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Indiana State Board of Health.

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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 OCTOBER, 1902.

The total number of deaths reported was 2,559, a death rate of 11.9. This is an improvement as compared with the corresponding month last year, when there were 2,614 deaths, which makes a rate of 12.2. It is also an improvement as compared with the preceding month, when there were 2,812 deaths, which is a rate of 13.6. The number of deaths under one year of age was 426, or 17.6 per cent. of the total number; between 1 and 5 years of age the number of deaths was 226, or 9.3 per cent. of the total number; between 5 and 10 years of age, the number of deaths was 75, or 3.1 per cent. of the total number; between 10 and 15 years of age, the number of deaths was 60, or 2.4 per cent. of the total, and for 65 and over the number of deaths was 586, or 24.2 per cent. of the total. From important causes the number of deaths and rates per 100,000 were as follows:

Pulmonary tuberculosis 214 deaths, rate 113; other forms of tuberculosis 42 deaths, rate 19.6; typhoid fever 205 deaths, rate 96.1; diphtheria 47 deaths, rate 22; scarlet fever 20 deaths, rate 9.3; whooping cough 4 deaths, rate 1.8; pneumonia 157 deaths, rate 73.6; diarrhœal diseases 122 deaths, rate 57.2; cerebro-spinal meningitis 18 deaths, rate 8.4; influenza 16 deaths, rate 7.5; puerperal septicæmia 4 deaths, rate 1.8; cancer 95 deaths, rate 44.5; violence 146 deaths, rate 68.4; smallpox 19 deaths, rate 8.9.

In comparing these figures with those of October, 1901, we find there was a decrease in the rate for consumption of 22.5; for typhoid fever there was an increase of 0.5; for diphtheria there was a decrease of 2.3; for pneumonia there was an increase of 13.2; for diarrhœal diseases there was a decrease of 11.7; for influenza there was an increase of 4.7; for cancer there was a decrease of 1.1; for violence there was an increase of 8.7, and in smallpox the number of cases rose from 2 to 19. The counties which report a death rate in excess of the average for the whole State, namely, 11.9, are:

Allen, 13.2; Grant, 15.3; Lake, 16.5; St. Joseph, 13.6; Wabash, 16.2; Bartholomew, 16.7; Brown, 16.9; Clinton, 12.0; Decatur, 13.3; Delaware, 13.3; Franklin, 12 2; Hancock, 14.7; Hendricks, 12.7; Johnson, 14; Marion, 14.5; Monroe, 14.6; Parke, 13.3; Putnam, 13.7; Shelby, 12.4; Tippecanoe, 12.5; Vigo, 14.4; Wayne, 17.2; Daviess, 13.8; Dearborn, 17; Floyd, 14.8; Gibson, 15.3; Jackson 15; Jefferson, 14.4; Knox, 16.2; Lawrence, 14.3; Ohio, 12.4; Orange, 15.4; Perry, 15.7; Pike, 20.1; Posey, 16.3; Scott, 15.6; Spencer, 12.6; Sullivan, 12.7; Switzerland, 12.9.

BY SANITARY SECTIONS: THE NORTHERN SANITARY SECTION, having a population of 839,835 and numbering 31 counties, reports 755 deaths, which is a rate of 10.6. This is 1.5 lower than in the corresponding month last year. The rate of this section for pulmonary consumption was 78.6, which is 56.9 less than the corresponding month last year. The typhoid rate in the section for this month is 71.6, which is a decrease of 24 over the corresponding month last year.

THE CENTRAL SANITARY SECTION, having a population of 1,024,729 and numbering 22 counties, reports 1,077 deaths, an annual rate of 12.4. This is 0.5 lower than the corresponding month last year. The rate of this section for pulmonary tuberculosis was 123.2, which is 28.7 less than the corresponding month last year. The rate for typhoid fever was 94.4, which is 8.1 higher than the corresponding month last year.

THE SOUTHERN SANITARY SECTION, having a population of 851,736 and numbering 25 counties, reports 722 deaths, a rate of 13. This is an increase of 0.4 as compared with the corresponding month last year. The rate of this section for pulmonary consumption was 141.2, which is exactly the same as existed in the corresponding month last year. The rate for typhoid fever was 130.3, which is 5.4 more than in the corresponding month last year.

COMPARISON OF SANITARY SECTIONS: The Northern Sanitary Section shows the lowest death rate, 10.6, and this rate was less than the average for the whole State, 11.9. The lowest death rate of children under 1 year of age was in the Central Section, and was 16.1 per 100,000. The Northern Sanitary Section shows the lowest death rate for tuberculosis, also the lowest death rate for typhoid fever, pneumonia, cerebro-spinal meningitis and violence, but it shows the highest death rate from smallpox, namely, 12.6.

The county showing the lowest death rate in the month was Union, its rate being 1.7. The county showing the highest death rate was Pike, the rate being 20.1.

CITIES: The cities of the State, representing a population of 857,854, report 1,098 deaths, an annual rate of 15.1. This is 3.2 higher than the average for the whole State. The rate for tuberculosis was 137.5, which is 24.5 higher than the State rate. The typhoid rate was 88, which is 8.1 lower than the State rate.

COMPARISON OF CITIES AND COUNTRY: The cities show a death rate of 15.1 and the country 10.3. The country shows a lower death rate in comparison with the cities for pulmonary consumption, diphtheria, scarlet fever, pneumonia, diarrhœal diseases, cancer, violence and smallpox. The country, however, shows a higher death rate for typhoid fever, cerebro-spinal meningitis and influenza.

CITIES BY CLASSES: CLASS A, having over 50,000 population, including Indianapolis and Evansville, report 264 deaths, a rate of 13.6. This is an increase of 1.1 as compared with the corresponding month last year, and is 1.7 greater than the average for the whole State.

CLASS B, having from 25,000 to 50,000 population, including Ft. Wayne, South Bend and Terre Haute, and representing a total population of 117,787, report 173 deaths, a rate of 17.3. This is 1.1 higher than the corresponding month last year, and is 5.4 higher than the average for the whole State.

CLASS C, having from 10,000 to 25,000 population, and including 14 cities, representing a total population of 218,623, report 276 deaths, a rate of 14.8. This is 1.5 higher for the corresponding month last year and is 2.9 higher than the average for the whole State.

CLASS D, having from 5,000 to 10,000 population, including 23 cities, with a total population of 161,751, report 238 deaths, a rate of 17.3. This is 2.1 more than for the corresponding month last year and is 5.4 higher than the average for the whole State.

CLASS E, having a population under 5,000, numbering 36 cities, and representing a total population of 131,508, report 147 deaths, a rate of 13.1. This is 1.9 higher than in the corresponding month last year and is 1.2 higher than the average rate for the whole State.

Comparison by sanitary districts is shown by the map on page 117.

DISEASE PREVALENCE IN OCTOBER: Smallpox for the 21st consecutive month leads the list as most prevalent. Typhoid fever was the second most prevalent disease and occupied the same position in August and September.

The order of prevalence was as follows: Smallpox, typhoid fever, tonsilitis, rheumatism, bronchitis, intermittent fever, diarrhœa, scarlet fever, influenza, pneumonia, dysentery, diphtheria and croup, cholera morbus, pleuritis, cholera infantum, erysipelas, whooping cough, inflammation of bowels, puerperal fever, cerebro-spinal meningitis and measles. Although typhoid fever is second in prevalence, as was the case in the preceding month, the number of deaths, nevertheless, fell from 232 in September to 205 in October. Tonsilitis and bronchitis advanced in area of prevalence as compared with the preceding month.

SMALLPOX IN INDIANA IN OCTOBER, 1902.

Reports to the State Board of Health show that 298 cases of smallpox developed in the State in October. There were 19 deaths, and 35 counties were invaded. In the corresponding month last year there were 113 cases, 2 deaths and 9 counties invaded. By this comparison, there was an increase in cases of 163.8 per cent., an increase in deaths of 850 per cent., and an increase in area invaded of 288.8 per cent.

The counties invaded were: Adams, 21; Allen, 4; Carroll, 4; Clark, 23; Clay, 2; Clinton, 12 cases, 2 deaths; Daviess, 3; Dearborn, 2; Decatur, 1; Dekalb, 6; Delaware, 1; Elkhart, 1 case, 1 death; Fulton, 5; Gibson, 6; Grant, 30; Hancock, 2; Howard, 6; Jay, 26 cases, 1 death; Knox, 11; Kosciusko, 8 cases, 1 death; Lake, 1; Laporte, 2; Lawrence, 16; Marion, 2; Martin, 5; Noble, 3 cases, 1 death; Orange, 3; Randolph, 15; Starke, 4; St. Joseph, 22 cases, 7 deaths.

VACCINATION URGED: We present here an editorial from the Marion Chronicle of October 12th. The clear ring and forceful presentation of the subject is a credit to Indiana. The Chronicle plainly sees and understands the practical and scientific method which must be pursued if smallpox is to be stopped:

ALL CITIZENS MUST TAKE ALL PROPER PRECAUTIONS.

