

## MONTHLY BULLETIN

# Indiana State Board of Health.

[Entered as second-class matter at the Indianapolis Postoffice.]

VOLUME IV.

INDIANAPOLIS, AUGUST, 1902.

NUMBER 8.  
25 Cents a Year.

J. H. FORREST, M. D., PRESIDENT..... Marion.  
W. N. WISHARD, M. D., VICE-PRESIDENT..... Indianapolis.  
J. N. HURTY, M. D., PHAR. D., SECRETARY..... Indianapolis.  
T. HENRY DAVIS, M. D..... Richmond.  
CLARK COOK, M. D..... Fowler.

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 AUGUST, 1902.

The number of deaths reported for the month was 3,158, making a death rate of 14.8. For the corresponding month last year there was reported 2,932 deaths, making a rate of 13.7. Compared with the preceding month another increase is shown, for in July there were 2,907 reported, making a rate of 13.6. The number of deaths under one year of age was 701, which is a decided increase compared with the corresponding month last year when the number reported was 621, a difference of 80. The percentage of total deaths for the month under one year of age was 23.4. The number of deaths from 1 to 5 years of age was 365, or 12.1 per cent. of the total. From 5 to 10 years of age, the number of deaths was 60, or 2 per cent. of the total. From 10 to 15 years of age, the deaths numbered 51, or 1.7 per cent. of the total. The deaths of those who were 65 years and over, numbered 687 or 22.9 per cent. of the total. From these considerations it will be seen that infants under one year suffered more than any other period named. This increase in infantile deaths in August was predicted. This was an easy matter because it is well known that germ life with their poisons are more abundant in August than in other months. Some important causes of death were: Pulmonary tuberculosis, 275; other forms of tuberculosis, 38; typhoid fever, 167; diphtheria, 20; scarlet fever, 7; measles, 5; whooping cough, 20; pneumonia, 69; diarrhoeal diseases, 550; cerebro-spinal meningitis, 25; influenza, 2; cancer, 104; violence, 129; smallpox, 2. Typhoid fever shows an increase of over 100 per cent. in comparison with the corresponding month last year and in comparison with the preceding month. It seems rational to suppose that the frequent and abundant rains of the summer have washed pollution into the surface wells and caused this rise in typhoid fever. A severe drought might also have caused a rise because wells would then be supplied with water from a greater area, and thus be more likely to receive pollution. Deaths from diarrhoeal dis-

eases show a heavy increase over the corresponding month last year and over the preceding month of this year. A decrease is to be noted in the deaths from smallpox, there being only two deaths from this cause to record for August, against 15 for the preceding month. A decrease in consumption appears, there being 275 deaths from this cause during the month and 335 from the same cause in the corresponding month last year.

**SANITARY SECTIONS:** THE NORTHERN SANITARY SECTION, having a total population of 839,935, numbering 31 counties, reports 1,006 deaths, a rate of 14.1. Last month this section reported 763 deaths, a rate of 10.7. In the corresponding month last year this section reported 883 deaths, a rate of 12.4.

THE CENTRAL SANITARY SECTION, having a population of 1,024,729, numbering 33 counties, reports 1,398 deaths, a rate of 16. In the preceding month this section reported 1,355 deaths, a rate of 15.6, and in the corresponding month last year the same section reported 1,271 deaths, a rate of 14.6.

THE SOUTHERN SANITARY SECTION, having a population of 851,736, and numbering 25 counties, reports 754 deaths, a rate of 13.6. In the preceding month this section reported 789 deaths, a rate of 14.2, and in the corresponding month last year, it reported 778 deaths, a rate of 14.

**COMPARISON OF SANITARY DISTRICTS:** The Southern Sanitary Section shows the lowest death rate. It also shows the lowest percentage of infantile deaths. The Northern Sanitary Section heretofore has had the lowest rate in both these respects for several months. The lowest rate for pulmonary tuberculosis is still found in the northern counties. This is also true in regard to typhoid fever. Strange to say, the high death rate in diarrhoeal diseases is found in the northern section and the lowest in the southern section. From violence, the highest rate occurred in the central section, then follows the northern and lastly the southern. All of the smallpox deaths occurred in the central section.

**BY COUNTIES:** Warren County shows the lowest death rate for the month, namely, 3.1. The highest death rate was reported from Grant County, the rate being 24.3. There was a special heavy mortality of old people in this county in the month. The counties showing a death rate of 20 and over were Grant, Clinton, Shelby and Tipton.

**CITIES:** All the cities of the State, representing a population of 857,840, reported 1,226 deaths, a rate of 16.8. This is 2 higher than the average rate for the

whole State. Compared with the preceding month this is a decrease of .1 in the death rate, and this shows that the increased death rate of the State for the month does not proceed from the cities, but entirely from the country. The number of deaths under 1 year of age in the cities was 294, which is 25.4 per cent. of the total deaths, in the whole State. From 1 to 5, the deaths numbered 103 or 8.9 per cent.; 5 to 10, the deaths numbered 27 or 2.3 per cent.; 10 to 15, the deaths numbered 27 or 2.3 per cent.; 65 and over, the deaths numbered 212, or 18.3 per cent.

**CITIES BY CLASSES:** CLASS A, having a population of over 50,000 including Indianapolis and Evansville, a total population of 228,171, report 295 deaths, a rate of 15.2. In the preceding month this class reported 331 deaths, a rate of 17.1. In the corresponding month of last year this class reported 290 deaths, a rate of 14.9.

CLASS B, having from 25,000 to 50,000 population, representing three cities, Ft. Wayne, South Bend and Terre Haute, with a total population of 116,787, report 175 deaths, a rate of 17.6. The rate for Ft. Wayne was 17.2; South Bend 13.7; and Terre Haute 21.8. In the preceding month there were reported in this class 159 deaths, a rate of 16. In the corresponding month last year there were reported 151 deaths, a rate of 15.1.

CLASS C, having from 10,000 to 25,000 including 14 cities, with a total population of 218,623, report 330 deaths, a rate of 17.8. In the preceding month this class reported 354 deaths, a rate of 19.1. In the corresponding month last year there were reported 294, a rate of 15.8.

CLASS D, having from 5,000 to 10,000 population, including 23 cities, with a total population of 161,751, report 233 deaths, a rate of 16.9. In the preceding month this class reported 217 deaths, a rate of 15.8. In the corresponding month last year this class reported 225 deaths, a rate of 16.3.

CLASS E, having under 5,000 population, including 40 cities, total population 131,508, report 192 deaths, a rate of 17.2. In the preceding month this class reported 169 deaths, a rate of 15.1. In the corresponding month last year this class reported 190 deaths, a rate of 18.5.

**COMPARISON OF CITIES AND COUNTRY:** The country deaths numbered 1,932, a rate of 13.7. This is 3.1 less in the rate as compared with the cities, and is 1.1 less than the rate for the whole State. In the preceding month the country death rate was 11.9 and the city rate 16.9. In the corresponding month last year the country rate was 12.5 and the city rate 16. There is a lower rate for deaths under one year of age in the country, the figures being country, 22.1 per cent.; cities, 25.4 per cent. For 65 years and over, the rate is higher in the country than in the cities, the figures being country, 25.8 per cent.; cities, 18.3 per cent. The consumption rate of the country as usual was less than that of the cities, the rates being country, 119.5 per 100,000; cities, 147.1. There was almost an equal division in regard to typhoid fever, the rates being country 78.2 per 100,000; cities, 78.4. Diphtheria was only slightly prevalent in the whole State, but will be more prevalent in September on account of the gathering of the children in the schools. The respective rates of this disease were country, 7.8 per cent.

per 100,000; cities, 12.3 per cent. There is a marked difference between the cities and the country in regard to pneumonia. The city death rate for this disease was 53.6, and for the country, 21.3 per 100,000. In diarrhoeal diseases the country exceeded the cities, the rates being cities, 239.3 per 100,000; country, 267.4. In cancer the rate for the cities was 63.2 per 100,000, and for the country, 41.2. All the smallpox deaths occurred in the country, one in Franklin and one in Henry County.

