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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.

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"HEART DISEASE": It seems this department will never get through telling physicians that the term "heart disease" cannot be accepted as a cause of death. Although hundreds of letters have been written to this effect, still physicians send in certificates of death assigning "heart failure," "heart disease" and "heart trouble" as causes of death. Recently a certificate was received ascribing a death to "heart disease." A letter was written about the matter to the doctor signing the certificate, and here is his reply:

"in reply to your letter will say, it was the General supposition with The friends of — That his Death was caused by Diseases of heart if you would like to See The Evidence in The case, Please let me no and I will Sende it to you Hoping This will give Sadesfaction, yours truly."

ABSTRACT OF MORTALITY STATISTICS FOR JUNE, 1908.

Total number of deaths, 2,409; annual rate, 10.7. In the corresponding month last year, 2,504 deaths; rate, 11.8. In the preceding month, 2,694 deaths; annual rate, 11.8. Deaths by important ages were: Under 1 year of age, 334, or 14.7 per cent. of the total; 1-5, 128; 5-10, 44; 10-15, 49; 15-20, 69; 65 and over, 668, or 29.5 per cent. of the total. Some important causes of death were: Consumption, 344, of which 292 were of the pulmonary form; typhoid fever, 27; diphtheria, 9; scarlet fever, 5; measles, 8; whooping cough, 25; pneumonia, 96; diarrhoeal diseases, 102; cerebro-spinal meningitis, 9; influenza, 8; puerperal fever, 13; cancer, 131; violence, 194; smallpox, 3.

SANITARY SECTIONS: THE NORTHERN SANITARY SECTION, population 920,585, reports 767 deaths; rate, 10.1. In the corresponding month last year, 820 deaths; rate, 11.1.

CENTRAL SANITARY SECTION, population 1,087,413, reports 1,049 deaths; rate, 11.7. In the corresponding month last year, 1,048 deaths; rate, 11.6.

SOUTHERN SANITARY SECTION, population 722,146, reports 593 deaths; rate, 10. In the corresponding month last year, 636 deaths; rate, 11.4.

REVIEW OF SECTIONS: Only the Central Section shows a death rate higher than the average for the whole state. This was also true in the preceding month. The other sections show a rate lower than that of the state. The consumption death rate, as usual, is lower in the Northern Section than the average for the state and lower than the rates of the other two sections. It seems this statement might be stereotyped, for it is true every month. The Southern Sanitary Section shows the highest typhoid fever rate, 13.5, which is .9 above that of the state. The highest pneumonia rate occurred in the Central Section. The highest diarrhoeal disease rate occurred in the Southern Section.

CITIES: Total population, 1,048,005, report 1,135 deaths; rate, 13.2. This is 2.5 higher than the death rate for the whole state. In the corresponding month last year the cities reported 1,178 deaths; rate, 13.9. The cities show a higher death rate than the entire state in the following diseases: Pulmon-

ary tuberculosis, typhoid fever, diphtheria, scarlet fever, measles, whooping cough, pneumonia, diarrhoeal diseases, cerebro-spinal meningitis, puerperal fever, cancer, violence and smallpox. The death rates of cities having over 10,000 population were: Indianapolis, 13.3; Evansville, 14.1; Fort Wayne, 13.8; Terre Haute, 11.6; South Bend, 14.2; Anderson, 5.4; East Chicago, 21.1; Elkhart, 9.9; Elwood, 7.9; Hammond, 11.5; Jeffersonville, 12.2; Kokomo, 18.0; Lafayette, 19.3; Laporte, 9.7; Logansport, 16.7; Marion, 9.5; Michigan City, 9.1; Muncie, 13.7; New Albany, 16.4; Peru, 20.8; Richmond, 18.0; Vincennes, 11.3.

SUMMARY OF MORBIDITY AND MORTALITY FOR JUNE, 1908.

The reports for June show a lower death rate (10.7) than in the corresponding month last year (11.3). There was a remarkable decrease in pneumonia deaths, the figures being, respectively, 96 for June, 1908, and 151 for the preceding June. As in the two preceding months, rheumatism was reported as the most prevalent disease. In the corresponding month last year measles was reported as most prevalent. The order of disease prevalence for June is as follows: Rheumatism, diarrhoea, tonsillitis, bronchitis, typhoid fever (enteric), cholera morbus, whooping cough, measles, cholera infantum, inflammation of the bowels, dysentery, intermittent and remittent fever, diphtheria and membranous croup, scarlet fever, smallpox, erysipelas, influenza, pneumonia, pleuritis, chickenpox, puerperal fever, typho-malaria fever, cerebro-spinal meningitis.

SMALLPOX: There were reported 97 cases in 21 counties, with three deaths. The deaths occurred, 1 in Indianapolis, 1 in Jeffersonville and 1 in the county, Carroll county. We are well aware that all cases were not reported to us, for all were not discovered. Probably Carroll county had 100 or more cases. The counties in which the disease may be said to have prevailed in epidemic form were: Carroll, 16 cases, 1 death; Clark, 16 cases. The other counties having the disease were: Allen, 6 cases; Boone, 3; Dearborn, 2; Dekalb, 4; Delaware, 2; Floyd, 1; Fountain, 4; Grant, 6; Jackson, 1; Jefferson, 6; Marion, 13; Newton, 2; Noble, 6; Parke, 1; Porter, 1; Scott, 2; St. Joseph, 6; Vanderburgh, 1; Vigo, 4.

TUBERCULOSIS: Total number of deaths from all forms of tuberculosis were 344. Of this number, 292 were of the pulmonary. In the corresponding month last year, 343 deaths, of which 294 were pulmonary. This month the male deaths numbered 153 and the females 191. Of the males, 31 were in the age period of 18 to 40 and left 62 orphans under 12 years of age. Of the females, 66 were in the same age period and left 132 orphans under 12 years of

age. Total number of orphans made by consumption in one month were 194. Total number of homes invaded, 331. Of the tuberculosis deaths, 37 were over 60 years of age.

PNEUMONIA: The disease was eighteenth in area of prevalence. In the preceding month it was eleventh. Total number of pneumonia deaths was 96. In the corresponding month last year, 151. Of the 96 deaths recorded this month, 56 were males and 40 females. By age periods, the deaths were: Under 5 years, 45; 5-20, 8; 20-40, 6; 40-70, 15; 70 and over, 22.

TYPHOID FEVER: 127 cases reported from 45 counties, with 27 deaths. In the corresponding month last year, 298 cases in 37 counties, with 25 deaths. The disease existed unusually in the following counties: Jefferson, 10 cases; Laporte, 14; St. Joseph, 6.