The citizen of Marion who fails to vaccinate as soon as he can do so, fails of his duty to himself, to his neighbors, and to the community. It is time to act. It is time to vaccinate. Cold weather is coming. With cold weather comes smallpox. There is one way to escape, and only one, and that way is through vaccination. This is common sense. The situation compels it. There may be those who, in their own wisdom, insist that vaccination is wrong, criminal, needless, etc., but the public weal and the general need are above all personal feeling and the public good must command the obedience of patriotic citizens.

Vaccinate at once; it is necessary; it is vital. In warding off smallpox, quarantine, and the horrors that go with epidemics, the people take the only wise course. Marion can not afford to have paralysis come upon her. Do not be short-sighted. Take time by the fore-lock. Be not dilatory, but alert. Be not foolish, but sensible.

Now is the time. Smallpox is not formidable today. But in the weeks to come, if it is permitted to spread, the disease will become a plague. Action taken today will do all that is necessary to prevent general contagion and the awful conditions that follow.

To keep business moving, traffic active, health good, and prosperity and contentment secure, keep off disaster, and to bar out death it is only necessary that vaccination shall take in all citizens of all conditions and ages. Be one with the multitude which marches to battle with the common foe. Be one in the ranks of the wise servants of the commonwealth. Vaccinate at once. Do your part in the work of self-preservation.

SMALLPOX AT CONNERSVILLE: Dr. E. Derbyshire, of Connersville, health officer of Fayette County, in his report says:

"A girl who was cooking for a railroad restaurant had been at Hamilton, Ohio. There she was exposed to what was pronounced chickenpox. She continued to cook for five days after she had fever. When I saw her she had a dozen or fifteen well developed pustules on her face and hands. Dr. Chitwood went with me to see her and we told her she had smallpox. She doubted our diagnosis. Afterwards she broke quarantine and went to Hamilton, Ohio. In that city her case was pronounced smallpox. We burned her bed and bedding, and thoroughly disinfected the station and the restaurant, and are vaccinating all who will permit."

This is an illustration of how smallpox is spread. This young woman could easily have left the infection in the seat she occupied on the train going to Hamilton, and no doubt did so. The first susceptible person who occupies the same seat will run the risk of having smallpox. We have repeatedly said that the infection of variola is now so widespread that quarantine will have little or no effect upon preventing the disease. It seems, indeed, that the severe cases of any communicable disease are not to be feared so much from the spreading standpoint, as the mild cases. If we could only discover the mild cases of diphtheria, scarlet fever, smallpox, etc., and quarantine them, there would probably be no severe cases.

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SMALLPOX IN LAWRENCE COUNTY: Dr. F. S. Hunter, of Bedford, Secretary of the Lawrence County Board of Health, reports how the disease came into his jurisdiction:

"A family arrived from Poplar Bluff, Mo. The name of the father was J. E. Murphy. He had one child to die of smallpox in the State named. The family was not quarantined and eventually left Missouri, their objective point being Brownstown, Ind. Upon arrival at Mitchell, smallpox appeared in the family, and now we have it to deal with."

No doubt the health authorities of Missouri would gladly have pursued rational and business-like methods for the prevention of the disease, but probably they are denied the privilege of doing this on account of politics. As it is, the disease spreads and Indiana gets a good article of Missouri smallpox.

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SMALLPOX IN CLINTON COUNTY: In Clinton County in September, there were 3 smallpox deaths instead of 1, as was reported in the September Bulletin. This error was caused by the delinquency of the city health officer of Frankfort. Dr. Ruddell, health officer of Clinton County, reports for this month 8 cases of smallpox and 4 deaths. This is a mortality of 50%, and is truly alarming. Dr. Ruddell notes that all the cases were unvaccinated, and he also states that so far, "every case we have had, that was in the least bad, had never been vaccinated.

REGARDING VACCINATION: The following report was made to the Conference of State and Provincial Boards of Health at seventeenth annual meeting held at New Haven, Conn., October 28, 29, 1901:

1. That vaccination may be defined as follows: An inoculation by scarification, puncture or injection beneath the epidermis, of a vaccine which produces, with some constitutional disturbance, the typical vaccine vesicle, which leaves, after the pock has healed, its characteristic scar.

2. That in order to obtain the most satisfactory results, vaccine must be produced either by federal, state, or provincial officials, or by private producers under the closest supervision of qualified government officials.

3. That for the greatest protection against smallpox, state and provincial laws should provide machinery whereby certified public vaccinators must be appointed for the systematic vaccination by house-to-house visitation, of all children born during any year, and at public stations or otherwise of such others as circumstances may make necessary.

4. That the evidence of successful vaccination of all school children naturally forms a part of any system of public vaccination, and certificates of such should be accepted only when signed by a municipal or local health officer.

5. That in order that the best results may be obtained, it is essential that medical colleges should be urged to provide for thorough instruction in the theory and practice of vaccination, and that all licensed physicians must hold certificates of having had practical instruction in the operation of vaccination in medical colleges, dispensaries, or public vaccine stations.

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SMALLPOX IN PORTO RICO: In October, 1898, this disease was endemic; in December it was epidemic; in January, 1899, it had honeycombed the island; by February there were over 3,000 cases and the disease was spreading rapidly. In that month systematic compulsory vaccination was begun and with pretty equal efficiency in all parts of the island. This was continued for four months, when 860,000 vaccinations had been made in a population of about 960,000; over 87 per cent. were successful. The disease had practically disappeared, the fuel for it to feed upon had been consumed by the "head fire" of vaccination. In the two and a half years since, instead of the average mortality of 621 there were but two per annum in a population of nearly a million. Can any honest person doubt in face of these facts what it was that in four months drove this disease from its long-time reign and has kept it out? Vaccination alone did it and will do it effectively wherever compulsory legislation, properly enforced, secures its benefits to all.—New York Medical News.

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DID NOT ESCAPE: Dr. Shultz, health officer of Carroll County, gives the following information in one of his reports: "Today I found one case of smallpox one mile east of Delphi, Miss Anna Clossen, age 14. She

contracted the disease while visiting in Frankfort. Four persons came from Frankfort to the Clossen home to avoid the disease there, where it is epidemic, but they did not escape."

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MEASURES FOR THE PREVENTION OF SMALLPOX WHEN EPIDEMIC IN A LARGE CITY — RECOMMENDED BY A COMMITTEE OF THE OHIO STATE BOARD OF HEALTH.

1. There should be sufficient hospital accommodations for the isolation and treatment of all cases that can not be sufficiently well isolated in their homes. (Take every case possible to the hospital.)

(*a*) The hospital should be accessible.

(*b*) In warm weather, tents, floored and warmed, would answer the purpose well.

(*c*) The hospital must be properly guarded at all times.

(*d*) Guards and nurses must be vaccinated, even if they have previously had smallpox.

(*e*) There should be a disinfecting station at the hospital, with provisions for disinfecting the ambulance bringing cases to it.

(*f*) There should be a place to dress for those leaving (discharged from) the hospital.

2. If possible a separate room or tent should be provided for doubtful cases (suspects), and a hospital or place to isolate those exposed and liable to have smallpox who can not be, or should not be, isolated at home.

3. Persons exposed to smallpox in the eruptive stage of the disease should be treated as follows:

(*a*) If they have previously had smallpox, or furnished satisfactory proof of having been successfully vaccinated within two years prior to said exposure, they may be disinfected (person and clothing worn at time of such exposure) and discharged.

(*b*) If found and vaccinated (two places, with two different tubes or points) within seventy-two hours after first possible exposure, they may be disinfected (person and clothing) and discharged, provided that this shall only apply to responsible residents of the city, who can be punished for violating the rules of the Board of Health, and provided further that all such discharged person shall from the ninth day from the first exposure to the seventeenth day from the last possible exposure, be examined daily by a medical officer, and shall be at once isolated (quarantined) on the appearance of fever or eruption.

4. Persons associated with exposed persons need not be quarantined.

5. There should be a disinfecting corps, properly instructed and equipped, to disinfect houses after death, recovery or removal of smallpox patients.

6. Sanitary policemen for guard or other duty should be at the health office night and day. Medical inspectors should be on call to at once examine reported (suspected) cases.

7. Infected districts of the city should be defined, if possible, and a medical officer and a uniformed policeman sent to inspect each house (each room and outbuildings) for concealed cases.

8. Physicians should be required to report all cases of chickenpox, giving name, age and location. A medical officer should examine, with the attending physician, all such cases in adults.

9. Vaccination—

(*a*) The city should appoint public vaccinators in each ward and offer vaccination free to all. The city to furnish the virus.

(*b*) Medical inspectors should be appointed to inspect all school children (lady physicians for older girls) to determine their vaccinal status.

(*c*) All children not protected by vaccination should be prevented from attending school.

(*d*) All railroad men on trains coming to the city should be vaccinated (this should be ordered by the State Board of Health). Postmen and street car employes should be vaccinated, by the advice of the local Board of Health.

(*e*) A letter should be sent by the local board to the management of all workshops and factories, urging that vaccination be made a condition of employment. Their attention should be called to the possible necessity of shutting down the works if smallpox should break out among their employes.

(*f*) Vaccination should be enforced, as far as possible, in "infected districts," at the time of the house-to-house inspection.

10. The importance of frequent disinfection and cleansing of street cars should be brought to the attention of the street car companies.—Ohio Sanitary Bulletin.