The chart on page 93 presents a graphic comparison by sanitary sections.

### DISEASE PREVALENCE IN JULY.

Smallpox for the nineteenth consecutive month, leads the list as most prevalent. In July typhoid fever was the sixth in area of prevalence and this month it is second. Diarrhoea which was second last month, is now third. The order of prevalence of diseases was as follows: Smallpox, typhoid fever, diarrhoea, rheumatism, cholera morbus, dysentery, intermittent fever, tonsillitis, bronchitis, cholera infantum, inflammation of bowels, whooping cough, scarlet fever, influenza, pleuritis, pneumonia, diphtheria and croup, erysipelas, measles, puerperal fever, cerebro-spinal meningitis.

### SMALLPOX IN AUGUST.

There were 245 cases from smallpox reported for the month, with two deaths, in 30 counties. In the preceding month 502 cases and 15 deaths, in 46 counties, were reported. There is, therefore, a decided improvement to record. The counties visited were Allen, 2 cases; Blackford, 2; Cass, 1; Clark, 1; Clinton, 7; Daviess, 21; Dearborn, 1; Dubois, 25; Franklin, not less than 25 and one death; Fulton, 10; Gibson, 7; Hancock, 1; Henry, several and one death; Howard, 44; Jefferson, 3; Knox, 7; Kosciusko, 13; Lake, 1; Marion, 9; Monroe, 11; Morgan, 1; Noble, 9; Orange, 7; Spencer, 1; Starke, 4; St. Joseph, 6; Tippecanoe, 2; Vanderburgh, 10; Vermillion, 4; Vigo, 5; Wayne, 5. Ten health officers of the 30 reporting smallpox state there are many severe cases. In other words, as was to be expected, the disease is gradually assuming a severer type. It is to be earnestly hoped the mortality rate will not increase.

**A SMALLPOX STORY:** Dr. Geo. E. Hoffman, health officer of Fulton County, in his report gives the following interesting details: "The ten cases of smallpox I have to report for August, all occurred in one house. Two families were living together, eleven persons in all. The youngest, a girl of six, acquired discrete smallpox, and was in the vesicular stage when discovered. Vaccination was urged upon the other ten members of the family, but they absolutely refused, declaring they preferred to have the disease. In the child the malady pursued the usual course. In due time the other members were taken down, one after the other. Before the last three were attacked they begged to be vaccinated, and the operation was performed. It was too late, however, for two, as they were already infected, and duly developed vaccinia with

their smallpox. One took vaccination nicely and did not have smallpox. The disease was confluent in four of the cases, severe in four and mild in two. They all expressed the wish that they had agreed to vaccination in the beginning. Would that the present faith of these people was more widespread, but others, I presume, can learn by experience only, as did the persons in question. Schools open next month. I tried to get the school officers to require vaccination, but they hesitated. We very probably will have to record results flowing from this hesitation in the future."

**DEATHS BY VIOLENCE IN INDIANA IN AUGUST.**

The mortality statistics in Indiana for August show there were 129 deaths by violence. Of these 99 were males and 30 females. Twenty of the violent deaths were suicides—males, 13; females, 7. The methods used were drowning, 3, arsenic, 1; carbolic acid, 4; morphine, 2; not named, 1; pistol, 3; gun, 1; hanging, 3; cutting throat, 1. The youngest suicide was a boy of 16 who chose hanging, and the next youngest was a girl of 19 who chose the pistol. The average of the suicides was 41.3 years. Railroad accidents killed 29—males, 26; females, 3. Accidental drowning caused 12 deaths—10 males and 2 females. The other causes of violent deaths were: Sunstroke, 3—males, 2; females, 1. By burning, 8—males, 1; females, 7. By lightning, 2—both males. By poisoning, 7—males, 6; females, 1. By murder, 3—males, 2; females, 1. By firearms, 6—males, 5; females, 1. Fracture of skull, 6—all males. Falls, 4—all males. By horses, 4—all males. Cause not given, 25.

**DR. J. M. TALBOTT.**

Dr. J. M. Talbott, health officer of Vigo County, dropped dead Thursday evening, August 14, while standing in his yard. Some unknown heart disease was the cause of death. Dr. Talbott was sixty-six years old, having been born in 1836. He served in the medical department of the army in the Rebellion, and was appointed health officer of his county in 1899. Dr. Talbott was much interested in preventive medicine and was an efficient officer.

**THE PUBLIC WATER SUPPLY OF MARTINSVILLE.**

The present plant was installed in 1894 and the supply was from eleven driven wells. In 1895 an open dug well was constructed, and since 1900 the open well has been the sole source of supply, for in that year the driven wells were abandoned and abolished. The open well is covered and protected with screen work. The mains and branches include a total length of ten miles. The plant is owned by the city. In July, 1902, several cases of typhoid fever appeared in Martinsville and the public water supply was suspected by some citizens. This led to its being analyzed. Five samples in all were examined, a sample being col-

lected every two days and immediately sent to the laboratory. In this way it was hoped that data would be secured from which fair conclusions could be drawn. The figures and other facts of the analyses are given in the following table:

FIGURES ARE PARTS IN 100,000.	Sample No. 1.	Sample No. 2.	Sample No. 3.	Sample No. 4.	Sample No. 5.
Collected .....	Aug. 6	Aug. 9	Aug. 11	Aug. 13	Aug. 16
Analyzed .....	Aug. 7	Aug. 11	Aug. 12	Aug. 14	Aug. 17
<b>APPEARANCE—</b>					
Turbidity.....	None.	None.	None.	None.	None.
Sediment.....	"	"	"	"	"
Color.....	"	"	"	"	"
<b>ODOR when heated to 100° F.....</b>	None.	None.	None.	None.	None.
<b>CHLORIN in chlorides .....</b>	1.4	1.6	1.6	1.4	1.6
<b>NITROGEN AS—</b>					
Free ammonia.....	0.000	0.000	0.000	0.001	0.000
Albuminoid ammonia.....	0.000	0.000	0.000	0.003	0.000
Nitrites.....	0.010	0.000	0.000	0.000	0.000
Nitrates.....	0.500	0.500	0.500	0.500	0.500
<b>SOLIDS—</b>					
Total Solids.....	32.6	34.8	37.8	37.1	36.2
Fixed Solids.....	25.7	27.8	30.8	30.1	29
Volatile solids.....	6.9	7	9	7	7.2
<b>BACTERIOLOGICAL—</b>					
Only harmless bacteria found in all five samples.					

It plainly appears from the figures and indications secured in each analysis that the Martinsville water is first class in every particular. It is absolutely free from organic matter and harmful bacteria, and is relatively soft. One sample, No. 4, was taken from a tap at a point in the pipes furthest removed from the pumping station. At this place, probably near a dead end, the water was sometimes cloudy, and this aroused suspicion. Deposits will always proceed from the purest waters containing lime and iron when they are held without motion any length of time in a pipe with dead ends.

We consider this a very satisfactory demonstration that the public water supply of Martinsville is of high purity, and the city is to be heartily congratulated. In this connection we wish also to congratulate the people of Martinsville upon having an excellent sewer system. Now, as speedily as possible, let the city authorities abolish all vaults and sinks and compel all house-owners to put in sewer connections where it is possible to reach the sewers; also, as soon as it can be properly done, all dug wells should be abolished and house connections made with the pure public supply.

