Review of Public Health Work in Indiana.

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For the present Indiana health law, and consequently for all the good which may have come from the same, the Indiana Medical Association has all the credit and praise.

The first effort to secure a public health law in Indiana was made by this association in 1855. The effort failed at that time and was not seriously attempted again until 1875. In that year, Dr. Thaddeus M. Stevens, of Indianapolis, made a motion that a Committee on State Board of Health be appointed. The motion prevailed, and to the said committee the following named gentlemen were appointed:

Thaddeus M. Stevens, M. D., Indianapolis; James S. Anthon, M. D., Indianapolis; J. W. Hervey, M. D., Indianapolis; Z. W. Burton, M. D., Mitchell. All of these gentlemen were busy, indeed very busy practitioners.

This committee drafted a bill to establish a State Board of Health, and introduced the same into the Legislature of 1875. It failed to pass. The same committee introduced a similar bill at the next session of 1877. It passed the Senate, and, after certain amendments, passed the House, but the senate failed, for some reason, to concur in the bill so amended.

Until the year 1878, the idea of the formation of a State Board of Health, or the enactment of State laws regarding public hygiene, was too often confounded with efforts to have laws passed regulating the practice of medicine. Seeing the difficulties that would result from such a confusion of subjects, Dr. Stevens introduced the following resolution at the session of the Indiana State Medical Society, 1878:

"Resolved, That a committee of three be appointed to draft a bill for the 'Regulation of the practice of medicine in Indiana, and also to define the duties and privileges of pharmaceutists and druggists within the State, and that such bill shall be put upon the basis of equal recognition of all schools and sects of medicine so far as the examination of candidates for practice and their privileges are concerned, they to have separate boards.' "

A committee was formed in accordance therewith, since which time the two subjects mentioned have been intelligently separated.

At the same meeting of the Society the following resolutions were offered by Dr. Stevens:

"Resolved, That the Committee on State Board of Health as now constituted by this Society, shall be called the State Health Commission, with power to associate with them a competent civil engineer, and that the State Geologist shall be an ex-officio member of such commission. That the duties of such commission shall be to make investigation as to the causes and means

of preventing disease in the State, and that they, at any time they see fit, may petition the Legislature for police power, so that they can enforce such measures as they may deem necessary to the object above mentioned."

"Resolved, That in cases of vacancies occurring in such Board of Commissioners, they shall be filled by the State Society."

The Committee on State Board of Health, composed as above mentioned, and who by the above resolutions were authorized to add to their number, and so form the Indiana State Health Commission, met at the Grand Hotel, Indianapolis, in October, 1878, and organized by electing Lemuel Moss, D.D., of Bloomington, and J. L. Campbell, LL.D., of Crawfordsville, members. E. T. Cox, State Geologist, was also, in accordance with the action of the State Society, a member ex-officio.

The Commission further organized as follows: Wilson Hobbs, M.D., President; Thaddeus M. Stevens, M.D., Secretary; G. W. Burton, M.D., Treasurer; J. L. Campbell, LL.D., Civil Engineer; Lemuel Moss, D.D., J. W. Hervey, M. D., Prof. E. T. Cox, ex-officio member.

Subsequently a bill was drawn up to confer police powers upon the Commission, in accordance with the resolution above mentioned.

During December, 1879, the Commission formed Local or District Health Commissions, consisting of a chairman for each and a member from each county society; the duties of such district commission to be to collect sanitary and vital statistics in their localities, and report the same to the Secretary of the State Health Commission.

At the session of the Indiana State Medical Society, held May, 1880, the following resolution was adopted:

"Resolved, That the Indiana State Medical Society direct each county society in the State to require of each of its members to keep a record of birth and sex of these born, of death and causes of death as occurring in their practice, and a note of any epidemic or endemic diseases in their precincts; also such other facts as they may deem proper in connection with vital and sanitary statistics, and report the same to the local commission as instituted by the State Health Commission so that said local commission can report the same to the State Health Commission for the purpose of making a condensed report to the State Medical Society, and that each county society shall cause to have issued blanks to each of its members, according to a form to be furnished by the State Health Commission, and that the Secretary of this Society notify each county society of this action, etc."