TYPHOID FEVER AT BOURBON: There have been twenty cases of typhoid fever at Bourbon, Marshall County, Ind. The town has about 1,200 inhabitants, and other cases are known to exist. Marshall County has been quite free from typhoid fever heretofore, but now that infection has gotten into that region, it will probably prevail and produce the disease from now on. Dr. C. M. Harris took it upon himself to look into the matter and sent six samples of water for analysis. Five of them were taken from the wells at the houses where the disease existed, and one of the samples was taken from the town pump. All of the samples of water sent were found to be badly polluted. The chemical examination discovered the presence of polluting matter of animal origin and the bacteriological examination discovered every sample to contain intestinal bacteria. At the house of Rev. Knox there were four cases, at the house of Omer Slough there were four cases, at the house of Mrs. J. Compton there were six cases, at the house of Mr. L. Chapman two cases, at the house of Ed. Brillhart there were four cases. It is highly probable that every one of these cases of typhoid fever, found their exciting cause in the wells at their own homes. Had the State Board of Health been provided with a laboratory of hygiene, and had time been taken by the

forelock and the waters analyzed and condemned, these cases of typhoid fever would most probably have been prevented. What we want is the practical application of science to everyday life.

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THEY SEEM TO LIKE DISEASE: The people of Ehrmandale, Vigo County, seem to like disease, as appears from the following report by Dr. M. B. VanCleave, health officer of the county. Dr. VanCleave says: "This morning (November 7) I found twelve cases of typhoid fever in the town of Ehrmandale. The sanitary conditions are very bad. I send you three samples of water for analysis. No. 1 comes from a dug well, situated in the midst of vaults, some of which are overflowing Two vaults appear to drain almost directly into the well. Specimen No. 2 came from a well in the schoolyard and several of the school children have typhoid fever and there was one death. Specimen No. 3 comes from a spring at the top of the hill upon which the town is built, and nearly all the people obtain water at this place. This spring most probably receives pollution from the town. There is a saloon directly above the spring from which proceeds considerable sewage. In addition to this, the side of the hill is used as a sort of place for depositing filth. The three samples of water represent the three wells in the town. The property, houses, etc., belong to two mining companies. I shall insist on wholesale vault cleaning and the putting down of a sufficient number of driven wells."

The three samples of water sent by Dr. VanCleave were analyzed and they were all found to be badly polluted. The samples all contained intestinal bacteria, and by chemical tests yielded evidences of large quantities of pollution.

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NOTIFICATION OF MALARIA: The New York Board of Health at a recent meeting passed resolutions that all public institutions, hospitals, homes, asylums, etc., should be required to report all cases of malarial fever which came under their observation, giving the name, age, sex, occupation and present address of patient, and also information whether the attack is a primary infection or a relapse, and the address where the disease was probably contracted. It was further resolved that all medical practitioners in the State of New York be requested to furnish scarlet fever information in regard to patients suffering from malarial fever under their care.

This is a very advanced step and it is rational and scientific. Of course, it would not do for the State Board of Health of Indiana to promulgate such an order at the present time, because it is an advanced step which is too far ahead of the times. There are to be found many physicians in Indiana who contend that membraneous croup has no relationship whatever to diphtheria, and who also contend that the infection of diphtheria, scarlet fever, measles and like infectious diseases, can not be carried in clothing or transmitted by contact. When such ignorance prevails concerning well known facts, it would be useless to take the advanced, but correct, step of requiring the reporting of malaria. We have no doubt, however, that in New York where disease prevention has been more thoroughly practiced, the requirement will be found to be practicable. It is only a question of time until it will be required to report malaria cases in Indiana.

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DR. SHEETS' MODEL QUARTERLY HEALTH REPORT: Dr. Sheets, health officer of Clark County, is evidently much interested in hiswork, and is a conscientious and thorough man. The extracts given below from his quarterly report to the Clark County Board of Health sustain these statements:

"On July 9 with Chas. A. Bartel, trustee of Monroe Township, I visited Henryville to inspect the schoolhouse in that town. We found the building to be old, dilapidated, unsanitary and in every way unfit for school purposes. I promptly condemned the building. Most of the people in the town wanted a new schoolhouse, and those in the country opposed building a new one. A compromise was therefore effected and additions as well as repairs were made on the old house. On August 15 I was in Henryville, examined the work on the schoolhouse as far as it had gone, and must say such was the improvement that one would hardly have known it to be the same house. The foundations were raised, the grounds graded, the windows changed so as to make the lighting of the rooms what it should be, and ventilating ducts were supplied.

"Early in September I inspected the schoolhouses at Utica, Clarksville, Claysburg, Port Fulton and Jeffersonville. A general cleaning up of these buildings preparatory to opening the schools at these schoolhouses was found. The houses themselves, the grounds, the outbuildings and all were being put in good condition. At Port Fulton a heating and ventilating furnace has been supplied, and in plan and cleanliness the schoolhouse at that point is a gem. There is evidence on every hand of interest being taken in the sanitary conditions of schoolhouses by the people and trustees, officers and teachers. Three years agitation of the subject by the health department of the county seems to have resulted in much good.

"There were three cases of smallpox during the quarter and these cases were all in different parts of the county. In each instance, quarantine was promptly imposed, vaccination advised, and after the cases were over, disinfection was practiced. Typhoid has prevailed considerable during the quarter. There were 3 cases in July, 39 in August and 25 in September, making 67 during the quarter. I am aware that all of the cases have not been reported, and this deficiency we hope to remedy in the future. There were no cases of scarlet fever reported in July; 3 cases in August and 3 in September. Of diphtheria, only 2 cases were reported in September during the quarter. There were undoubtedly several cases of measles, but none were reported.

"About the usual number of complaints have come to me during the quarter. I am happy to say that those having merit were peaceably adjusted. As the people become better informed along the lines of sanitation and

the prevention of disease, they more fully and cheerfully observe and comply with the laws of health and the rules of the Board of Health."

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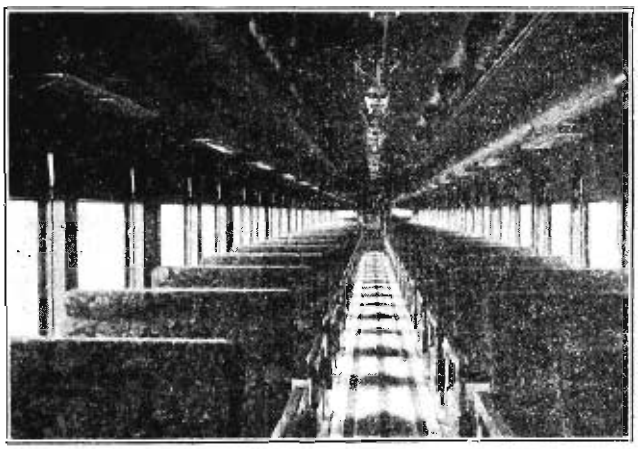
CAR SANITATION: The public is to be congratulated that one railroad, the Big Four, has taken an advanced step in car sanitation. The picture given here shows the interior of one of forty of the new passenger coaches recently put in service by the company named.



The principal feature is the smooth interior. Panels, carving, bead and channel work are entirely abolished. The picture shows the spaces between the windows are smooth polished wood. The window sills are also smooth, and the seat-arms are round and free from carving. These points are most favorable to cleanliness. It is obvious that smooth, highly polished surfaces can not harbor dirt and germs, as carvings, flutings and panels can. Another feature is—the backs and bottoms of the seats are removable. This makes it possible to remove them at cleaning terminals, and purify them from dust by the air blast, and also to disinfect the plush when necessary. The closets are models. The walls are smooth and highly polished, the floors oil filled, and the hoppers, which flush with water, are provided with continuous disinfecting appliances. Each car has a lavatory, with metal basin and hot and cold water. The center aisle is provided with a non-absorbent rubber strip, which furnishes a secure footing. These cars are thoroughly cleaned and disinfected with formaldehyde at terminals. The rules of Mr. Garstang, superintendent of motive power, which direct how the coaches shall be cleaned and disinfected, have been published in previous editions of THE BULLETIN. It certainly is most satisfying and comfortable to have such surroundings when traveling. It remains to be added that the drinking water furnished to the passengers on the Big Four is frequently analyzed in order to make sure of its purity.

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HARD WATER: A high authority says of hard drinking waters: "They form with chyle an abnormal medium for hematosis; they fatigue the kidneys, calcify the arteries and the muscles and incrust the articulations."

PURE MILK WOULD SAVE MANY INFANT LIVES: Diarrhœa, diseases of the bowels, and consequent brain trouble, cause the death of many children; and this is especially true during the hot weather in summer. Infants fed only on mother's milk do not die in hot weather in anywhere near the same proportion as do those who are not nursed, but are fed on cow's milk. Pure cow's milk, prepared in proper proportions of top milk and sterilized sweetened water, approaches the condition of mother's milk, and the fact that cow's milk does not cause many deaths of infants in cold weather makes the inference plain that those excessive deaths in summer are caused by changes in the milk which occur in hot weather. Milk which is perfectly pure does not change rapidly, even in hot weather. The subject thus narrows down to the fact that a large proportion of the summer mortality in infants could be prevented by providing pure milk, free from micro-organisms which now find their way into the milk —Michigan Bulletin.