DIPHTHERIA: 73 cases reported from 24 counties, with 9 deaths. In the corresponding month last year, 102 cases in 25 counties, with 9 deaths. The disease prevailed markedly in the following counties: Marion, 23; Newton, 4; Owen, 3; St. Joseph, 5. Of course all cases of diphtheria were not reported, many not being recognized as more than colds and many diagnosed as tonsillitis, etc.

VIOLENCE: Deaths by violence numbered 194. In the corresponding month last year, 184. Of the deaths by violence, the males numbered 157 and females 37. The murders numbered 8, suicides, 34; accidents, 152. Of the murders, four, all males, were by gunshots; 3 were by cutting or stabbing; 2 of them males and 1 female; 1 female by drowning. Of the suicides, 2 were by drowning, 9 by gunshots, 4 by hanging, 2 by cutting throat, 12 by carbolic acid and 5 by other poisons. Of the accidental deaths, steam railroads caused 25; street cars and interurbans, 5; fracture of skull and other bones, 7; burns and scalds, 9; drowning, 32; gunshots, 4; horses and vehicles, 16; falls, 13; suffocation, 10; accidents of birth, 2; contusions and crushing injuries, 2; sun-strokes, 6; ptomain poisoning, 3; carbolic acid, 2; lightning and electricity, 6; automobiles, 3; tetanus, 3; mining, 3; blood poisoning, 1.

REPORT OF THE DIVISION OF BACTERIOLOGY AND PATHOLOGY OF THE LABORATORY OF HYGIENE FOR THE MONTH OF JUNE, 1908.

BY HELENE KNABE, M. D.

Total number of specimens examined, 522. With the exception of November, 1907, more specimens were examined in June than in any other month of the present year.

The largest number of specimens (308) was spu-

tum. The percentage of cases in which tubercle bacilli could be demonstrated (82) was very small.

Specimens for diphtheria examination, 38; positive, 24.

Blood specimens to be tested for Widal reaction, 77, a good agglutination occurring in 23 cases. Many of these specimens were submitted in order to differentiate between typhoid fever and septic conditions, appendicitis, etc.

The number of blood smears for diagnosis of malaria, 25. In instances the physicians, before preparing the specimens, give large doses of quinine to the patients, with the result that the parasites disappear from the peripheral circulation. Another mistake commonly made, even if no quinine is given, is to prepare the specimens *after* a chill when the spores are very small and have not had time to enter the red corpuscles. If the films are prepared shortly before the paroxysm is due, the result is very satisfactory, because the parasites are large, practically filling the corpuscles. Considerable difficulty in the examination of blood specimens for malaria is caused through carelessness in the preparation of the blood films. Many physicians who are not familiar with laboratory methods, instead of first reading carefully the directions which are supplied with each outfit, simply abstract a drop of blood from the patient's finger, transfer it to a slide or cover glass and then either dry it, without spreading, or drop another cover glass over it, thus making the specimen entirely unfit for staining.

A great deal of annoyance is also caused by the failure of physicians to properly fill out the record cards. Sometimes they even send the specimens without any data regarding the case. When cards are forwarded to the doctor with the request to return them properly filled out, this is either entirely forgotten or weeks may elapse before the request is complied with. This lack of attention to business methods on the part of the physicians makes it almost impossible to keep accurate records. Often specimens are sent without a sufficient amount of postage and the laboratory is compelled to pay the extra postage or return the package to the sender.

The heads of nine dogs and one cat suspected of having rabies were submitted for diagnosis. Negri bodies were found in the brain of the cat and eight dogs, only one proving negative. This animal had shown no symptoms of the disease and was killed because it had bitten a child who had probably teased it. We advised keeping the dog under observation for a few days, but to no avail. The owner of the dog was threatened with prosecution by the parents of the little girl who was bitten and he reluctantly permitted the killing of a fine dog, a procedure which could have been avoided if he had kept the dog muzzled. A number of persons and live stock have been bitten by the rabid animals and some stray dogs

which were also bitten are still at large, certain to transmit the disease to others. Three of these rabid dogs were sent from New Augusta, three from Indianapolis and one each from Lewis Creek and Mooresville. The cat's head was sent from Plainfield. We know of a number of other cases, clinically undoubtedly rabies, but do not always receive the specimens. In many instances the animals are killed and buried without a thought of their being rabid, and when, later, suspicion is aroused, the tissue is too much decomposed to be of value for diagnosis.

Following is a detailed report of the number of and variety of specimens examined:

Sputum	Positive.. 82	Negative.. 226	Total.. 308
Widal Reaction.....	Positive.. 23	Negative.. 54	Total.. 77
Diphtheria.....	Positive.. 24	Negative.. 14	Total.. 38
Malaria.....	Positive.. 0	Negative.. 23	
	Unsatisfactory.....	2	Total.. 25
Pathological Tissue.....		15	Total.. 15
Urethral Discharge—Male.....	Positive.. 4	Negative.. 3	
	Female.....	10	Negative.. 5
			Total.. 22
Discharge from Infant's eyes (Gonorrhoea).....	Positive.. 2	Negative.. 0	Total.. 2
Pus (Abscess).....		5	Total.. 5
Feces—Suspected Tuberculosis.....	Positive.. 9	Negative.. 5	Total.. 5
Stomach Contents.....		1	Total.. 1
Urine—Tuberculosis.....		Negative.. 12	Total.. 12
Pleuritic Fluid—Tuberculosis.....		Negative.. 1	Total.. 1
Milk (Human) Streptococci.....		1	Total.. 1
Dogs' Heads—Hydrophobia.....	Positive.. 8	Negative.. 1	Total.. 9
Cat's Head—Hydrophobia.....	Positive.....	1	Total.. 1
Total.....			522

OUTFITS SENT OUT.

Sputum.....	443
Diphtheria.....	118
Typhoid.....	139
Malaria.....	45
Total.....	743

BIRTHS IN THE STATE IN JUNE

Total	4,446
Males	2,345
Females	2,101
Rate	19.4

WHITES—

Males	2,304
Females	2,061
Total	4,365

COLORED—

Male	41
Females	40
Total	81

TUBERCULOSIS OF DAIRY CATTLE*.

The subject of my remarks, "Tuberculosis of Dairy Cattle," is one of the most important subjects with which you, the men charged with the conservation of the public health in Indiana, are confronted. It is to me a subject of the most intense personal interest.

