MONTHLY BULLETIN

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 SEPTEMBER, 1904.

Total number of deaths reported, 2,653, annual rate 12.2. In the preceding month 2,980 deaths, rate 13.2. In September, 1903, 2,766 deaths, rate 13.4. Deaths by important ages were: Under one year 549, or 21.7 of total; 1 to 5, 228; 5 to 10, 44; 10 to 15, 43; 15 to 20, 108; 65 and over, 610, or 24.1 of total. Some important causes of death were: Pulmonary tuberculosis, 287; other forms of tuberculosis, 44; typhoid fever, 137; diphtheria, 12; scarlet fever, 6; measles, 2; whooping cough, 7; pneumonia, 73; diarrhœal diseases, 319; cerebro-spinal meningitis, 34; influenza, 1; puerperal fever, 13; cancer, 115; violence, 146; smallpox, 12.

SANITARY SECTIONS: THE NORTHERN SANITARY SECTION, population 889,376, reports 884 deaths, rate, 12.1. In the preceding month, 888 deaths, rate, 11.7. In the corresponding month last year, 905 deaths, rate, 13.1.

THE CENTRAL SANITARY SECTION, population 1,093,-418, reports 1,152 deaths, rate, 12.8. In the preceding month, 1,257 deaths, rate, 13.5. In the corresponding month last year, 1,188 deaths, rate, 13.1.

THE SOUTHERN SANITARY SECTION, population 673,-610, reports 622 deaths, rate 11.2. In the preceding month, 835 deaths, rate, 14.6. In the corresponding month last year, 673 deaths, rate, 12.5.

REVIEW OF SECTIONS: The Southern Sanitary Section shows the lowest death rate and the Central Section the highest. For consumption, the highest death rate, 154.8 per 100,000, occurs in the Southern Section. This section shows the highest death rate in typhoid fever, diarrhœal diseases and puerperal fever. The highest death rate for smallpox, violence, cancer and diphtheria occurs in the Central Section.

BY COUNTIES: The lowest death rate appears in Lagrange and Wells counties, both showing a rate of 5.5. The counties showing a death rate below the average for the whole State (12.2), are: Adams, 10.1; Benton, 10.8; Carroll, 7.3; Dekalb, 8.8; Elkhart, 11.1; Fulton, 9.6; Jasper, 7.8; Lagrange, 5.5; Marshall, 11.9; Miami, 8 3; Newton, 9.9; Noble, 8.7; Pulaski, 8.8; Steuben, 6.3; Wells, 5.5; Wabash, 10.2; White, 11.3; Whitley, 11.9; Bartholomew, 9.8; Clay, 6.8; Delaware, 11.5; Fayette, 7.9; Hamilton, 9.7; Hendricks, 7.4; Johnson, 6.2; Madison, 10.6; Morgan, 6.3; Owen, 8; Parke, 10.2; Putnam, 9.6; Rush, 10.1; Shelby, 11.8; Tippecanoe, 10.7; Tipton, 8.8; Warren, 7.4; Floyd, 10.8; Gibson, 8.3; Harrison, 8.3; Jackson, 11.9; Jefferson, 8.5; Jennings, 8.3; Martin, 11.4; Ohio, 7.7; Perry, 8.3; Posey, 10.8; Ripley, 9.1; Scott, 10; Spencer, 9.7; Sullivan, 9.2; Warrick, 8.6.

CITIES: All cities, total population 922,372, report 1,192 deaths, rate 15.7. In the preceding month, 1,292 deaths, rate 16.5. In the corresponding month last year, 1,158 deaths, rate 14.4. The cities show a higher death rate than the country in the following diseases: Tuberculosis, typhoid fever, pneumonia, diarrhœal diseases, cancer, violence and smallpox. Only in cerebrospinal meningitis and puerperal fever, does the country show a higher death rate than the cities.

COUNTRY: Population, 1,734,032, reports 1,466 deaths, rate 10.3. In the preceding month, 1,688 deaths, rate 11.4. In the corresponding month last year, 1,608 deaths, rate 11.8.

CITIES BY CLASSES: CLASS A, having 50,000 population and over, total population 262,515, including Indianapolis and Evansville, reports 312 deaths, rate 15. In the preceding month, 359 deaths, rate 14.3. In the corresponding month last year, 308 deaths, rate 16.4. Indianapolis, rate 15.1; Evansville, 14.6.

CLASS B, having from 25,000 to 50,000 population, a total population of 126,659, report 184 deaths, rate 17.6. In the preceding month, 160 deaths, rate 14.8. In the corresponding month last year, 176 deaths, rate 16.1. This class includes Fort Wayne, rate 16; South Bend, rate 15.7; Terre Haute, rate 21.8.

CLASS C, having from 10,000 to 25,000 population, fifteen cities in all, report 298 deaths, rate 15 4. In the preceding month, 332 deaths, rate 16.6. In the corresponding month last year, 358 deaths, rate 17.1. This class includes Anderson, rate 13 2; Elkhart, 11.9; Elwood, 22.7; Hammond, 10.2; Jeffersonville, 12.4; Kokomo, 18 3; Lafayette, 18.9; Logansport, 14.2; Marion, 22.6; Michigan City, 10.6; Muncie, 16.1; New Albany, 12.4; Richmond, 15.6; Vincennes, 16.0. It will be noticed that all but Elkhart, Hammond and Michigan City present a higher rate than the average (12.2) for the whole State.

CLASS D, having under 10,000 population, total population, 303,137, report 398 deaths, rate 13.5. In the preceding month, 471 deaths, rate 17.9. In the corresponding month last year, 386 deaths, rate 12.8.

Chart showing death by sanitary sections on page 105.

SUMMARY OF MORBIDITY AND MORTALITY IN SEPTEMBER, 1904.

Diarrhoea heads the list as the most prevalent malady. It stood first in the preceding month, and second in the corresponding month last year. The order of prevalence was as follows: Diarrhoea, typhoid fever, rheumatism, intermittent fever, tonsilitis, bronchitis, cholera morbus, cholera infantum, dysentery, scarlet fever, erysipelas, inflammation of bowels, typhi-malaria fever, pneumonia, diphtheria, and membranous croup, pleuritis, influenza, whooping cough, measles, puerperal fever, cerebro-spinal meningitis.

SMALLPOX: There were reported 197 cases of smallpox in 22 counties with 12 deaths. In the preceding month, 56 cases in 14 counties with three deaths. In the corresponding month last year, 68 cases in 16 counties with two deaths. By both of these comparisons, smallpox shows an increase. The counties reporting the disease were: Boone, 10 cases; Clay, 4; Crawford 4; Elkhart, 5; Fulton, 2; Grant, 1; Huntington, 1; Jackson, 1; Knox, 1; Marion, 1; Marshall, 3; Owen, 5; Parke, 1; Sullivan, 13; Tippecanoe, 1; Vanderburgh, 23; Vigo, 115; Wabash, 3; Warren, 3; Washington 4. All of the deaths occurred in Vigo County, and it is here acknowledged the State Board is perfectly aware that probably not one-half of the cases were reported. This is because of the occurrence of many mild cases which never call a physician, and also because many physicians fail to diagnose smallpox in mild form. At Terre Haute, smallpox was epidemic. September 27, there were 37 cases in the smallpox hospital and 39 quarantined in houses. Most of the cases were of severe form, many being confluent and semi-confluent. All of the deaths were hemorrhagic cases and three of the extreme hemorrhagic form known as "black smallpox." From all of the counties whence the disease is reported, come accounts of its increased virulence.

TUBERCULOSIS: Three hundred and thirty-two deaths reported, all but 44 being of the pulmonary form. Male tuberculosis deaths, 132; female, 200. Of the males, 18 were married and between the ages of 18 and 40, leaving 38 orphans under 12 years of age. Of the females, 59 were married of the same age period as above, leaving 136 orphans under 12 years of age. The total number of orphans caused by this one disease in this month was 174, and almost 300 homes were invaded. This record is slightly lower than was presented in the corresponding month last year.

TYPHOID FEVER: All but 14 counties out of 92 reported this disease present. 618 cases were reported with 137 deaths. This is a heavy increase as compared with the preceding month when there were 485 cases reported with 100 deaths. It is an improvement, however, as compared with the corresponding month last year when the deaths numbered 166, and the cases 517. It is very plain that all cases are not reported. Our prediction in the August number that not less than 480 then well would die of typhoid before Christmas is so far supported by the 137 deaths which have since occurred, with three more months to hear from. The typhoid epidemic in Indianapolis which occurred in August is somewhat abated. The deaths in the disease in the first month numbered 17, and in the succeeding month 13. This is surely a high price to pay for having a preventable disease.