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IMPORTANCE OF SCHOOL HYGIENE: Hardly has the child weathered the first years which are fatal to so many than it becomes necessary to send him to school. He must go, his future in society depends upon his doing so. But, on the other hand, we can not send this still frail little being to a school where his physical development may be obstructed by his sojourn amid unhealthy surroundings or by intellectual overwork. To prevent this insolubility and overwork, to give, in fine, to the schoolboy the protection to which he is entitled, is precisely the object of school hygiene; hence its importance.

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DISINFECTION OF A SUIT OF CLOTHES: A suit of clothes may be disinfected by putting it into a common wash boiler, in one end of which a soft towel has been placed. Pour upon the towel a quantity of formaldehyde solution (formaline) allowing at least an ounce for each cubic foot of space, and put a cover on immediately, and keep it closed five or six hours at least. Before taking out the suit a little ammonia water poured upon the towel will help to neutralize the formaldehyde and remove the pungent odor from the clothing.—The Sanitary Inspector, Maine.

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In the Lancet of April 5, 1902, C. K. Millard opposes the current opinion that scarlet fever is infectious during desquamation, advancing the following reasons for his views: (1) Careful evidence does not support the old theory; (2) infection begins prior to the onset of desquamation, and frequently continues long after the latter has ceased; (3) scarlet fever wards, though abounding in desquamating epithelium, are not a danger to neighboring houses; (4) the fact that the proportion of "return cases" does not appear to be increased among patients sent out from the hospital still desquamating.—Medical Record.

A SUGGESTION: The legislative powers will vote millions of dollars from the treasuries of the people to support the orphans, the insane, the poor and afflicted ones who are unable to pay for food, lodging and medical attention, and through ignorance refuse to vote more than a few hundred dollars for the prevention of disease and prolongation of human life. It is probable a majority of the people would now say that a large appropriation for prevention of disease would be a useless expenditure, and so it would if not used scientifically and honestly. If properly used and applied, large appropriations for the prevention of disease would prove to be the greatest advancement toward economy that the world has ever known.—Dr. S. R. McKelvey.

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PNEUMONIA.

December, January, February, March, and usually November, are the months in which pneumonia mostly prevails. There were 157 deaths and almost 2,000 cases in October in Indiana, and this despite the mild weather. The disease attacks all ages, but is most common in middle life and after. A neglected cold in a person overworked or debilitated on account of lack of sleep or because of any excess, renders the person extremely liable to contract pneumonia. Pneumonia is especially apt to follow upon exposure to sudden and extreme variations in temperature, exposure to excess of cold or moisture, and the debilitating effects of exhaustion from alcoholism, injuries and diseases of all kinds. Those habituated to the excessive use of alcoholic liquors are extremely liable to pneumonia, and usually of a very fatal character.

It is unwise at any age to neglect a cold, but especially unwise in those who are past the middle period of life. To live the life most conducive to colds and pneumonia and then hope to counteract the trouble by medicine, is very foolish. There is a debility caused by insufficient oxygenation of the blood, which is the greatest cause of colds and pneumonia. It is a natural law of health that we must have oxygen in our lungs continuously. There is an abundance of oxygen furnished by nature in the air, and if we shut out the air from our bedrooms, living-rooms, schoolrooms, offices and like places, we do not receive enough of the vital fluid to oxygenate our blood. This means the accumulation in the body of certain waste products which are poisons. These poisons (toxins) not being eliminated as demanded by nature, poison the blood and cause debility. Debility thus caused renders one more liable to colds and pneumonia than those forms which are caused by exposure to cold and wet, and which proceed from excesses in eating and drinking.

Captain Nansen has repeatedly called attention to the fact that there was not a single cold or case of pneumonia among his men while in the Arctic regions, yet there was not one who did not many times get wet and chilled. So soon as they returned to civilization and were forced to enter and live a portion of their time in illy-ventilated houses, all of them, in time, caught colds, and some of them died of pneumonia. Cold and dampness didn't enter into those cases at all. The cause lay in the debility resulting from insufficient oxygenation of the blood.

Consumption is also mostly caused by the "*foul air debility.*" One can form some idea of the magnitude of the awful destructiveness of pneumonia and consumption if he will review the 4,648 consumptive death certificates and the 3,864 pneumonia death certificates for 1901, which are on file in the office of the State Board of Health. Had these dead persons known in time how necessary it is for health and life to breathe fresh air day and night, they would have thoroughly ventilated their bedrooms and their houses; and they also would have refused to enter badly-ventilated offices, churches, courtrooms and like places, and in this way avoid the "foul air debility," which laid them open to disease.

RESULTS OF THE WORK DONE AT THE LOOMIS SANATORIUM FOR CONSUMPTIVES.

In 1896 there was established a sanatorium for consumptives in Liberty, a town in Sullivan county, in the State of New York, by the late Dr. Alfred Loomis. This ideal institution was erected from a gift given from J. Pierpont Morgan as a memorial to Dr. Loomis, who had begun the work of establishing the hospital. The object of this institution is to receive and to treat cases of incipient consumption. It is not intended as a retreat for incurables. It is intended to be self-sustaining by making the price of board equal to the expenses of administration. The rates are $12, $15, and $20 per week. This plan differs from many other institutions, which are placed either below the cost of running or above in order to obtain a profit. In institutions where the expenses are above the price of board, the deficiency is made up either by State appropriations or by private charity. It opens an opportunity to a medium class of well-to-do patients which neither of the other forms of institutions is able to offer. It accommodates at the present time 125 patients. When it opened, four years ago, it could accommodate but 12. This is an indication of the needs of such institutions as manifested by the use of the institutions and by the practical interest taken in such an effort to care for this class of patients as shown by the numerous substantial donations. It is the intention and hope of the sanatorium to establish in the near future an annex which shall be a charitable annex, which shall receive cases who are able to pay no more than $5 per week. It is intended to increase the cost of the living at the main buildings sufficiently to meet the deficit in the annex venture. Later it is the hope to be able to make at least 25 of the beds in the annex free, increasing the number as rapidly as possible. The corporation has also a branch hospital and dispensary for incurables in New York city.

According to the report recently issued, it appears that by means of climatic treatment, assisted in some cases by the use of ichthyol and kalagua and hot air inhalations,

16 per cent. have been cured; the disease arrested in 8 per cent.; improved in 37 per cent.; unimproved in 32 per cent.; and 7 per cent. died. Of the cases admitted only 64 of the 158 treated were incipient cases, 80 were moderately advanced, and 14 were far advanced.

An interesting note in the report of the sanatorium explains what most physicians are desirous of ascertaining, namely, how the classification is made of the different stages. The following is given:

Incipient Stage.—Slight localized involvement of lung, with little or no constitutional disturbances.

Moderately Advanced.—More general consolidation of the lung, with constitutional disturbances and beginning of softening of single cavity.

Far Advanced.—Softening and excavation, with marked constitutional disturbances.

At the city hospital already mentioned the corporation has been able to receive and treat during the past year 140 patients, while the dispensary has attended to 526 house visits and 1,952 office calls. Since its organization it has treated 1,902 cases and received 11,053 office calls, thus showing what one of many small efforts may do to assist the public and the health authorities in checking the disease which affects one and all, socially, morally, and financially.—Bulletin Rhode Island Board of Health.

BIRTH RATE AND WATER RENTS.

CURIOUS RELATIONSHIP BETWEEN THE TWO IN WHEELING, W. VA.

County assessors say that Wheeling parents do not report births in their households because they fear increase of water taxes. This is the unique cause assigned for the remarkable poor showing made by the birth report, just completed for the past year. There were so many more deaths than births in all the city districts of the county that officers made an investigation. Water rates are based upon the value of the property of the tenant and the number in his family. Assessors assert that hundreds of births have not been reported to the proper county authorities.—Water and Gas Review.

THE IMPORTANT SYMPTOMS OF THE EARLY STAGES OF PULMONARY TUBERCULOSIS.

Dr. G. C. Johnson, in American Medicine, points out the following points as being of diagnostic significance in beginning pulmonary tuberculosis:

(a) Cough.—A slight, hacking, persistent cough, which can be referred to the larynx or upper trachea. It is worse at night or upon lying down. There is little or no expectoration.

(b) A Failing Appetite.—There is a repugnance for fatty foods and some degree of indigestion.

(c) Loss of Weight.—Patient is a few pounds below his average weight.

(d) Sleep Sweats.—Upon lying down, day or night, the patient awakes with the neck and upper chest bathed in a warm or cold perspiration.

(e) Accelerated Pulse.—A pulse of 90 to 100, which is quick, irritable, and ill sustained.

(f) Elevation of Temperature.—This is an unobstrusive symptom, but is of the highest importance. When a case of beginning tuberculosis is suspected, a temperature record at 2:30 P. M., on several successive days should be insisted upon. A temperature elevation of one degree F. is a symptom that must be accounted for absolutely by some other condition, or tuberculosis must be suspected and confirmatory symptoms searched for.

He also calls attention to the fact that fistula in ano, when a history of syphilis is lacking, calls for a careful examination of the chest and that a history of pleurisy with effusion is important in clinching the diagnosis when any of the above mentioned symptoms are present.