Dr. Stevens, in commenting upon this resolution, said:

"Thus is formed a complete chain from State to Local Health Commissions, and to each physician of the State belonging to organizations over which the parent one, the State Medical Society, has control.

"Only two links in the chain of a perfect working organization are lacking, viz.:

1. Police power conferred upon the State and Local Commission or similar bodies.

2. Means to defray expenses.

"Those two links must be supplied by the Legislature of the State. To this end we hope the Commission, the profession and people in general will work."

In a review of the reports of the Indiana Medical Association may be found many papers upon the subjects of State medicine and hygiene. In 1873, Dr. Sutton, of Aurora, presented a report on "Diseases of Indiana for the Year 1872." He said: "At the meeting in the spring of 1870, it was suggested that some plan should be adopted by which we might have the annual report of facts, showing the health or sickness in the different counties, the prevailing diseases, the season of the year in which different forms of disease most frequently prevailed, etc. To procure such information, committees were appointed at that time in each Congressional District, who were to report to the Society at its next annual meeting. This plan, after being tried two years in succession, not succeeding as well as desired, a committee was appointed at the last meeting (1872) to collect facts and report to a chairman, who was to condense and embody the information received, into one report, to be presented at its meeting of 1873. Dr. Sutton made a report embracing forty-two counties, reviewing the diseases prevalent in the different months and giving the opinions of the various writers from their respective counties concerning their sanitary conditions and sanitary needs."

In the report of 1874, Dr. Washburn, of Logansport, in an article entitled "Medical Legislation," speaks of the necessity of the State collecting accurate vital statistics, and urges that a proper registration law be enacted. In the report of 1875, Dr. Stevens read a paper entitled "State Boards of Health." He said, "We hope this Society will not adjourn without appointing a committee, whose duty it shall be to advocate this step and bring it before the profession and the people." In the report of 1876, we find that the president's address, Dr. Helm, of Peru, was wholly devoted to advocating the passage of a health law establishing a State Board of Health and Registration. He thoroughly presented the subject and made a plea that the Society arouse and do all it could to further the efforts of its committee in this matter. In the report of 1877, Dr. Hervey, of Indianapolis, read an exhaustive paper entitled, "How to Secure Medical Legislation." He therein eloquently urged the passage of a State health law.

In the report of 1878, Dr. L. D. Waterman, the president, devoted his official address to the subject of State medicine. He said in part: "In this State, no enactments to protect the people from unnecessary diseases and epidemics have been passed." He announced this condition to be a disgrace to the State and urged the Association to stronger effort in the matter of health legislation. Dr. Waterman exhaustively reviewed the economics of health control, estimating the value of a human life unnecessarily lost at

one thousand dollars. In the report of 1879, Dr. Stevens read a paper entitled, "Report of Public Hygiene in Indiana." In this paper, Dr. Stevens ably set forth an argument in favor of the supervision of the public health by the State.

In the report of 1880, will be found President Weist's address entitled, "Problems in Relation to the Prevention of Disease." In his address, he said: "While we as physicians, mean to give our chief thoughts to the practical facts of medicine that we may relieve suffering and thus lessen the sum of human sorrow, we will fail in the transport of our whole duty, if we do not recognize that outside of the sick chamber and beyond the limits of hospital wards, lies our highest work—work that has for its object the prevention of disease, not its cure. In this same report of 1880 will be found an article by Dr. Hervey entitled, "Some of the Unsolved Problems of Public Hygiene." In this paper, Dr. Hervey, in his well-known eloquent manner, again made a plea for the legal protection of the people against unnecessary disease and health.