PNEUMONIA: The pneumonia deaths numbered 71, which is more than in the preceding month and 39 fewer than in the corresponding month last year. 43 of the total deaths were males and 28 females. 18 were under 1 year of age, 7 between 1 and 5, and the remainder 15 and over. One death was that of a man over 90 years of age, and four from 80 to 90 years of age occurred. The September figures show no increase in this disease.

DEATHS BY VIOLENCE: The deaths by violence numbered 146. 3 were murders, 29 suicides, and the remainder accidental. Of the murders, two were by gunshots and one by stabbing. Of he suicides, 13 were females and 16 males. 3 males and 7 females chose carbolic acid, one male and 2 females, morphine, 7 males, gunshot, 1 male and 1 female, drowning, 2 males, hanging, 1 male, cutting throat. Of the accidental deaths, 31 were by railroads, 1 by street cars, 7 by crushing injuries, 11 by gunshots, 6 by falls, 5 by poisons, 8 by drowning, 3 by horses and vehicles, 4 by asphyxiation, 11 by burns and scalds, and the rest by various other means.

CANNING FACTORY REFUSE: We have had a number of inquiries from health officers asking what procedure is necessary to prevent the pollution of streams and the prevention of nuisances by canning factories. At Tipton, the farmers claim that the refuse from the canning factory poisons the water in the creek, and this kills their stock and also the fish. It will be a difficult matter to prove in court that vegetable refuse, though in a state of putrefaction, will directly affect the public health. In one court case, it was brought out that every fall untold tons of leaves, straw, sometimes fruit, and all kinds of vegetable matter were left to decay on every hand, and that no one thought of attributing disease to such conditions. It was also proven that fermenting vegetable infusions would not support such germs as cause disease. Judgment was to the effect that decaying or fermenting vegetable matter could not and did not cause disease. The law defines a nuisance as follows:

"Whatever is injurious to health, or indecent, or offensive to the senses, or an obstruction to the free use of property, so as to essentially interfere with the comfortable enjoyment of life or property, is a nuisance and the subject of an action."

A careful reading of this will show what must be proven in order to secure judgment that any certain condition is a nuisance. It must be shown that the conditions "essentially interfere with the comfortable enjoyment of life and property." When a health officer receives a complaint of the above character, he should tell the person that the legal procedure will be for him to bring direct individual suit, averring that the conditions complained of "essentially interfere with the comfortable enjoyment of life and property." If he can prove this point, the court will order abatement of the conditions, and also award any damages which can be proven. If the suit is begun by the health officer, it will be necessary for him to report the matter in writing to the Prosecuting Attorney of his district, and this official in turn may bring direct suit, but usually he will present the matter to the Grand Jury. The case must then take its place on the calendar and await its turn. This usually makes considerable delay, and, therefore, the first method is the best to pursue.

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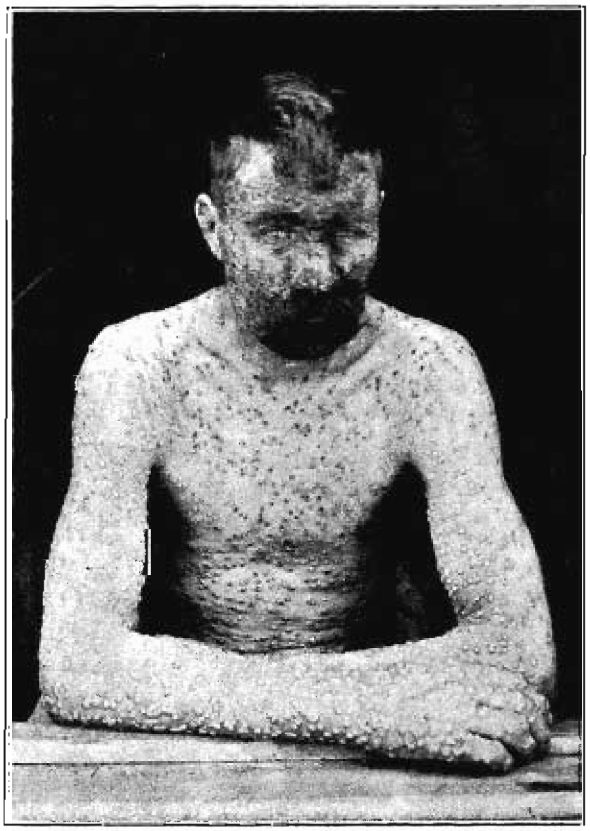
TYPHOID WATER: Dr. B. S. Hunt of Winchester, Ind., had two cases of typhoid fever in the same family. He suspected the water and sent a sample for analysis. It was found to be badly polluted and teeming with intestinal bacteria. Let us hope the people who have learned a lesson in this instance will never cease imparting the knowledge they have gained to others.

* * *

EFFICACY OF VACCINATION: We present two cuts herewith which splendidly illustrate the efficacy of vaccination. Dr. Orr, health officer of the city of Brazil, was called to see Frank Luther and found he had had a chill followed by a high fever. Dr. Orr said he could distinctly feel "sand in the forehead," and putting all the symptoms together, decided Mr. Luther had smallpox, and the subsequent developments confirmed the diagnosis. The doctor immediately vaccinated the wife and the three children. Fortunately the vaccination took splendidly, and when Mr. Luther was covered with smallpox pustules, his wife and children having been with him all the time, the photographs were taken from which the accompanying photogravures were made. Mrs. Luther and the three children did not take smallpox and have remained free from it to this day, and, of course, will not have it.



Frank Luther, unvaccinated, in height of smallpox.

Mrs. Frank Luther and children, vaccinated and in same rooms with the father when he had smallpox, but they did not have the disease.

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SCARLET FEVER INFECTION: Excellent observers say that the desquamative period of scarlet fever is not the most infectious. Of 3,800 cases studied by Aaser during seven years, 79 undoubtedly contracted the disease from patients who had previously been discharged as recovered. All these patients had been thoroughly cleansed and had ceased desquamating. It is a common observation that scarlet fever is not transmitted to any greater degree during the desquamating period than at any other time. It is highly probable that the microbe is in the discharges from the mouth and nose and may persist for a long time after recovery.

* * *

PREVENTION OF PNEUMONIA: The Weekly Bulletin of the Chicago Health Department continues its excellent instructions in regard to pneumonia. In the issue of September 24th, in the course of an article the Bulletin says:

"During the last ten years the death rate of pneumonia has increased from 11.35 per 1,000 of population in 1894, to 24.55 in 1903. This is an increase of 115 per cent. in the last decade, as compared with an average ten-year increase of 55 per cent. in the three previous decades.

"'The feasibility of limiting its epidemic and endemic spread' has not been demonstrated in the interim.

"Within the last two years, however, the continued agitation of the subject by the Department has resulted in attracting the earnest attention of the medical profession, and at the last meeting of the American Medical Association, pneumonia fairly divided the time with consumption. A Chicago physician, Dr. Edward F. Wells, presented to the Section of Practice of Medicine an elaborate and instructive address on 'The Mortality and Management of Pneumonia,' in which is summarized substantially all that is now known of methods of prevention.

"After laying down certain propositions of infectiveness, etc., Dr. Wells said:

"'What can we do to prevent and cure pneumonia? In my opinion, we now have the foundation laid for a reasonable and practicable prophylaxis (system of prevention). We are prepared to formulate broad rules, with insistence on some of the details, but the latter will require careful and prolonged study before they can be reduced to that clearness and simplicity which will appeal to every mind and compel acquiescence and compliance. I believe, however, that the time is now ripe for a great forward movement along these lines. I have certainly failed to feel aright the professional and the public pulse, if we have not at our hand a populace ready and willing to be instructed in this matter, and to co-operate heartily with us in every reasonable prophylactic measure which we may recommend. This is indeed fortunate, for without such assistance all our efforts will go for naught.

"'The following prophylactic measures, the reasons for each of which are obvious, are offered for consideration:

"'1. Pneumonic sputum should be destroyed before it has become dry. The sputum which clings to the teeth and lips, and that which may adhere to the fingers and bedding, should be wiped up with moistened cotton, gauze or other cloth, and these burned. All sputum, although not pneumonic, might well be destroyed. In coughing, in the case of the healthy as well as the pneumonic, a cloth, preferably moist, should be held before the mouth in such manner as to prevent the projection into the surrounding air of the fine, insensible, but probably pneumococci-bearing spray which follows ordinary coughing. The same applies to sneezing and blowing the nose.