HOW TO GUARD AGAINST CARRYING INFECTION: A physician asks how he can best guard against the danger of carrying infection to other persons after seeing cases of smallpox. The answer to him was:

"When visiting cases of smallpox, diphtheria, or other infectious diseases my method of procedure is to leave my overcoat, hat, undercoat, and usually my collar and necktie, outside of the house containing the patient. I call for an earthenware washbowl from the house and a quart of hot water—nothing else. From a small and tightly closing bag I take out a bottle of bichlorid tablets, one or two of which I drop into the washbowl to be dissolved while I am inside, then I take out and slip on a pair of white duck trousers, then a barber's white coat with an extra button which buttons up closely around the neck. Rubber bands around the ends of the sleeves of the coat and a silk skull cap complete my attire. After I have left the infected room, I soak my hands in the bichlorid solution, remove a towel from the grip, a two-ounce vial of formaldehyde solution and two surgeon's hand brushes. I then take off the white coat and trousers, roll them up carefully, and place them in the grip with the cap. I then wash my hands again in the disinfecting solution, and wash my wrists, head, face and neck, wetting the hair thoroughly. Dipping the brushes in the bichlorid solution, I scrub down my clothing, particularly the lower part of my trousers, and finally my boots. Then all of the remaining things are placed in the grip, the towel on top. Upon this towel I pour an ounce or more of formaldehyde solution, and close the grip immediately. Usually by the time I reach home the things are disinfected, or at least they are in five or six hours. The bag usually remains closed the following night, and the next morning is opened and the things are aired out for further use. Instead of an outfit like what I use, a rubber coat or any tightly fitting garment which buttons up closely and reaches from the neck to near the feet may be used."—The Sanitary Inspector.

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

NORTHERN SANITARY SECTION.

Total population	839,835
Total deaths	755
Death rate per 1,000	10.6
Consumption, rate per 100,000	78.6
Typhoid, rate per 100,000	71.6
Diphtheria, rate per 100,000	18.2
Scarlet fever, rate per 100,000	9.8
Diarrhœal diseases, rate per 100,000	51.9

CENTRAL SANITARY SECTION.

Total population	1,024,791
Total deaths	1,077
Death rate per 1,000	12.4
Consumption, rate per 100,000	123.2
Typhoid, rate per 100,000	94.4
Diphtheria, rate per 100,000	26.4
Scarlet fever, rate per 100,000	6.9
Diarrhœal diseases, rate per 100,000	47.2

SOUTHERN SANITARY SECTION.

Total population	651,836
Total deaths	722
Death rate per 1,000	13.0
Consumption, rate per 100,000	141.2
Typhoid, rate per 100,000	130.3
Diphtheria, rate per 100,000	19.9
Scarlet fever, rate per 100,000	12.6
Diarrhœal diseases, rate per 100,000	79.6

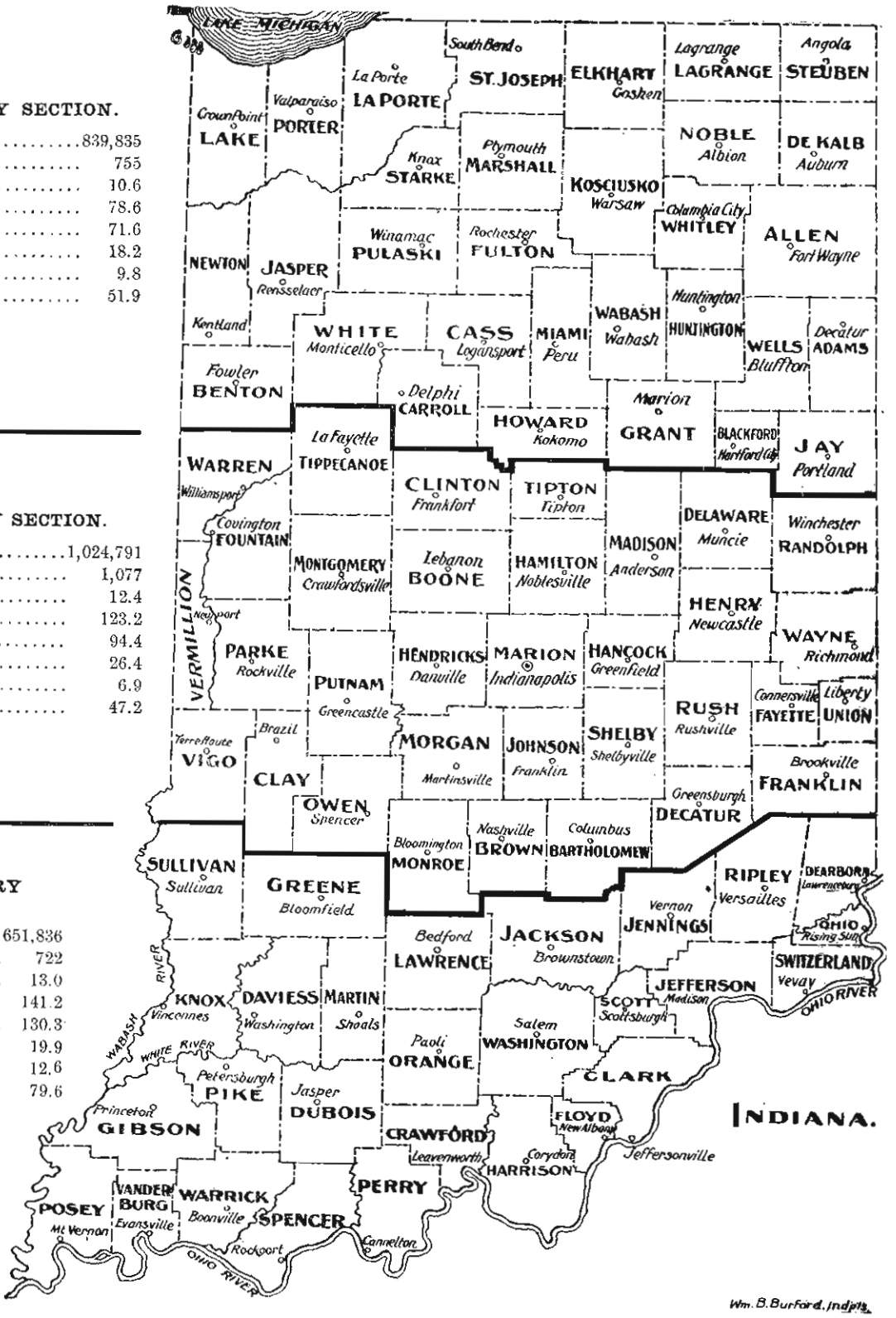

TABLE No. 1. Deaths in Indiana by Geographical Sections and Counties During the Month of October, 1902.

