate per 1,000	16.8
Consumption, rate per 100,000	231.8
Typhoid, rate per 100,000	19.9
Diphtheria, rate per 100,000	18.1
Scarlet fever, rate per 100,000	9.0
Diarrheal diseases, rate per 100,000	19.9



Wm. B. Burford, printer.

TABLE No. 1. Deaths in Indiana by Counties, During the Month of April, 1904.

STATE AND COUNTIES.	Population, Estimated According to U. S. Bureau.	Total Deaths Reported for April, 1904.	Annual Death Rate per 1,000 Population.	Stillbirths.	IMPORTANT AGES.						DEATHS FROM IMPORTANT CAUSES.																	
					Under 1 Year.	1 to 4, inclusive.	5 to 9, inclusive.	10 to 14, inclusive.	15 to 19, inclusive.	65 Years and Over.	Pulmonary Consumption.	Other Forms of Tuberculosis.	Typhoid Fever.	Diphtheria.	Croup.	Scarlet Fever.	Measles.	Whooping Cough.	Pneumonia.	Diarrhoeal Disease, Under 5.	Cerebro-spinal Meningitis.	Influenza.	Puerperal Septicemia.	Cancer.	Violence.	Smallpox.	Deaths in Institutions.	
																												532
<b>State of Indiana.</b>	<b>2,656,404</b>	<b>3,322</b>	<b>15.2</b>	<b>182</b>	<b>532</b>	<b>250</b>	<b>85</b>	<b>73</b>	<b>144</b>	<b>880</b>	<b>385</b>	<b>50</b>	<b>56</b>	<b>30</b>	<b>3</b>	<b>21</b>	<b>40</b>	<b>14</b>	<b>557</b>	<b>23</b>	<b>41</b>	<b>72</b>	<b>24</b>	<b>89</b>	<b>134</b>	<b>6</b>	<b>138</b>	
<b>Northern Co's....</b>	<b>889,376</b>	<b>1,030</b>	<b>14.1</b>	<b>55</b>	<b>170</b>	<b>68</b>	<b>18</b>	<b>21</b>	<b>43</b>	<b>289</b>	<b>88</b>	<b>12</b>	<b>16</b>	<b>12</b>		<b>11</b>	<b>5</b>	<b>5</b>	<b>164</b>	<b>7</b>	<b>10</b>	<b>19</b>	<b>11</b>	<b>35</b>	<b>47</b>	<b>1</b>	<b>33</b>	
Adams.....	22,912	17	9.0	1	4	1	1	1	1	3	5	1	1	1					3	2	1	1	1	4	1	1	8	
Allen.....	30,950	105	15.8	4	15	1	1	1	1	27	2	1	1	1					20	2	2	1	2	4	1	1	8	
Benton.....	13,525	9	8.9		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Blackford.....	20,544	15	11.9		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Carroll.....	19,353	15	11.9		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Cass.....	35,075	24	11.1		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Dekalb.....	26,158	24	11.1		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Elkhart.....	47,066	43	11.1		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Fulton.....	17,673	24	16.5		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Grant.....	66,786	75	13.7		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Howard.....	25,353	31	17.0		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Huntington.....	25,291	16	12.6		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Jasper.....	27,960	23	10.0		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Jay.....	29,249	34	14.1		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Kosciusko.....	15,484	13	10.3		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Lagrange.....	44,553	59	16.1		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Lake.....	39,699	59	18.1		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Laporte.....	25,533	26	12.4		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Marshall.....	29,177	32	13.3		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Miami.....	11,034	11	12.1		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Newton.....	23,582	20	10.3		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Noble.....	19,532	37	23.1		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Porter.....	15,031	10	8.0		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Pulaski.....	17,748	14	14.5		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Starke.....	75,452	18	14.2		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Stauben.....	65,717	84	15.5		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
St. Joseph.....	25,582	38	16.2		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Wabash.....	24,082	24	12.1		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Wells.....	20,407	24	14.3		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
White.....	17,328	26	18.3		1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1	
Whitley.....																												
<b>Central Co's....</b>	<b>1,093,418</b>	<b>1,404</b>	<b>15.6</b>	<b>72</b>	<b>213</b>	<b>108</b>	<b>32</b>	<b>35</b>	<b>53</b>	<b>394</b>	<b>169</b>	<b>22</b>	<b>29</b>	<b>8</b>	<b>2</b>	<b>5</b>	<b>17</b>	<b>5</b>	<b>222</b>	<b>5</b>	<b>20</b>	<b>29</b>	<b>5</b>	<b>34</b>	<b>52</b>	<b>2</b>	<b>78</b>	
Bartholomew.....	24,815	29	14.2	1	6	4	1	1	1	9	3	1	1	1					11	1	1	1	1	1	2	1	1	
Boone.....	26,321	28	12.9		2	3	1	1	1	11	7	1	1	1					4	1	1	1	1	1	1	1	1	
Brown.....	9,727	4	6.0		1	1	1	1	1	2	1	1	1	1					1	1	1	1	1	1	1	1	1	
Clay.....	35,580	36	12.3		1	5	2	2	2	8	5	1	1	1					7	2	2	1	1	1	1	1	1	
Clinton.....	28,202	28	12.1		1	5	2	2	2	8	5	1	1	1					7	2	2	1	1	1	1	1	1	
Deatur.....	19,594	30	18.6		4	4	1	1	1	11	7	1	1	1					6	2	2	1	1	1	1	1	1	
Delaware.....	59,256	64	13.1		1	4	5	1	1	10	10	1	1	1					1	2	2	1	1	1	1	1	1	
Fayette.....	13,770	20	17.7		4	2	2	1	1	4	11	2	1	1					5	2	2	1	1	1	1	1	1	
Fountain.....	22,070	25	13.8		2	5	2	1	1	11	4	1	1	1					5	2	2	1	1	1	1	1	1	
Franklin.....	16,388	28	20.8		1	2	1	1	1	9	3	1	1	1					2	2	2	1	1	1	1	1	1	
Franklin.....	31,215	36	14.0		2	4	1	1	1	9	3	1	1	1					5	2	2	1	1	1	1	1	1	
Hamilton.....	19,827	31	19.2		1	1	1	1	1	3	2	1	1	1					7	2	2	1	1	1	1	1	1	
Hancock.....	21,292	19	10.8		2	3	1	1	1	6	4	1	1	1					4	2	2	1	1	1	1	1	1	
Hendricks.....	25,472	25	11.9		2	3	1	1	1	12	6	1	1	1					7	2	2	1	1	1	1	1	1	
Johnson.....	20,429	39	23.2		6	6	4	1	1	9	9	2	2	1					5	2	2	1	1	1	1	1	1	
Madison.....	90,152	73	9.8		12	8	3	5	13	14	8	1	2	1					11	1	1	1	1	1	1	1	2	
Marion.....	220,717	353	19.5	18	50	19	8	5	13	81	48	10	10	1					51	2	3	4	9	13	1	54		
Monroe.....	22,006	19	10.5		3	1	1	1	1	5	4	1	1	1					1	1	1	1	1	1	1	1	1	
Montgomery.....	29,820	43	17.5		4	2	1	1	1	17	4	1	1	1					4	2	2	1	1	1	1	1	1	
Morgan.....	21,052	24	13.9		3	1	1	1	1	10	4	1	1	1					3	2	2	1	1	1	1	1	1	
Owen.....	15,181	13	10.4		1	1	1	1	1	6	2	1	1	1					2	2	2	1	1	1	1	1	1	
Par																												