"'2. The nostrils, mouth and throat should be kept as clean as possible. Cleansing sprays and washes for the nostrils; washes for the mouth and brushing the teeth; gargles and drinks for the throat. Permanent occlusions of the nostrils should be removed, while transient ones may well be cared for by the more or less frequent use of a spray of adrenalin solution. Honey-combed tonsils and adenoid growths should be removed. Taking a drink of water after eating is a habit which should be formed and cultivated. Every means should be taken to prevent sleeping with the mouth open.

"'3. The room occupied by a pneumonic patient should be afterward disinfected, as is done after diphtheria and some other infectious diseases. Remaining long or unnecessarily in a room occupied by a pneumonic patient should be avoided.

"'4. Respiratory catarrhs, from whatever infection, should be avoided, and if contracted, should be relieved as quickly as possible.

"'5. Physical and mental exhaustion, privation, undue exposure to cold and inclement weather, all should be avoided as far as practicable.'"

* * *

GOOD AIR: That good air, like good water, is becoming an expensive commodity, seems to be apparent, judging from the expensive ventilating appliances that are now being installed in a number of business places, public buildings, libraries, etc. The old idea about the air being free will soon need some revision. The cost of ventilation in several notable buildings in Great Britain was referred to in a paper recently read before the Royal Institute of British Architects. The Glasgow Art Galleries, supplied with 9,050,000 cubic feet of air per hour, by electric power, requiring 66 horse power, costs for power about $1,450 per year per 1,000,000 cubic feet. The Manchester Technical School, supplied with 12,000,000 cubic feet per hour, providing for 3½ changes hourly, and requiring 80-horse power, is charged with $1,308 per year per 1,000,000 cubic feet. The Manchester Midland Hotel, ventilaled at the rate of three changes of air per hour, corresponding to a supply of 6,000,000 cubic feet in that time, is charged with 40-horse power electrical energy at an annual cost per 1,000,000 cubic feet of $1,308. The Birmingham General Hospital, with 7 changes per hour of 13,000,000 cubic feet supplied per hour, requires 19-horse power electrical energy, and costs about $287 per annum per 1,000,000 cubic feet. The Royal Victoria Hospital, at Belfast, is provided with ventilation in turns of 7 changes, corresponding to an hourly supply of 5,000,000 cubic feet, and is charged with only 3½-horse power in a steam plant, costing $97 per 1,000,000 cubic feet per annum. Good air, it would seem, then, is getting to be a somewhat expensive luxury.—Water and Gas Review.

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JOURNAL OF PUBLIC HEALTH: This periodical is from Evansville, and is edited by Mrs. Columbia P. Wood, whose reputation as a writer is well established. The Journal is very neatly gotten up, with first-class paper and good sized type. The matter each month is always excellent, and the terse, pithy comments of the editor are highly interesting and instructive. Health officers can secure one year's subscription free by simply promising to make favorable mention of the Journal to others, if they are disposed to do so after examining one or more copies. The subscription price is $1.00 a year.

THE HYGIENE EXHIBIT AT THE WORLD'S FAIR.

The foreign countries making hygiene exhibits in the department of hygiene at the World's Fair were—Great Britain, France, Germany, Mexico, Canada, Japan, Italy, Cuba, Brazil, Belgium and the Argentine Republic—12. The States and cities that responded to the invitation to show to the world what they were doing in hygiene were—Connecticut, Florida, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, Boston, Chicago, Cleveland, New Orleans, New York City, St. Paul, Rochester.

Fourteen private exhibitors added materially to the exhibit. They were—H. K. Mulford Co., Philadelphia; Adirondack Cottage Sanatorium, Saranac Lake, New York; The Association Health Farm, Denver, Colorado; Dr. Simon Baruch, for the New York Society for the Prevention of Tuberculosis; Cameron Septic Tank Co., Chicago; Colorado Tent and Awning Co., Denver, Col; Mr. Allen Hazen, Sanitary Engineer, New York; Dr. S. A. Knopf, New York; Kuy-Schurer Co., New York; Muskoka Cottage Sanatorium, Gravenhurst, Canada; Henry Phipps Institution for the Investigation, Cure and Prevention of Tuberculosis, Philadelphia, Penn.; Purdue University Department of Sanitary Science, Lafayette, Ind.; Sharon Sanatorium for Tuberculosis, Sharon, Mass. The collaborators numbered 75. The splendid German exhibit was installed in the Palace of Liberal Arts, because the space required was as large as that accorded for all the other hygiene exhibits combined, which latter space was in the Palace of Education and Social Economy. The Belgium Exhibit was displayed in the beautiful pavilion of that country, and the model food laboratory of the German Government was placed in the Palace of Agriculture, for lack of space in the Liberal Arts. It seems strange to speak of there being lack of space in such buildings as the Palaces of Education and Liberal Arts when we know that the first covers seven acres of ground and the second twelve.

GERMANY.

By far the most important, complete and beautiful exhibit was that presented by the Imperial Board of Health of Germany, installed and superintended by Dr. Med. Breger, Commissioner of the Board. The cost of preparing and collecting this exhibit was something over $10,000, and it covered 4,312 square feet. This area was divided by partitions into three side rooms of varying dimensions. The fourth side being absent afforded easy access to the articles shown in each room. Due attention was given to the artistic effect, for the practical German knows its great value. The coloring of the walls always harmonized with that of the pictures, charts, tables of statistics, models and all exhibited articles. Your artistic German will not crowd beautiful things together. Four paintings in water colors of the Administration building of the Imperial Board of Health in Berlin must have proper wall space, proper light and a good approach. The huddling of things in front and on the immediate sides is rightly not tolerated. Better show a few good things effectually than to show many in a manner which does not bring out their points or hides the least beauty. The marble baths of Baden are shown in flawless Italian marble in full size. The disrobing and rest room adjoins the bath room proper. Both are luxuriously furnished, and the polished white marble walls, floors and bath tubs typify the purity and health which the bath will give.

Twenty-two swinging quartered oak frames about four feet wide and eight long, freely moving about a heavy carved oak post, serve to conveniently show the tuberculosis sanatoria of Germany. Ninety such institutions are shown by detailed plans and complete elevations, and in instances by paintings. These sanatoria contain 5,000 beds. An average of four patients are treated for each bed each year, making a total of 32,000 patients annually. The cost of these institutions was over 40,000,000 marks, or $10,000,000. Such an expenditure, simply to save human lives from consumption, would scare our little "watchdogs-of-the-treasury" into fits. The practical German sees it differently He loves to live, he loves to have abundant health while he lives, and he loves to save the life of his fellow man without regard to cost.

The character and extent of the milk supply of the German Empire is illustrated by diagrams showing the annual milk consumption per capita, by graphic charts showing its chemical and bacteriological composition, by charts showing its distribution by rail, by water and by carts. Statistical tables and graphic charts of infantile deaths from diarrhœal diseases before and since the institution of hygienic milk control, show its great worth. Complete and very artistic large models are shown of public water filtration plants and of sewage plants. A glass case ten by fourteen feet contains a complete model of the sewage farm of the city of Dortmund. The Germans do not discharge their sewage into streams, turning them into noisome open sewers which carry offence and disease, as we do in Indiana. They can't afford to indulge in such extravagance and foolish trifling with the public health, so they carefully conduct all sewage on to land and turn it into corn, peas, beans and other vegetables. The money thus saved is used to prevent disease and to build sanatoria where incipient tuberculosis may be cured. The Dortmund sewage farm model shows the tanks and pumping stations in miniature, and the plats or divisions of the farm show various vegetable crops. Perfect little green paper cabbages, placed in straight rows, cover one plat; others are covered by perfect paper bean plants, and others by blooming phloxes and other flowers. This illustrates the completeness and detail of each exhibit.

The collection and utilization of garbage is made interesting by models of garbage wagons and garbage receptacles, models of plants showing the extraction of fat and conversion into fertilizer, and by statistics and graphic charts. Every person has observed how, in Indianapolis, the piles of street sweepings are thrown into wagons by the lusty, careless street cleaner, and how a portion of each shovelful goes clear over the wagon into the street again, filling the air with dust. The Germans show a model of the wagons used for the collecting of street dirt in Berlin. It is tightly covered, and the street dirt, being first shoveled into a metal pail, is passed from the pail through a trap into the tight wagon bed without spilling and without loading the air with dust. In this, and down to the minutest thing, they practically apply the old observation that "What is worth doing at all is worth doing well." In the street-cleaning exhibit there are also shown charts and data concerning the cost, quantity of sweepings removed, distances hauled, and number of men, wagons and horses required to a given area.