**SMALLPOX AT CLEVELAND OHIO:** It is altogether too bad that Dr. Friedrich, the health officer of Cleveland, Ohio, went off half-cocked. Perhaps he liked to go off that way, anyhow he went off. It was, of course, absolutely absurd to claim that epidemic smallpox could be stamped out by isolation and disinfection only. Dr. Probst, Secretary of the Ohio State Board of Health (and by the way, no better man in public health work is known), has given in the August Ohio State Board Bulletin a complete account of the Cleveland experience. This account is thoroughly scientific, for it is so fair, so kindly, so exhaustive, and so succinct. The report shows that the city of Cleveland was handed over to Health Officer Friedrich July 20, 1901, practically freed from smallpox. That it

remained so for some months, but that another epidemic, which is of severer type than the previous one, has been going on for several months in spite of disinfection. When the State Board gave Dr. F. full opportunity to correct, reform or deny the statements and conclusions of his famous article entitled, "How We Rid Cleveland of Smallpox," the Doctor wrote a long letter, which he forgot to sign, and this letter in no way modified or contradicted the claim that an epidemic of smallpox was arrested in Cleveland by disinfection, without vaccination. Dr. F. said in his letter in effect that he was not opposed to vaccination, but was estopped from ordering its general practice because for a time it was impossible to secure pure virus. The publishing broadcast of the untrue statement that Cleveland was rid of smallpox by isolation and disinfection without vaccination did an immense deal of harm. The antivacs seized upon the untruth and gave it wide publicity. No doubt this awful mistake of Dr. Friedrich's has been an important factor in preventing vaccination over a wide area, and if vaccination has been prevented then smallpox has been increased.

\* \* \*

**ABOUT A JAIL:** Dr. Kell, health officer of Union County, in his annual sanitary report for 1901, says: "Our jail was built in 1884, is two stories, and is a strong building of stone and steel. The sewerage is excellent. It is partly heated by furnace and partly by stoves. It has had no inmates for eighteen months." This seems to be an ideal condition. To have a strong, sanitary jail ready for use and not needed for such an extended period, speaks well for Union County.

\* \* \*

**NEAREST NEIGHBORS:** The family of Henry W. Adams consists of seven persons, and every member contracted smallpox. Mr. John S. Johnson has a family of four and is the nearest neighbor of Mr. Adams. There are now four cases of smallpox in the house of Mr. John S. Johnson, for this family would persist in visiting at the Adams house. All of this occurred in Monroe County, and well illustrates how it is that people who will not take advice may easily become deceased.

\* \* \*

**VERY INTERESTING:** Dr. M. T. Didlake, health officer of White County, gives us the following information: "On September 1 an old man about 80 years old and a stranger, was killed by the cars at Monon. The coroner held an inquest and ordered the body to be buried. The undertaker threw it into an old box without washing or dressing, or without any decency whatever. At least such is the information I have received. Several citizens of Monon have raised money to disinter, clean up the body, dress properly, and reinter in the same grave. I was asked for permit to disinter and have given the same."

\* \* \*

**WELL DONE:** The smallpox ordinance given below is the first, so far as we know, making vaccination compulsory. It is yet to be seen whether or not the courts can and will sustain it. Of course, we fervently hope it will be sustained. The town trustees who passed this

ordinance, and Health Officer Baker, who wrote and recommended it, are all to be congratulated. Their effort is certainly along scientific lines, and if smallpox is to be prevented, as the law commands it shall be, the prevention will be accomplished through general vaccination, and it only. When all are vaccinated there will be no smallpox, and not before.

#### SMALLPOX ORDINANCE.

WHEREAS, there is a case of smallpox in the Town of Orleans, to which many persons have been exposed, and there is great danger of the disease becoming general—it being impossible to know who all have been exposed; Therefore, on the recommendation of the Secretary of the Board of Health, the following Ordinance has been passed and will be rigidly enforced:

#### ORDINANCE NO. 38.

Be it ordained by the Board of Trustees of the Town of Orleans, in Orange County, Indiana, that all persons residing, permanently or temporarily, in said town, who have never had smallpox or varioloid, and have not been successfully vaccinated within the last five years, shall, within forty-eight hours from the time this Ordinance is passed, be vaccinated. Parents and custodians of children are by this Ordinance required to see that such children comply with this Ordinance. All persons subject to this Ordinance who fail or refuse to comply with the requirements of the same, shall, upon conviction before any Justice of the Peace of said town, be fined in any sum not exceeding ten dollars, and each day's violation shall be deemed a separate offense.

SECTION 2. All persons permanently or temporarily residing in said Town of Orleans, who shall fail or refuse to comply with the order of the Secretary of the Board of Health of said town on the subject of quarantine against smallpox or any other contagious disease, shall, upon conviction before any Justice of the Peace of said town, be fined in any sum not exceeding ten dollars.

WHEREAS, an emergency exists for the immediate taking effect of this Ordinance, therefore the same shall be in force and effect from and after its passage.

Approved and passed by the Board of Trustees of the Town of Orleans, at the hour of 11 o'clock, in the forenoon, on the 31st day of August, 1902.

JOHN M. HARDMAN, President.

WILL STANDIFORD, Clerk.

All persons required by the above Ordinance to be vaccinated, and who are financially unable to do so, may, by stating the fact in writing to the Secretary of the Board of Health, require that officer to vaccinate him or her, at the expense of the town.

BY ORDER OF THE BOARD.

\* \* \*

**SHOULD BE CLEAN:** In diphtheria, tuberculosis and scarlet fever in its early stages, and doubtless in smallpox, the virus is contained in the secretions of the nose and mouth. People should be taught to take care of their own secretions and to avoid contact with the secretions of others. In other words, they should be taught to be clean.—Chapin.

\* \* \*

**PUERPERAL FEVER:** There is all too much puerperal fever in Indiana this month. We have reported five deaths. The causative germs of puerperal fever are everywhere, notably upon the hands of doctors. The physician who attends scarlet fever, erysipelas, diphtheria, carbuncle and other infective diseases in which streptococci play a

part, is almost certain to infect his patients if he attends confinements without taking the most extraordinary precautions as to hand disinfection. A thorough washing and disinfecting of hands by the doctors of Indiana will materially reduce the child-bed fever deaths and save many mothers.

\* \* \*

**NEW HEALTH OFFICERS:** Dr. Maurice B. Van Cleave, of Terre Haute, has been appointed health officer in Vigo County to fill out the unexpired term of Dr. J. M. Talbott, deceased. Dr. T. C. Stunkard is now health officer of the city of Terre Haute, vice Dr. L. J. Willien, resigned. Dr. J. A. Clevenger is the newly appointed health officer of Garrett City, vice J. P. Strouse, resigned. Dr. James P. Moser, health officer of Brown County, has resigned, and Dr. Frank L. Tilton has been appointed to fill out the unexpired term.

\* \* \*

**DUBOIS COUNTY:** The board of health of Dubois County does not seem to understand that contagious diseases are a source of expense and unhappiness. At least this seems to be the proper inference, for the said board has refused to obey the State statutes which command it to take prompt action to arrest the spread of infectious and contagious diseases. To this date it has not acted, although supplied with full information from the State Board. Dr. J. F. Michaels, health officer of the county, writes:

"One James Collins and wife, who were quarantined on account of smallpox, broke quarantine and escaped to the country. I am powerless to interfere because the County Board of Health has not given me authority and means wherewith to act."

No doubt the members of the Dubois County Board of Health are practical men in farming and merchandising or in whatever they are employed, but they certainly are very impractical in affairs pertaining to the public health. Unless the Dubois County Board of Health acts speedily it will become necessary for the State Board of Health to take command and to enter legal processes to compel obedience to the statutes of the State.

\* \* \*

**DISINTERMENT OF DEAD BODIES:** Mr. Albert Hollingsworth, embalmer for Isaac Ball & Son, of Terre Haute, writes us in regard to permits for making disinterment and removal of dead bodies.

"I wish to know if it is absolutely necessary to procure a permit for disinterring and removal of the dead. Certain undertakers here are doing it without permission. We applied for a permit and while waiting for return of the same, a competitor disinterred the body and removed it, thus securing the business."

The rules of the State Board of Health in regard to the transportation and disinterment of dead bodies, have been sustained by the Appellate Court, and therefore, have unquestionably the force of law. These rules command that bodies which have been once interred can not be disinterred for removal from the cemetery without a per-

mit from the State Board of Health. The permit is given without fee. All that is necessary is for the undertaker to fill out an application blank. The object of the rule is apparent. The undertaker in Terre Haute, who made disinterment without a permit will be looked after and he undoubtedly will be made to pay for his violation of the law. It is the duty of the county health officers to see to it that the undertakers and cemetery authorities are informed in regard to this rule, and the State Board of Health will supply all health officers with application blanks for disinterment at any time. Undertakers may also procure them direct from the State Board of Health.

