

MONTHLY BULLETIN

Indiana State Board of Health

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

VOLUME VII.

INDIANAPOLIS, JANUARY, 1905.

NUMBER 1.
25 Cents a Year.

W. N. WISHARD, M. D., PRESIDENT Indianapolis.
 CLARK COOK, M. D., VICE-PRESIDENT Fowler.
 T. HENRY DAVIS, M. D. Richmond.
 O. M. EISENBEISS, M. D. Elkhart.
 J. N. HURTY, M. D., PHAR. D., SECRETARY Indianapolis.

The MONTHLY BULLETIN will be sent to all health officers and deputies in the State. Health officers and deputies should 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 JANUARY, 1905.

Total number of deaths reported, 3,309; rate, 14.7. In the corresponding month last year, 3,177; rate, 14. Deaths by important ages were: Under 1, 519 or 16.6 per cent.; 1 to 5, 169; 5 to 10, 72; 10 to 15, 58; 15 to 20, 100; 25 and over, 982 or 31.5 per cent. of the total. Some important causes of death were: Pulmonary tuberculosis, 362; other forms of tuberculosis, 31; typhoid fever, 50; diphtheria, 29; scarlet fever, 17; whooping cough, 13; pneumonia, 588; diarrhoeal diseases, 29; cerebro spinal meningitis, 28; influenza, 114; puerperal septicæmia, 19; cancer, 99; violence, 129; smallpox, 7.

SANITARY SECTIONS: THE NORTHERN SANITARY SECTION, population 887,832, reports 994 deaths, rate 13.2. In the preceding month, 881 deaths, rate 11.6. In the corresponding month last year, 984 deaths, rate 13.

THE CENTRAL SANITARY SECTION, population 1,087,620, reports 1,423 deaths, rate 15.4. In the preceding month, 1,257 deaths, rate 13.5. In the corresponding month last year, 1,383 deaths, rate 15.2.

THE SOUTHERN SANITARY SECTION, population 673,097, reports 892 deaths, rate 15.6. In the preceding month, 720 deaths, rate 12.6. In the corresponding month last year, 810 deaths, rate 14.6.

REVIEW OF SECTIONS: The southern sanitary section shows the highest death rate and the northern section the lowest. This condition also prevails for consumption. The highest death rate of the sections also appears in the southern section for typhoid fever, diphtheria, scarlet fever, pneumonia, influenza and smallpox.

BY COUNTIES: The lowest death rates appear in Jasper, 7.5; Fayette, 7.6; Vermillion, 7.3. The counties showing a death rate above the average for the whole State, 13.2, are: Adams, 14.3; Blackford, 14.8; Carroll, 15.3; Cass, 19.7; Grant, 16.2; Huntington, 14.4; Lagrange, 16.9; Marshall, 15.6; Porter, 16.8; Starke, 18.2; St. Joseph, 14; Clinton, 17.3; Delaware, 15.2; Fayette, 18; Hamilton, 16.8; Hancock, 20.9; Johnson, 18.4; Marion, 17.4; Montgomery, 17.7; Morgan, 16.7; Parke, 16.1; Putnam, 23.3; Shelby, 16.6; Tippecanoe, 16.4;

Vigo, 18.5; Warren, 16.3; Wayne, 18.2; Clark, 15.6; Crawford, 20.1; Dearborn, 18; Dubois, 15.6; Gibson, 17.6; Greene, 19.5; Jackson, 20; Jefferson, 16.9; Lawrence, 19.3; Orange, 15.9; Perry, 15.5; Pike, 23.3; Scott, 18; Sullivan, 18.7.

CITIES: All cities, total population 968,204, report 1,364 deaths, rate 16.6. In the preceding month, 1,246 deaths, rate 15.9. In the corresponding month last year, 1,369 deaths, rate 16.6. The cities show a higher death rate than the country in the following diseases: Pneumonia, diarrhoeal diseases, puerperal fever, cancer and violence. It is strange to record that in consumption, typhoid fever, diphtheria, scarlet fever, and influenza, the country shows the higher death rate.

COUNTRY: Population 1,686,345, reports 1,945 deaths, rate 13.6. In the preceding month, 1,612 deaths, rate 10.9. In the corresponding month last year, 1,808 deaths, rate 12.3.

CITIES BY CLASSES: CLASS A, having 50,000 population and over, total population 259,221, report 337 deaths, rate 15.3. In the preceding month last year, 393 deaths, rate 16.7. This class includes Indianapolis, rate 15.9; Evansville, 13.4.

CLASS B, having from 25,000 to 50,000 population, total population 129,930, reports 211 deaths, rate 19.2. In the preceding month, 196 deaths, rate 18.2. In the corresponding month last year, 176 deaths, rate 18. This class includes Fort Wayne, rate 15.6; South Bend, 16.9; Terre Haute, 25.8.

CLASS C, having from 10,000 to 25,000 population, fifteen cities in all, total population 252,343, reports 370 deaths, rate 17.3. In the preceding month, 304 deaths, rate 15.7. In the corresponding month last year, 360 deaths, rate 17. This class includes Anderson, rate 14.2; Elkhart, 11.2; Elwood, 13.9; Hammond, 10.9; Huntington, 14.8; Jeffersonville, 24; Kokomo, 21.4; Lafayette, 23.1; Logansport, 17; Marion, 20.4; Michigan City, 15.7; Muncie, 22.7; New Albany, 16.6; Richmond, 17.5; Vincennes, 13.1.

CLASS D, having under 10,000 population, total population 326,710, including 64 cities, reports 446 deaths, rate 16.2. In the preceding month, 400 deaths, rate 15.9. In the corresponding month last year, 440 deaths, rate 16.1. Chart showing deaths by sanitary sections on page 9.

SUMMARY OF MORBIDITY AND MORTALITY IN JANUARY.

DISEASE PREVALENCE: The most prevalent malady during the month was influenza, and bronchitis,

which was first in December, dropped to the fourth place. Pneumonia stood fifth in December but second in January. The order of prevalence was as follows: Influenza, pneumonia, tonsillitis, bronchitis, rheumatism, scarlet fever, pleuritis, diphtheria and membranous croup, typhoid fever (enteric), intermittent fever, smallpox, diarrhoea, erysipelas, inflammation of bowels, measles, whooping-cough, typho malarial fever, cerebro spinal meningitis, puerperal fever, dysentery, cholera morbus, cholera infantum.

SMALLPOX: Two hundred and thirty-eight cases with seven deaths in 27 counties. In the preceding month, four hundred and seventy-two cases and eight deaths in 38 counties. In the corresponding month last year, four hundred and eighty cases with eight deaths in 38 counties. We have therefore to record a decrease in cases and deaths but a higher death rate. The counties invaded were: Adams, 5 cases and 1 death; Allen, 1 case; Boone, 32; Cass, 1; Clark, 6 with 1 death; Clay, 5; Clinton, 18; Crawford, 6; Daviess, 5; Delaware, 16; Dubois, 10 with 2 deaths; Floyd, 12; Gibson, 6; Grant, 1; Greene, 10 with 1 death; Harrison, 5; Hendricks, 5; Howard, 2; Lake, 1; Madison, 2; Marion, 2; Monroe, 3; Montgomery, 1; Parke, 5; Perry, 25; Spencer, 3; Sullivan, 32 with 2 deaths; Tipton, 1; Vanderburgh, 126; Washington, 5.

TUBERCULOSIS: Deaths from tuberculosis numbered 393. Of the 92 counties, all but nine report deaths from this disease. The rate was 175 per 100,000 population. In the same month last year, consumption deaths numbered 398, a rate of 176. By ages, the deaths were: Under 10, 24; 10 to 20, 43; 20 to 30, 102; 30 to 40, 81; 40 to 50, 40; 50 to 60, 44; 60 to 70, 36; 70 to 80, 19; 80 to 90, 4. The female deaths numbered 219 and the male 177. Of the males, 20 were between the ages of 18 and 40, and left 48 orphans under 12. Of the females, 82 were mothers between the ages of 18 and 40, and they left 168 orphans under 12. Consumption therefore in January made 216 orphans under 12, made 20 young widows, and 82 young widowers, and invaded over 300 homes. Is it not strange that we are so impractical as to permit this awful destruction when sanitary science stands ready to prevent it in a large part?

TYPHOID FEVER: Typhoid fever was reported from forty counties, and very probably existed in every one of our ninety-two counties. Two hundred and seventy-three cases were reported with fifty deaths. In the preceding month, three hundred and seventy-three cases, with 67 deaths. In the corresponding month last year, one hundred and eighty-two cases in 53 counties, with 38 deaths.