The exhibit illustrating public baths is a revelation. There are shown models of baths in schoolhouses, models of public baths, also pictures, plans and statistics, with cost. When studying this bathing exhibit, Dr. Berger asked me about the public baths in Indianapolis. The puzzled look upon his face, when I told him we had none, was interesting. He was slightly stunned, and, recovering, said: "I can't understand why such a necessary public institution does not exist in your city." Some days after, when I gave him a picture of our soldiers' monument, showing its beautiful cascades, he was enthusiastic in his expressions of admiration, and, growing serious, asked: "Why don't you use this water, after it has passed over the cascades, for furnishing public baths?" It occurred to me the doctor thought it likely that washed humanity would enjoy the beautiful more than when unwashed. Perhaps he also wondered whether or not the strong, the well-to-do, and the able, in Indianapolis had baths in their houses. Plans, models and descriptions of public parks, gardens, schoolhouses, streets, life saving stations, knackeries, stock yards, work rooms and slaughter houses are shown. In the matter of vital statistics, nothing could be better. Let a doctor or a midwife, or in their absence the householder, neglect to report a birth, then swift and sure does punishment follow; also, if deaths and cases of infectious diseases are not reported. A second conviction loses a doctor his right to practice, and with this punishment goes imprisonment. The very great importance of vital statistics to medical science and to the state is understood and appreciated in Germany, and the government allows no foolishness in the matter. Besides tables and graphic charts showing the vital statistics, there are block models of wood of differing sizes and vari-colored which vividly show the relations of births, deaths and diseases by ages, sex, social condition and occupation. As a result of the practical application of sanitary science it appears from these statistics that the mortality in cities containing over 15,000 inhabitants was reduced from 27 in 1,000 to 19.7 in twenty-five years. In 1901 only 1 person in 1,000,000 died from smallpox and typhoid fever, while in 1877, respectively, 6 and 16 times as many died. The number of deaths from puerperal fever has been reduced to one-third of their original number, i. e., from 15.4 to 5.5 in 100,000 annually, and diphtheria from 104 to 27.

Three most complete laboratories, all necessary to modern public hygienic administration, are exhibited. One is for food and drug analyses, one is bacteriological, and one for sanitary chemical work.

The perfect arrangement, the completeness and the finish of these laboratories are calculated to open one's eyes. The prominent idea about these laboratories is not, How cheaply can they be furnished? but how complete and perfect can they be made, and how make possible good work?

Everything so far described, excepting the food laboratory, which is in the Agricultural Building, and the bacteriological laboratory in the Palace of Education, is in the Palace of Liberal Arts. In the German hygienic exhibit in the Palace of Education is shown sera and vaccine, photographs of cases of leprosy, smallpox, scarlet fever, cancer, etc.; charts, pictures and statistical tables showing hygiene work in relation to all the infectious diseases; pamphlets on disease prevention, and a variety of pathological specimens and wax and papier-mache models which are almost bewildering.

Adjoining this is a completely equipped lecture room. Here, with Dr. Victor C. Vaughn of Ann Arbor, I heard Dr. Wasserman lecture upon the results of hygienic administration in Germany. The lecture was illustrated with Leiss's new Epidiascope and Episcope. German scientists will have lecture rooms, libraries and laboratories; they don't think of doing without them. Besides pamphlets in English—translated for the occasion—upon every communicable disease, there were copies of a book entitled "Hygiene and Sanitation" of 250 pages, it also being in English. All of these were for absolutely free distribution. The catalogue of the exhibit is a paper-bound book of 246 pages, and of the scores of things therein described I have only mentioned a few. It will not do to close without mention of Prof. Dr. Dunbar's exhibit of his experiments and studies leading up to his invention of a preventive and curative serum for hay fever. Dr. Dunbar is of German parents and was born in Minnesota, but as a young man he went to Germany to complete his studies and remained there. He has for almost ten years been chief health officer of the free city of Hamburg. The hay fever exhibit consists of colored charts of pollen-bearing plants, samples of their pollen with accompanying physical and chemical analyses, illustrations of experiments in the eyes of human beings with the various chemical constituents of pollen and finally of illustrations and descriptions of how the anti-hay fever serum is produced by injecting the protied substance in rye and golden-rod pollen, which is causative of the disease. The greatest difficulty encountered was to find a horse that was not immune to hay fever. 109 horses were tried in the first experiment before one was found which would respond to the hay fever poison.

[To be continued.]

SCHOOL SANITATION.

The methods of heating and ventilating public school buildings have been so much improved in the last few years that the modern or remodeled building, even in small cities and towns, is supplied with fresh air of uniform temperature and liberal quantity. If a school is now deficient in the quality and distribution of the warm air supply; it is not for lack of designers and contractors who know how to properly equip such buildings.

In the matter of sewage disposal, the case is somewhat different. Where city sewers are convenient, inside closets are common. But, in smaller cities and towns, where sewers have not been constructed, it is wrongly assumed that inside closets are impossible. In such cases it is usual to employ vaults at some distance from the building, or some method of distruction which has become offensive.

Outside closets are a menace to neighboring wells, give off odors in warm weather, are hard to clean or are not cleaned but moved until the surrounding earth is saturated with foulness. The children expose themselves in bad weather, get their feet wet and are ill. The outside closet is not closely under the teacher's eye, and its effect on the morals is distinctly bad.

Basement closets are much to be preferred because they do not expose children, are where the teacher and janitor can easily control them, must be and can be kept clean and free from odors.

Basement closets with flush tanks require a water supply of about eight gallons per pupil. If there is no city supply, a gas or gasoline engine and pump, occupying little space and operated by the janitor, can be installed at small cost.

The remaining and important problem is to dispose of the waste from closets, and urinals by some sanitary method. In the March number of the Bulletin I described how to dispose of the sewage from a country home, and in the April number the plant installed at the Eastern Indiana Hospital is illustrated and described. Following the same general method, the writer recently designed a system for the Ridgeville public school building. The method of heating was changed to a fan, inside closets are used with a gas engine to pump the necessary quantity of water to a tank hung from the basement ceiling. The city has neither water supply nor sewers. Separated closets, each with its flush tank, carry all waste quickly from the building and to a masonry tank about 150 feet away from the building. This tank is covered with earth, and there is neither unsightliness nor odor. The design allows of the proper septic action after which the effluent is discharged into a ditch at some distance. The plant which is now in operation was built at a total cost of only $150.00, an expense so small that no town has any excuse for maintaining unsanitary closets.—R. L. Sackett, Prof. Civil Engineering, Earlham College, Richmond, Ind.

BAD HYGIENE IN BROWNSTOWN SCHOOLS: The Brownstown Banner evidently has a broad-minded editor. He knows that happiness, business success, progress of school children, etc., all depend upon good health. He also knows that an abundance of fresh, pure outdoor air is necessary for health. The Banner, in editorial, speaks as follows:

"Dr. Hurty, Secretary of the State Board of Health, is urging better ventilation of school buildings. Wonder what he would say in a case where the children, after being confined in the school rooms, are compelled to spend what short recess they have in the basement of the building? The basement may answer very well for a playground in inclement weather, but we see no excuse for compelling children to play in the basement on a bright, sunny day, when a large and beautiful playground surrounds the building.

"The town trustees and school board are to be commended for taking steps to amend the rule, which prevailed at school last winter, that would not permit school children to enter the building before the bell rings. From what we can learn, both boards were of the opinion that the rule should not be enforced in bad weather, and we believe the same views are held by a large majority of the school patrons. Another practice at school, against which there has been some complaint, was mentioned, and that was the fact that at recess the children, instead of being given the freedom of the playground, are compelled to spend the time in the basement of the building. We have heard quite a number condemn this practice and insist that the children should be given the benefit of the large playground which surrounds the school building, where they can inhale the pure, fresh air, of which they are so much in need after several hours' confinement in a close room."

* * *

AN INSTRUCTIVE LESSON: The unfortunate visitation of smallpox at Terre Haute has afforded an instructive lesson that all the State will be wise to heed. At the appearance of the disease, both county and city councils refused to appropriate money for vaccination. Mixed with this regrettable attitude of mind, which the progress of the disease quickly dispelled, was a dispute as to the right of the school authorities to require vaccination under the very foolish law that was passed by the legislature, without its full import being known, by which a child in good mental and physical condition shall not be prevented from attending school, no matter what laws provide to the contrary. Manifestly the enforcement of such a law means that a child exposed to the smallpox must be admitted to school, because after the exposure it may be in perfect mental and physical health. But meantime the disease may be developing and the contagion spreading. The authorities got around this by quarantining schools and then reopening them with physicians present to examine the pupils. We are not interested in the particulars of this phase of the muddle.