\* \* \*

**SEEM TO LIKE DISEASE:** Dr. I. C. Lambert, of Colfax, furnishes us some interesting facts in regard to a family who seem to like disease. He says:

"I send you a sample of water which is from the well on the farm of Widow Strain in Montgomery County. This well is dug, and is about 20 feet deep. They have a pipe driven in its bottom for about 50 feet, making a depth of 70 feet in all. The well is about 30 feet from house, no sinks or vaults near. The waste water of the house is piped through tile to a ditch, and the well is shedded over by a wood and smoke house. The floor around the well is much decayed, and the cracks so large that rats could readily fall through. The family have been in the habit of casting old boots and shoes, tin cans, etc., in the dug portion of the well in order 'to fill it up.' The water which was supposed to come from the driven part smelled badly and tasted horribly, and on standing the vessel would become slimy. Yesterday the family were doing their washing from this well and pumped it dry. The water looked muddy, but this afternoon is supplying them again. I am convinced the pipe has been broken or rusted through in the dug part, and it is not deep water which is secured. It makes the family mad to say anything about their well. They attribute the odor and taste to sulphur. I ordered all of the water boiled, but the members of the family who are not sick are still using it to drink. Two of the family, a young man and his wife, have typhoid fever, and both cases are very severe. Some of the other members of the family are not well, and some neighbors that go there to nurse say that if they take a drink of the water it seems to fill them up and give pain, and diarrhoea usually follows."

The analysis of the sample of water sent shows it to be badly polluted. The bacteriological examination discovers the presence of intestinal bacteria. Upon standing a short time the sample develops a bad smell, and the slime which Dr. Lambert speaks of is plainly apparent on the inside of the containing vessel. It is hard to understand why people prefer sickness to health, as is seemingly the case in this instance. It can only be explained upon the supposition of dense ignorance. They prefer to believe their well is not polluted, and despite the warning, and despite the visitation of a disease which is due to polluted water, they keep on using it. People who court sickness in this way do not deserve sympathy nor health. They should be allowed to become extinct.

## SEWAGE PURIFICATION WORKS AT ISLAND PARK RESORT, ROME CITY, IND.

Island Park Resort is located upon an island in Sylvan Lake, Indiana, and is owned by the Pennsylvania Central Railroad Co. Sylvan Lake is a sheet of water containing 700 or 800 acres, and having a watershed of about 35 square miles. On the shores of the lake are numerous other resorts. The lake is an artificial one, and the dam which forms it is the roadbed of the Grand Rapids & Indiana R. R., a part of the Pennsylvania system.

The surface of the lake has been raised 21 feet above its normal level by the dam. The runoff from the watershed of the lake during the summer months is ordinarily not sufficient to maintain the surface of the lake at a constant level, and the waste gates are usually closed early in the season and the water kept as nearly at its maximum elevation as possible.

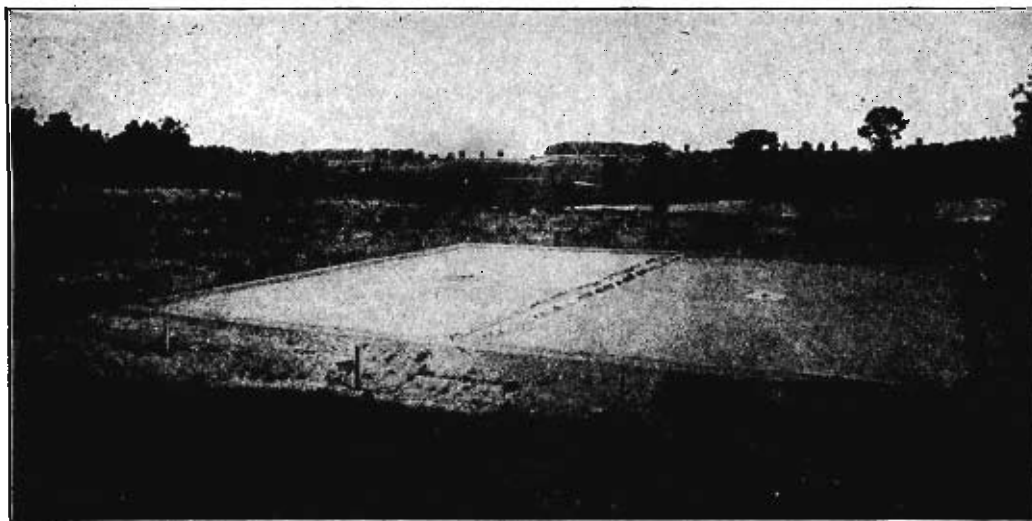


Fig. 1. View of Sewage Filter Beds, Island Park Resort, Rome, Ind.

Island Park is connected with the main land by a pile bridge. Its surface lies at a considerable elevation above the lake, so that it was possible to lead the sewage to a disposal area below the dam, and for a portion of the way the sewer consists of an iron pipe fastened to the pile bents of the bridge at about the floor level.

Below the dam is a lake several acres in extent, an arm of which backs up to the foot of the wasteway, and into this arm of the lake the tile drains from the sewage disposal area discharge. This lake lies to the north of the disposal beds, and is shown in the view Fig. 1.

Years ago the dam which forms Sylvan Lake gave way, and below the break was formed, at that time, a bar of well washed, coarse sand of very even texture. This was deposited near the foot of the bluffs to a depth of 5 or 6 feet. Upon this bar are located the sewage disposal beds. Upon the side of the beds, towards the bluff, a narrow strip of clay was found at a depth of 2 or 3 feet, and this was excavated and removed and the deficiency of suitable material was supplied from a sand bed found in the face of the adjoining bluff.

The quantity of sewage varies greatly at different times,

as it is contributed entirely by resorters. During the early and late part of the season there are but a few hundred persons on the grounds, and upon special days as many as 5,000 people have been cared for. During the winter season the disposal plant is not in operation, as at that time the waste gates are partially open and there is a strong current in the stream below the waste weir and the amount of sewage is very small, being limited to the amount which comes from the water closets in the railroad station.

The disposal plant consists of a septic tank, combined with purification beds. The general arrangement of the plant is shown by Fig. 2.

The septic tank, Fig. 3, is divided by a central wall into two compartments. The first compartment is the septic tank proper, and the second compartment is a collecting chamber in which the sewage is held, as it over-

flows the weir, until it reaches the level indicated, when it is automatically discharged by a siphon upon the purification beds. There is, however, a by-pass from this collecting chamber leading directly back into the main sewer and thence to the stream, so that by opening a valve in the bottom of this chamber, the purification beds may be put out of service and the effluent from the septic tank led directly into the stream.

The intercepting chamber, or septic compartment of the tank, is provided with a valve at its bottom for the removal of sludge which may be drawn out upon the sludge beds shown in Fig. 1. This is done at the close of the season, when the plant is put out of service.

There is a fall of several feet between the bottom of the tank and the surface of the filter beds. There are two beds, each 100 x 60 feet, containing 5 feet or more in depth of coarse, clean sand. These are underdrained by tile drains lying beneath the embankments, and the underdrains discharge into the stream at the foot of the wasteway.

The sewage is discharged upon the beds at the center through a riser pipe. The beds are graded with a very slight downward inclination from the center towards the sides, in order to equalize the distribution of sewage upon the beds. The sewage sinks rapidly into the sand, however, and the inclination is barely sufficient to bring the sewage to the embankments before all of it has disappeared beneath the surface. During a single discharge no portion of the beds is covered to a depth of more than 1 inch, and as soon as a blanket of sewage is applied to the bed,



countless air bubbles may be seen making their way up through the film of sewage.