PNEUMONIA: Pneumonia deaths numbered five hundred and fifty-eight, a rate of 248.6 per 100,000. In the preceding month, three hundred and fifty-one deaths, rate 155.9. In the corresponding month last year, five hundred and forty deaths, rate 243.2. Of the total deaths, 140 were under one year of age; 89 were between the ages of 20 and 40; 156 were between the ages of 50 and 70; 75 were between 70 and 80; 41 between 80 and 90; and 2 were over 90 years of age.

DEATHS BY VIOLENCE: The deaths by violence numbered 132, 4 murders, 17 suicides and 115 accidents. Of the total number, 94 were males and 38 females. The murders were accomplished by gun shots, stabbing and poison. Of the suicides, 7 males chose gun shots. One male and 1 female chose hanging; 1 female, drowning; 1 male and 2 females, poison; 2 females, paris green; 1 male and 1 female, carbolic acid. Of the accidental deaths, 22 were by railroad accidents, 21 of the number being males. Crushing injuries killed 25; explosions, 4; animals, 1; mining, 3; machinery, 10; burns and scalds, 17; gun shots, 11; drowning, 1; dynamite, 2; freezing, 2; felling trees, 3.

* * *

GOOD BREAD: A recent issue of the Indianapolis Morning Star contained an article headed "The Bread We Eat." In this article the Star contended that the making of good bread and the thorough baking thereof was a matter of great importance to the public health. Of course the writer was correct in taking this stand, and we are particularly pleased that a layman should be so clear and so thoroughly impressed with this important fact. The article laid emphasis upon the thorough and proper baking of bread and said: "Many women do not know how hot their oven should be; they do not know how long the loaves should remain in the oven to be thoroughly cooked; they do not seem to know, indeed, when bread is properly baked, and when it is not. In consequence, a multitude of hopeless people are served with slack-baked bread, with bread that is burned to crust, doughy as to its interior, with bread that has a fair appearance within and without, but which is of a pastry texture and brings misery to the stomach."

One day the writer stopped at a farm house to have dinner, and with him was the health officer of the district. The bread presented by the good housewife was badly made and imperfectly baked. We asked her to toast it for us, claiming to have poor digestion. We examined the children of this household and found all four of them poorly nourished and suffering from indigestion. Believing it more than probable that the bread of the household was the cause of the indigestion, we took it upon ourselves to say so in as kindly a way as possible. We knew, however, that the good mother, about forty years old, who had been making such bread all her life, would probably never do better. We knew it would be difficult, indeed, to impress upon her mind that her bread had ever been the cause of stomach disorder. The subject was a delicate one, but we finally overcome it by suggesting that her family have nothing but toasted bread for a period of three months, and probably by that time an improvement in the digestion of the children would be observed. This was tried and the local health officer afterward reported that the family were well pleased with the experiment and now would not eat any thing but toasted bread. The health officer in question suggested he thought one of the foremost health measures which could be practiced would be for the board of health to employ five or six expert bread makers to travel through the country teaching the

country people how to make good bread. This seems not to be a bad idea, and possibly some day it will be adopted as an important public health measure.

A DIPHTHERIA HOME.

Sitting back from the road about 300 feet on a little knoll, and surrounded by beautiful beeches, was the house we were to visit. Dr. L—, the county health officer, remarked as we got out of the buggy: "I am told this is a queer man at this house. He is very poor and ignorant, and is always threatening to sue people for damages." The house was frame, unpainted, and flat upon the ground. A pigpen was built against the west end and a window opened over the reeking place. The door was open—for it was in the mild part of October—and standing there, watching us in wondering silence, was an interesting group of humanity. First, an undersized, florid man; unkempt, shapeless hat, wrinkled and dirty boots, hickory shirt, expressionless face. Two women stood a step behind him, and peering from between their elders were two boys, probably eight and ten, respectively. Our explanation that we were health officers, bringing medicines and any needed supplies met with no response, nevertheless, our motion to enter was not opposed. At our approach the group broke up, the children being sent flying by a sharp command and wave of the hand of the mother. The two women—one an old, withered grandmother, the other her daughter—were barefooted and thinly clad in simple calico slips. So thin were the garments that, as they stood between us and the light, the entire absence of other clothing could be observed. Both wore large, gaudy ear-rings.

There were two rooms in the house—the one we entered, the living-room, contained two beds and was woefully bare and dreary, and the other, much smaller, used for a kitchen and dining-room. It was the window from this room which opened over the pigpen and through which it was convenient to throw to the pig the scraps of the table. Upon each of the beds in the first room lay a corpse. A good woman neighbor, with mouth and nose bound with a handkerchief, was dressing the first in a neat, black suit, the like of which the child had never had in life. The second corpse lay on its back diagonally across the disarranged bed, arms thrown out, eyes open, and diphtheria membrane protruding from mouth and nose. The first corpse was also open-eyed, with protruding membrane. What was to be done? In such a lazaretto, no one could hope to escape taking in the deadly infection. An examination of the two children who were still upon their feet discovered they both had a high temperature, very red throats, coated tongues and foul breaths. Both were weak and drooping, hardly able to stand, and should have been in bed, but both beds were occupied. And here intrudes the question: How could seven people live in one room with only two beds? But, how to care for the sick children? As said, the weather was mild. Both were laid upon the bare floor of the little back porch and given 2,000 units of antitoxin—the father and mother offering

no resistance, only looking stupidly on. Finally, two armfuls of hay were brought from the barn, spread upon the porch floor and Dr. L.'s laprobe laid upon it. Gratefully the children accepted this bit of comfort. It then occurred to us to look to the grown people, who plainly were worn—but were they sick? The little, old, withered, silent grandmother had two gray patches on one tonsil, coated tongue and high temperature. The father and mother, too, had the disease; and it was, indeed, a diphtheria home.

SUPPURATIVE TONSILITIS: This was given as the chief cause of death of Fannie Damon, 19 years 9 months old and married, place of death: Milan, Allen County, Ind. The certificate was presented to Dr. Carl Proegler, the county health officer, and a burial permit requested. He thought perhaps a mistake had been made and with the coroner made an investigation and found what he believed to be diphtheria. A bacteriological examination was made and the diagnosis confirmed. A public funeral was prohibited, the house quarantined and in due time disinfected. This is what we call serving the people in the public health cause.

* * *

NEITHER KNEW NOR CARED: Mr. George A. Soper, in an article concerning the epidemic of typhoid fever at Ithaca of 1,350 cases and 82 deaths in a population of 13,156, says: "Speaking now, more than a year after the outbreak, and with an intimate knowledge of the situation, it is difficult to understand why the city was not alive to the necessity of taking steps which would render life and health secure. Apparently, the people of the city where the great Cornell University existed, neither knew nor cared any more about the teachings of sanitary science than do the inhabitants of scores of other cities in which epidemics occur." How true it is that scores of cities neither know nor care about sanitary precautions against epidemics. If a sanitarian gives warning he is immediately called a crank, and when his expressed fear or predictions come true, those who applied the epithet make no amends, do not acknowledge they spoke out of ignorance and conceit, and go on in their old way. Then, again, let the sanitarian—kindly, seriously and in proper tone—tell his city council how, with a laboratory, he can do a great deal to prevent disease and save life, and thus save money to the people and promote the general happiness, and most likely he will be told there is "no money" or "we must economize." In the name of economy therefore, disease goes unprevented, unnecessary deaths occur, and sorrow, anxiety and agony are induced. Of course, it is not economy the politician wishes to practice. He cares little for that virtue. What he wants to do is to acquire, in a way which will seem to bring it, enough political buncombe to re-elect him. In November, 1902, it was plain that an epidemic of small-pox would likely appear at Indianapolis. General vaccination would, of course, make an epidemic impossible. The writer, and a general practitioner of medicine, visited

the mayor and called upon members of the council committee on public health, and went over the situation together and it was clearly set forth that the only way to prevent an epidemic of smallpox was to order and enforce public vaccination. Neither the mayor nor a single member of the committee on health would listen to the proposition. The proposal to buy two or three thousand dollars worth of vaccine and at a further expense of probably \$5,000 vaccinate the whole city, was looked upon as a "cranky idea," and utterly rejected. In due time the storm came. Hundreds of cases of smallpox appeared. Two new pavilions were added to the pest-house and covered grocery wagons used as ambulances and labeled smallpox, in big red letters, were frequently seen upon the streets where they were unhesitatingly given the right of way. Shortly deaths were daily recorded and the city and surrounding country thoroughly alarmed. Smallpox was the subject of conversation everywhere, and then a rich wholesale grocer's son went down with it followed by other cases among the upper crust. Trade was affected, merchants grumbled, and the papers in surrounding towns and cities had much to say of smallpox at Indianapolis. The loss of trade aroused the merchants' association and the paramount question was: What shall we do? At this time the state health officer was asked to attend a meeting of the business men and at the meeting it was asserted the retail trade of the city had suffered a loss of not less than \$1,000,000. "What can we do?" asked the business men. "Do what the health department suggested several weeks ago," was the answer, "and that is buy vaccine and vaccinate the people." It was plain that quarantine would not stop smallpox, and it was clear that the unprotected must sooner or later have the disease. So the rejected "cranky idea" was adopted and the business men became cranks. A committee was appointed which waited upon the mayor and council and shortly these too became cranks, for now was adopted the "cranky idea." Thousands of tubes of vaccine were bought and 100 advanced medical students, assisted by the police, went into wholesale vaccination. The school children were all vaccinated and the universal cry was *vaccinate, VACCINATE*. In two weeks the reporting of cases almost entirely ceased and the epidemic was over. Now, is it not too bad that the mayor, the council, and the business men did not adopt the "cranky idea" before the epidemic came with its million dollar loss?