The following year, 1881, Dr. Hervey was the president of the Society, and the subject of his address was "The Advance of Medicine." This meeting of 1881 was unusually rich in articles upon hygiene. Including the address of the president, there were four papers as follows: "Sanitary Progress," Dr. J. W. Crompton; "State Medicine," Dr. Stevens; "Hygiene," Dr. Hervey; "Infectious Diseases," Dr. L. C. Johnson. In this year was passed the first health law of the State of Indiana.

The first annual report of the State Board of Health of Indiana was for the year ending October 31, 1882. The members of the Board were Dr. J. W. Crompton, Evansville, Ind.; Dr. Wm. Lomax, Marion, Ind.; Dr. W. W. Vinnedge, Lafayette, Ind.; Dr. J. M. Partridge, South Bend, Ind.; Dr. Thad. N. Stevens, Indianapolis. Dr. Crompton was the president, and Dr. Stevens the secretary and executive officer. This first report is an exceedingly valuable one. It gives in detail the work of the Board, contains various essays upon sanitary subjects and presents the first official tables of vital statistics for Indiana. The population of the State in 1880, according to United States Statistics, was 1,909,916. The total deaths reported from all causes was 11,398, showing a death rate of 5.96 to each one thousand of population. This fact indicated that certainly less than one-third of the deaths were reported, for surely the death rate could not have been at the time less than 18 to 20 in the thousand. It was therefore apparent that the first effort to collect the vital statistics of Indiana, while not wholly a failure, was far from being a success.

Although all that time, the board put forth most strenuous exertions to secure accurate reports of births, deaths, marriages and contagious diseases, poor success attended their efforts. In the report for 1900 issued by the State Board of Health the number of deaths reported was 15,846. This calculated to an estimated population of 2,500,000, gives a death rate of 6.3 to one thou-

sand of population. We observe here only a very slight improvement in vital statistic reports between the years 1881 and 1896. If we were to go deeper into the analysis of this matter, we would find that, upon the subjects pertaining to vital statistics, it was possible to obtain only about one-third of the real number.

The health law which was passed in 1891, and is but a modification of the law of 1881, says, Section 10, "It shall be the duty of all physicians and accoucheurs in this State, to report to the Secretary of the Board of Health of the town, city or county, in which they may occur, all births and deaths which may occur under their supervision, with a certificate of the cause of death, and such correlative facts as may be required in the blank forms furnished, as provided in this act. When any birth or death may occur, with no physician or accoucheur in attendance, then such birth or death shall be reported by the household where, or under whose observations, such birth or death may occur, with the cause of death, if such be known."

It may seem strange that under this very positive law, so unmistakable in its language, that it was impossible with the most strenous exertions to collect anything like correct vital statistics in the State of Indiana.

A slight effort, however, to collect the vital statistics of the State, disclosed where the trouble lies. In the first place, the State health law made the county commissioners, the councils of cities and the town trustees of towns, boards of health ex-officio. It further required that these boards of health should appoint a secretary, who shall be health officer and serve one year from the first of January next ensuing, the compensation of said health officer to be determined by the appointing authority. It is obvious that an officer whose tenure is but one year can not become proficient in his work. It was found to actually be the case that new health officers enter upon the duties of their office with nothing like a good understanding of what these duties were. It was usual for practitioners desiring this place to bid for it. If the preceding officer has received a compensation of $100.00 per year, numerous applicants would appear who would offer to do it for varying amounts, less than what had been previously paid.

As the appointing power was composed of citizens who had never given a single thought to the subject of hygiene, and who, consequently, did not appreciate its importance, this matter of lowness of bid for the position is a great hindrance. It therefore not infrequently happened that the men who were not actuated by high motives and who were not moved by the forces which make medicine, scientific and honorable, found positions in the health service. Despite however, the demoralizing conditions which were bred by the law, there were in the health service a large number of the noblest practitioners of the State. These were the ones who collected and presented the most accurate and reliable reports. From the other class, it was frequent to hear the argument, when pressed to put forth greater efforts to do good work, that the pay does not warrant them in doing more than they have done.