At the time when the greatest number of people are upon the grounds the collecting chamber has, during certain parts of the day, discharged as often as once in 1½ hours, and at this time the sewage has disappeared below the surface of the sand in 10 minutes or less. This is a rate of application of about 300,000 gallons per acre per day, and is probably equal to a continued rate of 200,000 to 250,000 gallons per day. The beds are in operation one at a time, and during the past season

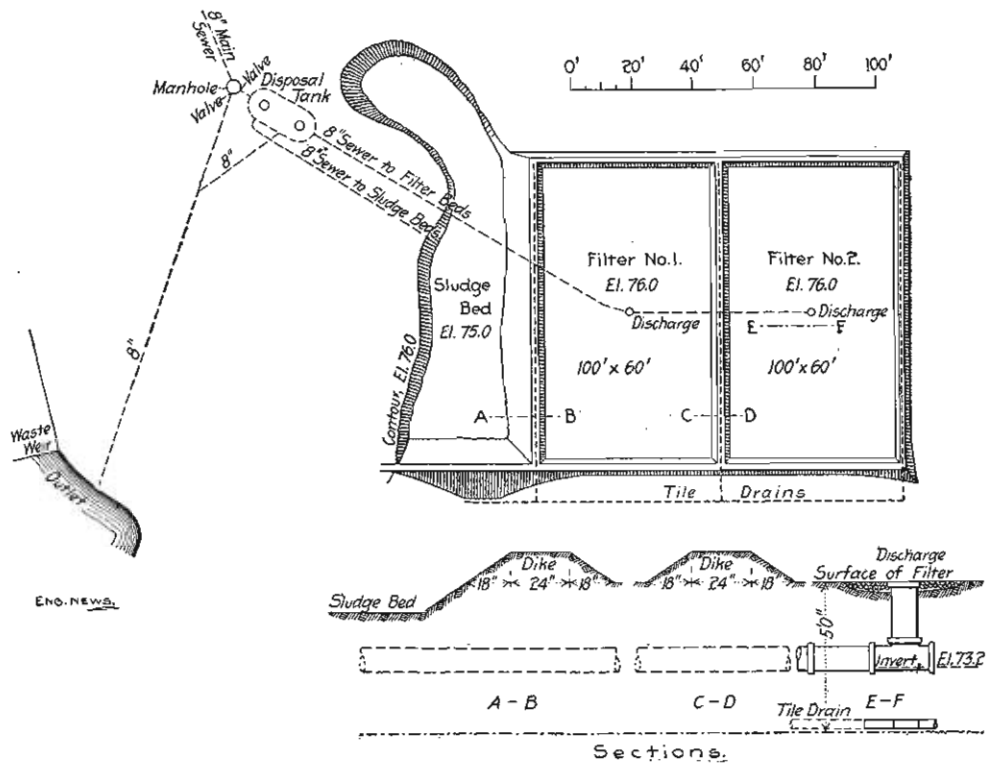
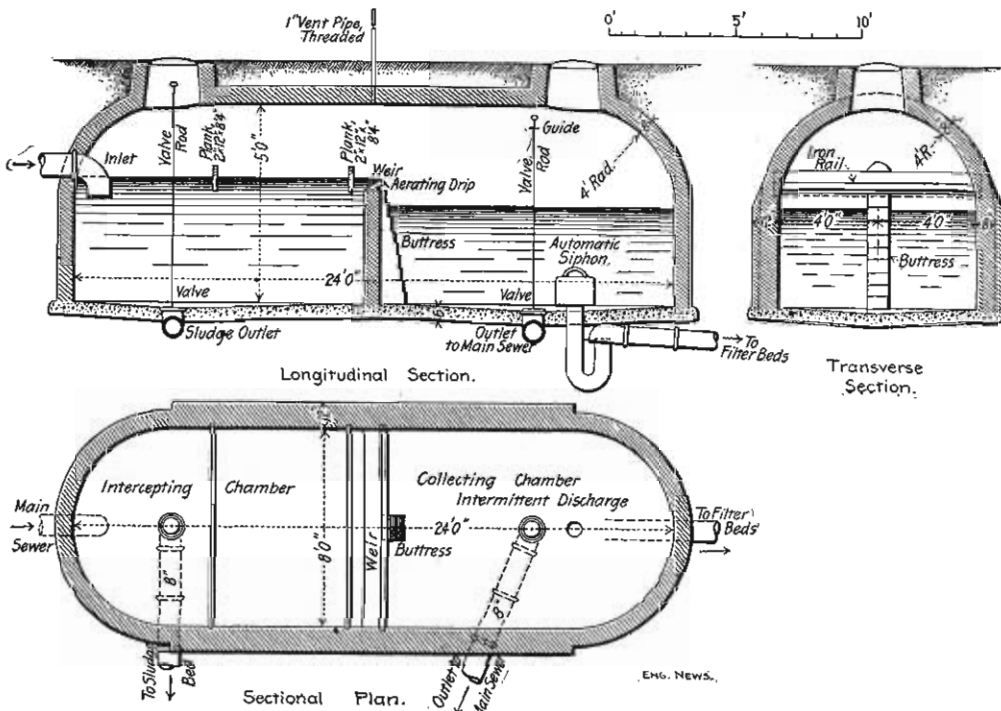


Fig. 2. General Plan of Sewage Disposal Works and Section of Filter Beds, Island Park Resort.



and late in the season it may be as much as 16 to 24 hours. It will be observed that the manner in which the sewage is applied to the purification beds at the time of greatest flow is particularly favorable to thorough aeration and to the purification of comparatively large quantities of sewage upon a limited area.

The plant was built with the writer as engineer, and was put in operation early in July, 1901, and in six weeks septic action was very pronounced.—By Geo. S. Pierson, M. Am. Soc. C. E., Kalamazoo, Mich., *Engineering News*.

each one has been operated continuously for one week and then rested a week.

There has been no disagreeable odor about the beds at any time, and the effluent has been uniformly good in appearance. As before remarked, the flow of sewage is extremely variable, and the time during which the sewage is subjected to septic action varies between quite wide limits. Probably the minimum time, considering both compartments of the tanks, is about two hours. Early

TRACED TO KENTUCKY: "Jefferson County," so says Dr. Hatch, health officer, "has had in the last six months three outbreaks of smallpox, each one of which can be traced to Kentucky. There were two cases of smallpox reported in Madison on August 20, and these two can be traced to Kentucky."

FROM OWEN COUNTY BOARD OF HEALTH RECORD: Tuesday, July 29, 1902. With Robert A. White, commissioner and ex-officio member of the County Board of Health, visited Lucinda Ann Winklepleck as health officers. Mrs. Winklepleck has pulmonary tuberculosis. Failing health four years; confined to bed eleven weeks; age, 40 years; married; had two children; father and grandfather, grandmother on paternal side, died of tuberculosis, also, paternal and maternal uncles and aunts died of consumption. Gave directions as to cleanliness, how to care for sputa and left literature on consumption from State Board of Health. Also ordered food to be furnished by county.

This patient died August 4, 1902, at 4 o'clock p. m. Death certificate made by N. D. Cox, secretary, August 5, 1902.

\* \* \*

SMALLPOX IN BOONE COUNTY: Dr. A. P. Fitch, health officer of Boone County, in a letter of recent date says: "We have been having an eruption here (Lebanon) and in the country that presented all the symptoms of chickenpox. We have been cautious in our diagnosis and taking the ground if it was chickenpox, that we wanted to stamp it out. To accomplish this we quarantined all cases, but the trouble has spread. Now, there is a family in the country, ten miles from Lebanon, who have had quite a time with the eruption. We traced the source and find it is the same thing we have had at Lebanon, but one of the boys is much sicker than the rest. I was out to see the cases last week, and quarantined them for fear that it might prove something worse than smallpox. Dr. Engleman, of Mechanicsburg, is waiting on the cases. He agreed with me it would be best to quarantine them. Yesterday the boy seemed much worse and we had Dr. Reagan to visit the family. He pronounced it smallpox. He thinks this very sick boy has a genuine case. Of course, if this is true, the rest of the family have had smallpox also. I will do my best to confine the disease to its present limits. The trouble has been pronounced by every physician here to be chickenpox. If it is smallpox, it is not a very contagious disease, and we have had no case that confined the patient to bed more than one or two days and not more than one would have it in a family, and all persons who have had chickenpox were not affected with the trouble. I confess it is mystifying to me, but we will do all in our power to stamp it out."