COINS KILL BACTERIA.

BY DR. HELEN MAE MURCHY, TORONTO.

It has long been known that metals possessed antiseptic properties, but this old truth received an interesting confirmation recently in a report presented to the house committee on banking and currency, at Washington, by the commissioner of health for the United States, Dr. Thomas Darlington. This report gave the results of a series of experiments made by Dr. W. H. Park, a bacteriologist in the research laboratory of the department of health, to

ascertain how far coins and paper money are contaminated by disease-producing germs. It was shown that such contamination frequently occurs.

Dr. Park's first experiment was to cover one piece of glass, two pieces of paper, four dimes, four nickels, and six pennies with a thin layer of diphtheria bacilli (*Klebs-Loeffler bacilli*). These were allowed to stand for forty-eight hours and then tested for germs.

The bacilli on the pieces of glass and paper were still living, but not a single live bacillus could be found on the fourteen coins. The coins had killed them.

HOW LONG DO THE COINS TAKE TO KILL THE GERMS?

So far good, but money travels far in 48 hours, and the next thing Dr. Park did was to collect 46 coins from children who actually had diphtheria. The report does not state whether new coins, direct from the U. S. mint, were supplied to the children in lieu of those abstracted from them in the public service, but we hope this was not forgotten in the zeal for scientific research. However, the coins were examined within six hours, and a good many of them still carried germs. There were altogether 35 pennies, seven nickels, and four dimes. Living diphtheria bacilli were obtained from three of the 35 pennies, and various other pathogenic germs were isolated from three of the nickels and two of the dimes.

COINS IN THE SOUP.

Media—the food for bacteria—were next experimented on. Making media is part of the routine work in the bacteriological laboratory. The "office-boy," in addition to "washing-up" much small glassware, makes broth or bouillon every Saturday afternoon at least, and failing an "office-boy," the bacteriologist must do it himself. This fact explains why sometimes a singularly appetizing and otherwise inexplicable odor has been known to invade certain sacred precincts.

Other media used in the laboratory are gelatin, milk, and cylindrical pieces of raw potato. The bacteria are "fed" by simply dropping them "in the soup," and the large food supply and other favorable conditions cause them to multiply exceedingly. The bacteriologist speaks of this respectfully as a "young culture" if it is about 18 hours since the microscopical germs were dropped into the little test-tube containing broth. Another good medium is agar-agar, a kind of glue made from Ceylon moss, most of which is imported from Japan.

In the experiment, silver, nickel and copper coins were in their turn dropped into the soup, and it was found after 20 hours that the copper and nickel coins had made the broth strongly antiseptic, while the silver coins made it only slightly so.

Then the coins were laid on gelatin, which is, of course, a solid medium, with the result that no bacteria would grow near the place where the coins were laid.

COINS FROM TUBERCULOUS PATIENTS.

Coins in the possession of persons suffering from consumption (tuberculosis) were also collected and tested for

bacilli 24 hours, and also 48 hours, afterwards, but no tubercle bacilli were found.

This is as one would expect, for the tubercle bacillus, under ordinary circumstances, is not a fiercely virulent germ, and gets a foothold chiefly in people who try to live without fresh air and seldom or never take a good deep, full breath, sufficient to fill up the lungs from the neck to the diaphragm.

PAPER MONEY.

Paper money, on the contrary, has no antiseptic properties, and from one dirty bill 135,000 bacteria were isolated. Perhaps an antiseptic might be introduced in the manufacture of bills and bank-notes, so that they might kill their own bacteria, too!

It will thus be seen that while coins do kill harmful germs, it takes them some considerable time to perform this service to the community, and therefore handling dirty coins, and especially putting them in the mouth as children often do, is not safe. Handling dirty paper money is decidedly dangerous.

* * *

NO AIR ALLOWED: The surveyor of one of the counties of Indiana writes us as follows: "Not long ago, while surveying some land, I took dinner at the house of Mr. X. His daughter, a young lady of sixteen years, had a cough. She was pale and wasted. It was plain that she had tuberculosis. While there the physician called, and I heard him give particular and explicit instructions about keeping the young woman in, not allowing her to go into the open air for fear of taking cold. I am well aware that consumption is a house disease and is induced by living in unventilated and infected houses. Do you not have a circular or a pamphlet of instructions for such cases as this?" Upon the receipt of this information we immediately sent out consumption circulars and also wrote a letter informing the parents of the young lady that the disease had been induced by living indoors, and that people who did not have an abundance of air and sunshine must expect to be sick. We presume it is too late to save this young woman, but we may remark that thousands are killed this way every year.

* * *

GERMAN METHOD OF ROOM DISINFECTION: One and one-half liters of 8 per cent. formaldehyde solution is used for every 100 cubic meters. This is simply evaporated from a pan on a gas or oil stove.

The room is first closed and cracks and openings sealed with wadding paper and putty. Everything in the room is arranged so that the gas can get at all surfaces. The room is kept closed for three and one half to seven hours and then ammonia sent in to neutralize the formaldehyde. The bed and bedding are then removed to the station and disinfected with steam.

In Berlin formaldehyde disinfection on the same ground plan is used to a certain extent chiefly in the better houses. But in general all articles which will stand it are ~~wiped over with 3 per cent. carbolic acid solution~~, and all

beds, bedding, carpets, rugs, curtains, etc., are removed to the station and disinfected by steam. Formaldehyde fumigation may or may not be used also according to circumstances. No sulphur fumigation is used in any of the cities.

There is one important point in room disinfection which is not generally considered even by those with knowledge, and that is that fumigation with a gas like formaldehyde does not cease its good work when the room is again occupied. It is absorbed to a certain extent by most surfaces, especially clothing and paper and varnishes, and so continues to act upon germs already there and such as may come later for some time. It is well established that a weak disinfectant acting for a long time is frequently as effective as a strong one acting a short time.

* * *

HOW PHTHISIS IS SPREAD: We have learned that phthisis is spread, not so much from person to person directly, as indirectly by the aggregation of people in close and badly-cleaned work rooms, in large post offices, in asylums, in industrial works, in overcrowded houses. We have learned that in public places and vehicles it is propagated by spitting and by the spray of the cough, and to know this is to prevent the disease.—Prof. Clifford Allfort.

* * *

CIVILIZATION AND PNEUMONIA: Pneumonia, like so many other of the ills that modern mortal flesh is heir to, is a disease of civilization—and civilization itself is a disease, according to the dicta of a modern school of philosophy.

Pneumonia is a disease begotten of overhousing, overcrowding, overclothing, overeating and drinking, overcoddling—all the hygienic defects of civilized life which make for the weakening of natural vital resistance to the attacks of the myriads of invisible foes that are harmless to the normal healthy individual, whose normal healthy blood is constantly producing substances antagonistic to the activity and the poisons of the disease-producing organisms.

Considered from this viewpoint attempts should be made to secure a simpler housing with abundant facilities for the access of sunshine and fresh air, and space enough for each individual; a simpler raiment, which shall preserve the natural power of the skin to resist the effects of draughts and chills and "colds"; a simpler dietary, which shall not overtake the dietary system, and less cookery so that the teeth may have sufficient exercise to prevent their premature decay; more exercise in the open air, and, in general, a resort to the simpler and more natural modes of life to which each and every one of us was born, and of which each and every one of us is removed as promptly as civilization can act.—The Daily Medical.