STATE AND COUNTIES.	Population, based on Census 1900.	Total Deaths Reported for October, 1902.	Annual Death Rate per 1,000 Population.	Stillbirths.	Important Ages. Under 1 Year.	1 to 5, inclusive.	5 to 10, inclusive.	10 to 15, inclusive.	65 Years and Over.	Deaths From Important Causes. Pulmonary Consumption.	Other Forms of Tuberculosis.	Typhoid Fever.	Diphtheria.	Croup.	Scarlet Fever.	Measles.	Whooping Cough.	Pneumonia.	Diarrhœal Diseases, Under 5.	Cerebro-spinal Meningitis.	Influenza.	Puerperal Septicæmia.	Cancer.	Violence.	Deaths in Institutions.	Smallpox.
State of Indiana.	**2,516,462**	**2,554**	**11.9**	**138**	**426**	**226**	**75**	**60**	**586**	**241**	**42**	**205**	**47**	**4**	**20**	.....	**4**	**157**	**122**	**18**	**16**	**4**	**95**	**146**	**108**	**12**
Northern Co's.	**839,835**	**755**	**10.6**	**43**	**126**	**54**	**21**	**19**	**187**	**56**	**14**	**51**	**13**	.....	**7**	.....	**1**	**43**	**37**	**4**	**4**	.....	**35**	**42**	**21**	**9**
Adams	22,232	19	10.0	1	5	.....	.....	.....	3	4	1	3	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2	.....	.....
Allen	77,270	87	13.2	3	15	6	4	2	22	3	2	4	2	.....	1	.....	.....	4	4	1	.....	.....	5	4	7	.....
Benton	13,123	7	6.2	2	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blackford	17,213	14	9.5	3	2	.....	.....	.....	6	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	1	.....
Carroll	19,953	6	3.5	.....	1	.....	.....	.....	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cass	34,545	32	10.9	3	5	3	.....	1	5	4	.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....	1	5	5	.....
Dekalb	25,711	21	9.6	.....	4	1	.....	1	7	.....	.....	4	1	.....	1	.....	1	1	.....	.....	.....	.....	.....	1	.....	.....
Elkhart	45,052	30	7.8	2	6	.....	1	.....	10	1	.....	1	1	.....	.....	.....	.....	1	1	.....	.....	.....	1	1	.....	1
Fulton	17,453	16	10.8	1	1	1	.....	1	4	1	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2	2	.....	.....
Grant	54,693	71	15.3	4	15	4	2	.....	13	.....	1	8	.....	.....	.....	.....	.....	5	5	.....	.....	.....	3	5	.....	.....
Howard	28,575	26	10.7	.....	2	2	.....	1	8	3	1	2	.....	.....	.....	.....	.....	2	1	1	.....	.....	.....	.....	.....	.....
Huntington	28,901	28	11.4	5	7	1	1	1	6	2	.....	1	.....	.....	1	.....	.....	3	1	.....	.....	.....	2	1	.....	.....
Jasper	14,292	7	5.7	.....	2	1	.....	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Jay	26,818	19	8.3	.....	2	2	1	1	8	3	.....	3	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	1
Kosciusko	29,109	17	6.8	2	3	1	1	1	2	1	.....	.....	.....	.....	.....	.....	.....	4	1	.....	.....	.....	1	1	1	1
Lagrange	15,284	9	6.9	.....	1	.....	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....
Lake	37,892	53	16.5	3	10	6	2	2	8	3	2	3	1	.....	2	.....	.....	7	2	.....	.....	.....	.....	4	1	.....
Laporte	38,386	27	8.2	.....	4	.....	1	.....	7	7	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	4	.....
Marshall	25,119	21	9.8	.....	2	3	.....	.....	6	3	.....	.....	.....	.....	.....	.....	.....	1	2	.....	.....	.....	2	3	.....	.....
Miami	28,344	25	10.4	1	2	2	1	.....	10	2	.....	2	.....	.....	.....	.....	.....	2	1	.....	.....	.....	3	1	.....	.....
Newton	10,448	6	6.7	.....	2	2	.....	.....	2	.....	.....	.....	1	.....	.....	.....	.....	1	2	.....	.....	.....	.....	.....	.....	.....
Noble	23,533	10	5.0	.....	.....	1	1	.....	3	1	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Porter	19,175	16	9.8	.....	4	.....	.....	1	4	1	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Pulaski	14,033	9	7.5	1	1	1	.....	1	2	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Starke	10,431	8	9.0	1	1	.....	.....	.....	3	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Steuben	15,219	12	9.3	1	2	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	2	1	.....	.....
St. Joseph	58,881	68	13.6	6	9	12	3	2	4	5	.....	4	7	.....	1	.....	.....	1	7	1	.....	.....	2	3	2	5
Wabash	28,235	39	16.2	1	8	2	1	2	11	3	.....	3	.....	.....	.....	.....	.....	3	3	.....	1	.....	3	5	.....	.....
Wells	23,449	23	11.5	2	4	3	1	1	5	4	1	1	.....	.....	.....	.....	.....	1	.....	.....	2	.....	.....	.....	.....	.....
White	19,138	15	9.2	1	5	.....	1	.....	5	1	.....	2	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	1	1	.....	.....
Whitley	17,228	14	9.5	.....	1	.....	.....	1	4	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....
Central Co's.	**1,024,791**	**1,177**	**12.4**	**66**	**163**	**98**	**31**	**17**	**267**	**107**	**15**	**82**	**23**	**3**	**6**	.....	.....	**74**	**41**	**8**	**3**	**1**	**37**	**68**	**69**	**3**
Bartholomew	24,594	35	16.7	1	9	4	.....	.....	6	2	.....	1	.....	.....	.....	.....	.....	5	3	.....	.....	.....	3	1	.....	.....
Boone	26,321	26	11.6	1	2	1	.....	.....	11	2	1	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2	1	.....
Brown	9,727	14	16.9	1	3	3	.....	1	1	.....	.....	1	1	.....	1	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....
Clay	34,285	28	9.6	2	7	3	2	1	6	1	1	2	1	1	.....	.....	.....	3	1	1	1	.....	.....	3	1	.....
Clinton	28,202	29	12.1	1	7	6	1	.....	5	.....	.....	1	2	.....	.....	.....	.....	1	4	.....	.....	.....	1	2	1	3
Decatur	19,518	22	13.3	2	.....	2	2	.....	5	5	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2	.....
Delaware	49,624	56	13.3	5	9	5	3	1	10	5	1	5	3	1	.....	.....	.....	4	1	.....	.....	.....	2	2	1	.....
Fayette	13,495	13	11.3	1	2	.....	.....	.....	1	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Fountain	21,446	16	8.8	.....	2	1	2	.....	5	3	1	1	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2	.....	.....
Franklin	16,388	17	12.2	.....	3	1	1	.....	5	1	.....	3	.....	.....	1	.....	.....	1	1	.....	.....	.....	1	.....	.....	.....
Hamilton	29,914	19	7.4	1	6	1	1	.....	4	2	1	2	2	.....	.....	.....	.....	1	2	.....	.....	.....	1	.....	.....	.....
Hancock	19,189	24	14.7	6	5	2	.....	1	7	1	.....	1	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	1	.....	.....
Hendricks	21,292	23	12.7	1	2	1	1	.....	7	4	1	2	1	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	1	.....	.....
Henry	25,088	24	11.2	2	3	.....	.....	.....	11	3	.....	2	.....	.....	.....	.....	.....	1	1	.....	.....	.....	1	2	.....	.....
Johnson	20,223	24	14.0	.....	3	2	.....	.....	8	6	.....	2	.....	.....	1	.....	.....	1	.....	1	.....	.....	1	1	.....	.....
Madison	70,470	70	11.7	4	13	12	3	2	16	4	1	5	3	.....	.....	.....	.....	12	5	1	.....	.....	2	2	1	.....
Marion	197,227	244	14.5	9	36	19	4	5	56	22	3	17	3	1	.....	.....	.....	19	7	1	.....	1	12	19	42	.....
Monroe	20,873	26	14.6	2	2	4	1	1	7	5	.....	4	2	.....	.....	.....	.....	1	2	.....	.....	.....	1	2	1	.....
Montgomery	29,388	29	11.6	1	7	1	.....	1	7	2	.....	4	.....	.....	.....	.....	.....	1	3	.....	.....	.....	1	2	.....	.....
Morgan	20,457	10	5.7	.....	.....	.....	.....	.....	4	2	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Owen	15,149	10	7.7	.....	.....	1	.....	.....	4	3	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Parke	23,000	26	13.3	1	2	3	.....	.....	7	6	.....	3	1	.....	.....	.....	.....	2	1	.....	.....	.....	.....	2	.....	.....
Putnam	21,478	25	13.7	3	2	1	.....	1	8	.....	.....	2	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	5	.....	.....
Randolph	28,653	18	7.4	1	1	.....	2	.....	9	2	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	1	.....
Rush	20,148	11	6.4	1	2	2	.....	.....	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....
Shelby	26,491	28	12.4	5	2	4	1	.....	4	4	.....	3	1	.....	1	.....	.....	.....	2	.....	.....	.....	1	1	.....	.....
Tippecanoe	38,659	41	12.5	4	4	1	2	2	14	4	.....	3	.....	.....	.....	.....	.....	1	.....	1	1	.....	2	5	6	.....
Tipton	19,116	16	9.8	2	5	2	.....	.....	4	1	.....	.....	.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....
Union	6,748	1	1.7	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vermillion	15,252	15	11.6	1	1	4	.....	.....	5	2	.....	2	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
Vigo	62,035	76	14.4	6	13	9	4	.....	11	10	.....	3	3	.....	1	.....	.....	8	3	1	1	.....	2	6	4	.....
Warren	11,371	4	4.1	.....	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	1	.....	.....
Wayne	38,970	57	17.2	2	10	2	1	1	13	3	4	3	.....	.....	1	.....	.....	1	.....	1	.....	.....	1	3	8	.....
Southern Co's.	**651,836**	**722**	**13.0**	**29**	**137**	**74**	**23**	**24**	**132**	**78**	**13**	**72**	**11**	**1**	**7**	.....	**3**	**40**	**44**	**6**	**9**	**3**	**23**	**36**	**18**	.....
Clark	31,835	32	11.8	.....	7	2	1	2	2	2	.....	4	.....	.....	.....	.....	.....	2	1	.....	.....	.....	1	2	1	.....
Crawford	13,476	13	11.3	1	4	2	.....	.....	2	2	1	1	.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....
Daviess	29,914	35	13.8	1	5	5	1	2	6	4	.....	2	.....	.....	.....	.....	1	1	.....	1	1	.....	1	2	1	.....
Dearborn	22,194	32	17.0	2	4	1	2	1	8	6	.....	2	1	1	.....	.....	.....	.....	2	1	4	.....	.....	.....	.....	.....
Dubois	20,357	16	9.2	.....	5	.....	.....	1	3	3	.....	4	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Floyd	30,118	38	14.8	3	9	4	1	.....	2	3	.....	.....	.....	.....	.....	.....	.....	5	2	.....	.....	.....	3	1	1	.....
Gibson	30,009	39	15.3	.....	9	3	1	3	7	5	1	4	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	2	.....	.....
Greene	28,530	28	11.5	.....	7	5	.....	1	3	2	.....	2	.....	.....	1	.....	.....	.....	2	1	1	.....	1	2	1	.....
Harrison	21,702	22	11.9	.....	1	1	1	3	6	.....	2	6	2	.....	.....	.....	.....	1	.....	.....	.....	.....	1	3	1	.....
Jackson	26,633	34	15.0	1	5	6	1	.....	11	2	.....	3	1	.....	.....	.....	.....	3	4	.....	.....	.....	1	.....	.....	.....
Jefferson	22,913	28	14.4	2	3	.....	2	.....	9	5	.....	2	1	.....	.....	.....	.....	1	1	.....	.....	1	.....	1	.....	.....
Jennings	15,757	7	5.2	1	2	.....	1	.....	2	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
Knox	32,746	45	16.2	1	12	4	1	1	8	4	1	4	1	.....	.....	.....	1	2	2	1	1	1	1	4	1	.....
Lawrence	25,729	27	12.3	1	5	4	.....	1	7	2	3	1	1	.....	.....	.....	.....	2	2	.....	.....	.....	.....	1	.....	.....
Martin	14,711	13	10.4	.....	.....	1	1	1	2	1	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Ohio	4,724	5	12.4	.....	.....	.....	.....	.....	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Orange	16,854	22	15.4	1	2	1	1	2	2	7	2	4	.....	.....	.....	.....	.....	1	.....	.....	.....	1	1	.....	.....	.....
Perry	18,778	25	15.7	2	7	5	.....	.....	5	1	.....	1	.....	.....	.....	.....	.....	4	2	.....	.....	.....	.....	2	1	.....
Pike	20,486	35	20.1	1	12	7	2	.....	2	4	.....	7	.....	.....	.....	.....	.....	1	9	.....	.....	.....	1	1	.....	.....
Posey	22,333	31	16.3	.....	5	5	1	3	5	5	.....	3	1	.....	.....	.....	.....	1	5	1	.....	.....	.....	2	.....	.....
Ripley	19,881	12	7.1	1	1	.....	.....	.....	5	1	1	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....
Scott	8,307	11	15.6	.....	1	1	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1	.....	.....	.....	.....	.....
Spencer	22,407	24	12.6	1	4	2	3	1	2	2	.....	2	.....	.....	3	.....	.....	2	1	.....	.....	.....	.....	4	.....	.....
Sullivan	26,005	28	12.7	4	6	5	.....	1	2	1	.....	2	.....	.....	.....	.....	.....	1	2	.....	.....	.....	2	2	.....	.....
Switzerland	11,840	13	12.9	.....	2	3	1	.....	2	2	.....	.....	2	.....	2	.....	.....	2	.....	.....	1	.....	1	.....	.....	.....
Vanderburgh	71,760	71	11.6	5	12	4	2	1	13	10	1	4	.....	.....	1	.....	.....	3	3	.....	.....	.....	4	4	10	.....
Warrick	22,329	21	11.0	1	3	3	.....	.....	5	2	.....	5	.....	.....	.....	.....	.....	1	2	.....	.....	.....	1	.....	.....	.....
Washington	19,409	15	9.1	.....	4	.....	.....	.....	6	.....	1	3	.....	.....	.....	.....	1	1	.....	.....	.....	.....	1	.....	1	.....