One great trouble, therefore, in the correct collection of vital statistics, seemed to lie in the tenure of office given to health officers and the method of compensation.

On the part of physicians, when they were reproached for not promptly reporting as the law commanded, the argument was frequently heard that the State has no right to impose a duty upon its citizens without according proper compensation, and therefore the statute is unconstitutional. In reply to this the Attorney-General said: "All physicians hold a special license and are protected by the State, and this would be class legislation if the state were not permitted in turn to impose duties upon the physicians for their privileges." The Attorney-General further said: "We need not inquire whether the provisions of the statute are unjust or not. These matters are for consideration of the legislative department of the government. We may observe that it is difficult to discover any injustice in requiring the medical profession to make known to the work statistics which may promote and are promoting the public health." That the State Society undoubtedly believed that it was the moral and professional duty of the medical profession to make reports of births, deaths and other matters pertaining to vital statistics, was proved by the resolutions which it passed, calling upon its members to voluntarily report.

Disease Prevalence.

Beginning January 1898, the State Board of Health began the collection each month of reports upon disease prevalence. The method adopted was that known as the Michigan method, the same having been in use in that State for over twelve years, and securing to that State most valuable information. One or more observers are selected in each county and the postal card blanks which are sent out, set forth plainly the observer's opinion as to the prevalence of disease for that month in the region under his jurisdiction.

Another advance made in State sanitation at that time was a provision of the State Board whereby physicians might have certain bacteriological and chemical examinations made, without cost. The Legislature appropriated $1,200 as a special sum for the suppression of contagious diseases. It was this sum from which the cost of food analyses, water analyses and bacteriological examinations for the diagnosis of diptheria and consumption was paid. Any physician could invoke the aid of the health authorities in the above way.

Another advance which seemed worth mentioning, is the publication of a Quarterly Health Bulletin. Said Bulletin gave the analysis of the statistics reported for its quarter, also a report of disease prevalence, and any matters which might seem to be of general sanitary interest.

The State Board in 1897 gave the following table during the status of typhoid in Indiana and three other states:

RATE PER TEN THOUSAND DEATHS.

	Mass.	*Ohio.*	*Mich.*	*Ind.*
Typhoid Fever	3.1	5.5	4.1	13.4
Consumption	21.2	20.4	19.4	20.0
Diphtheria	7.8	7.2	8.2	9.8
Scarlet Fever	2.1	1.2	2.2	1.3

"All but Indiana," said the report have put forth extra efforts to prevent typhoid fever and diptheria, and not until very lately have unusual exertions been made in any of the States to control and suppress consumption. The efforts made in all the States named, to suppress and control diphtheria and scarlet fever, are of the same character, viz., quarantine and its attendant precautions. The introduction of diphtheria anti-toxin has certainly lessened the mortality from diphtheria, and it is probably that to this agent we must look for still further improvement. From the table it will be observed that Massachusetts, Ohio and Michigan have worked hard, with a good measure of success, to suppress typhoid fever. The rate per ten thousand deaths, from typhoid in Massachusetts, is 3.1; in Ohio, 5.5; in Michigan, 4.1; while in Indiana it is 13.4. What a serious comment this is upon our State. Why should Indiana permit ten people to die, where Massachusetts saves them, disease and death are not a source of wealth and power and we can ill afford to permit this fearful destruction to continue. It is a reflection, too, upon the morals of the State, for typhoid fever, like sin, is a reproach to any community. One thousand, four hundred and eighteen deaths were reported from this disease in 1897, and as shown above, this can not be more than one-third of the real number. We must, therefore, estimate the deaths from this preventable disease to have been in the neighborhood of four thousand. This means at the very least twenty to twenty-five thousand cases. What a fearful waste of life and what an awful subordination of liberty and loss of happiness. Prodigious indeed is the responsibility of the medical profession in this matter.