* * *

EVIDENCE FOR VACCINATION: While the opponents of vaccination persist with an ardor and a vigor which meets small response from the public in general, an occasional piece of evidence shows how unsafe it would be

to listen to their advice. Dr. J. F. Schamberg, lecturing in Philadelphia the other evening, said that of more than three thousand smallpox patients treated at the Philadelphia Municipal Hospital during the last three years not one had been recently successfully vaccinated. None of the medical attendants were attacked. Of one hundred workmen employed near the patients four refused to be vaccinated. These were stricken with smallpox, while those who submitted to the operation were unscathed. Of seven hundred medical students who have worked in the smallpox wards only one caught the infection, and he had never been successfully vaccinated. If any evidence is good for anything, this is proof that failure to be vaccinated is an opportunity for smallpox. No such combinations of circumstances as are here recorded could be without a reason, and the reason is clear enough. If a person persists in not being vaccinated, he multiplies his chances of having smallpox. Dr. Schamberg says: "There is no excuse at the present day for any one to perish of smallpox. The man who refuses to have his children vaccinated is guilty of criminal negligence; more so, indeed, than he who stores in his house dangerous explosives.—*The Medical Examiner.*

IT IS ECONOMY AND HUMANITY FOR THE STATE TO COMBAT CONSUMPTION.

An address to the Governor, the General Assembly and the People of Indiana by *The Committee of One Hundred*, representing 5,000 physicians of the State, January 20, 1906.

The purpose of this address is to set before you, plainly and earnestly, the views of the practicing physicians and sanitarians of Indiana concerning the tuberculosis problem as it now confronts us.

Certain well established facts have brought the medical profession of the world to the position which it now occupies upon this question, and these facts we now submit to you for your careful consideration, and, as we urge, as a basis and warrant for your prompt and vigorous action. Our people are dying, literally by thousands annually, of a disease which, under proper management, is largely controllable.

We ought to stamp out one-half of all the tuberculosis in the State of Indiana within the next ten years. We believe that we can do it. We believe that we now have the established facts to warrant the assertion. The practicing physicians and sanitarians of Indiana stand ready to carry on this beneficent and economic work if you will give them the proper warrant and support.

Think what it would mean in saving of life, in avoidance of prolonged suffering, in economic philanthropy, to blot out within a few years one-half of all the cases of consumption from your own families, from among your friends and neighbors, from all your fellow-citizens. It rests today largely with you, whether the necessary authority and support for this movement shall be given.

Let us therefore reason together on this pressing matter of the unnecessary suffering and death of our people.

The physicians of the state, knowing by daily contact, the needs of the people, and the health officers of the state, knowing, by daily experience, the limitations which bind their hands and prevent their saving of wasted lives and wasted money, urge upon you this: That among the specific problems of the public health which press upon us today, the question: *What shall we do about tuberculosis?* stands far and away in the lead; and we are forced to ask ourselves and to ask you: How much longer shall we needlessly and heedlessly allow so many people to die of tuberculosis? How much longer shall we idly stand and watch apathetically long black processions moving to the places of the dead?

"*Tolle causam,*" wrote the ancient wise man: Exalt the cause, and this we do.

What are the facts which warrant our appeal? Briefly, and without detailed discussion here, they are these:

1st. That, out of the growth of knowledge, there has arisen in all civilized countries a great world-movement for the control of tuberculosis.

2d. Tuberculosis is recognized as the greatest disease which confronts civilization. It kills more than any disease. Omitting the various forms of pneumonia, it kills more people than any five diseases among us. In Indiana it killed nearly five thousand people last year.

3d. It is known to be caused by certain germs which can be grown and be planted in the bodies of living beings with fatal results. And these germs can as certainly be destroyed where the proper opportunity, authority and means are given for laying hands upon them.

4th. The disease is spread and propagated by the scattering of these germs, especially in dwelling and working places.

5th. It is seldom, if ever, actually transmitted by heredity.

6th. It develops in previously healthy members of a family, chiefly through household infection aided by ignorance, carelessness, the necessities of poverty, and bad sanitation.

7th. Into its lodgment and development in the body enter frequently certain predisposing factors, chief among these being previous diseases, lack of pure air and sunlight, and insufficient nourishment—and as these conditions prepare the way for the disease, so do their opposites, actively and systematically applied, furnish the chief basis for its prevention and cure.

8th. Tuberculosis, run down to its sources and its hiding places, as it may now be, is a preventable disease.

9th. Tuberculosis, detected early, as it may now usually be, and dealt with properly as may now be done with adequate provision and intelligent, vigorous, public, authoritative, educational demonstration, is in a hopefully large proportion of cases amenable to such arrest and remedy as will return the sufferer to useful activity and self-support.

10th. The best method of securing this result is through a systematic and sustained application of hygienic measures.

11th. By common consent throughout the medical world, the best and most practical method for applying, and still more for teaching the profession and the public, these measures, is through a public disciplinary educational institution. Statistics now at hand, the result of twenty years experience, demonstrate the practicable possibility of attaining such results, in a properly conducted institution, in something like fifty per cent of the cases.

12th. The best agents for spreading abroad this life-saving and economic knowledge, are the physicians whose patients have realized these results, and the graduates of such a state educational institution, who have returned to daily association with the people.

13th. Tuberculosis is steadily increasing in relative prevalence among the poor who can not provide for themselves adequate treatment, and for whom therefore the State must provide; and among the ignorant who, for its own safety and economy, the State must control and educate.

14th. Tuberculosis is no longer a purely professional problem; in the light of present knowledge it has become a great question of social economy, in the solution of which the medical profession and the public and the public authorities must unite.

15th. The question of the cure and prevention of tuberculosis is largely one of professional and popular education, training and demonstration, and therefore we urge upon you and upon the public our conviction that the time has come for the establishment in this State of such a public curative, educational and training institution.

Thus, we believe, will much suffering be prevented and many be saved from death. Thus, we believe, will go out, by demonstration and example, influences upon the people which will save their money, preserve their health, and save their lives.

The facts are before us; the knowledge is at hand and open to all. The convincing experiences have already been accumulated. We are ready to join with you, and ask you to join with us now in this work for the good of the people. For we do not want for ourselves the people's blood money. We want to preserve their health and save their lives.

FORMALDEHYDE DISINFECTION—A NEW PROCESS.

A long series of experiments in the Laboratory of Hygiene have developed the fact that formaldehyde may successfully and very conveniently be used in the disinfection of rooms with the use of no lamps, generators or other special apparatus whatever. In the process which has been employed in this work, formaldehyde gas is liberated by pouring formaldehyde upon permanganate of potassium. At ordinary room temperatures a chemical reaction results whereby a high degree of heat is evolved. This heat causes an effervescence or boiling and formaldehyde gas is given off very rapidly.

The advantages of this method are that the disinfector need not transport apparatus from place to place; that there is no generator or lamp which might originate a fire; that almost the whole quantity of formaldehyde available for disinfection is liberated in a few moments, thus giving the maximum concentration of the gas before there has been time for leakage of the part first evolved; that, through the action of the heat liberated by the chemical reaction, a sufficient quantity of steam goes off with the formaldehyde to ensure efficient disinfection.

In the experimental work which has been done to determine the value of this "permanganate process" of liberating formaldehyde, it was sought to have the conditions as nearly as possible like those which the health officer finds in the actual work of disinfection. Most of the work was done in a French tenement, in which the rooms varied in size from about 500 cubic feet of air space to more than 1,800 cubic feet. These rooms were decidedly loose in construction, no pains were taken to paste up or otherwise close the cracks or crevices, and no artificial means were employed for distributing the gas.

The test-bacteria used in the experiments were diphtheria, typhoid, albus, aureus, coli, pyocyanus, tetragenus, streptococci, anthrax, subtilis and mixed cultures, mostly from swabs from the throats of patients thought to have diphtheria. The time of exposure was at first sixteen hours, but this was gradually reduced to three hours with no lessening of efficiency.

Of the 1,529 test objects exposed only 27 showed a growth after incubation for at least 48 hours. Of these 27 unsuccessful results, 21 were with the exceedingly resistant hay bacillus (*B. subtilis*). None of the bacilli of diphtheria, typhoid fever or other ordinary pathogenic germs survived the exposure to formaldehyde.

In carrying out this process of disinfection the requisites are simply the ordinary so-called 40 per cent. formaldehyde solution, commercial permanganate of potassium and a vessel to mix them in.

The required quantity of permanganate for each pint of formaldehyde solution is $6\frac{1}{2}$ ounces. The permanganate is first put into the dish and the formaldehyde solution is then poured upon it. *The permanganate must go in first.* Before the mixture is made, everything must be in readiness, because a rapid flight from the room must be made. Leave the room closed up tightly four hours.