*Remarks of Dr. H. E. Bruggeman before the Indiana Health Officers' School.

because I recently discovered that my infant boy was drinking the milk from a herd in which 33 1-3 per cent. of the cattle were afflicted with tuberculosis.

Bovine tuberculosis is both the oldest and the most prevalent disease of animals of which we have knowledge. Under one name or another it had been recognized for centuries. In the middle ages it was thought to be identical with syphilis in man, and was, therefore, the subject of severe restrictive legislation.

In 1865 it was demonstrated to be infectious, and when Robert Koch discovered the tubercle bacillus in 1882, the true nature of the disease was recognized; the identity of tuberculosis in man and in cattle was not questioned, and the destruction of animals known to be tubercular was practiced throughout the civilized world. But about 1896 Theobald Smith declared that there were certain morphological differences between the tubercle bacillus of man and that of animals, and in 1901 Koch, before the British Congress on Tuberculosis, declared that the disease was not transmissible from man to cattle, and in all probability, it could not be transmitted from cattle to man. This statement was so radical and of such vast importance, if true, that immediately commissions, which were appointed by several governments, and many private scientists, commenced working to solve the question as to the identity of human and bovine tuberculosis. After seven years of study and experiment, it can now be definitely asserted that people, especially children, can, and do become infected with tuberculosis from cattle. Bacilli of the bovine type have frequently been isolated from human lesions, while Mohler, by passing cultures of bacilli through several cats, was able to change both the morphology and the virulence. It seems safe to conclude that not only are bovine and human tuberculosis intertransmissible, but that the two types of bacilli are simply mutation forms of one specific organism.

With the transmissibility of the disease from animals to man established, and with the knowledge that 10 to 15 per cent. of the dairy cattle in Indiana are tuberculous, this subject assumes stupendous importance from the standpoint of preventative medicine.

Cows afflicted with generalized tuberculosis, or with localized disease of the udder, pass bacilli directly into the milk, but the commonest mode for a tuberculous cow to expel bacilli is in her feces. It has been demonstrated experimentally that tubercle bacilli can pass through the entire alimentary tract of a cow without any loss of virulence, and as cattle do not expectorate but swallow the infectious matter coughed up from the air passages, it is evident how the feces may become loaded with the bacilli. The danger of infecting the milk supply by bacilli-laden feces will be readily appreciated by any one who has ever visited the average dairy farm and seen how the walls and floors of the stables, and even the bodies of the

cows, are plastered with manure. It is apparent that even the milk drawn from healthy cows may be highly infectious if the cows are stabled or pastured with tuberculous animals.

It is not a pleasant thing to hear that the milk delivered for our babies has in all probability been contaminated with cow-dung, but an inspection of the strainers at any ordinary farm will demonstrate the truth of this statement; it is even a less pleasant thing to know that the contaminating manure may have been filled with living virulent tubercle bacilli.

Anderson, working in the hygiene laboratory (P. H. & M. H. S.), found tubercle bacilli virulent for guinea pigs in 11 per cent. of the specimens of marked milk examined, and as all the milk from the dairies could obviously not have been examined, the frequency of the contamination of market milk with tubercle bacilli must be much greater than the figures would seem to indicate. Tubercle bacilli are even of more frequent occurrence in butter than in milk and the bacilli can remain alive and virulent in butter for a period of more than four months.

The question of an infected milk supply becomes of paramount interest when considered in connection with the experiments of many able investigators (Schroeder & Cotton, Calmette, Aufrecht, Nicolas & Descos, Ravenal, Orth, Klebs, and Von Bering), which have shattered the theory that inhalation is the most important means of entry of tubercle bacilli to the body, and have practically proven that ingestion is the chief mode of infection.

There are two methods of detecting tuberculosis in cattle, namely, by a physical examination and with tuberculin. The physical examination is notoriously inadequate and of value only in advanced cases, or when the diseased part is in evidence; while the tuberculin test is a "wonderfully accurate method." Although this test is not absolutely infallible, the number of errors which occur through its use by skilled veterinarians is practically infinitesimal. Schroeder states that "the dangerously tuberculous cow is an animal that may long retain the appearance of health." Of this type of animals which can be recognized as diseased only by the tuberculin test, 40 per cent. or more actively expel tubercle bacilli from their bodies.

I think it must be apparent to all of you that no campaign for the suppression of tuberculosis can be complete which does not include the tuberculin test of dairy cattle, and the elimination of the animals which react; we certainly cannot hope to exterminate a disease while the specific organism is delivered in milk and butter into almost every home in the state. Since spring we have been enforcing in Fort Wayne an ordinance which prohibits the sale of milk "drawn from any cow which has not been shown to be free from tuberculosis by the tuberculin test." We have been surprised at some of the results of the applica-

tion of the test; for example, in one herd which was supposed to be the finest in Allen County, 24 out of 68 cows gave a positive reaction, while in another herd whose general appearance was bad and in which many reactions were expected, not one cow was condemned; in several instances it was claimed by the dairymen that the reacting cows were the "best milkers in the herd," and the physical appearance of the cows seemed to justify the statement.

While we have an abiding faith in the honesty of the average dairyman, we do not consider it good policy to permit him to retain on his farm known tuberculous cows, particularly when many of the cows are in apparently good health and are yielding an abundant flow of milk; we, therefore, insist upon the slaughter of all reacting animals. The cows are killed at abattoirs having U. S. inspectors, and if the disease is localized the dairyman receives the "beef value" of the cows.* So far we have had no legal difficulties; one dairyman who had 74 per cent. of his cows react, refused to consent to their slaughter. He was at once forbidden to sell milk in the city, and Dr. Bitting, state veterinarian, placed the animals in permanent quarantine.

In conclusion, I wish to emphasize the opinion that no municipality is doing its full duty to its inhabitants which does not attempt to check the spread of tuberculosis through the milk supply.

*The Federal regulations concerning the use of flesh of tuberculous animals are as follows:

"Generalized" tuberculosis refers to that form of the disease in which the bacilli have been disseminated through the blood and lymph, and in which a number of organs are affected. "Extensive" tuberculosis refers entirely to the amount of tuberculous matter and the number of tubercles, and may apply to a case which is confined to one of the body cavities.

(1) The carcass may be passed when the lesions are limited to one group of lymphatic glands or one other organ.

(2) The carcass may be passed when the lesions are limited to two groups of visceral lymphatic glands in either the thoracic or the abdominal cavity.

(3) The carcass may be passed when the lesions are limited to two visceral organs (other than lymphatic glands) in the thoracic or the abdominal cavity, provided the lesions are slight, calcified, and encapsulated.