Mortality of Indiana for April, 1904.

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Population, Estimated According to U. S. Bureau.	Total Deaths Reported for April, 1904.	Annual Death Rate per 1,000 Population.	Stillbirths.	Important Ages.												Deaths and Annual Death Rates per 100,000 Population from Important Causes.							
					Under 1.		1 to 5.		5 to 10.		10 to 15.		15 to 20.		65 and Over.		Consumption.		Other Forms Tuberculosis.		Typhoid Fever.		Diphtheria.	
					Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.
State	2,656,404	3,322	15.2	182	532	16.9	250	7.9	85	2.7	73	2.3	144	4.5	880	28.0	385	176.8	50	22.9	56	25.7	30	13.7
Northern Co's	889,376	1,030	14.1	55	170	17.4	68	6.9	18	1.8	21	2.1	43	4.4	289	29.4	88	120.7	12	16.4	16	21.9	12	16.4
Central Co's	1,033,418	1,404	15.3	72	213	15.9	108	8.1	32	2.4	35	2.6	53	3.9	394	29.5	169	188.5	22	24.5	29	32.5	8	8.9
Southern Co's	673,610	888	16.8	55	149	17.3	74	8.8	35	4.2	17	2.0	48	5.7	197	23.6	128	231.8	16	28.2	11	19.9	10	18.1
All cities	918,283	1,450	19.2	95	212	15.6	107	7.9	39	2.8	30	2.2	57	4.2	334	24.6	164	217.8	32	42.5	32	42.5	15	19.9
Over 50,000	252,515	398	19.2	27	56	15.0	22	5.9	10	2.6	7	1.8	15	4.0	85	22.9	51	246.4	11	53.1	10	48.3	3	14.4
25,000 to 50,000	126,969	207	19.8	12	36	18.4	18	9.2	5	2.5	5	2.5	8	4.1	39	20.0	14	134.5	5	48.0	2	19.2	2	19.2
10,000 to 25,000	235,662	375	19.4	26	53	15.1	28	8.0	18	4.5	9	2.2	9	2.5	82	23.4	40	207.0	8	41.4	10	51.7	7	36.2
5,000 to 10,000	174,500	288	20.1	14	40	14.6	26	9.4	4	1.4	5	1.8	15	5.4	79	28.8	31	216.7	6	41.9	7	48.9	1	6.9
Under 5,000	128,637	182	12.5	16	27	16.2	13	7.3	4	2.4	5	3.0	10	6.0	49	29.5	28	265.5	2	18.9	3	23.4	2	18.9
Country	1,738,121	1,872	13.1	87	320	17.9	143	8.0	46	2.5	43	2.4	87	4.8	546	30.5	221	155.1	18	12.6	24	16.8	15	10.5