We have no doubt that Dr. Fitch has been dealing with smallpox all the time. The story he relates is the same old story which we have been hearing for the last six years. Very few physicians are acquainted with typical smallpox and fail to recognize it when it first appears. Many physicians are aware also, that the people do not want to have smallpox and if they are compelled to pronounce the disease present, they become unpopular. This fact has undoubtedly prevented many physicians from announcing their honest diagnosis. As smallpox now has started in Boone County it will continue to burn until all combustible material is consumed. Now that the infection is so widespread, quarantine will not prevent its

dissemination among the people. Vaccination is the only thing which will stop smallpox.

\* \* \*

HOW TO DISINFECT A ROOM: After the sick chamber has been vacated, either by recovery or death of the patient, every article in it of no great value should be immediately burned. Articles which it may be desirable to preserve and which will not be injured by water, can be disinfected safely and cheaply by immersing them in boiling water for thirty minutes and then subjecting them to the ordinary process of the laundry. But if this can not be done at once, such articles should be immersed for four hours in some reliable disinfectant, such as mercuric chloride of the proportion of 1 to 2,000, or carbolic acid, 1 to 50, or camphenol, one tablespoonful to one quart of water, and subsequently boiled. For the disinfection of woolen clothing, carpets, bedding and the like, there is nothing equal to steam under pressure.

When however this process can not be carried out for the want of proper facilities, the articles named, with the exception of the carpet, which may remain on the floor, should be hung up in the room and subjected to the influence of formaldehyde. This may be very conveniently and effectively applied by the ordinary formalin solution diluted with two parts of water and used in a large atomizer, such as is commonly employed in the spraying of garden plants, on the basis of one pint of formalin to every one thousand cubic feet of air space. Or by the use of the still more convenient formaldehyde fumigators or "candles," using two of the ordinary sized fumigators to every thousand cubic feet of space. Before applying the formaldehyde or lighting the fumigator every crack and crevice should be tightly closed by stuffing with paper or still better, pasting over with stout wrapping paper; this sealing should apply even to the door of exit. The room should be kept closed for from eight to twelve hours.

When this process is finished and the room opened and ventilated, all surfaces, including the furniture, should be washed with a disinfecting solution (carbolic acid, 1 to 50 or mercuric chloride, 1 to 2,000, or camphenol, three tablespoonfuls to a pint of water), and afterward the floor and woodwork thoroughly scrubbed with soap and water. The wall paper, if there be any, should be well moistened with the carbolic acid or camphenol solution and scraped off and burned. Paper may be reapplied or the walls whitewashed, as preferred.

The efficiency of this method has been proven by scientific tests and it can be asserted that any infected room could be considered safe for occupancy after having been faithfully subjected to the treatment herein outlined.

\* \* \*

HOW NURSES DISINFECT: At the Nurses' Home in Waltham, when a nurse comes in from a case of contagious disease and it is necessary for her to go immediately and take charge of another case, they have a process of disinfection by which that nurse is ready in one hour to take another case, and in that time no less than a dozen persons have had charge of her and her clothing. Even the money she has in her pocket is disinfected before she goes out again.



CHART SHOWING GEOGRAPHICAL DISTRIBUTION OF DEATHS FROM CERTAIN COMMUNICABLE DISEASES IN AUGUST, 1902.

**NORTHERN SANITARY SECTION.**

Total population .....	839,835
Total deaths .....	1,006
Death rate per 1,000 .....	14.1
Consumption, rate per 100,000 .....	82.8
Typhoid, rate per 100,000 .....	47.7
Diphtheria, rate per 100,000 .....	5.6
Scarlet fever, rate per 100,000 .....	4.2
Diarrhéal diseases, rate per 100,000 .....	293.6

**CENTRAL SANITARY SECTION.**

Total population .....	1,024,791
Total deaths .....	1,398
Death rate per 1,000 .....	16.0
Consumption, rate per 100,000 .....	132.4
Typhoid, rate per 100,000 .....	94.4
Diphtheria, rate per 100,000 .....	13.8
Scarlet fever, rate per 100,000 .....	4.6
Diarrhéal diseases, rate per 100,000 .....	254.4

**SOUTHERN SANITARY SECTION.**

Total population .....	651,836
Total deaths .....	754
Death rate per 1,000 .....	13.6
Consumption, rate per 100,000 .....	182.8
Typhoid, rate per 100,000 .....	92.3
Diphtheria, rate per 100,000 .....	7.2
Scarlet fever, rate per 100,000 .....	.0
Diarrhéal diseases, rate per 100,000 .....	217.2

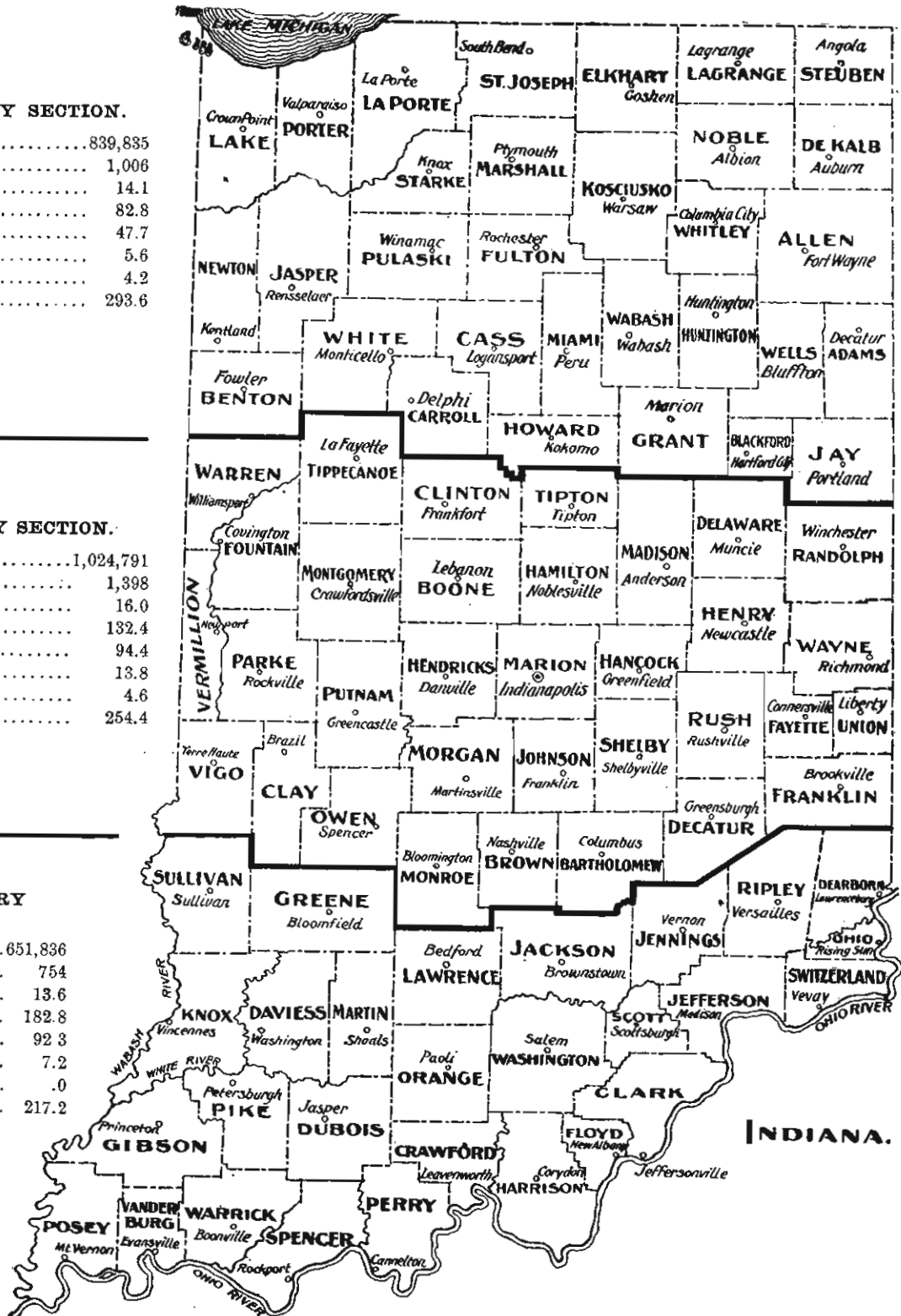


TABLE No. 1. Deaths in Indiana by Geographical Sections and Counties During the Month of August, 1902.