(4) The carcass may be passed when the lesions are limited to one group of visceral lymphatic glands and one other organ in the thoracic or abdominal cavity, provided the lesions in the affected organs are slight.

(5) The carcass may be passed when the lesions are confined to two groups of visceral lymphatic glands and one other organ in the thoracic or the abdominal cavity, provided the lesions are slight, calcified, and encapsulated.

(6) The carcass may be passed when the lesions are confined to the lungs, the cervical lymphatic glands, and one group of the visceral lymphatic glands of the thoracic cavity, provided the affection is slight and the lesions are calcified and encapsulated.

(7) The carcass shall be condemned when well-marked lesions are discovered in both the thoracic and the abdominal cavity.

ANNUAL REPORT FOR LAGRANGE COUNTY, INDIANA, JUNE, 1908.

BY DR. D. W. DRYER, HEALTH OFFICER.

In compliance with your order the following annual report is respectfully submitted:

The county court-house is a three-story stone and brick edifice with slate roof. The basement is cemented throughout, and the halls are laid with marble tiling; the ceilings are in metal in all parts, the side walls being in tinted stucco plastering. The building is fitted throughout with latest sanitary appliances and supplied with city water of best quality. Basement toilet rooms are provided for each sex and are open at all times for convenience of the public. Heating is by steam radiators from furnace and boilers in basement, and electric lighting is used in all parts. Situated in the center of the town of Lagrange, surrounded by a fine park of native trees and well kept lawn, it is the pride of the county.

The county jail, just across the street from the court house, is a two-story stone and white brick structure, also with fine and well-kept lawn and trees. Appears more as a substantial residence property than as a jail. The sanitary fixtures, while not as elaborate as in court-house, are fairly adequate. Fortunately, it is not commonly occupied, except by the sheriff and family.

The county infirmary, one mile out of town, and on a traction line, consists of a main building, two-story brick, substantial and ample; this is the home of the superintendent and family, and of the female inmates. This building is very well equipped with closets and bathroom, and is kept clean and in best order. There are two smaller one-story brick buildings, one, the men's home solely; the other mainly used for special and hospital purposes. These are fitted with inside closets and bathroom, also, but are not in best of condition, at least part of time. Bathing is enforced on inmates, and they are, so far as possible, compelled to keep closets and rooms in order. The water is supplied from an elevated tank, and sewerage is through a covered drain to a covered vault at a distance from buildings, and with good fall.

Inmates, as able, are obliged to assist about house and on the large farm, to their own good. Deaths occurring are nearly always from extreme old age, and the inmates are well provided for.

Dr. David Rogers, a man of mystery and recluse, in 1868 made a bequest by will to the county of 240 acres of land, some six miles from Lagrange. This gift to become an orphans' home. On an 80-acre tract the county has a very good two-story frame building, with barns, etc., and a good well with wind-mill power. The building has cement basement, a large screened porch, with window screens; the rooms are in plain finish, with iron bedsteads and comfort-

able fittings. The children inmates average about a dozen; they have school facilities, are kept employed as adapted, and are well fed and looked after. There is rarely sickness among them, and they know a better home than ever before, almost without exception. The larger tract of land is also utilized by the commissioners, but, owing to the terms of the will, all proceeds must go to the betterment of the lands; this makes it necessary to maintain the home from county revenue. The donor acted with good intent, but the terms are such as to make the beneficence of doubtful value as a money-saving proposition. A simple monument marks the resting place of the giver; the gift will go through the generations.

Of local public buildings it may be briefly said that few district school-houses are any more used in this county. The system of collecting the children and teaching in graded town and village schools prevails generally. The school-houses are all brick structures, kept in good repair. In the main they are heated from basement furnaces, some having inside toilet facilities; the others have separate outside closets, kept in as sanitary state as possible, usually. Lagrange has the only waterworks system, but the other schools are supplied with good well water. The ventilation and lighting of some of these school-houses is not up to latest methods. Inspection of churches and lodge halls was not made. It would be easy to discover some of them not complying with the law as to outward swing of doors, at least.

During June an inspection was made of all the principal slaughter-houses, meat markets, dairies, ice cream factories, etc. There has been marked improvement in conduct of the first during the last year, but one of the largest was yet feeding raw offal to swine. The owners were making improvements to plant at time of visit and positive orders were given them that they must at once install cooking facilities; this they promised and it will be done. The meat markets are generally in cleanly shape, but there is one in a nearby town in villainous shape, disgustingly filthy. The proprietor and owner of the building will either get this plant in sanitary shape or suffer prosecution; such was the order. I think they will comply speedily. The two creameries of the county each have an expert in charge, qualified to make bacteriological and microscopical tests; and their skill has resulted in discovery of tubercular cows and milk which are promptly excluded. In the hauling of milk and cream it has not been the rule to keep the temperature below 50 degrees, as the rule requires. The farmers say they can not do this; certainly not unless the price of the product is advanced so as to likely result in discontinuance of the industry. This is a problem, in country service, which is difficult to solve. The rule has not been enforced. Printed rules for the proper handling of milk, as to cleanliness in milking, sterilizing of cans, etc., are fur-

nished by the management. Am told results are fair, but far from perfect. The small dairymen who furnish milk to the town people are doing about the same, so far as I can discover. All of them state positively that they use no antiseptic or preservative, and invite taking of samples at any time for state test, if desired. Likely this is the best test of their honesty; am inclined to believe them.

Two factories supply nearly all the ice cream consumed by our people. One of these is located just outside the county and not subject to my supervision; it is said to be in a very good condition, although I am told the cows furnishing the milk are not in best of condition. The other factory located within this county is in far from even reasonably sanitary state. The buildings are old and dilapidated, and am told were formerly used, in part at least, as a cow stable. Yards for feeding swine come right up to building on one side; the floors have been cemented in part, but were found sloppy, and the doors and windows are unscreened. The containers seem to be sterilized with live steam, but this was about the only sanitary effort visible. The proprietor is an esteemed citizen, an ex-county commissioner; he has a large trade in his product; but he certainly falls far short of his duty as a source of food supply, of such general use, and especially of warm weather goods. His plant has been referred to the state authorities for action. The location is within a town corporate limits, and the matter was called to the attention of the local health officer.

The pickle factory at Lagrange is conducted in good order. A tomato canning factory, also at Lagrange, formerly used formaldehyde as a preservative, changing to soda benzoate later. Last year the management claim to have used only the permitted spices, etc., truly, I think. Their method will be kept under observation this year.