The vessel in which the permanganate and formaldehyde are to be mixed should be of considerable size, else the vigorous foaming will throw a part of the mixture upon the floor. A flaring ten-quart tin pail is a suitable and large enough vessel unless more than three pints of formaldehyde are to be used, and even then, until the disinfector is well acquainted with this process, it would be a safe precaution to set the pail inside of a large pan. In this, as in all methods of chemical disinfection, the disinfector action is more efficient the warmer the room.

As in disinfecting with formaldehyde, a large quantity of formaldehyde and a shortened time of exposure are more efficient than a smaller quantity of formaldehyde and a lengthened period of exposure, the State Board of Health advises the use of two pints of formaldehyde for

each 1,000 cubic feet of space. This is a considerably larger quantity than has generally been used; but as compensatory of the increased expenditure for formaldehyde there are the advantages of not being encumbered with generators, absence of solicitude about fire, shortened time, and, still more important, a very effective process for using formaldehyde.

As it is necessary to adjust pretty carefully the relative quantities of permanganate and formaldehyde, and as it is much more convenient to measure the permanganate than to weigh it, arrangements have been made with some of the druggists to keep in stock a small tin measure holding $3\frac{1}{2}$ ounces of permanganate, "strick" measure. The rule is, for each 500 feet of room space to be disinfected, one measureful of permanganate and one pint measureful of formaldehyde.

The experiments have shown that, used as is herein recommended, formaldehyde gas has some considerable power of penetration; nevertheless the State Board of Health does not yet deem it safe to advise any marked departure from the general method of disinfection given in its circulars on the infectious diseases—scrubbing up of floors, boiling all articles which can be thus disinfected, etc.

The last lot of these chemicals received by the State Board of Health cost for formaldehyde, in ten-gallon lots, \$1.45 a gallon; and for permanganate, in ten-pound lots, 15 cents a pound.—Disinfection Circular of the Maine State Board of Health.

THE STATISTICS OF CONSUMPTION IN INDIANA IN 1904.

The total number of deaths from consumption in Indiana in 1904 was 4,739. In 1903 the number was 4,412. There was, therefore, an increase in the last year of 327. The female consumptive deaths in 1904 numbered 2,781, and the male 1,958. It is usual for the female deaths to be more than the male, and is explained by the fact that they live more in the house and consumption is "a house disease."

The total monthly (see table) deaths from consumption show that in March the most deaths occur and in September the least, and it will further be noticed that the disease marches relentlessly through the year, after all, paying little attention to month or season.

CONSUMPTION DEATHS BY MONTHS IN INDIANA IN 1904.

| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. |
|------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|
| Males..... | 164 | 155 | 223 | 192 | 202 | 167 | 149 | 135 | 132 | 130 | 136 | 163 |
| Females... | 236 | 253 | 310 | 244 | 277 | 196 | 239 | 223 | 200 | 206 | 201 | 206 |
| Total.... | 400 | 408 | 533 | 436 | 479 | 363 | 388 | 358 | 332 | 336 | 337 | 369 |

The table of consumptive deaths by ages, as given below, teaches a lesson. In the first decade of life only 373, or 7.9 per cent. of the total occurs, but after that the deaths rise rapidly until 30 years old and after. Immediately after the school age (bad air in schools is one cause) the deaths rise, and so in the age period from 10 to 30 there were 1,885 deaths, or 39.7 per cent. of the total. Better ventilation of schools and instruction in the importance of breathing pure air day and night, would cut this down materially.

The production period, 20 to 50, shows 2,771 deaths, or 58.5 per cent. of the total. Consumption, therefore, seems to show a preference for persons in the prime of life. The subsequent 30-year period shows 931 deaths, or 19.6 per cent. of the total.

CONSUMPTION DEATHS IN INDIANA IN 1904 BY 10-YEAR
AGE PERIODS.

| | 1-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90 and over. | Total. |
|--------------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|--------|
| Males..... | 185 | 180 | 448 | 378 | 275 | 212 | 150 | 83 | 26 | 11 | 1948 |
| Females..... | 168 | 415 | 842 | 528 | 300 | 208 | 175 | 103 | 17 | 15 | 2781 |
| Total..... | 373 | 595 | 1290 | 906 | 575 | 420 | 325 | 186 | 43 | 26 | 4739 |

The havoc wrought by consumption in Indiana in 1904 appears in the following summary, which makes comparison with 1903:

| | 1903. | 1904. |
|--|-------|-------|
| Total consumption deaths..... | 4,412 | 4,739 |
| Males..... | 1,873 | 1,958 |
| Females..... | 2,539 | 2,781 |
| Mothers, 18 to 40, prime of life..... | 790 | 822 |
| Fathers, 18 to 40, prime of life..... | 425 | 501 |
| Orphans made under 12 years of age..... | 2,515 | 2,718 |
| Homes made fatherless or motherless..... | 1,215 | 1,323 |

Cost to the people of the State each year is not less than \$5,000,000.

Every one of the 4,739 consumption deaths in 1904 was preventable, each one that is to follow will have been, and the responsibility for them will rest upon those who, having the knowledge and the ability to save, failed to act.

* * *

A LETTER: Upon inquiring into the circumstances of a death the following reply was received: "The cause was Brain fever. It set in 28 hour after delivery mildly but in 48 hour had assumed gigantic proportions. Partial Paraphegin of Brain, Bowels and womb. the innerSide of womb was so great that it Resided down but very little up to her Death. Profound Como or Stupor was Present all the time after Spinal fever set in. the Prognosis was unfavorable with us almost from the beginning. There was no Lochia discharge after third day."

CHART SHOWING GEOGRAPHICAL DISTRIBUTION OF DEATHS FROM CERTAIN COMMUNICABLE DISEASES IN JANUARY, 1905.

NORTHERN SANITARY SECTION.

| | |
|--------------------------------------|---------|
| Total population | 887,832 |
| Total deaths | 994 |
| Death rate per 1,000 | 13.2 |
| Consumption, rate per 100,000 | 110.3 |
| Typhoid, rate per 100,000 | 25.2 |
| Diphtheria, rate per 100,000 | 13.2 |
| Scarlet fever, rate per 100,000 | 1.3 |
| Diarrheal diseases, rate per 100,000 | 14.6 |

CENTRAL SANITARY SECTION.

| | |
|--------------------------------------|-----------|
| Total population | 1,087,620 |
| Total deaths | 1,423 |
| Death rate per 1,000 | 15.4 |
| Consumption, rate per 100,000 | 177.9 |
| Typhoid, rate per 100,000 | 16.2 |
| Diphtheria, rate per 100,000 | 4.3 |
| Scarlet fever, rate per 100,000 | 8.6 |
| Diarrheal diseases, rate per 100,000 | 13.0 |

SOUTHERN SANITARY SECTION.

| | |
|--------------------------------------|---------|
| Total population | 673,097 |
| Total deaths | 892 |
| Death rate per 1,000 | 15.6 |
| Consumption, rate per 100,000 | 201.6 |
| Typhoid, rate per 100,000 | 28.0 |
| Diphtheria, rate per 100,000 | 26.2 |
| Scarlet fever, rate per 100,000 | 14.0 |
| Diarrheal diseases, rate per 100,000 | 10.5 |