The spread of the smallpox quickly cut the tangle. The Council appropriated money. Employers refused to employ any one that had not been vaccinated; storekeepers refused to send goods on approval or exchange goods in cases of danger. There was, in short, something of a resolution of things into their original elements. The instruction for us all is that we should repeal the foolish law about the mental and physical condition of children; and we ought, moreover, to have a compulsory vaccination law. Those who oppose the process may feel that this is an interference with natural rights—to dose a man against his will. And so it is. But there is no such thing as natural rights. As soon as man forms society he surrenders his natural rights—every one of them. In exchange he gets rights, many of them precisely natural rights, but they have become artificial in the exchange, and exist as such. In case of contagious disease it may become the duty of society to insist on things that, in another case, it would not, just as at times society exercises the right of eminent domain and takes a man's property from him whether he wants to sell it or not.

We shall be very foolish to insist on saying "scissors" in the face of the advance of knowledge that is telling us so much about ways to save health and life. We are but just now taking the step—too long delayed—of having medical inspection in schools as a regular and not merely an extraordinary thing. So we should not discredit our own intelligence and enterprise by leaving our State a prey to disease, when science has pointed unerringly the way of safety, and when so many other States have long ago taken it.—Editorial Indianapolis News.

* * *

DR. KNOPF VISITS INDIANAPOLIS: Dr. S. A. Knopf, philanthropist and authority upon tuberculosis, lectured in Indianapolis October 13th upon the prevention of tuberculosis. Dr. Knopf came upon the invitation of the Indianapolis Medical Society and the Indiana Association of Life Underwriters. The lecture was given in the auditorium of the Claypool Hotel to an audience of over twelve hundred. Many prominent citizens were present, among them being Mayor Holtzman, ex-Attorney-General W. L. Taylor, Mr. John C. Dean, Mr. Thomas C. Day, Mr. I. F. Swain and many life insurance representatives. The local medical profession was fully represented, and fully fifty physicians came from as far as the third tier of counties surrounding Indianapolis. Dr. Knopf is an effective speaker. That he was interesting was attested by the fact that a double row of men stood at the back of the room during the hour. The lecturer in beginning said his subject was not pleasant, but was certainly highly important. The awful destructiveness of consumption and its great cost, and the apathy of the people in the face of the fearful havoc wrought by the disease, were dwelt upon. Especial emphasis was laid upon the truth that consumption is not hereditary, is always communicated, is preventable, and in its early stages the most curable of maladies. Dr. Knopf closed his lecture with a strong appeal for the formation of a State Antituberculosis Society and the creation of a State hospital for the cure of consumption. Dr. Wm. H. Wishard, President of the Indianapolis Medical Society, presided, and, when Dr. Knopf closed, a committee upon organization of a State society was appointed. We are informed this committee will soon send out a call and make all preliminary arrangements.

* * *

DR. DEFOREST: Dr. D. F. DeForest, health officer of Warrick County, has successfully established a system of examining the eyes of school children. He says: "After taking up the subject and presenting it before the people I delivered an address to the teachers of the county at the County Institute. My suggestions were well received and the hearty co-operation of the teachers and the officials of the schools was promised. I was authorized to order the test cards and place them in the hands of the County Superintendent for distribution. Every schoolroom in Warrick County will soon be supplied with a test card, and teachers will commence the inspection of eyes. It is arranged to keep accurate records of these inspections.

* * *

HEADACHES FROM EYE STRAIN: Dr. S. Weir Mitchell, in an article on the subject (Medical News) formulates the following conclusions: First, there are many headaches which are due directly to disorders of the refractive or accommodative apparatus of the eyes. Second, in some instances the brain symptom is often the most prominent and sometimes the sole prominent symptom of the eye troubles, so that, while there may be no pain or sense of fatigue in the eye, the strain with which it is used may be interpreted solely by occipital or frontal headache. Third, the long continuance of eye troubles may be the unsuspected source of insomnia, vertigo, nausea and general failure of health. Fourth, in many cases the eye trouble becomes suddenly mischievous, owing to some failure of the general health, or to increased sensitiveness of the brain from moral or mental causes.

* * *

FOUR OF THE NINE DIED. Dr. Paul Barcus Health Officer of Montgomery County, in his report for the quarter ending September 30, 1904, says: "During the quarter 26 cases of typhoid fever were reported. Of these, nine occurred in the family of Simon Peacock, a farmer living near Waynetown. Four of the nine died—the father and the three oldest daughters. The infection probably came from a badly drained pool near the driven well. The contents of the pool is in communication with the water in the pump by means of a freezing or vent hole in the stock. An open privy vault, two or three rods away, on slightly elevated ground, drains directly into the pool. The undisinfected stools of the earliest cases were thrown into this vault, and so the water was thus exposed to almost certain contamination."

* * *

WORRIED: Mrs. ——, of Noble County, writes us:—"My neighbor has consumption, and sits in his yard and spits everywhere on the grass. He also spits all over his house. I understand that consumption is spread by breathing dried consumption spittle, and I have more fear of the disease than I have of smallpox. Can't something be done to prevent this man from giving us all consumption?" We have instructed the county and local health officers to call upon the consumptive and instruct him in the care of his sputum. Also to seize this occasion to distribute circulars on the prevention of consumption, and to disinfect the house.

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

NORTHERN SANITARY SECTION.

Total population	889,376
Total deaths	884
Death rate per 1,000	12.1
Consumption, rate per 100,000	123.4
Typhoid, rate per 100,000	48.0
Diphtheria, rate per 100,000	4.1
Scarlet fever, rate per 100,000	2.7
Diarrhœal diseases, rate per 100,000	157.7

CENTRAL SANITARY SECTION.

Total population	1,093,418
Total deaths	1,152
Death rate per 1,000	12.8
Consumption, rate per 100,000	130.5
Typhoid, rate per 100,000	70.2
Diphtheria, rate per 100,000	7.8
Scarlet fever, rate per 100,000	——
Diarrhœal diseases, rate per 100,000	124.9

SOUTHERN SANITARY SECTION.

Total population	673,610
Total deaths	622
Death rate per 1,000	11.2
Consumption, rate per 100,000	144.8
Typhoid, rate per 100,000	70.6
Diphtheria, rate per 100,000	3.6
Scarlet fever, rate per 100,000	7.2
Diarrhœal diseases, rate per 100,000	166.6