STATE AND COUNTIES.	Population, based on Census 1900.	Total Deaths Reported for August, 1902.	Annual Death Rate per 1,000 Population.	Stillbirths.	IMPORTANT AGES.							DEATHS FROM IMPORTANT CAUSES.																
					Under 1 Year.	1 to 5, inclusive.	5 to 10, inclusive.	10 to 15, inclusive.	15 Years and Over.	Pulmonary Consumption.	Other Forms of Tuberculosis.	Typhoid Fever.	Diphtheria.	Croup.	Scarlet Fever.	Measles.	Whooping Cough.	Pneumonia.	Diarrheal Dis- eases, Under 5.	Cerebro-spinal Meningitis.	Influenza.	Puerperal Septicæmia.	Cancer.	Violence.	Deaths in Insti- tutions.	Smallpox.		
																											701	365
State of Indiana.	2,516,462	3,158	14.8	165	701	365	60	51	687	275	38	167	20	7	5	20	69	550	25	2	5	104	129	119	2			
Northern Co's....	839,935	1,006	14.1	46	241	126	21	14	231	59	10	34	4	3	1	4	23	209	4	1	4	38	41	40	.....			
Adams	22,232	22	11.6	2	4	3	2	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Allen	77,270	97	14.8	2	20	15	2	2	20	11	4	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Benton	15,123	6	7.1	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Blackford	17,213	21	12.2	1	11	3	1	1	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Carroll	19,953	17	13.4	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Cass	34,545	48	16.3	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
DeKalb	25,711	29	13.3	.....	.....	.....	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Elkhart	45,052	51	15.3	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Fulton	17,453	16	10.3	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Grant	54,693	113	24.3	.....	.....	.....	.....	.....	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Howard	28,575	37	17.9	.....	.....	.....	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Huntington	28,901	44	15.9	.....	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Jasper	14,292	14	11.3	.....	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Jay	26,318	34	14.9	.....	.....	.....	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Kosciusko	29,109	32	14.2	.....	.....	.....	.....	.....	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Lagrange	15,284	12	15.2	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Lake	37,892	42	15.2	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Laporte	35,986	42	12.3	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Marshall	25,119	21	10.3	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Miami	29,544	34	14.1	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Newton	10,448	9	10.5	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Noble	25,533	23	11.3	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Porter	19,175	16	10.3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Pulaski	14,033	17	14.7	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Starke	10,431	13	14.9	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Steuben	15,219	9	6.3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
St. Joseph	56,881	62	12.3	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Wabash	28,235	44	18.3	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Wells	23,449	21	10.5	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
White	19,138	13	8.0	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Whitley	17,228	23	16.4	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Central Co's....	1,024,791	1,398	16.0	77	301	145	22	22	320	115	17	82	12	4	4	8	37	221	12	.....	.....	43	62	58	2			
Bartholomew	24,594	40	19.1	1	10	5	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Boone	26,321	37	16.5	2	6	4	.....	.....	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Brown	9,727	9	10.9	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Clay	34,285	34	11.7	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Clinton	28,202	53	22.1	.....	.....	.....	.....	.....	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Decatur	19,518	33	19.3	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Delaware	49,624	71	16.8	.....	.....	.....	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Fayette	13,495	18	15.7	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Fountain	21,446	23	12.6	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Franklin	16,388	23	16.9	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Hamilton	29,914	38	14.9	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Hancock	19,189	24	14.7	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Hendricks	21,292	24	13.3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Henry	25,088	42	19.7	.....	.....	.....	.....	.....	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Johnson	20,225	20	11.6	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Madison	70,470	110	18.4	.....	.....	.....	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Marion	197,227	287	17.1	.....	.....	.....	.....	.....	52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Monroe	20,873	31	17.6	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Montgomery	29,388	39	15.6	.....	.....	.....	.....	.....	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Morgan	20,457	25	14.4	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Owen	15,149	19	14.7	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Parke	23,000	27	13.3	.....	.....	.....	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Putnam	21,478	18	9.8	.....	.....	.....																						

TABLE No. II. Deaths in Indiana by Cities During the Month of August, 1902.

CITIES.	Population, based on Census, 1900.	Total Deaths Reported for August, 1902.	Annual Death Rate per 1,000 Population.	Stillbirths.	IMPORTANT AGES.						DEATHS FROM IMPORTANT CAUSES.																			
					Under 1 Year.	1 to 5, inclusive.	5 to 10, inclusive.	10 to 15, inclusive.	65 Years and Over.	Pulmonary Consumption.	Other Forms of Tuberculosis.	Typhoid Fever.	Diphtheria.	Croup.	Scarlet Fever.	Measles.	Whooping Cough.	Pneumonia.	Diarrheal Diseases, Under 5.	Cerebro-spinal Meningitis.	Influenza.	Puerperal Septicæmia.	Cancer.	Violence.	Deaths in Institutions.	Smallpox.				
Cities over 50,000 Population	228,171	295	15.2	22	54	19	6	7	46	26	7	21	1			2	6	20	3							15	17	37		
Indianapolis	168,164	238	16.6	19	42	16	4	5	40	21	5	19	1			2	6	14	2							11	14	28		
Evansville	59,007	57	11.3	3	12	3	2	2	6	5	2	2						6	1							4	3	9		
Cities from 25,000 to 50,000 Population	117,787	176	17.6	10	46	24	4	3	31	16	1	5	2				7	42	1							4	11	13		
Ft. Wayne	45,115	66	17.2	3	12	8		2	17	9	4	2	1				2	11	1							2	5	10		
South Bend	35,999	42	13.7		15	7	2		1	1		1					3	13								1	3	1		
Terre Haute	36,673	68	21.8	4	18	9	2	1	13	6		2	1				2	18								1	3	2		
Cities from 10,000 to 25,000 Population	218,623	330	17.8	19	85	20	5	10	40	27	2	22	4				3	15	40	3		1			14	22	6			
Anderson	20,178	34	19.8		14	2		2	4	3		4	1					5	1						1	2	1			
Elkhart	15,184	17	13.2	1	2		1	4	1	2		2	1					1	1						2	1				
Elwood	12,960	24	21.8		3	10	3	1	2	7	1	1						4	4	1						1	2			
Hammond	12,376	20	19.0		3	4			2	3								4	4							1	3			
Jeffersonville	10,774	15	16.4		2	3			2	2		1						4	4								1			
Kokomo	10,609	16	17.7		1	5			3	2		1						2	3								1			
Lafayette	18,116	30	19.5	2	2				5	5		5						1	1							2	1	3		
Logansport	16,204	26	18.9		8	2			5	2								3								1	4	1		
Marion	17,337	33	22.4		11	3	1	1	1	1		2						2	7				1		1	1	1	1		
Michigan City	14,850	25	19.8		8	2			1	1		1						3	3							1	1	1		
Muncie	20,942	34	19.1		7	4	1		3	4		4	2					5	5								3	2		
New Albany	20,628	26	14.8		6	2			8	8		1						2	2							1	2	2		
Richmond	18,226	29	18.7	1	5	2	1	1	3	2		1						4	4							1	2	1		
Vincennes	10,249	1	1.1																											
Cities from 5,000 to 10,000 Population	161,751	233	16.9	14	56	17	6	3	54	23	2	4	2			1	1	1	6	33	1	1	1		7	7				
Alexandria	7,221	12	19.6		4	1			4	3		1							3	1										
Bedford	6,115	5	9.6		1	1			5	3								1	1								1			
Bloomington	6,460	16	29.2		6	2			3	3								3	1											
Brazil	7,786	5	7.5		1	2			2	2									1	1										
Columbus	8,130	17	24.6		3	2			2	3								2	2											
Connersville	6,836	11	18.9		1	1			5	2		1						2	1								2	1		
Crawfordsville	6,649	10	17.7		3				1	1								2	2								1			
Frankfort	7,100	13	21.6		2	2			5	2		1							1											
Goshen	7,810	8	12.0		1	1			4	4		1						1	1											
Greensburg	5,033	14	32.8		1	4	2		5	1								4	4											
Hartford City	5,912	8	15.9		5	3			1	1								1	1											
Huntington	9,491	15	18.6		2	3	2		3	1								2	2								2			
Laporte	7,113	5	8.2		2	1			1	3								1	1											
Madison	7,835	8	12.0		1	2			2	2									1											
Mishawaka	5,560	5	10.6		1	2				2								1	1											
Mt. Vernon	5,132	11	25.2		2	3	1	1	1	1								1	2											
Peru	8,463	17	23.7		3	3			4	4		1						1	2											
Princeton	6,041	3	5.8		1	1				3									1											
Seymour	6,445	8	14.6		1	1	1		2	1									1											
Shelbyville	7,169	15	24.8		3	4	2	1	3	1		1						1	3											
Valparaiso	6,280	2	3.7						1	1									1	3										
Wabash	8,618	12	16.4		1	4		1	3	1									1											
Washington	8,551	13	17.9		2	1		1	1	3								1	2											
Cities under 5,000 Population	131,508	192	17.2	8	53	23	6	4	41	15		5				2	3	5	39	3		2			6	4				
Attica	3,005	2	7.8																											
Auburn	3,396	5	17.3		2				1										1	1										
Aurora	3,645	6	19.4		1	3				1									2	2										
Bluffton	4,479	5	13.1		2					1		1							2	2										
Cannelton	2,188	1	5.3																											
Clinton	2,918	Too late.																												
Columbia City	2,975	2	7.9			1													1	1										
Covington	2,213	1	5.3		2														1	1										
Decatur	4,142	7	19.9		2				1	3									1	2										
Delphi	2,135	5	27.6		1		1		2			2							1	2										
Dunkirk	3,187	4	14.8						1	3																				
East Chicago	3,411	10	34.5		5	4		1											2	2										
Franklin	4,005	2	5.8			1			1										1	1										
Garrett	3,910	Too late.																		1										
Gas City	3,622	9	29.3																											