The cure of the trouble lies first, in disposing of the wastes of life by proper sanitary methods, and second, in securing to every home, pure drinking water. In Indiana, as in other States, typhoid seems to be a rural disease. That is, if we count with what is truly rural our small towns and hamlets. Well drained cities, possessing good water supplies, always have low typhoid rates."

It seems fair to account in the following way for the prevalence of typhoid and bowel disorders on the farm: A man buys a farm. A site for his house is selected almost entirely from the standpoint of convenience, health not materially entering into the calculation. Water is supplied by digging a hole into the ground or driving down an iron pipe. The position of the well is in the rear of the house and if the surface contour permits, is frequently placed below the level of the house in order to save digging or driving so deep as

would be necessary on higher ground. The next step is to establish, not too far from the house and well, a privy and its vault or perhaps a cheap privy standing flat on the ground. The stable and barn are erected nearby, instead of being placed at a distance. Living at this place now begins. All goes well for a few years. It is not long, however, until there is more or less complaint of summer nausea and diarrhea. Indigestion, too, appears, despite the farmers outdoor life and ample food. The doctor is called, tonics and digestives are given and temporary relief is secured. If warned concerning drainage and water supply and if the warning is heeded, the cause of the illness is removed and health improved. Otherwise the next summer finds matters not improved, probably worse. Finally typhoid having been bidden, obeys the call. The susceptible have the disease and the weak are borne to their last resting places. A measure of immunity is secured by those who survive, and those who did not have the disease were probably immune. Had the well been driven in the front yard, had an earth closet been built and sanitarily conducted, had the family properly cared for their garbage and household slops, had the barn been built at a good distance from the house, had the house been well above the ground with a dry, clean cellar beneath, typhoid would not have found there a congenial soil."

Realizing the importance of hygiene, and the growing demand for experts trained in matters pertaining to the public health, Purdue University, in 1895, established a Department of Sanitary Science. Aside from the required general subjects the junior students attending the University are offered courses in technical chemistry, microscopic technique, and biology of water supplies, with an elective in chemistry or biology. The seniors are given organic and physiological chemistry, bacteriology and a general course of lectures in sanitary subjects, such as the germ theory of disease and its practical applications, vaccination and immunity, the pollution and purification of water supplies, methods of sewage disposal, theory and the practice of sand and mechanical filtration of sewage and water, etc. These senior studies are required as well in the pre-medical course, which was also established in 1895.

The first year (1895-96) bacteriology was taken by eight students, six being regular seniors from the science, pre-medical and agricultural courses, and two graduate students who were taking special work in sanitary science. The second year the number was six, one graduating from the regular sanitary science course, the others being science and pre-medical.

In 1896, the Sanitary Science Department of Purdue issued five bulletins relating to the Public Health:

No. 1. The Nature of Sanitary Science and Its Value to the State.

No. 2. Some Sanitary Aspects of Milk Supplies and Dairying.

No. 3. On the Purifications of Water Supplies of Cities and Towns.

No. 4. Typhoid Fever in Indiana and Its Possible Connection with the Water Supplies.

No. 5. Sewage Disposal of Cities and Towns.

The Health Laws of Indiana.

The first health law passed in 1881 and already referred to, was amended in 1891 and made less effective for the amendment modified the clause commanding the reporting of infectious diseases, deaths and births, so that it had little force. In 1909 the original health law was again amended and made better, indeed very much better in many respects. Through amendment, the vital statistics part was left out entirely and an entirely new vital statistics law written and passed, however, the said vital statistics law was not passed until 1913.

In 1903 the quarantine law was passed. This law was written principally by an attorney, who was a member of the legislature, and who had had small pox. He felt aggrieved at the way he had been treated under the health law and therefore was interested in what he termed "A Sensible Quarantine Law."