Hotels and restaurants, partly through the general awakening, and partly through better supplies, a result of the pure food law, are filling conditions—and their guests, in better shape.

The druggists of the county have complied fully as possible in relabeling old stocks as required, some of them having gone to extreme effort therein. Only commendation is due them.

All along the line there is a marked improvement over a year ago. Lagrange county is always willing to be shown; but we feel up to the finest right now.

HYGIENIC ADVANCEMENT DIFFICULT: Colfax, a town at the crossing of the Big Four and the Vandalia, in Clinton county, has a live health officer, who is trying to bring about a hygienic uplift, which always means better business and more happiness. Dr. Lambert found that from almost every point in town he could discern by nose the necessity

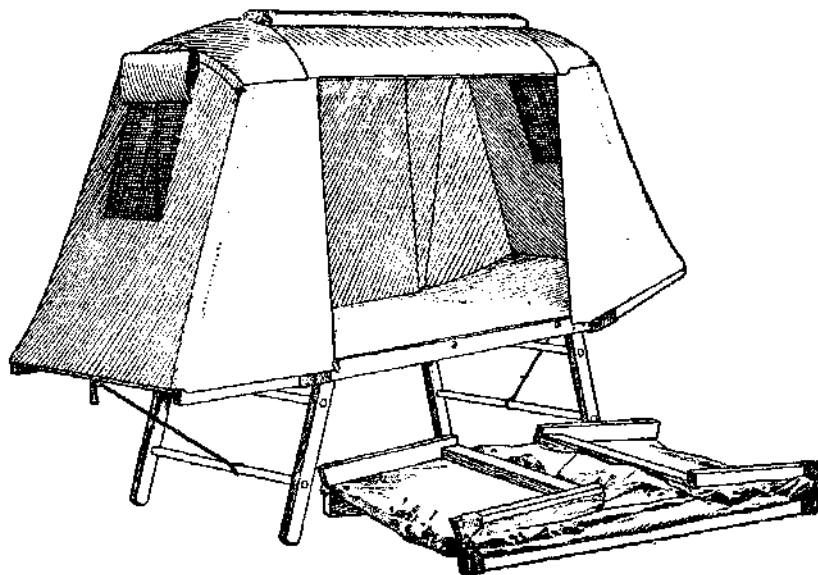
of cleaning and disinfecting vaults. He could discern the necessity of banishing pig pens from the corporation, and it was also plain that dead animals should not be allowed to remain within the corporation above ground until natural methods had disposed of them. He also thought it would be well to prohibit the befouling of the sidewalks by the spitters, and a few other obstructions to business and to progress seemed to him should be abolished. He therefore drew up an ordinance which forbade the keeping of hogs within the corporation, except from November 1 to March 31. The ordinance also prohibited spitting upon the sidewalk, and contained a penalty. Further, the ordinance required that vaults should be cleaned and disinfected upon notice from the health officer, due time being given, and it also forbade the filling up of old vaults and digging of new ones on the same lot, unless by permission of the health officer. Altogether, the ordinance was an excellent one in every respect, making for economy and progress. It was submitted to the county attorney at

“wards the president refused to sign the minutes of the meeting, also the ordinance, stating that he was opposed to the same. The clerk now refuses to change the minutes to suit the president, and the ordinance hangs in the air.”

The circumstances, as they appear in this story, illustrate how hard it is to uplift a community. It has been said that the love of money is the root of all evil. Desire to score a few dollars by keeping hogs seems to prevent the material advancement of Colfax, and the query arises: Is it not passing strange that the business men of Colfax cannot see that stinking privies and hog pens are an injury to business and retard the advancement of the value of property?

ANOTHER HOOSIER SANITARY INVENTION.

From time to time the Bulletin has illustrated and described certain Hoosier sanitary inventions. At this time we picture “The Enterprise Tent-Cot.”



THE ENTERPRISE TENT-COT.

Frankfort, who, after making a few changes, pronounced it all right from the legal standpoint. Dr. Lambert then introduced it to the city council, advising and urging its passage. “Owing to the fact that the town attorney keeps hogs within the corporation he would not approve the ordinance. One of the physicians of the town, who was also a member of the council, kept hogs in a pen on his property. The president of the town board owns an elevator and he keeps and feeds hogs within the corporation. When the ordinance was voted upon, the president withheld his vote, but the other members voted in the affirmative. The town clerk then made his records, showing a unanimous vote, and the president declared the ordinance prevailed. After-

The cut sufficiently explains the idea, but it remains to say: The frame is hard maple, the bottom covered with 10-oz. brown duck and the canopy is made of 8-oz. brown duck. The end windows and side opening are protected by strong mosquito netting and provided with adjustable flaps, which may be raised or lowered by the occupant. Length inside, 6 feet 3 inches; width, 28 inches; height when folded, 3 feet 6 inches; height of bed above ground, 18 inches; from bed to top of canopy, 32 inches. The entire cot, tent part and all, fold together. It takes but a moment to set it up and a moment to fold it.

The Enterprise tent-cot is made by the Enterprise Bed Co., Hammond, Indiana.

DUST.

The well-known naturalist, John Muir, speaks of snow flakes as "those flowers which grow in the meadows of the sky." And Professor Tyndall, in his charming lectures upon "Forms of Water," fully describes the lace-like and exquisite beauty of snow crystals and dwells upon their purity. Those who see snow crystals under the microscope for the first time, or for any number of times, if they have the slightest appreciation of beauty, cry out in admiration of their delicate forms and loveliness. But it is not so with dust. Under the microscope dust is shown to possess not one feature of beauty, except occasionally there is found a minute iridescent flake or grain. Dust appears as formless specks, usually gray, but not infrequently brown or black. It is not attractive, but its composition is interesting and important. What is dust? It is a little of everything. Poetically, but not scientifically speaking, man is made of it. The microscopist and bacteriologist and chemist must tell us what it is. The first finds elements in dust which the second, through his methods, never discovers. To the question, "What is dust?" the chemist would say: "It is mostly composed of mineral matter, such as clay, sand, iron-rust and the like, with a very little organic matter, such as pollen of plants, hair and very minute particles of wood." But the bacteriologist and microscopist—they may here be considered as one—has a very different story to tell. He finds that dust is not simply dead organic and inorganic matter, but invariably contains living organisms.