Mortality of Indiana for August, 1902.

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Population, Census 1900.	Total Deaths Reported for August, 1902.	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.		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.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.	Number.	Death Rate.
State	2,516,462	3,158	14.8	165	701	23.4	365	12.1	60	2.0	51	1.7	687	22.9	275	128.9	38	17.8	167	78.3	20	9.3
Northern Co's	839,835	1,006	14.1	46	241	26.1	126	13.1	21	2.1	14	1.4	231	24.0	59	82.8	10	14.0	34	47.7	4	5.6
Central Co's	1,024,791	1,398	16.0	77	301	29.7	145	10.9	22	1.6	22	1.6	320	24.2	115	132.4	17	19.5	82	94.4	12	13.8
Southern Co's	651,836	754	13.6	42	159	22.1	94	13.2	17	2.3	16	2.1	136	19.1	101	182.8	11	19.9	51	92.3	4	7.2
All cities	857,840	1,226	16.8	73	294	25.4	103	8.9	27	2.3	27	2.3	212	18.3	107	147.1	15	20.6	57	78.4	9	12.3
Over 50,000	228,171	295	15.2	22	54	19.7	19	6.9	6	2.1	7	2.5	46	16.8	26	134.4	7	36.2	21	108.6	1	5.1
50,000 to 25,000	116,787	176	17.6	10	46	27.7	24	14.4	4	2.4	3	1.8	31	18.6	16	161.6	4	40.4	5	50.5	2	20.2
25,000 to 10,000	218,823	330	17.8	19	85	27.3	20	6.4	5	1.6	10	3.2	40	12.8	27	145.7	2	10.7	22	118.7	4	21.5
10,000 to 5,000	161,751	233	16.9	14	56	25.5	17	7.7	6	2.7	3	1.3	54	24.6	23	167.7	2	14.5	4	29.1	2	14.5
Under 5,000	131,508	192	17.2	8	53	28.8	23	12.5	6	3.2	4	2.1	41	22.2	15	134.5	5	36.2	5	44.8	1	7.8
Country	1,658,622	1,932	13.7	92	407	22.1	262	14.2	33	1.7	24	1.3	475	25.8	168	119.5	23	16.3	110	78.2	11	7.8

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Deaths and Annual Death Rates per 100,000 Population from Important Causes.																							
	Croup.		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	7	3.2	5	2.3	20	9.3	69	32.3	550	257.9	25	11.7	2	.9	5	2.3	104	48.7	129	60.4	2	.9		
Northern Co's	3	4.3	1	1.4	4	5.6	23	32.3	209	293.6	4	5.6	1	1.4	4	5.6	34	53.3	41	57.6	.....	.....		
Central Co's	4	4.6	4	4.6	8	9.2	37	42.6	221	254.4	12	13.8	.....	1.8	1	1.8	43	49.5	62	71.3	2	2.3		
Southern Co's	.....	.....	.....	.....	8	14.4	9	16.2	120	217.2	9	16.2	1	1.8	1	1.8	23	41.6	26	47.0	.....	.....		
All cities	4	5.5	2	2.7	9	12.3	39	53.6	174	239.3	11	15.1	1	1.3	4	5.5	46	63.2	61	83.9	.....	.....		
Over 50,000	.....	.....	.....	.....	2	10.3	6	31.0	20	103.4	3	15.5	.....	.....	.....	.....	15	77.5	17	87.9	.....	.....		
50,000 to 25,000	1	10.1	1	10.1	.....	.....	7	70.7	42	424.3	1	10.1	.....	.....	.....	.....	4	40.4	11	111.1	.....	.....		
25,000 to 10,000	.....	.....	.....	.....	3	16.1	15	80.9	40	215.8	3	16.1	.....	.....	.....	.....	14	75.5	23	118.7	.....	.....		
10,000 to 5,000	1	7.2	1	7.2	1	7.2	6	43.7	33	240.7	1	7.2	1	7.2	1	7.2	7	51.0	7	51.0	.....	.....		
Under 5,000	2	17.9	3	26.9	3	26.9	5	44.8	39	349.9	3	26.9	.....	.....	2	17.9	6	53.8	4	35.8	.....	.....		
Country	3	2.1	3	2.1	11	7.8	30	21.3	376	267.4	14	9.9	1	.7	1	.7	58	41.2	68	48.3	2	1.4		

Meteorological Summary for August, 1902, Furnished by the Central Office, Indiana Section, Climate and Crop Service, U. S. Weather Bureau, Indianapolis, Ind., September 6, 1902.

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 Un-melted.	Days with .01 inch or more.	Clear.	Partly Cloudy.	Cloudy.				
Northern Section	68.7	-3.5	94	30	Delphi Ft. Wayne	40	12	23	Winamac	1.86	-1.00	.....	7	15	10	6	NE&NW		
Central Section	70.5	-2.5	98	3	Terre Haute	42	23	.....	Mauzy Richmond	2.21	-0.97	.....	7	12	13	6	NE.		
Southern Section	74.1	-1.7	100	2	Madison	45	24	.....	Columbus	2.66	-0.50	.....	8	14	11	6	SW.		
State	71.1	-2.6	100	3	Mt. Vernon Mt. Vernon	40	12	23	Winamac	2.24	-0.82	.....	7	14	11	6	SW.		