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Deaths and Annual Death Rates per 100,000 Population from Important Causes.																							
	Group.		Scarlet Fever.		Measles.		Whooping Cough.		Pneumonia.		Diarrhoeal Diseases, Under 5 Yrs.		Cerebro-Spinal Meningitis.		Influenza.		Puerperal Septicæmia.		Cancer.		Violence.		Small-pox.	
	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.
State	3	1.3	21	9.6	40	18.3	14	6.4	557	255.8	23	10.5	41	18.8	72	33.0	24	11.0	89	40.8	134	61.5	6	2.7
Northern Co's	2	2.2	11	15.0	5	6.8	5	6.8	164	224.9	7	9.6	10	13.7	19	26.0	11	15.0	35	48.0	47	64.4	1	1.3
Central Co's	2	2.2	5	5.5	17	18.9	5	5.5	222	247.7	5	5.5	20	22.3	29	32.3	5	5.5	34	37.9	52	59.0	2	2.2
Southern Co's	1	1.3	5	9.0	18	32.6	4	7.2	171	309.7	11	19.9	11	19.9	24	43.4	8	14.4	20	36.2	35	63.3	3	5.4
All cities	1	1.3	8	10.6	14	18.6	3	3.9	236	313.5	10	13.2	17	22.5	23	30.5	6	7.9	45	59.7	80	79.7	3	3.9
Over 50,000	1	4.8	2	9.6	2	9.6	1	4.8	55	265.7	1	4.8	4	19.3	4	19.3	.....	.....	15	72.4	18	86.9	.....	.....
25,000 to 50,000	.....	.....	1	9.6	4	35.4	1	9.6	36	345.9	1	9.6	4	38.4	1	9.6	.....	.....	7	67.2	8	76.8	3	28.8
10,000 to 25,000	.....	.....	5	25.8	2	10.3	.....	.....	58	300.2	3	15.5	6	31.0	4	20.7	1	5.1	14	72.4	15	77.6	.....	.....
5,000 to 10,000	.....	.....	1	6.9	5	34.9	.....	.....	55	384.5	3	20.9	1	6.9	3	55.9	3	13.9	6	41.9	13	90.8	.....	.....
Under 5,000	.....	.....	1	9.4	1	9.4	.....	.....	32	303.4	2	18.9	2	18.9	3	56.9	3	28.4	3	28.4	6	56.9	.....	.....
Country	2	1.4	13	9.1	26	18.2	11	7.7	321	225.3	13	9.1	24	18.8	49	34.3	18	12.6	44	30.8	74	51.9	3	2.1

Meteorological Summary for April, 1904. Furnished by the Central Office, Indiana Section, Climate and Crop Service, U. S. Weather Bureau, Indianapolis, Ind.

W. T. BLYTHE, SECTION DIRECTOR.

SECTIONS.	TEMPERATURE.												PRECIPITATION.				CONDITION OF SKY.			Wind. Prevailing Direction.
	Mean.	Departure from Normal.	Highest.				Lowest.				In Inches.				Number of Days.					
			Degree.	Date.	Place.	Degree.	Date.	Place.	Average.	Departure from Normal.	Snowfall Unmelted.	Days with .01 inch or more.	Clear.	Partly Cloudy.	Cloudy.					
																Clear.	Partly Cloudy.	Cloudy.		
Northern Section	44.2	-5.9	81	23	Delphi Logansport	18	20	Angola Marke South Bend	3.63	+0.95	0.3	10	12	7	11	N.				
Central Section	46.6	-5.1	84	23	Franklin	19	17	Northfield	3.71	+0.42	0.1	9	11	8	11	NW.				
Southern Section	49.7	-4.9	87	23	Rome	21	4	Holland	2.62	-0.95	0.9	9	10	8	12	NW.				
State	46.8	-5.3	.....	.....	.....	.....	.....	.....	3.32	+0.14	0.4	9	11	8	11	NW.				