The minuteness of the spores or seeds of these organisms, which are sometimes of the animal kingdom and sometimes of the vegetable kingdom, is something marvelous. Imagine a microscope capable of magnifying an object two thousand times not being competent to make that object visible to the sharpest eyes. Yet such is the truth. We know dust contains such spores, for if it is planted on a nutrient soil, organisms grow which are visible under high magnification, and these organisms are of infinite kinds and varieties. Most of these organisms are plants, but whether they be plants or animals, they are called microbes, which simply means—*small life*. The microscopical plants are called *bacteria*, and the microscopical animals *protozoa*, but all are microbes. The bacteria and protozoa play as important a part in our lives as the trees and smaller plants, and as the ox and smaller animals. Some plants are good food, but the great majority serve us otherwise than as foods. Some are poisonous and cannot be used except as medicines; some are so bitter they cannot be eaten and others have flavors and tastes which expel

them from the edible list. It is exactly the same with the bacteria. The majority, I will say the vast majority, are harmless; many, very many, are useful, and a few are poisonous.

The poisonous or disease-causing bacteria are our enemies and must be destroyed or avoided. They are very frequently brought to us in dust. Last fall I was riding with a nose and throat specialist, and a cloud of dust blown by the winds of coming winter enveloped us. I shut my eyes and held my breath, and so did he, and when the cloud was passed he said: "That dust is money for me." He meant that some who breathed the dust would be given so-called colds by the cold-causing bacteria it contained and he would be employed to remove with medicines distress proceeding from public uncleanness. Dust is, indeed, an enemy more to be feared than wild animals, or arsenic, or other mineral poisons. Dust injures the eyes as well as the breathing organs, and it may even penetrate the ear and cause trouble of a serious nature. Again, dust gets into our food, and the havoc wrought against one's health cannot be computed. All diarrhoeal diseases, from typhoid fever down, are caused by disease bacteria. And frequently, very frequently, the bacteria are introduced into our bodies through dust.

In view of these facts, we should cease using articles of food which are exposed to dust. Formerly gelatine, coffee, tapioca, starch, raisins, prunes, and numerous other food articles were handled in bulk by grocerymen, and, of course, the longer they were exposed to the air in bulk the dirtier they became. Fly specks (fly excrement), too, covered such exposed articles;—And what disease germs might not be in fly excrement and upon the feet of these nasty insects? The writer was passing a grocery in Indianapolis one day and observed boxes of fresh blackberries exposed for sale. They were slightly gray with dust and swarms of flies were present. On the sidewalk, within six feet of the berries, some poor diseased mortal had spat, perhaps a consumptive. The sputum was circled with flies, and a moment's observation discovered that they flew back and forth, not only between the berries and the sputum, but also between the berries and the gutter filth and street manure. But, most wonderful, people purchased those nasty berries and ate them raw. The druggist nearby was asked if any diarrhoea existed in his neighborhood, and he immediately replied: "A good deal. I put up several diarrhoea prescriptions today and sold several bottles of patent diarrhoea mixtures." Some of the people in that locality will have typhoid fever in the fall and perhaps some will die. Surely, it is plain that all foods should be protected from dust and flies.

CHART SHOWING GEOGRAPHICAL DISTRIBUTION OF DEATHS FROM CERTAIN COMMUNICABLE DISEASES FOR JUNE, 1908.

NORTHERN SANITARY SECTION.

Total population	920,585
Total deaths	787
Death rate per 1,000	10.1
Consumption, rate per 100,000	98.0
Typhoid, rate per 100,000	11.9
Diphtheria, rate per 100,000	2.6
Scarlet fever, rate per 100,000	3.9
Diarrheal diseases, rate per 100,000	37.1

CENTRAL SANITARY SECTION.

Total population	1,087,413
Total deaths	1,049
Death rate per 1,000	11.7
Consumption, rate per 100,000	143.6
Typhoid, rate per 100,000	11.2
Diphtheria, rate per 100,000	5.6
Scarlet fever, rate per 100,000	2.2
Diarrheal diseases, rate per 100,000	30.2

SOUTHERN SANITARY SECTION.

Total population	722,146
Total deaths	593
Death rate per 1,000	10.0
Consumption, rate per 100,000	152.0
Typhoid, rate per 100,000	13.5
Diphtheria, rate per 100,000	1.6
Scarlet fever, rate per 100,0000
Diarrheal diseases, rate per 100,000	79.4