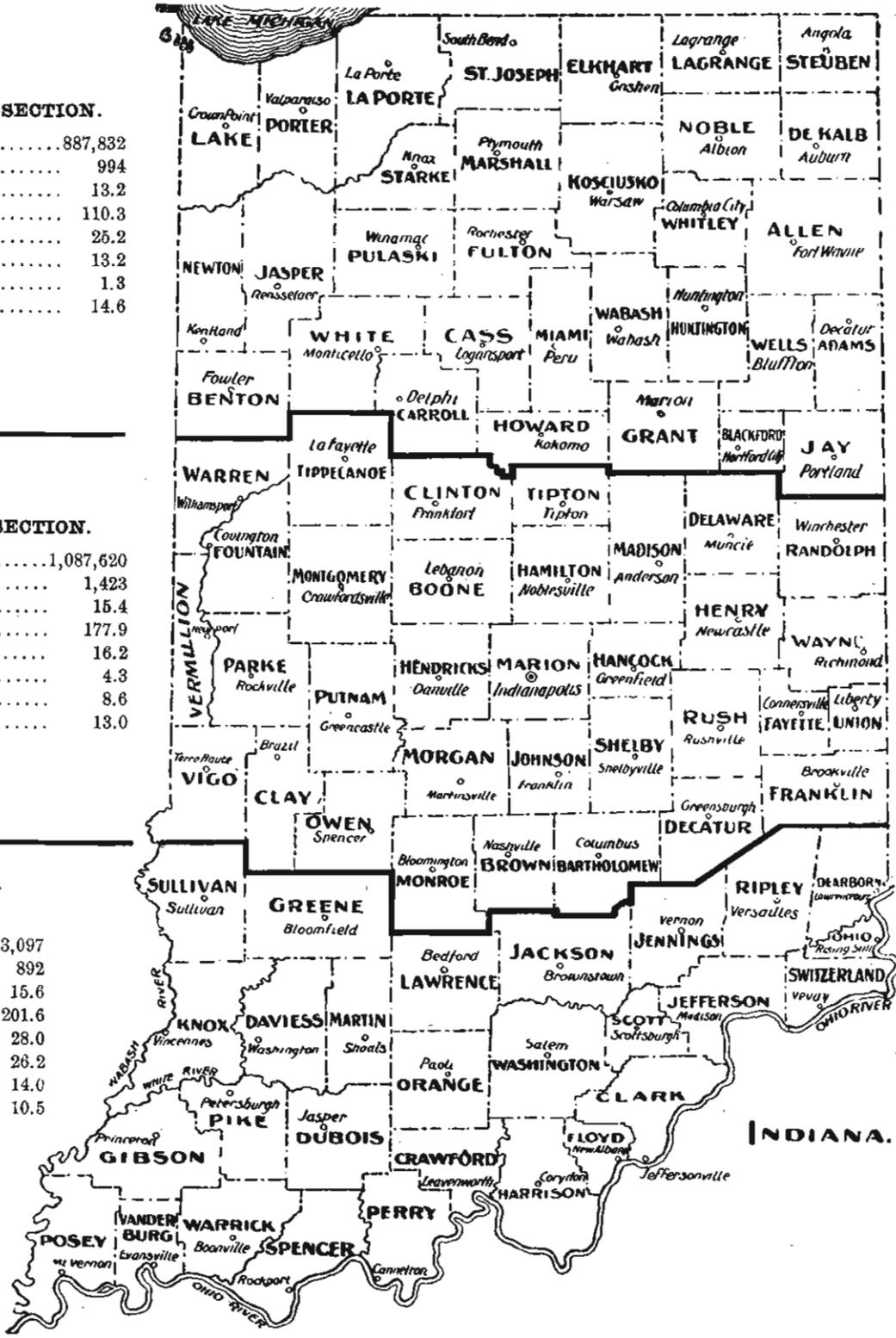


TABLE No. 1. Deaths in Indiana by Counties, During the Month of January, 1905.