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

CITIES.	Population, based on Census, 1900.	Total Deaths Reported for October, 1902.	Annual Death Rate per 1,000 Population.	Stillbirths.	Important Ages. Under 1 Year.	1 to 5, inclusive.	5 to 10, inclusive.	10 to 15, inclusive.	65 Years and Over.	Deaths From Important Causes. 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**	**264**	**13.6**	**13**	**40**	**21**	**4**	**6**	**51**	**28**	**2**	**17**	**2**	**1**	**1**			**21**	**10**	**1**		**1**	**14**	**22**	**40**	
Indianapolis	169,164	208	14.5	8	31	17	3	5	42	19	2	14	2	1				18	7	1		1	12	18	34	
Evansville	59,007	56	11.1	5	9	4	1	1	9	9		3			1			3	3				2	4	6	
Cities from 25,000 to 50,000 Population	**117,787**	**173**	**17.3**	**12**	**23**	**18**	**9**	**2**	**29**	**16**	**1**	**7**	**11**		**3**			**9**	**10**	**3**	**1**		**8**	**13**	**12**	**2**
Ft. Wayne	45,115	65	17.0	3	6	4	4	2	17	2	1	3	2		1			4	2	1			5	4	7	
South Bend	35,999	48	15.7	6	7	9	3		3	4		2	7		1				5	1			1	3	1	2
Terre Haute	36,673	60	19.3	3	10	5	2		9	10		2	2		1			5	3	1	1		2	6	4	
Cities from 10,000 to 25,000 Population	**218,623**	**276**	**14.8**	**19**	**47**	**21**	**11**	**8**	**50**	**23**	**5**	**15**	**4**	**1**				**21**	**12**	**1**		**1**	**7**	**16**	**6**	
Anderson	20,178	24	14.0		4	5	1	2	5	2		1	2					7	3					1		
Elkhart	15,184	10	7.7	1	2				3	1		1							1							
Elwood	12,950	15	13.6	4	3	2	1		4									1	1							
Hammond	12,376	26	24.7	3	4	1	1	1	5	3	2	1						2	1					1	1	
Jeffersonville	10,774	14	15.3		4	2		1		2								2								
Kokomo	10,609	14	15.5		1	1			4	1		1						1	1					1		
Lafayette	18,116	21	13.6	3	2		2	2	5			2											1	4	1	
Logansport	16,204	18	13.1	3	1	2			3	3									1					2	1	
Marion	17,337	21	14.2	1	4	2	1		4			4						1	2					2		
Michigan City	14,850	9	7.1		2				2	2													1			
Muncie	20,942	26	14.6	1	2	1	2	1	5	4	1	2	1	1				1					1		1	
New Albany	20,628	33	18.8	2	8	4	1		2	3								4	2				3	1	1	
Richmond	18,226	27	17.4	1	7		1	1	3	1	1	1						1		1				3	1	
Vincennes	10,249	18	20.7		3	1	1		5	1	1	2	1					1				1	1	1		
Cities from 5,000 to 10,000 Population	**161,751**	**238**	**17.3**	**13**	**39**	**20**	**8**	**4**	**50**	**24**	**4**	**16**	**2**	**1**				**15**	**14**		**1**		**9**	**17**	**3**	**8**
Alexandria	7,221	11	17.9		1	3		1	1	1		2						1						1		
Bedford	6,115	14	27.0		2	2			6	1	1	1						2								
Bloomington	6,460	5	9.1	2		1			1	1									1				1			
Brazil	7,786	10	15.1		2	1	2	1	3			1	1	1					1		1			1		
Columbus	8,130	19	27.5		6	4			1	1								3	3				2	1		
Connersville	6,836	8	13.8		2				1			1											1	1		
Crawfordsville	6,649	12	21.2		3				3	2		1						1	1					1		
Frankfort	7,100	9	14.9		1	2			2										2						1	3
Goshen	7,810	6	9.0		1				3																	
Greensburg	5,033	14	32.8	2		1	1		3	2		1						1							1	
Hartford City	5,912	5	9.9	1					2		1															
Huntington	9,491	11	13.6	2	2				4	2								1					1			
Laporte	7,113	8	13.2		1		1		3	1	1													1		
Madison	7,835	10	15.3	1	1		1		1	1			1											1		
Mishawaka	5,560	12	25.4		2	1				1		1						1	1						1	5
Mt. Vernon	5,132	8	18.3		1	1	1			3		1						1	2					1		
Peru	8,463	10	13.9		1		1		2	2		1												1		
Princeton	6,041	14	27.3		3				4	3		1											1	2		
Seymour	6,445	8	14.6	1	1				2	1								1					1			
Shelbyville	7,169	10	16.4	2	1	1			2			2												1		
Valparaiso	6,280	7	13.1		1			1	1		1	2												1		
Wabash	8,618	18	24.6	1	6	1		1	3	1		1						3	3				1	4		
Washington	8,551	9	12.4	1	1	2	1		2	1													1			
Cities under 5,000 Population	**131,508**	**147**	**13.1**	**6**	**27**	**18**	**5**	**2**	**41**	**9**	**3**	**9**	**2**	**1**	**5**			**14**	**5**		**2**		**6**	**10**		**1**
Attica	3,005	No deaths.																								
Auburn	3,396	7	24.3		2	1		1	2			1	1		1			1								
Aurora	3,645	8	25.8			1	1		2	1			1	1										1		
Bluffton	4,479	7	18.4	2	1	1			2									1			1					
Cannelton	2,188																									
Clinton	2,918	8	32.3	1	1	2			3									1						1		
Columbia City	2,975	2	7.9																				2			
Covington	2,213	3	15.9		1		1		1										1					1		
Decatur	4,142	4	11.3		1					2	1															
Delphi	2,135	3	16.5		1				2																	
Dunkirk	3,187	1	3.7									1														
East Chicago	3,411	6	20.7		2	4									2			2	1							
Franklin	4,005	6	17.6						2			1						1						1		
Garrett	3,910	2	6.0									1														
Gas City	3,622	7	22.8	2	2						1								1				1			
Greencastle	3,661	3	9.6			1			1									1						1		
Greenfield	4,489	2	5.2		1				1																	
Huntingburg	2,527	1	4.6									1														
Kendallville	3,354	2	7.0			1																				
Lawrenceburg	4,326	5	13.6	1	1					2																
Lebanon	4,465	8	21.1		1				2		1													1		
Ligonier	2,231	No deaths.																								
Linton	3,071	6	23.0		3	1			1										1		1			1		
Martinsville	4,038	2	5.8						1																	
Montpelier	3,405	3	10.3		1				2														1			
Noblesville	4,792	6	14.7		1				3			1											1			
North Vernon	2,823	Too late.																								
Plymouth	3,656	6	19.3			1			2	1													1	1		
Portland	4,998	9	21.2		1		1		5	2		1						1								
Rensselaer	2,255	1	5.2		1																					
Rising Sun	1,428	3	24.7						1			1												1		
Rockville	2,645	2	11.5						1	1																
Rushville	4,541	2	5.1						2																	
Spencer	2,026	2	11.6						1			1												1		
Tell City	2,680	6	26.4		2	2			1									3								
Tipton	3,764	2	6.2			1			1										1							
Union City	2,716	3	13.0		1		1		1																	
Vevay	1,494	3	23.6		2	1									2											
Warsaw	3,987	4	11.8		1	1		1										3								1
Winchester	3,705	2	6.3				1		1																	
Total Urban Population	**857,840**	**1,098**	**15.1**	**63**	**176**	**98**	**37**	**22**	**221**	**100**	**15**	**64**	**21**	**4**	**9**			**80**	**51**	**5**	**4**	**2**	**44**	**78**	**61**	**11**
Total Rural Population	**1,658,622**	**1,456**	**10.3**	**75**	**250**	**128**	**38**	**38**	**365**	**141**	**27**	**141**	**26**		**11**		**4**	**77**	**71**	**13**	**12**	**2**	**51**	**68**	**47**	**1**