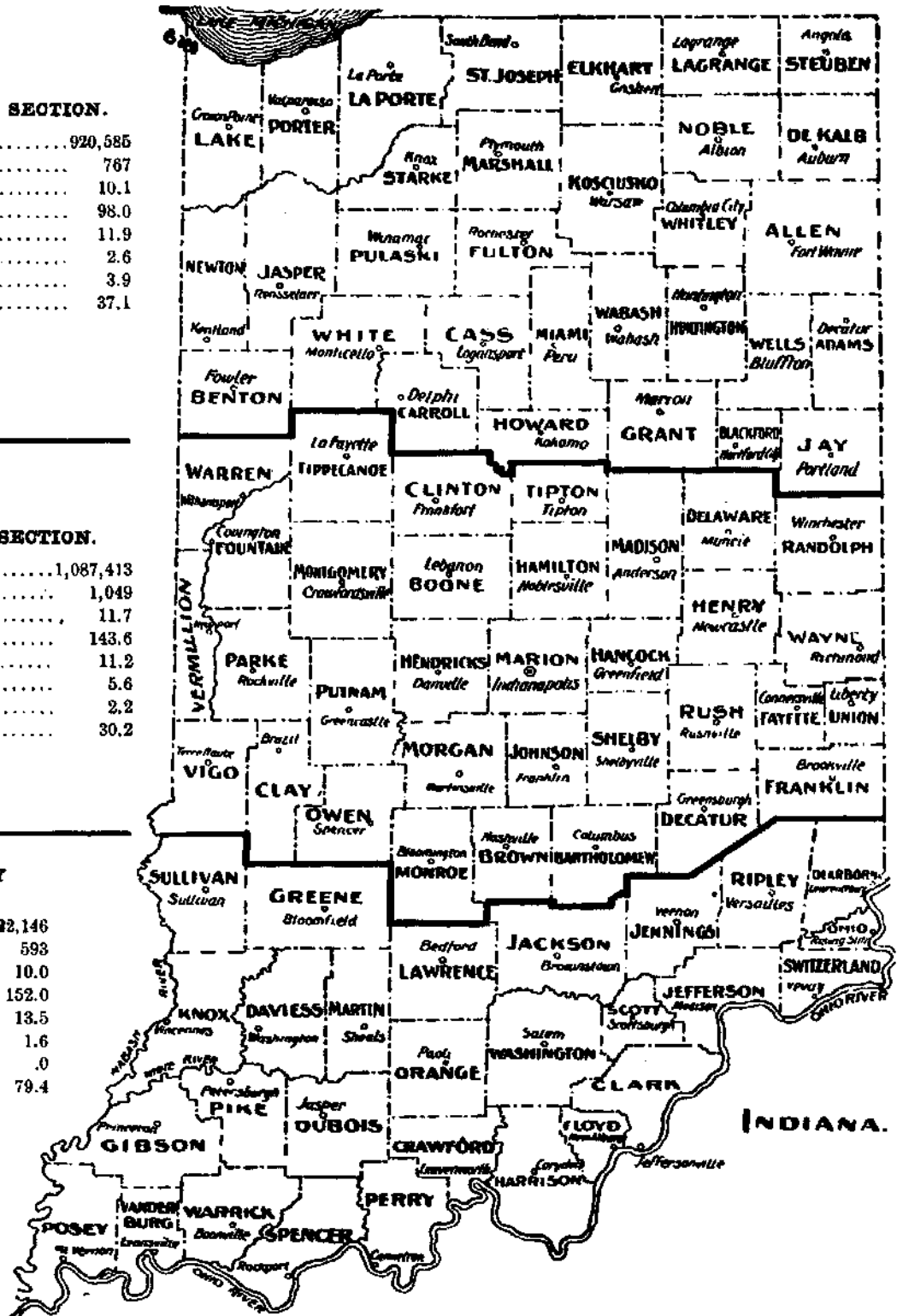


TABLE 2. Deaths in Indiana by Cities During the Month of June, 1908.

CITIES.	Population Estimated at Times School Census, 1908.	Total Deaths Reported for June, 1908.	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.	25 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 Septicemia.	Cancer.	Violence.	Smallpox.	Deaths in Institutions.
					Under 1 Year.	1 to 4, inclusive.	5 to 9, inclusive.	10 to 14, inclusive.	15 to 19, inclusive.	25 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 Septicemia.	Cancer.	Violence.	Smallpox.	Deaths in Institutions.
Cities over 50,000 Population	405,031	444	13.3	30	65	19	7	11	19	82	53	4	3	6	1	7	21	17	1	4	21	45	1	88			
Indianapolis	233,150	256	13.3	16	29	10	6	4	11	43	35	2	2	4		2	13	5	1	1	10	21	1	48			
Evansville	64,442	75	14.1	5	14	6	1	3	3	10	8					4	4	8		1	5	13		17			
Ft. Wayne	56,304	64	13.8	5	8	1	1	2	4	13	6		1			1	1	3		2	4	3		15			
Terre Haute	51,135	49	11.6	4	4	2		2	1	16	4						3	3			4	3		9			
Cities from 25,000 to 50,000 Population	43,589	51	14.2	3	6	2	3	3	11	3	3	1				1	1	3			6	7		14			
South Bend	43,589	51	14.2	3	6	2	3	3	11	3	3	1				1	1	3			6	7		14			
Cities from 10,000 to 25,000 Population	290,545	316	13.2	47	58	19	8	4	16	76	32	10	8	1	2	3	1	10	18	2	1	17	34	1	10		
Anderson	22,505	10	5.4		1	1				5	2	1									1	1					
East Chicago	10,970	19	21.1	1	7	1	2			2	1	1															
Elkhart	17,084	14	9.9		3					6	1											1					
Elwood	13,821	9	7.9		4					4																	
Hammond	19,995	19	11.5		8	2				3		1										1		2			
Jeffersonville	12,000	12	12.2		2					5												1		1			
Kokomo	12,834	19	18.0	1	1	2	2		1	5	5	1	2				1				1	2	1	1			
Lafayette	20,223	32	10.3	2	5	1		1	1	9	4	1	1								1	1		7			
Laporte	10,094	3	9.7		3					2																	
Logansport	16,730	23	16.7	1	3	3			1	7	1						1	1			3	3					
Marietta	24,181	19	9.5	3	2	1			1	5	3										1	3					
Michigan City	20,000	15	9.1		2	1			2	2	2						2		1		2	2					
Muncie	23,118	26	13.7	3	3	3	1		1	5	1	2	1								1	3		1			
New Albany	23,005	31	16.4	4	4	1		1	1	6	4						1	1			3	3		4			
Peru	10,517	18	20.8	1	1	2		1	1	5	2	1								1	2	4					
Richmond	19,602	29	18.0	1	6	1	1	1	1	6	6						1	1			2	4		2			
Vincennes	13,947	13	11.3	1	2	1	1	1	1	3	2						2	1			2	1		1			
Cities from 5,000 to 10,000 Population	174,454	178	12.4	8	28	14	3	3	2	50	19	5	2			1	3	9	11		1	9	13	2			
Alexandria	6,030	4	8.0		1					1	1																
Aurora	5,218	2	4.6							1	1																
Bedford	7,679	10	15.0	1	3	1				3	3																
Bloomington	7,829	10	15.5	1	2	2				3	3						1	1									
Brazil	8,827	8	11.0		3					1	1																
Columbus	7,595	9	14.4		1	1				3	3																
Connersville	6,114	9	17.9		1	1				1	1										1	1					
Crawfordsville	6,492	14	26.3		2					4	3	1					2	1			2	2					
Frankfort	8,645	7	9.8		1	1				1	1																
Goshen	8,711	7	9.8		3					1	1																
Greensburg	5,288	6	13.8							3	3																
Hartford City	5,789	3	4.2							2	2																
Huntington	9,936	9	9.8							1	1																
Linton	6,737	7	12.0		1	2				4	4																
Madison	7,945	10	15.3							4	4																
Mishawaka	9,989	9	10.9		2					1	1																
Mt. Vernon	6,072	3	6.0		2					2	2																
Princeton	6,394	9	17.1		2	2				2	2																
Seymour	5,593	11	23.9		1	1				2	2																
Shelbyville	8,246	4	5.9							4	4																
Valparaiso	5,771	4	8.4							1	1																
Wabash	8,592	6	8.5			1				4	4																
Washington	8,332	14	19.1		3	2				4	4																
Whiting	6,037	5	10.1				1										2	1				2					
Cities under 5,000 Population	134,378	148	13.2	7	14	6	3	3	7	39	19	7	1				3	5	2		1	12	6				
Angola	2,042	2	11.9							1	1																
Attica	2,989	2	8.1							1	1																
Auburn	3,171	1	3.8							1	1																
Bluffton	4,375	3	8.3							1	1																
Butler City	1,547	2	15.7							1	1																
Cannelton	2,033	3	18.0			1				1	1																
Clinton	4,508	2	5.4							2	2																
Columbia City	3,066	10	39.7	1	2					2	2																
Covington	1,974	6	37.0		1					2	2																
Decatur	4,385	3	8.3		1					1	1																
Delphi	1,725	4	28.2							2	2																
Dunkirk	3,874	3	9.4							1	1																
Franklin	3,909	6	18.7							1	1																
Garrett	4,273	3	8.5							1	1																
Gas City	3,465	6	21.1		1					1	1																
Greencastle	3,174	2	7.6							2	2																
Greenfield	4,697	4	10.3							2	2																
Huntingburg	2,838	2	8.5							1	1				</												

Mortality of Indiana for June, 1908.