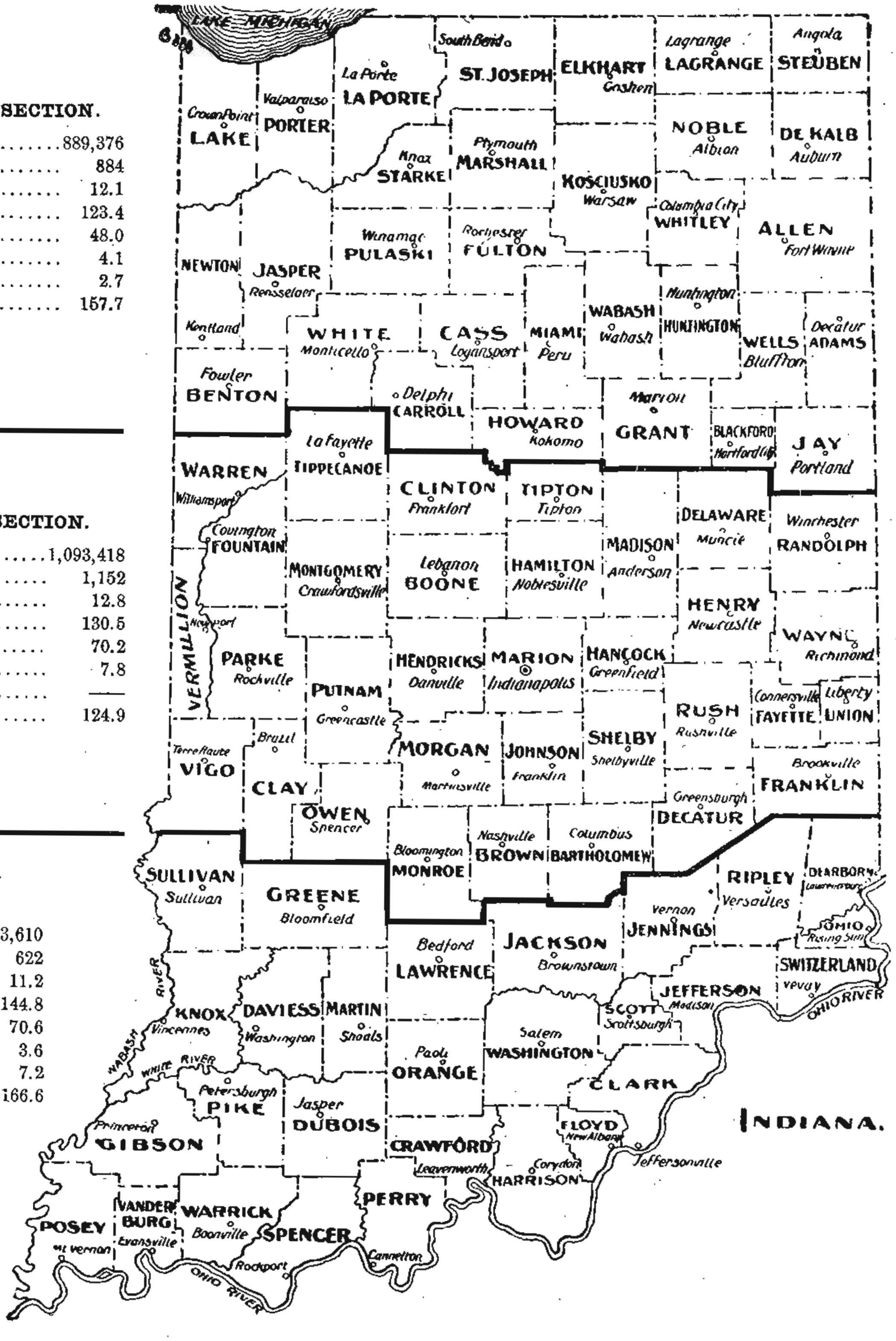

TABLE No. I. Deaths in Indiana by Counties, During the Month of September, 1904.

STATE AND COUNTIES.	Population Estimated According to U. S. Bureau.	Total Deaths Reported for September, 1904.	Annual Death Rate per 1,000 Population.	Stillbirths.	IMPORTANT AGES. Under 1 Year.	1 to 4, inclusive.	5 to 9, inclusive.	10 to 14, inclusive.	15 to 19, 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.	Smallpox.	Deaths in Institutions.
State of Indiana	**2,656,404**	**2,658**	**12.2**	**131**	**549**	**228**	**44**	**43**	**108**	**610**	**287**	**44**	**137**	**12**	....	**6**	**2**	**7**	**73**	**319**	**34**	**1**	**13**	**115**	**146**	**12**	**133**
Northern Co's	**889,376**	**884**	**12.1**	**44**	**182**	**72**	**13**	**19**	**32**	**228**	**90**	**10**	**35**	**3**	....	**2**	**1**	....	**30**	**115**	**20**	....	**2**	**44**	**51**	....	**44**
Adams	22,912	19	10.1		5	3				6	2	1	1						1	4				2	1		
Allen	80,956	82	12.3	1	18	2	2	1	8	14	6	2	10	1					2	10				3	7		12
Benton	13,525	12	10.8	2	2	3		1		1	2									1				1			
Blackford	20,544	22	13.0	2	8	1			1	5	2		1						1	3	1			1	1		
Carroll	19,953	12	7.3		2			1		2	2		1							1				1			
Cass	35,675	40	13.6	5	7	5		1	1	6	3			1					2	6	1				3		6
Dekalb	26,158	19	8.8	1	2	2		2	1	3	3	1	1							2	1				1		
Elkhart	47,066	43	11.1		8	1	1	1	1	21	6		3						2	5				2	2		
Fulton	17,673	14	9.6	1	3	2				4	3									3							
Grant	66,786	74	13.5	4	11	3	2	2	5	17	6		3			2			3	8				6	5		14
Howard	29,353	37	15.3	2	9	1			2	11	5		3						5	3	2			1	2		1
Huntington	29,291	39	16.2	3	7	3		4	2	9	3		2							4				1	2		1
Jasper	15,484	10	7.8		3	1		1		3	1	1								3				1			
Jay	27,960	42	18.3	1	10	5	2	1		11	2	1	3				1			6				1	2		
Kosciusko	29,249	31	12.9		5	1		1		16	5									1	1		1	4	1		1
Lagrange	15,284	7	5.5		1					2			1														
Lake	44,553	46	12.5	4	11	5	1		3	4	3								1	2	9			4	4		6
Laporte	39,699	47	14.4	1	15	3	1		1	16	3	1							2	9	1			2	1		
Marshall	25,533	25	11.9	1	2	3	1	1		5	2		1							3	1			2	3		1
Miami	29,177	20	8.3			5			1	6	3								2	4				2	1		
Newton	11,034	9	9.9	2	2	1				2	1								1	2					1		
Noble	23,582	17	8.7	1	3				1	5	2									2				2			
Porter	19,532	30	18.7	1	6	2			1	13	6	1								5	1			3	1		
Pulaski	15,081	11	8.8	1	3	1	1			4			1						1	2							
Starke	11,748	16	16.6	2	5	2		2	1	2	1	1								3	1		1	1	2		
Steuben	15,452	8	6.3						1		1								1						1		
St. Joseph	65,717	81	15.0	6	21	10			2	21	7	1	3						2	15				3	3		2
Wabash	28,582	24	10.2		4	1	2			6	7			1					1	2							
Wells	24,082	11	5.5			3				3	1								1	1					2		
White	20,407	19	11.3	2	5	2				5	1								1	4					2		
Whitley	17,328	17	11.9	1	4	1				5	1		1						1	2	1			1	3		
Central Co's	**1,093,418**	**1,152**	**12.8**	**63**	**244**	**84**	**21**	**15**	**47**	**243**	**117**	**27**	**63**	**7**	....	....	....	**3**	**28**	**112**	**9**	**1**	**6**	**55**	**69**	**12**	**67**
Bartholomew	24,815	20	9.8	2	4					3	3		1						1	1				1			
Boone	26,321	30	13.9		4	1			1	12	5	2	1						1	1					2		
Brown	9,727	10	12.5		1				1	3	4									1							
Clay	35,560	20	6.8	1	4	4	2		1	2	4		4	1				1	1	1	1				1		
Clinton	28,202	33	14.2		4	2	1	2	2	8	4	1	6						1	4		1	1	1			
Decatur	19,594	22	13.6		7	1	1			6		3	3							6				2	1		
Delaware	59,256	56	11.5	6	10	5		1	1	7	4	1	5	1					5	6	1			2	2		
Fayette	13,770	9	7.9		2			1		4	1									2							
Fountain	22,070	22	12.1	1	7	2				5	3	1	1						1	5			1	1	2		
Franklin	16,388	17	12 6	1	2	3				5	2		1							3							
Hamilton	31,215	25	9.7	3	4	1			2	9	3								1	2				3	1		
Hancock	19,627	25	15.5		8	3			1	6	3		4						1	3				1			1
Hendricks	21,292	13	7.4		1	1				5	1	1								2					1		
Henry	25,472	34	16.2	2	9	2			2	10	4	3	1	1					1	1				1			
Johnson	20,429	15	6.2		3	2	1			3	3									2	1			1	3		
Madison	90,152	79	10.6	7	21	11	2	2	4	12	6		5	3					2	11	1		1	3	3		
Marion	220,717	286	15 8	17	49	14	6	2	12	52	33	4	14						8	13				13	23		55
Monroe	22,006	25	13.8		6	3	1	1	1	3	3		2						1	4	1			3			
Montgomery	29,820	38	15.5		10	2		1	3	9	2	2	4							3	1			2			
Morgan	21,052	11	6.3		4	1				2	1									2				1	2		
Owen	15,181	10	8.0	2					1	5		1	1											1			
Parke	23,918	20	10.2	1	8	2			2	2	2	1								6							
Putnam	21,478	17	9.6	1		1		1	1	4	2	1											1	3	2		
Randolph	28,825	37	15.6	1	18	1			1	13	2	1							1	7	1		1	3			2
Rush	20,505	17	10.1		5	1				8										3				2			
Shelby	26,817	26	11.8		7	5				6	2	1	1							2				1	1		
Tippecanoe	39,842	35	10.7	2	7	1	1		3	10	4		1	1						2	1				4		2
Tipton	19,320	14	8.8	1	3	1	1			3	1									3				1	1		
Union	6,748	11	19.8		1		1		1	3	2		2						1		1			1	1		
Vermillion	15,980	24	18.3	2	7	3		1		1	3		2						1	2				1	4		
Vigo	66,427	98	17.9	8	19	10	3	3	7	9	8	2	2					1	1	10			1	3	10	12	4
Warren	11,501	7	7.4	1	2						1									1					2		
Wayne	39,391	46	14.2	4	12	1	1			13	1	2	2					1		3				4	3		3
Southern Co's	**673,610**	**622**	**11.2**	**24**	**123**	**72**	**10**	**9**	**29**	**139**	**80**	**7**	**39**	**2**	....	**4**	**1**	**4**	**15**	**92**	**5**	....	**5**	**16**	**26**	....	**22**
Clark	32,332	33	12.4	1	2	4			1	10	7	1	1							3	1			2	1		1
Crawford	13,476	13	11.7	1		2		1		2	1								1	1			2		1		
Daviess	31,179	43	16.8	2	7	9	1	3	3	4	5	1	10			1			1	5	2			3	2		
Dearborn	22,194	24	13.1	3	3					13	1		1						1						2		
Dubois	20,388	22	13.1	1	4	4			3	2	3		2							5			1				
Floyd	30,317	27	10.8	1	4					8	3								1	2					2		
Gibson	31,977	22	8.3		7	3	1		1	5	1		2						1	3				1			
Greene	32,135	33	12.5	3	3	4	1			4	4		1			1		1		2							1
Harrison	21,988	15	8.3	2	3		1			3	2					1				1				1	1		
Jackson	27,456	27	11.9	2	8	1			1	5	4	1	2							5							
Jefferson	22,913	16	8.5			3	1			5	1		1			1				3				1			
Jennings	16,130	11	8.3			2			2	5	2	1							1	2					3		
Knox	34,396	35	12.4		10	7	2		2	4	2	1	3						1	8							
Lawrence	28,045	31	13.4	1	10	5			2	5			1				1			9			1	2	2		
Martin	14,945	14	11.4	1	1	4		1		2	3		1							3	1				1		
Ohio	4,724	3	7.7		1					1										1					1		
Orange	17,602	19	13.1		5	2			3	1	5		2							5							
Perry	18,941	13	8.3	1	3	3			1	1	1									2					1		
Pike	21,131	30	17.3	1	9	4	1		1	4	9		1						2	8							
Posey	22,580	20	10.8		3	3			1	5	2		1						1	4				1	1		
Ripley	20,042	15	9.1		4			1		4	4									3				1			
Scott	8,459	7	10.0		1	2				1	2		1							2							
Spencer	22,516	18	9.7	1	2	2	1		2	5	2		2							2					1		
Sullivan	27,479	17	7.5	1	5				1	5	2		1						1	2							
Switzerland	11,840	9	9.2		2					6																	
Vanderburgh	76,075	89	14.2	2	18	6		2	4	20	9	1	3	2				2	4	6			1	2	5		20
Warrick	22,697	16	8.6		6	2		1		3	2		1					1		4				1	1		
Washington	19,654	20	12.4		2		1		1	6	3	1	2							1	1			1	1		