| STATE AND COUNTIES. | Population Estimated According to U. S. Bureau. | Total Deaths Reported for January, 1905. | Annual Death Rate per 1,000 Population. | IMPORTANT AGES. | | | | | | | | | DEATHS FROM IMPORTANT CAUSES. | | | | | | | | | | | | | | |
|--------------------------|---|--|---|-----------------|---------------|--------------------|--------------------|----------------------|----------------------|--------------------|------------------------|------------------------------|-------------------------------|-------------|----------|----------------|-----------|-----------------|------------|--------------------------------|----------------------------|------------|-----------------------|------------|-----------|------------|---------------------------|
| | | | | Stillbirths. | Under 1 Year. | 1 to 4, inclusive. | 5 to 9, inclusive. | 10 to 14, inclusive. | 15 to 19, inclusive. | 20 Years and Over. | Pulmonary Consumption. | Other Forms of Tuberculosis. | Typhoid Fever. | Diphtheria. | Croup. | Scarlet Fever. | Measles. | Whooping-Cough. | Pneumonia. | Diarrheal Dis- cases, under 5. | Cerebro-spinal Meningitis. | Influenza. | Puerperal Septicæmia. | Cancer. | Violence. | Smallpox. | Deaths in Insti- tutions. |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| State of Indiana. | 2,648,549 | 3,309 | 14.7 | 198 | 519 | 169 | 72 | 58 | 100 | 982 | 362 | 31 | 50 | 29 | 5 | 17 | 13 | 558 | 29 | 28 | 114 | 19 | 99 | 129 | 7 | 174 | |
| Northern Co's | 887,832 | 94 | 13.2 | 63 | 179 | 45 | 23 | 22 | 27 | 311 | 83 | 10 | 19 | 10 | 2 | 1 | 3 | 137 | 11 | 13 | 39 | 3 | 41 | 35 | 1 | 53 | |
| Adams | 23,052 | 28 | 14.3 | 2 | 5 | 3 | 1 | | | 11 | | | 2 | | | | | 5 | | | 2 | | 2 | | | 1 | 1 |
| Allen | 81,502 | 84 | 12.1 | 1 | 16 | 2 | 1 | | 4 | 24 | 4 | 1 | | 1 | | | | 3 | | | 2 | | 7 | | | 6 | 5 |
| Benton | 13,611 | 15 | 13.0 | 3 | 6 | | | | | 4 | | | | | | | | 2 | | | | | | | | | |
| Blackford | 19,914 | 25 | 14.8 | 3 | 6 | 1 | | | | 5 | 2 | | 1 | 1 | | | | 6 | 1 | | 1 | | 1 | | | | |
| Carroll | 19,953 | 26 | 15.3 | 3 | 9 | 2 | | | | 3 | | | | | | | | 6 | | 1 | 1 | | | | | | |
| Cass | 35,902 | 60 | 19.7 | 5 | 1 | 1 | | | | 2 | 2 | 1 | 1 | | | | | 14 | | | 2 | | 5 | | | 20 | 1 |
| Dekalb | 26,272 | 26 | 11.5 | 3 | 3 | | | | | 4 | 4 | | | | | | | 1 | | 1 | | | | | | 3 | 1 |
| Elkhart | 47,892 | 41 | 10.2 | 1 | 7 | 6 | | | 1 | 16 | 6 | | | | | | 1 | 4 | | 1 | | | 3 | | | 1 | 1 |
| Fulton | 17,786 | 20 | 13.3 | 1 | 3 | | | | | 8 | 1 | | | | | | | 1 | | | | | | | | | |
| Grant | 63,978 | 88 | 16.2 | 11 | 16 | 2 | 1 | | 4 | 16 | 12 | 1 | 2 | | | | | 16 | | 2 | | 4 | 4 | 4 | 1 | 1 | 9 |
| Howard | 29,531 | 31 | 12.3 | 2 | 6 | | | | 1 | 6 | 6 | | | | | | | 4 | | 4 | | 4 | 1 | 1 | | 4 | 1 |
| Huntington | 29,404 | 36 | 14.4 | 3 | 4 | 2 | | | 1 | 15 | 2 | | | | | | | 4 | 5 | | 3 | 3 | 1 | 1 | | | |
| Jasper | 15,535 | 10 | 7.5 | | 1 | | | | 1 | 8 | 1 | | | | | | | 3 | | | | 1 | 1 | 2 | | | |
| Jay | 28,154 | 21 | 8.8 | 3 | 3 | | | | 2 | 10 | 6 | | | | | | | 2 | | 1 | | | 1 | 1 | | | |
| Kosciusko | 29,295 | 34 | 13.6 | | 10 | 3 | 1 | | | 10 | 1 | | | | | | | 2 | 9 | | | 1 | 1 | 1 | 1 | | |
| Lagrange | 15,284 | 22 | 16.9 | 3 | 2 | 1 | | | 1 | 1 | 1 | | | | | | | 4 | | | | | | | | | |
| Lake | 48,491 | 42 | 11.3 | 2 | 13 | 1 | | | 1 | 9 | 1 | | 2 | | | | | 7 | 4 | | 4 | 3 | | | | 1 | 4 |
| Laporte | 39,962 | 45 | 13.2 | 2 | 4 | 2 | | | 1 | 14 | 6 | | 2 | | | | | 7 | | | 2 | 2 | | | | 3 | 2 |
| Marshall | 25,639 | 34 | 15.6 | 1 | 8 | 2 | | | 1 | 16 | 6 | | 2 | | | | | 1 | | 1 | | 1 | | | | 1 | 1 |
| Miami | 29,852 | 32 | 12.8 | 1 | 9 | 1 | | | 1 | 14 | 2 | | | | | | | 5 | | | | 1 | | | | | |
| Newton | 11,106 | 11 | 11.6 | | 2 | | | | | 5 | 5 | | | | | | | 1 | | 1 | | 1 | | | | | |
| Noble | 23,603 | 16 | 7.9 | 2 | 1 | 1 | | | 2 | 1 | 1 | | | | | | | 1 | | 1 | | 1 | | | | | |
| Porter | 19,624 | 28 | 16.8 | 2 | 4 | 2 | | | 2 | 8 | 8 | | | | | | | 1 | | 1 | | 1 | | | | 1 | 2 |
| Pulaski | 15,153 | 15 | 11.6 | 2 | 4 | 1 | | | 2 | 7 | 9 | | | | | | | 1 | | 1 | | 1 | | | | | |
| Starke | 15,668 | 18 | 13.2 | 3 | 3 | 3 | | | | 9 | 2 | | | | | | | 4 | | 2 | | 3 | | | | 1 | 1 |
| Steuben | 15,515 | 12 | 9.1 | | 1 | 1 | | | 2 | 1 | 2 | | | | | | | 8 | | 6 | | 1 | | | | 2 | 2 |
| St. Joseph | 65,451 | 78 | 14.0 | 6 | 22 | 3 | 1 | 3 | | 14 | 6 | 2 | 5 | | | | | 8 | | 6 | | 1 | | | 3 | 1 | 7 |
| Wabash | 28,679 | 33 | 13.5 | 2 | 4 | 3 | 5 | | 3 | 9 | 3 | 1 | | 3 | | | | 2 | | 3 | | 1 | | | | 2 | 1 |
| Wells | 24,223 | 22 | 10.7 | | 1 | 2 | | | 1 | 3 | 2 | | | | | | | 3 | | 3 | | 2 | | | | 1 | 2 |
| White | 20,525 | 22 | 12.6 | | 1 | 1 | | | 2 | 9 | 1 | | | | | | | 3 | | 3 | | 2 | | | | 2 | 1 |
| Whitley | 17,328 | 19 | 12.9 | 1 | 6 | 2 | | | 2 | 5 | 5 | | | 1 | | | | 2 | | 2 | | 1 | | | | 2 | 2 |
| Central Co's | 1,087,620 | 1,423 | 15.4 | 91 | 193 | 60 | 34 | 19 | 47 | 430 | 164 | 16 | 15 | 4 | 2 | 8 | 4 | 256 | 12 | 11 | 45 | 12 | 39 | 61 | 90 | | |
| Bartholomew | 24,885 | 23 | 10.9 | | 4 | 2 | 1 | 1 | | 7 | 4 | 1 | | | | | | 6 | | 1 | | | | | | 1 | |
| Boone | 26,321 | 29 | 13.0 | 2 | 4 | 1 | | | 1 | 11 | 5 | | | | | | | 5 | | | 1 | | | | | | |
| Brown | 9,727 | 9 | 10.9 | 1 | 1 | | | | 1 | 1 | 2 | | | | | | | 1 | | 1 | | | | | | | |
| Clay | 35,785 | 36 | 11.8 | | 10 | 2 | 1 | 1 | | 10 | 4 | 1 | | | | | | 3 | | 1 | | 1 | | | | | |
| Clinton | 28,535 | 42 | 17.3 | 2 | 10 | 2 | 2 | | 2 | 6 | 4 | | | | | | | 8 | | 1 | | 2 | | | | | 2 |
| Decatur | 19,614 | 23 | 13.8 | 4 | 3 | 1 | 1 | | 2 | 7 | 2 | | | | | | | 2 | | 2 | | 3 | | | | 2 | 1 |
| Delaware | 57,421 | 74 | 16.2 | 4 | 13 | 3 | 2 | | 5 | 17 | 8 | | | | | | | 16 | | 1 | | 3 | | | | 5 | 1 |
| Fayette | 13,841 | 9 | 7.6 | | 2 | | | | | 4 | 2 | | | | | | | 2 | | 2 | | | | | | | |
| Fountain | 22,201 | 34 | 18.0 | 5 | 5 | 1 | 1 | | | 12 | 2 | | 2 | | | | | 4 | | 1 | | 2 | | | | | 1 |
| Franklin | 16,388 | 15 | 10.8 | 3 | 3 | | | | 1 | 2 | 5 | | | | | | | 1 | | 1 | | | | | | | |
| Hamilton | 31,430 | 45 | 16.8 | 2 | 8 | 2 | | | 2 | 17 | 3 | | 2 | | | | | 9 | | 1 | | 1 | | | | 1 | 1 |
| Hancock | 19,755 | 35 | 20.9 | 3 | 7 | 1 | | | 4 | 10 | 5 | | | | | | | 7 | | 1 | | 1 | | | | 1 | 1 |
| Hendricks | 21,282 | 27 | 14.9 | 3 | 2 | 3 | 1 | 1 | | 2 | 1 | | 1 | | | | | 6 | | 1 | | 1 | | | | 1 | 1 |
| Henry | 25,572 | 29 | 13.3 | 1 | 2 | 1 | 2 | | 1 | 11 | 1 | | | | | | | 7 | | 1 | | 1 | | | | 1 | 1 |
| Johnson | 20,488 | 32 | 18.4 | 2 | 3 | | | | 1 | 5 | 5 | | | | | | | 4 | | 1 | | 1 | | | | 1 | 1 |
| Madison | 84,063 | 91 | 12.7 | 14 | 19 | 2 | | | 2 | 23 | 8 | 3 | 1 | | | | | 7 | | 1 | | 2 | | 3 | | 3 | 1 |
| Marion | 210,655 | 325 | 17.4 | 21 | 33 | 11 | 4 | 5 | 8 | 91 | 39 | 3 | 3 | | | | | 66 | | 4 | 11 | 3 | 10 | 11 | | 62 | |
| Monroe | 22,153 | 26 | 13.8 | | 6 | 5 | 2 | | | 10 | 1 | | | | | | | 5 | | 9 | | 1 | | | | | 2 |
| Montgomery | 29,933 | 45 | 17.7 | 2 | 6 | 2 | | | 1 | 18 | 2 | | | | | | | 9 | | 1 | | 5 | | | | | 2 |
| Morgan | 21,183 | 30 | 16.7 | | 5 | 2 | 1 | | 1 | 11 | 2 | | | | | | | 8 | | 3 | | 3 | | | | 2 | |
| Owen | 15,193 | 19 | 14.7 | | 3 | 3 | | | | 6 | 1 | | | | | | | 4 | | 4 | | 1 | | | | | |
| Parke | 24,082 | 33 | 16.1 | 2 | 5 | 4 | 1 | 1 | 2 | 11 | 5 | | | | | | | 8 | | 1 | | 1 | | | | 3 | 1 |
| Putnam | 21,478 | 37 | 20.3 | 2 | 6 | 4 | | | 2 | 9 | 4 | | | | | | | 11 | | 1 | | 1 | | | | 1 | 1 |
| Randolph | 28,880 | 24 | 9.8 | | 4 | | 1 | 1 | | 8 | 1 | | | | | | | 2 | | 1 | | 1 | | | | 1 | 1 |
| Rush | 20,594 | 18 | 10.3 | 1 | 2 | 1 | | | 2 | 6 | 1 | | | | | | | 3 | | 3 | | 3 | | | | 1 | 2 |
| Shelby | 26,906 | 38 | 16.6 | 3 | 3 | 4 | 1 | 1 | 2 | 14 | 3 | | | | | | | 4 | | 4 | | 3 | | | | 1 | |

Mortality of Indiana for January, 1905.

| POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL. | Population, Estimated by U.S. Method. | Total Deaths Reported for January, 1905. | Annual Death Rate per 1,000 Population. | Stillbirths. | Important Ages. | | | | | | | | | | | | Deaths and Annual Death Rates per 100,000 Population from Important Causes. | | | | | | | |
|---|---------------------------------------|--|---|--------------|-----------------|-------------|------------|------------|-----------|------------|-----------|------------|------------|------------|-------------|-------------|---|--------------|---------------------------|-------------|----------------|-------------|-------------|-------------|
| | | | | | Under 1. | | 1 to 5. | | 5 to 10. | | 10 to 15. | | 15 to 20. | | 65 and Over | | Consumption. | | Other Forms Tuberculosis. | | Typhoid Fever. | | Diphtheria. | |
| | | | | | Number. | Per Cent. | Number. | Per Cent. | Number. | Per Cent. | Number. | Per Cent. | Number. | Per Cent. | Number. | Per Cent. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. |
| State | 2,648,549 | 3,309 | 14.7 | 198 | 519 | 16.6 | 169 | 5.4 | 72 | 2.3 | 58 | 1.8 | 100 | 3.2 | 982 | 31.5 | 362 | 161.2 | 31 | 13.8 | 50 | 22.2 | 29 | 12.9 |
| Northern Co's | 887,832 | 994 | 13.2 | 63 | 179 | 19.2 | 45 | 4.7 | 23 | 2.4 | 22 | 2.3 | 27 | 2.9 | 311 | 33.4 | 83 | 110.3 | 10 | 13.2 | 19 | 25.2 | 10 | 13.2 |
| Central Co's | 1,087,620 | 1,423 | 15.4 | 91 | 193 | 14.4 | 60 | 4.5 | 34 | 2.5 | 19 | 1.4 | 47 | 3.5 | 430 | 32.2 | 164 | 177.9 | 16 | 17.3 | 15 | 16.2 | 4 | 4.3 |
| Southern Co's | 673,097 | 892 | 15.6 | 44 | 147 | 17.3 | 64 | 7.5 | 15 | 1.7 | 17 | 2.0 | 26 | 3.0 | 241 | 28.4 | 115 | 201.6 | 5 | 3.7 | 16 | 28.0 | 15 | 25.2 |
| All cities | 968,204 | 1,364 | 16.6 | 90 | 197 | 15.4 | 60 | 4.7 | 30 | 2.3 | 28 | 2.2 | 39 | 3.0 | 343 | 26.9 | 170 | 207.1 | 17 | 20.7 | 20 | 24.3 | 12 | 14.6 |
| Over 50,000 | 259,221 | 337 | 15.3 | 22 | 39 | 12.4 | 16 | 5.0 | 5 | 1.5 | 4 | 1.2 | 8 | 2.5 | 81 | 25.7 | 43 | 195.7 | 2 | 9.1 | 3 | 13.6 | 4 | 18.2 |
| 25,000 to 50,000 | 129,930 | 211 | 19.2 | 13 | 43 | 21.7 | 7 | 3.5 | 4 | 2.0 | 7 | 3.5 | 3 | 1.5 | 46 | 23.2 | 17 | 155.3 | 4 | 36.5 | 5 | 45.6 | 3 | 27.4 |
| 10,000 to 25,000 | 252,343 | 370 | 17.3 | 29 | 51 | 14.9 | 15 | 4.4 | 6 | 1.7 | 9 | 2.3 | 13 | 3.8 | 96 | 28.1 | 52 | 243.1 | 5 | 21.3 | 4 | 18.7 | 2 | 9.3 |
| 5,000 to 10,000 | 196,779 | 256 | 15.3 | 10 | 36 | 14.6 | 15 | 6.1 | 11 | 4.4 | 8 | 3.2 | 10 | 4.0 | 66 | 26.8 | 33 | 197.8 | 6 | 35.9 | 4 | 23.9 | 3 | 17.9 |
| Under 5,000 | 129,981 | 190 | 17.2 | 16 | 28 | 16.0 | 7 | 4.0 | 4 | 2.3 | 1 | .5 | 5 | 2.8 | 54 | 31.0 | 25 | 227.0 | ..... | ..... | 4 | 36.3 | ..... | ..... |
| Country | 1,680,345 | 1,945 | 13.6 | 108 | 322 | 17.5 | 109 | 5.9 | 42 | 2.2 | 30 | 1.6 | 61 | 3.3 | 639 | 34.7 | 192 | 134.8 | 14 | 9.8 | 30 | 21.0 | 17 | 11.9 |

| POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL. | Deaths and Annual Death Rates per 100,000 Population from Important Causes. | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|-------------|----------------|-------------|----------|-------------|-----------------|-------------|------------|--------------|----------------------------------|-------------|----------------------------|-------------|------------|-------------|-----------------------|-------------|-----------|-------------|------------|-------------|------------|-------------|
| | Croup. | | Scarlet Fever. | | Measles. | | Whooping-Cough. | | Pneumonia. | | Diarrheal Diseases, Under 5 Yrs. | | Cerebro-Spinal Meningitis. | | Influenza. | | Puerperal Septicæmia. | | Cancer. | | Violence. | | Small-pox. | |
| | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. | Number. | Death Rate. |
| State | 5 | 2.2 | 17 | 7.5 | ..... | ..... | 13 | 5.7 | 558 | 248.6 | 29 | 12.9 | 28 | 12.4 | 114 | 50.7 | 19 | 8.4 | 99 | 44.1 | 129 | 57.4 | 7 | 3.1 |
| Northern Co's | 2 | 2.6 | 1 | 1.3 | ..... | ..... | 3 | 3.9 | 137 | 182.0 | 11 | 14.6 | 13 | 17.2 | 39 | 51.8 | 3 | 3.9 | 41 | 54.4 | 35 | 46.5 | 1 | 1.3 |
| Central Co's | 2 | 2.1 | 8 | 8.6 | ..... | ..... | 4 | 4.3 | 256 | 277.7 | 12 | 13.0 | 11 | 11.9 | 45 | 48.8 | 12 | 13.0 | 39 | 42.3 | 61 | 66.1 | ..... | ..... |
| Southern Co's | 1 | 1.7 | 8 | 14.0 | ..... | ..... | 6 | 10.5 | 165 | 289.2 | 6 | 10.5 | 4 | 7.0 | 30 | 52.5 | 4 | 7.0 | 19 | 33.3 | 33 | 57.8 | 6 | 10.5 |
| All cities | 2 | 2.4 | 2 | 2.4 | ..... | ..... | 2 | 2.4 | 215 | 262.0 | 11 | 13.4 | 10 | 12.1 | 41 | 49.9 | 7 | 8.5 | 49 | 59.7 | 64 | 78.0 | 1 | 1.2 |
| Over 50,000 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 63 | 286.7 | ..... | ..... | 4 | 18.2 | 8 | 36.4 | 3 | 13.6 | 11 | 50.0 | 11 | 50.0 | ..... | ..... |
| 25,000 to 50,000 | 1 | 9.1 | ..... | ..... | ..... | ..... | 1 | 9.1 | 32 | 292.4 | 7 | 63.9 | ..... | ..... | 3 | 27.4 | ..... | ..... | 7 | 63.9 | 14 | 127.9 | ..... | ..... |
| 10,000 to 25,000 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 4.6 | 61 | 285.2 | 1 | 4.6 | 3 | 14.0 | 16 | 74.8 | 1 | 4.6 | 11 | 51.4 | 21 | 98.1 | ..... | ..... |
| 5,000 to 10,000 | 1 | 5.9 | 2 | 11.9 | ..... | ..... | ..... | ..... | 35 | 209.8 | ..... | ..... | 3 | 17.9 | 9 | 53.9 | 1 | 5.9 | 10 | 59.9 | 11 | 65.9 | ..... | ..... |
| Under 5,000 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 24 | 217.9 | 3 | 27.2 | ..... | ..... | 5 | 45.4 | 2 | 18.1 | 10 | 40.8 | 7 | 63.5 | 1 | 9.0 |
| Country | 3 | 2.1 | 15 | 10.5 | ..... | ..... | 11 | 7.7 | 343 | 240.8 | 18 | 12.6 | 18 | 12.6 | 73 | 51.2 | 12 | 8.4 | 50 | 35.1 | 65 | 45.6 | 6 | 4.2 |

Meteorological Summary for January, 1905. Furnished by the Central Office, Indiana Section, Climate and Crop Service, U. S. Weather Bureau, Indianapolis, Ind.

W. T. BLYTHE, SECTION DIRECTOR.

| SECTIONS. | TEMPERATURE. | | | | | | | | | | PRECIPITATION. | | | | CONDITION OF SKY. | | | Wind. | |
|------------------|--------------|------------------------|----------|-------|---------------|----------|---------|-----------------|----------|------------------------|---------------------|-----------------------------|--------|----------------|-------------------|-----------------------|---|-------|-----|
| | Mean. | Departure from Normal. | Highest. | | | | Lowest. | | | | In Inches. | | | | Number of Days. | | | | |
| | | | Degrees. | Date. | Place. | Degrees. | Date. | Place. | Average. | Departure from Normal. | Snowfall Un-melted. | Days with .01 inch or more. | Clear. | Partly Cloudy. | Cloudy. | Prevailing Direction. | | | |
| Northern Section | 20.3 | -5.7 | 59 | 2 | Bluffton..... | -12 | 14 | Hammond.. | 10,11 | 10 | Delphi..... | 2.07 | +0.02 | 11.4 | 10 | 11 | 6 | 14 | SW. |
| Central Section | 22.8 | -4.3 | 68 | 1 | Bloomington.. | -16 | 10 | Northfield.... | ..... | ..... | ..... | 1.75 | -1.26 | 6.2 | 8 | 8 | 9 | 14 | SW. |
| Southern Section | 26.2 | -4.7 | 74 | 1 | Mt. Vernon... | -11 | 10 | Columbus..... | ..... | ..... | ..... | 2.68 | -0.90 | 10.6 | 9 | 9 | 7 | 15 | NW. |
| State | 23.1 | -4.9 | 74 | 1 | Mt. Vernon... | -16 | 10 | Northfield..... | ..... | ..... | ..... | 2.17 | -0.71 | 9.4 | 9 | 10 | 7 | 14 | SW. |