POPULATION BY GEOGRAPHICAL SECTIONS AND AS URBAN AND RURAL.	Population, Estimated 24 times School Census, 1908.	Total Deaths Reported for June, 1908.	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.....	2,730,144	2,408	10.7	151	334	14.7	128	5.8	44	1.9	49	2.1	69	3.0	888	29.5	292	136.4	52	23.2	27	12.6	8	3.5
Northern Counties.....	920,585	767	10.1	47	113	15.6	38	3.8	16	2.2	13	1.4	21	2.9	324	31.1	74	98.0	12	15.9	9	11.0	2	2.6
Central Counties.....	1,087,413	1,049	11.7	70	112	11.4	52	5.3	14	1.4	23	2.3	29	2.9	303	30.9	128	143.6	30	38.6	10	11.2	3	5.6
Southern Counties.....	722,146	593	10.0	34	109	19.5	48	8.5	14	2.5	13	2.3	19	3.4	141	25.2	90	152.0	10	16.8	8	13.5	1	1.6
All Cities.....	1,048,005	1,135	13.2	65	159	14.8	60	5.9	24	2.3	24	2.3	30	3.5	258	24.1	128	146.6	26	30.2	12	13.8	6	6.8
Over 50,000.....	405,031	444	13.3	30	55	13.2	19	4.6	7	1.7	11	2.6	19	4.6	82	19.8	53	159.6	4	12.0	3	9.0	5	18.0
25,000 to 50,000.....	43,599	51	14.2	3	6	12.5	2	4.1	3	6.2	3	6.2	2	3.3	11	22.9	3	83.9	1	27.5	1	27.5	1	27.5
10,000 to 25,000.....	290,545	316	13.2	17	56	19.7	19	6.3	4	2.6	4	1.3	10	3.3	76	25.4	32	134.3	10	41.5	8	33.5	1	1.6
5,000 to 10,000.....	174,454	178	12.4	8	28	16.4	14	8.2	3	1.7	3	1.7	2	1.1	50	29.4	19	132.3	5	34.4	3	24.4	1	1.6
Under 5,000.....	134,376	146	13.2	7	14	10.0	6	4.3	3	2.1	3	2.1	7	5.0	39	28.0	19	173.5	7	63.9	1	9.0	1	9.0
Country.....	1,639,382	1,274	9.4	86	175	14.7	68	5.7	20	1.6	25	2.1	31	2.6	410	34.5	166	123.5	26	19.3	15	11.1	2	1.4

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 Five.		Cerebro-Spinal Meningitis.		Influenza.		Puerperal Septicemia.		Cancer.		Violence.		Smallpox.	
	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.....	1	.4	5	2.2	8	3.5	25	11.1	86	42.8	102	45.5	9	4.0	6	3.5	13	5.8	131	58.6	184	86.8	3	1.3
Northern Counties.....	1	1.3	3	3.9	3	3.9	6	7.9	33	43.7	28	37.1	2	2.6	2	2.6	6	7.9	51	67.5	70	92.7	1	1.3
Central Counties.....	2	2.2	2	2.2	2	2.2	7	7.8	46	51.6	27	30.2	4	4.4	4	4.4	4	4.4	56	65.0	81	90.8	1	1.1
Southern Counties.....	1	1.1	3	3.4	3	5.0	12	20.2	17	28.7	47	79.4	3	5.0	2	3.3	3	5.0	23	37.1	43	72.6	1	1.6
All Cities.....	1	1.1	3	3.4	6	6.9	12	13.8	44	51.2	54	62.8	5	5.8	1	1.1	7	8.1	64	74.5	105	122.2	2	2.3
Over 50,000.....	1	1.1	1	27.9	1	3.0	7	21.0	21	83.2	17	51.2	1	3.0	4	12.0	21	63.2	45	135.5	45	135.5	1	3.0
25,000 to 50,000.....	1	4.1	2	8.3	3	12.5	1	4.1	10	41.9	18	75.5	2	8.3	1	4.1	5	139.9	7	195.8	7	195.8	1	4.1
10,000 to 25,000.....	1	1.1	1	6.9	3	6.9	3	20.9	9	62.9	11	78.9	2	18.1	1	6.9	9	62.9	13	90.9	13	90.9	1	4.1
5,000 to 10,000.....	1	1.1	1	9.0	2	1.4	13	9.6	3	27.2	5	45.3	2	18.1	1	9.0	12	168.9	6	54.4	6	54.4	1	4.1
Country.....	2	1.4	2	1.4	2	1.4	13	9.6	52	38.6	48	35.7	4	2.9	7	5.2	6	4.4	67	49.8	89	66.2	1	1.6

Meteorological Summary, Indiana Section. Climatological Service, U. S. Weather Bureau, for June, 1908. Furnished by W. T. Blythe, Section Director, Indianapolis, Ind.

SECTIONS.	Mean.	Departure from Normal.	TEMPERATURE.				PRECIPITATION.				CONDITION OF SKY.			Wind.		
			Highest.		Lowest.		In Inches.		Days with .01 inch or more.	Number of Days.						
			Degree.	Date.	Place.	Degree.	Date.	Place.		Average.	Departure from Normal.	Snowfall Un-melted.	Clear.		Partly Cloudy.	Cloudy.
Northern Section.....	69.1	-1.2	98	33	Logansport.....	37	16	Bluffton.....	1.72	-2.14	0	5	19	8	6	S.W.
Central Section.....	70.2	-1.4	96	28	Northfield.....	35	15, 16	Kokomo.....	2.24	-1.68	0	6	14	11	5	S.W.
Southern Section.....	73.1	-0.1	101	23	Vincennes.....	42	16	Salamanca.....	2.05	-2.36	0	6	16	10	4	S.W.
State.....	70.8	-0.9	101	23	Vincennes.....	35	16	Washington, Salamanca.....	2.00	-2.06	0	6	16	10	4	S.W.