TABLE No. II. Deaths in Indiana by Cities During the Month of September, 1904.

CITIES.	Population Estimated According to U. S. Bureau.	Total Deaths Reported for September, 1904.	Annual Death Rate per 1,000 Population.	Stillbirths.	Important Ages.						Deaths From Important Causes.																
					Under 1 Year.	1 to 4, inclusive.	5 to 9, inclusive.	10 to 14, inclusive.	15 to 19, inclusive.	65 Years and Over.	Pulmonary Consumption.	Other Forms of Tuberculosis.	Typhoid Fever.	Diphtheria.	Croup.	Scarlet Fever.	Measles.	Whooping-Cough.	Pneumonia.	Diarrheal Diseases, Under 5.	Cerebro-spinal Meningitis.	Influenza.	Puerperal Septicæmia.	Cancer.	Violence.	Smallpox.	Deaths in Institutions.
Cities over 50,000 Population	**252,515**	**312**	**15.0**	**18**	**62**	**18**	**6**	**3**	**15**	**53**	**36**	**3**	**13**	**2**				**2**	**12**	**16**			**1**	**11**	**23**		**46**
Indianapolis	191,033	238	15.1	16	46	12	6	1	11	39	29	2	11						8	10				9	19		31
Evansville	61,482	74	14.6	2	16	6		2	4	14	7	1	2	2				2	4	6			1	2	4		15
Cities from 25,000 to 50,000 Population	**126,969**	**184**	**17.6**	**11**	**45**	**13**	**5**	**2**	**11**	**28**	**13**	**3**	**9**	**1**					**5**	**23**			**1**	**7**	**14**	**10**	**13**
Ft. Wayne	48,031	63	16.0	1	12	1	2		6	13	4	2	6	1					2	6				3	6		7
South Bend	40,327	52	15.7	4	18	6			1	10	3		2						2	10				2	2		2
Terre Haute	38,611	69	21.8	6	14	6	3	2	4	5	6	1	1						1	7			1	2	6	10	4
Cities from 10,000 to 25,000 Population	**235,662**	**298**	**15.4**	**20**	**62**	**23**	**8**	**3**	**14**	**53**	**30**	**3**	**15**	**4**		**2**		**1**	**10**	**35**	**3**			**14**	**25**		**10**
Anderson	23,010	25	13.2		10	4	1		2	2	2		1	1					1	3	1			1	3		
Elkhart	16,330	16	11.9		3		1	1	1	4	3		2							2				1	2		
Elwood	13,397	25	22.7	5	4	2	1			3	1		4	1						3				1			
Hammond	14,258	12	10.2		2		1		1	1	1													1	3		
Jeffersonville	10,807	11	12.4			1			1	4	2		1							1				1	1		6
Kokomo	11,314	17	18.3	2	2	1				5	3									1				1	2		1
Lafayette	18,677	29	18.9	2	6	1	1		2	8	3		1	1						2	1				2		2
Logansport	17,068	20	14.2	4	3	3			1	3	1			1					1	3	1				2		
Marion	19,908	37	22.6	1	7	2	2	1	4	5	4		1			2			1	5				4	4		1
Michigan City	16,071	14	10.6		8	2			1		1	1							2	6							
Muncie	24,942	33	16.1	2	3	3		1		4	4	1	3						4	3				1	2		
New Albany	20,499	21	12.4	1	4					6	3								1	2					2		
Richmond	18,712	24	15.6	3	6	1				6		1	1					1		1				3	2		
Vincennes	10,669	14	16.0		4	3	1		1	2	2		1							3							
Cities from 5,000 to 10,000 Population	**182,000**	**248**	**16.6**	**13**	**54**	**26**	**1**	**4**	**11**	**49**	**31**	**6**	**18**					**2**	**9**	**33**	**4**		**1**	**8**	**9**		
Alexandria	7,221	8	13.5	2	1	3			1	1	1									3							
Bedford	6,115	9	17.9	1	4	1				3										2					1		
Bloomington	6,460	13	24.5		4	2		1	1	2	2		2						1	4	1			1			
Brazil	7,786	7	10.9	1	2	1			1		1		1						1						1		
Columbus	8,130	13	19.5	2	2					2	2		1						1					1			
Connersville	6,836	6	10.7		2			1		3	1									2							
Crawfordsville	6,649	17	31.1		4				1	5	1	2	2								1			1			
East Chicago	7,500	9	14.6		3	3					1							1	1	3				1			
Frankfort	7,100	15	25.7		2	1		1	2	3	2		4						1	2			1				
Goshen	7,810	8	12.4		3					4										1							
Greensburg	5,083	7	16.9							2		1	2											1	1		
Hartford City	5,912	8	16.5		3	1				1	1		1						1	1	1			1			
Huntington	9,491	17	21 8	1	4	3		1	1	4	1									3					2		
Laporte	7,113	11	18.8	1	2		1			5											1						
Linton	7,250	12	20.1	1	2	5			1	1	1	1						1		3							
Madison	7,835	8	12.4							2			1											1			
Mishawaka	5,560	13	28.5	1	2	1			1	4	3		1							2							
Mt. Vernon	5,132	6	14.2			2							1							1					1		
Peru	8,463	4	5.7						1		1								1						1		
Princeton	6,041	7	14.1		4					1	1								1	2							
Seymour	6,445	6	11.3	1						1	1		1														
Shelbyville	7,169	13	22.1		4	1				2	2	1													1		
Valparaiso	6,280	10	19.4	1	1					1	4		1							1				1	1		
Wabash	8,618	10	14.1		3					1	3								1	1							
Washington	8,551	9	12.8	1	1	2			1	1	1	1								2							
Whiting	5,500	2	4.4		1						1																
Cities under 5,000 Population	**128,637**	**150**	**14.2**	**14**	**30**	**10**	**2**	**1**	**8**	**33**	**14**	**1**	**8**				**1**		**1**	**15**	**3**		**1**	**12**	**14**		
Attica	3,005	3	12.1							1													1		1		
Auburn	3,396	5	17.9	1	1				2				1							1					1		
Aurora	3,645	6	20.0	3						2	1																
Bluffton	4,479	2	5.4																								
Cannelton	2,188	Not re	porte	d.																							
Clinton	2,918	10	41.8	1	5								1												2		
Columbia City	2,975	6	24.6		3					2	1		1							1	1						
Covington	2,213	4	22.0		2						1	1								1					1		
Decatur	4,142	3	8.8			1					1									1				1			
Delphi	2,135	1	5.7								1																
Dunkirk	3,187	8	30.6	1	3	2		1		1										2					1		
Franklin	4,005	6	18.2		2					1											1			1	1		
Garrett	3,910	3	9.3			1				1											1						
Gas City	3,622	3	10.1	1									1														
Greencastle	3,661	1	3.3																								
Greenfield	4,489	4	10.8		1					1	1									1				1			
Huntingburg	2,527	5	24.1			1			2	1	1		1							1							
Kendallville	3,354	2	7.2	1																							
Lawrenceburg	4,326	5	14.1		2					3																	
Lebanon	4,465	3	8.1								3																
Ligonier	2,231	2	10.9																								
Martinsville	4,038	4	12.0		1	1														1					2		
Montpelier	3,405	2	7.1	1																							
Noblesville	4,792	8	20.3	3					1	1	2													1			
North Vernon	2,823	3	12.9						1	1															2		
Plymouth	3,656	2	6.6			1														1				1			
Portland	4,998	8	19.5		1		1			3	1		2											1			
Rensselaer	2,255	2	10.8		1												1							1			
Rising Sun	1,428	1	8.5							1															1		
Rockville	2,045	1	5.9	1																							
Rushville	4,541	6	16.1		2	1				3										2				1			
Spencer	2,026	4	24.0						1	3			1											1			
Tell City	2,690	6	27.3	1	2	1			1	1										2					1		
Tipton	3,764	4	12.9			1	1																		1		
Union City	2,716	5	22.4		1					3										1				1			
Vevay	1,494	2	16.3		1					1																	
Warsaw	3,987	6	18.3		2					2	1													1			
Winchester	3,705	4	13.1		2					1									1					1			
Total Urban Population	**922,372**	**1,192**	**15.7**	**76**	**253**	**90**	**22**	**13**	**59**	**216**	**124**	**16**	**63**	**7**		**2**	**1**	**5**	**37**	**122**	**10**		**4**	**52**	**85**	**10**	**69**
Total Rural Population	**1,734,032**	**1,466**	**10.3**	**55**	**296**	**138**	**22**	**30**	**49**	**394**	**163**	**28**	**74**	**5**		**4**	**1**	**2**	**36**	**197**	**24**	**1**	**9**	**63**	**61**	**2**	**64**