The law referring to public nuisances defining such and setting forth how they should be abolished was passed in 1914. The Sanitary School House law, a most excellent statute requiring that all school houses built after its passage should be sanitary was passed in 1911. The Medical School Inspection law which gave to school authorities the power and right to institute medical inspection of school children was passed in 1911. In this same year (1911) the law intended to prevent blindness among infants, which was called ophthalmia neonatorum was passed. So called Hydrophobia law which diverted part of the dog tax for Pasteur treatment was passed in 1911. The Sterilization law was passed in 1907, as also was the Anti-toxin law. The Sterilization law provides for the sterilization of confirmed criminals, idiots, rapists and imbeciles. The Anti-toxin law as its name implies provided for the free distribution of anti-toxin among the poor. The Anti-Rat law intended to lessen the number of rats, both for economic and public health reasons, was passed in 1913. This same year (1913) the Public Water Supply law was passed. Also the Public Playgrounds law. In 1915 the legislature enacted the present Anti-Tuberculosis law. This law was written by a man who called himself a wall-paper cleaner and was passed without difficulty through the legislature after a wise comprehensive bill prepared by the State Board of Health and the State Anti-Tuberculosis Society had been almost insultingly "turned down." There is very little in this law that deserves commendation. The Drug Sample law was passed in 1907. Its intent being to prevent the free distribution of drug samples, which so frequently resulted in the poisoning of children. Children ate the sugar coated samples, thinking they were candy. The Pure Food Drug law was first enacted in 1899. The State Board of Health first presented the law in 1897, when it was rejected, almost unanimously by the legislature. The first pure food law had no provisions for enforcement and it was not until 1905 that a Laboratory of Hygiene was given to the State Board of Health for the enforcement of the Pure Food Law and also for making Bacteriological Pathological examinations and studies in the interest of the public health. In 1907, the Pure Food

law was revised and greatly strengthened. The Sanitary Food Law was passed in 1909. This law prescribes the sanitary conditions which must exist in all food producing establishments and makes unlawful the employment of diseased employees. The Renovated Butter law which required the labeling of "Renovated" or "Process" butter, was passed in 1911. The Cold Storage law regulating the cold storage of foods was passed in 1911. The Clean Milk Can law was passed in 1913. This law commands the thorough cleansing of milk cans and milk bottles and prescribes a penalty of not less than $10.00 or more than $50.00 against any milk handler who does not keep his receptacles clean.

Syllabus of Health Statutes.

Indiana Health Law passed in 1881, amended in 1891 and again amended in 1909.

Quarantine Law passed in 1903.

Sterilization Law passed in 1907.

Anti-toxin Law passed in 1907.

Drug Sample Law passed in 1907.

Pure Food and Drug Law passed in 1907, amended in 1911.

Law Governing Sanitation of Food Producing Establishments passed in 1909.

Prevention of Infant Blindness Law passed in 1911.

Hydrophobia Law passed in 1911.

Renovated Butter Law passed in 1911.

Cold Storage Law passed in 1911.

Vital Statistics Law passed in 1913.

Sanitary Schoolhouse Law passed in 1913.

Medical School Inspection Law passed in 1913.

Anti-Rat Law passed in 1913.

Public Water Supply Law passed in 1913.

Weights and Measures Law passed in 1913.

Clean Milk Can Law passed in 1913.

Public Playgrounds Law passed in 1913.

Establishment of Sanitary Districts, passed in 1913.

Housing Law passed in 1913.

County Hospital Law passed in 1913.

Sanitary Mattress Law passed in 1913.

Fertilizer Reduction Plant Law passed in 1913.

Mausoleum Law passed in 1913.

False Advertisement Law passed in 1913.

Cigarette Law passed in 1913.

Transportation of School Pupils Law passed in 1913.

Schoolhouse Civic and Recreation Center Law passed in 1913.

Child Neglect Law passed in 1913, amended in 1915.
Anti-Tuberculosis Law passed in 1915.
Full Sized Sheet Law passed in 1915.
Drainage, Sanitary and Reclaiming District Law passed in 1915.
Sanitary Packing and Shipping of Rags and Paper Stock, passed in 1915.
Cutting Weeds Along Public Highways passed in 1915.