Three deaths from smallpox in September too late for September Bulletin.

Mortality of Indiana for October, 1902.

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Population, Census 1900.	Total Deaths Reported for October, 1902.	Annual Death Rate per 1,000 Population.	Stillbirths.	Important Ages. Under 1. Number.	Under 1. Per Cent.	1 to 5. Number.	1 to 5. Per Cent.	5 to 10. Number.	5 to 10. Per Cent.	10 to 15. Number.	10 to 15. Per Cent.	65 and Over Number.	65 and Over Per Cent.	Deaths and Annual Death Rates per 100,000 Population from Important Causes. Consumption. Number.	Consumption. Death Rate.	Other Forms Tuberculosis. Number.	Other Forms Tuberculosis. Death Rate.	Typhoid Fever. Number.	Typhoid Fever. Death Rate.	Diphtheria. Number.	Diphtheria. Death Rate.
State	**2,516,462**	**2,554**	**11.9**	**138**	**426**	**17.6**	**226**	**9.3**	**75**	**3.1**	**60**	**2.4**	**586**	**24.2**	**241**	**113.0**	**42**	**19.6**	**205**	**96.1**	**47**	**22.0**
Northern Co's	839,835	755	10.6	43	126	17.6	54	7.5	21	2.9	19	2.6	187	26.2	56	78.6	14	19.6	51	71.6	13	18.2
Central Co's	1,024,791	1,077	12.4	66	163	16.1	98	9.6	31	3.0	17	1.6	267	26.4	107	123.2	15	17.2	82	94.4	23	26.4
Southern Co's	651,836	722	13.0	29	137	19.7	74	10.6	23	3.3	24	3.4	132	19.0	78	141.2	13	23.5	72	130.3	11	19.9
All cities	**857,840**	**1,098**	**15.1**	**63**	**176**	**17.0**	**98**	**9.4**	**37**	**3.5**	**22**	**2.1**	**221**	**21.3**	**100**	**137.5**	**15**	**20.6**	**64**	**88.0**	**21**	**28.8**
Over 50,000	228,171	264	13.6	13	40	15.9	21	8.3	4	1.5	6	2.3	51	20.3	28	144.8	2	10.3	17	87.9	2	10.3
25,000 to 50,000	117,787	173	17.3	12	23	14.2	18	11.1	9	5.5	2	1.2	29	18.0	16	160.2	1	10.0	7	70.1	11	110.1
10,000 to 25,000	218,623	276	14.8	19	47	18.2	21	8.1	11	4.2	8	3.1	50	19.4	23	124.1	5	26.9	15	80.9	4	21.5
5,000 to 10,000	161,751	238	17.3	13	39	17.3	20	8 8	8	3.9	4	1.7	50	22.2	24	175.0	4	29.1	16	116.7	2	14.5
Under 5,000	131,508	147	13.1	6	27	19.1	18	12.7	5	3.5	2	1.4	41	29.0	9	80.7	3	26.9	9	80.7	2	17.9
Country	1,558,622	1,456	10.3	75	250	18.1	128	9.1	38	2.7	38	2.7	365	26.4	141	100.3	27	19.2	141	100.3	26	18.4

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Deaths and Annual Death Rates per 100,000 Population from Important Causes. Croup. Number.	Croup. Death Rate.	Scarlet Fever. Number.	Scarlet Fever. Death Rate.	Measles. Number.	Measles. Death Rate.	Whooping Cough. Number.	Whooping Cough. Death Rate.	Pneumonia. Number.	Pneumonia. Death Rate.	Diarrhœal Diseases, Under 5 Yrs Number.	Diarrhœal Diseases, Under 5 Yrs Death Rate.	Cerebro-Spinal Meningitis. Number.	Cerebro-Spinal Meningitis. Death Rate.	Influenza. Number.	Influenza. Death Rate.	Puerperal Septicæmia. Number.	Puerperal Septicæmia. Death Rate.	Cancer. Number.	Cancer. Death Rate.	Violence. Number.	Violence. Death Rate.	Smallpox. Number.	Smallpox. Death Rate.
State	**4**	**1.8**	**20**	**9.3**	.....	.....	**4**	**1.8**	**157**	**73.6**	**122**	**57.2**	**18**	**8.4**	**16**	**7.5**	**4**	**1.8**	**95**	**44.5**	**146**	**68.4**	**12**	**5.6**
Northern Co's	.....	.....	7	9.8	.....	.....	1	1.4	43	60.4	37	51.9	4	5.6	4	5.6	.....	.....	35	49.1	42	59.0	9	12.6
Central Co's	3	3.4	6	6.9	.....	.....	.....	.....	74	85.2	41	47.2	8	9.2	3	3.4	1	1.1	37	42.6	68	78.2	3	3.4
Southern Co's	1	1.8	7	12.6	.....	.....	3	5.4	40	72.4	44	79.6	6	10.8	9	16.2	3	5.4	23	41.6	36	65.1	.....	.....
All cities	**4**	**5.5**	**9**	**12.3**	.....	.....	.....	.....	**80**	**110.0**	**51**	**70.1**	**5**	**6.8**	**4**	**5.5**	**2**	**2.7**	**44**	**60.5**	**78**	**107.2**	**11**	**15.1**
Over 50,000	1	5.1	1	5.1	.....	.....	.....	.....	21	108.6	10	51.7	1	5.1	.....	.....	1	5.1	14	72.4	22	113.7	.....	.....
25,000 to 50,000	.....	.....	3	30.0	.....	.....	.....	.....	9	90.1	10	100.1	3	30.0	1	10.0	.....	.....	8	80.1	13	130.2	2	20.0
10,000 to 25,000	1	5.3	.....	.....	.....	.....	.....	.....	21	113.3	12	64.7	1	5.3	.....	.....	1	5.3	7	37.7	16	86.3	.....	.....
5,000 to 10,000	1	7.2	.....	.....	.....	.....	.....	.....	15	109.4	14	102.1	.....	.....	1	7.2	.....	.....	9	65.6	17	124.0	8	58.3
Under 5,000	1	8.9	5	44.8	.....	.....	.....	.....	14	125.6	5	44.8	.....	.....	2	17.9	.....	.....	6	53.8	10	89.7	1	8.9
Country	.....	.....	11	7.8	.....	.....	4	2.8	77	54.7	71	50.5	13	9.2	12	8.5	2	1.4	51	36.2	68	48.3	1	.7

Meteorological Summary for October, 1902, Furnished by the Central Office, Indiana Section, Climate and Crop Service, U. S. Weather Bureau, Indianapolis, Ind., November 13, 1902.

W. T. BLYTHE, SECTION DIRECTOR.

SECTIONS.	Temperature. Mean.	Departure from Normal.	Highest. Degree.	Highest. Date.	Highest. Place.	Lowest. Degree.	Lowest. Date.	Lowest. Place.	Precipitation. In Inches. Average.	Departure from Normal.	Snowfall Unmelted.	Days with .01 inch or more.	Condition of Sky. Number of Days. Clear.	Partly Cloudy.	Cloudy.	Wind. Prevailing Direction.
Northern Section	54.5	+0.4	81	11	Syracuse	24	29	Lafayette	2.31	−0.28	T	8	14	10	7	SW.
Central Section	56.8	+1.6	87	25	Prairie Creek	24	29	Cambridge Ct	2.63	+0.53	0	6	12	11	8	SW.
Southern Section	58.7	+1.8	89	9	Madison	27	29	Paoli, Princeton	2.70	+0.13	0	6	15	10	6	SW.
State	.....	.....	89	9	Madison	24	29	Cambridge Ct, Lafayette	2.56	+0.13	T	7	14	10	7	SW.