Mortality of Indiana for September, 1904.

Population by Geographical Sections and as Urban and Rural.	Population, Estimated According to U. S. Bureau.	Total Deaths Reported for September, 1904.	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.	15 to 20. Number.	15 to 20. 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	**2,656,404**	**2,658**	**12.2**	**131**	**549**	**21.7**	**228**	**9.0**	**44**	**1.7**	**43**	**1.7**	**108**	**4.2**	**610**	**24.1**	**287**	**131.8**	**44**	**20.2**	**137**	**62.9**	**12**	**5.5**
Northern Co's	889,376	894	12.1	44	182	21.6	72	8.5	13	1.5	19	2.2	32	3.8	228	27.1	90	123.4	10	13.7	35	48.0	3	4.1
Central Co's..	1,093,418	1,152	12.8	63	244	22.4	81	7.7	21	1.9	15	1.3	47	4.3	243	22.3	117	130.5	27	30.1	63	70.2	7	7.8
Southern Co's	673,610	622	11.2	24	123	20.5	72	12.0	10	1.6	9	1.5	29	4.8	139	23.2	80	144.8	7	12.6	39	70.6	2	3.6
All cities...	**922,372**	**1,192**	**15.7**	**76**	**253**	**22.6**	**90**	**8.0**	**22**	**1.9**	**13**	**1.1**	**59**	**5.2**	**216**	**19.3**	**124**	**164.0**	**16**	**21.1**	**63**	**83.3**	**7**	**9.2**
Over 50,000 ...	252,515	312	15.0	18	62	21.0	18	6.1	6	2.0	3	1.0	15	5.1	53	18.0	36	173.9	3	14.4	13	62.8	2	9.6
25,000 to 50,000	126,969	184	17.6	11	45	26.0	13	7.5	5	2.8	2	1.1	11	6.3	28	16.1	13	124.9	3	28.8	9	86.4	1	9.6
10,000 to 25,000	235,662	298	15.4	20	62	22.3	23	8.2	8	2.8	3	1.0	14	5.0	53	19.0	30	155.3	3	15.5	15	77.6	4	20.7
5,000 to 10,000.	182,000	248	16.6	13	54	22.9	26	11.0	1	.4	4	1.7	11	4.6	49	20.8	31	207.8	6	40.2	18	120.6	.....	....
Under 5,000...	125,226	150	14.2	14	30	22.0	10	7.3	2	1.4	1	.7	8	5.8	33	24.2	14	136.3	1	9.7	8	77.9	.....	....
Country.....	1,734,032	1,466	10.3	55	296	20.9	138	9.7	22	1.5	30	2.1	49	3.4	394	27.9	163	114.6	28	19.6	74	52.0	5	3.5

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.	Diarrheal Diseases, Under 5 Yrs. Number.	Diarrheal 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.	Small-pox. Number.	Small-pox. Death Rate.
State...........	......	.....	**6**	**2.7**	**2**	**.9**	**7**	**3.2**	**73**	**33.5**	**319**	**146.5**	**34**	**15.6**	**1**	**.4**	**13**	**5.9**	**115**	**52.8**	**146**	**67.0**	**12**	**5.5**
Northern Co's...	......	.....	2	2.7	1	1.3	......	......	30	41.1	115	157.7	20	27.4	.....	....	2	2.7	44	60.3	51	69.9	.....	....
Central Co's.....	......	.....	......	......	....	......	3	3.3	28	31.2	112	124.9	9	10.0	1	1.1	6	6.6	55	61.3	69	76.9	12	13.3
Southern Co's...	......	.....	4	7.2	1	1.8	4	7.2	15	27.1	92	166.6	5	9.0	.....	....	5	9.0	16	28.9	26	47.0	.....	....
All cities	......	.....	**2**	**2.6**	**1**	**1.3**	**5**	**6.6**	**37**	**48.9**	**122**	**161.3**	**10**	**13.2**	.....	....	**4**	**5.2**	**52**	**68.7**	**85**	**112.4**	**10**	**13.2**
Over 50,000.......	......	.....	......	......	....	......	2	9.6	12	57.9	16	77.3	......	......	.....	.....	1	4.8	11	53.1	23	111.1	.....	.....
25,000 to 50,000 ...	......	.....	......	......	....	......	......	......	5	48.0	23	220.9	......	......	.....	....	1	9.6	7	67.2	14	134.5	10	96.0
10,000 to 25,000 ...	......	.....	2	10.3	....	......	1	5.1	10	51.7	35	181.1	3	15.5	.....	....	......	......	14	72.4	25	129.4	.....	......
5,000 to 10,000	......	.....	......	......	....	......	2	13.4	9	60.3	33	221.2	4	26.8	.....	....	1	6.7	8	53.6	9	60.3	.....	......
Under 5,000	......	.....	......	......	1	9.7	......	......	1	9.7	15	146.1	8	29.2	.....	....	1	9.7	12	116.9	14	136.3	.....	......
Country..........	......	.....	4	2.8	1	.7	2	1.4	36	25.3	197	138.6	24	16.8	1	.7	9	6.3	63	44.3	61	42.9	2	1.4

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

W. T. BLYTHE, SECTION DIRECTOR.

Sections.	Temperature. Mean.	Temperature. Departure from Normal.	Highest. Degree.	Highest. Date.	Highest. Place.	Lowest. Degree.	Lowest. Date.	Lowest. Place.	Precipitation. In Inches. Average.	In Inches. Departure from Normal.	In Inches. Snowfall Unmelted.	Days with .01 inch or more.	Condition of Sky. Number of Days. Clear.	Number of Days. Partly Cloudy.	Number of Days. Cloudy.	Wind. Prevailing Direction.
Northern Section..................	64.6	–0.7	91	11	Markle.......	32	22	Bluffton......	3.31	+0.57	......	8	13	9	8	SW.
Central Section....................	66.8	+0.4	93	11	Hector...... Mauzy ..... Richmond .	35	16	Richmond ...	3.31	+0.53	......	8	14	9	7	SW.
Southern Section..................	70.0	+1.3	99	1, 7	Rome	37	15 19 16	Greensburg Rome ...... Salem	3.71	+0.79	......	8	14	10	6	SW.
State	67.1	+0.3	99	1, 7	Rome	32	22	Bluffton......	3.44	+0.63	......	8	14	9	7	SW.