



WALTER WYMAN

Surgeon-General, Public Health and Marine Hospital Service
Washington, D. C.

FIFTEENTH BIENNIAL REPORT

OF THE

STATE BOARD OF HEALTH

OF THE

STATE OF IOWA

FOR THE

Fiscal Period Ending June 30, 1910

PRINTED BY ORDER OF THE GENERAL ASSEMBLY

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LETTER OF TRANSMITTAL.

STATE OF IOWA,
OFFICE OF SECRETARY STATE BOARD OF HEALTH.
Des Moines, Iowa, August 31, 1910.

To His Excellency, BERYL F. CARROLL, Governor of Iowa:

SIR:—In accordance with the provisions of Section 2565 of the Code, I have the honor to present the Fifteenth Biennial Report of the State Board of Health for the period commencing July 1, 1908, and ending June 30, 1910.

Very respectfully yours,

GUILFORD H. SUMNER, M. D., *Secretary.*

MEMBERS OF THE STATE BOARD OF HEALTH, JUNE 30, 1910.

HON. H. W. BYERS, Attorney General, Ex-Officio, Des Moines.
PAUL O. KOTO, State Veterinarian, Ex-Officio, Des Moines.
LAFAYETTE HIGGINS, Civil Engineer, Des Moines.

PHYSICIANS.

ALFRED P. HANCHETT, (H) Council Bluffs, Term expires January 31, 1911.
ALBERT C. MOERKE, (E) Burlington, Term expires January 31, 1912.
BERT L. EIKER, (R) Leon, Term expires January 31, 1913.
GEORGE E. DECKER, (R) Davenport, Term expires January 31, 1914.
ALBERT DE BEY, (R) Orange City, Term expires January 31, 1915.
T. U. MCMANUS, (R) Waterloo, Term expires January 31, 1916.
E. E. RICHARDSON, (H) Webster City, Term expires January 31, 1917.

OFFICERS OF THE BOARD.

A. P. HANCHETT, President.
GUILFORD H. SUMNER, Secretary.
HENRY ALBERT, Director of the Bacteriological Laboratory.
CHARLES N. KINNEY, Chemist.

PUBLIC HEALTH DISTRICTS.

DISTRICT No. 1.—Allamakee, Butler, Bremer, Black Hawk, Buchanan, Chickasaw, Clayton, Delaware, Fayette, Floyd, Grundy, Howard, Mitchell and Winneshiek. Represented by Dr. T. U. McManus, Waterloo.

DISTRICT No. 2.—Benton, Cedar, Clinton, Dubuque, Iowa, Jones, Jackson, Johnson, Linn, Muscatine and Scott. Represented by Dr. Geo. E. Decker, Davenport.

DISTRICT No. 3.—Appanoose, Davis, Des Moines, Henry, Jefferson, Keokuk, Louisa, Lee, Mahaska, Monroe, Wapello, Washington and Van Buren. Represented by Dr. A. C. Moerke, Burlington.

DISTRICT No. 4.—Cerro Gordo, Calhoun, Emmet, Franklin, Hancock, Humboldt, Hamilton, Hardin, Kossuth, Palo Alto, Pocahontas, Webster, Winnebago, Worth and Wright. Represented by Dr. E. E. Richardson, Webster City.

DISTRICT No. 5.—Buena Vista, Cherokee, Clay, Dickinson, Ida, Lyon, Osceola, O'Brien, Plymouth, Sioux, Sac and Woodbury. Represented by Dr. Albert de Bey, Orange City.

DISTRICT No. 6.—Audubon, Adair, Cass, Crawford, Carroll, Greene, Guthrie, Harrison, Monona, Pottawattamie and Shelby. Represented by Dr. A. P. Hanchett, Council Bluffs.

DISTRICT No. 7.—Boone, Dallas, Jasper, Marshall, Madison, Marion, Polk, Story, Tama, Poweshiek and Warren. Not represented.

DISTRICT No. 8.—Adams, Clark, Decatur, Fremont, Lucas, Mills, Montgomery, Page, Ringgold, Taylor, Union and Wayne. Represented by Dr. B. L. Elker, Leon.

When vacancies occur in the State Board of Health it shall be the duty of the Governor to appoint to membership on the Board physicians residing in the various health districts until seven such districts are represented on the Board. After which time the annual appointment shall be made from the physicians residing in the district not represented on the Board the preceding year.—*The Code.*

At the beginning of the biennial period Dr. J. H. Sams, of Clarion, and Dr. A. M. Linn, of Des Moines, were members of the Board of Health. The former retired by the expiration of term, January 31, 1909, and the latter January 31, 1910. Each held the office of President during his senior year of membership.

PREFACE.

By provisions of the Code, Section 2565, it is the duty of the Secretary of the State Board of Health to place before the Governor, biennially, a report of the Board, which shall include "So much of its proceedings, such information concerning Vital Statistics, such knowledge respecting diseases, and such instructions upon the subject of hygiene as may be thought useful for dissemination among the people, with such suggestions as to further legislation as may be thought advisable."

In preparing this, the Fifteenth Biennial Report, I must state that I have been in the position of Secretary only during the last six months of this Biennial Period, hence any discrepancies that may appear will be due, in a large measure, to the fact that there has been an unusual amount of work in the Secretary's office, which has been so pressing as to occupy not only the attention of the Secretary, but the members of the State Board and the attention of the entire people of the State.

The epidemic of infantile paralysis has been the most serious sorrow which has ever befallen any commonwealth, and the Iowa State Board of Health has shown its efficiency in coping with this sad but mysterious visitor which has caused such grief among the people of Iowa.

The Secretary has deemed it advisable at this time to render as complete and full report as possible of all the receipts and expenditures of each department under the immediate jurisdiction of the Board. A detailed statement has also been filed with the Executive Council and will appear in the published report of that body. A careful perusal of these reports, together with the summary, is essential to an intelligent conception of the work of the State Board of Health.

It seems fittingly proper that a limited number of essential topics be treated in this Biennial Report, and in such a manner that the people of the State may comprehend the importance of making the Health Department of Iowa equal to any and surpassed by none. By examining the table of contents, a complete conception may be had

of the more important problems which are confronting the Board of Health; and it is to be hoped that nothing in these lines will be construed in such a manner as to indicate that the Board has any other motive than to advance all the public health interests of the people, not only of Iowa but of the nation.

Let the few recommendations herein embodied be carefully considered by the public in general, and especially by its representatives in the Thirty-fourth General Assembly.

The Iowa State Board of Health is the custodian of the public health of the State, and as such, is given "general supervision over the interests of health and life of the citizens of the State," and is required by statute to "make such rules and regulations as it may find necessary for the preservation of the public health;" therefore it is but reasonable to expect that the public will interest itself in matters which relate to its own general welfare.

Much has been done all along the line for other State interests and institutions, upon the recommendations of those in charge; and, now comes the Iowa State Board of Health with its past experience, and from these, the Board is in a position to judge and estimate the present and future necessities, but it rests with the people and the Legislature to listen to these men, who constitute this Board of Health, and to determine whether or not the facilities shall be provided to promptly and successfully carry out the recommendations.

A few but important articles have been selected and inserted in this Biennial Report upon various scientific subjects, having been prepared, or selected, on account of their special importance. The subjects treated have been simplified as much as possible and are of vital interest to every citizen of the State, and, if carefully read, should prove of great value to all.

GUILFORD H. SUMNER, M. D., Secretary.

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THE NEEDS OF THE STATE.

It has been well said that to prevent disease is like increasing your storehouse of wealth, in other words, it is practical economy worked out in a practical way. In viewing this subject one is asked what is life without health, and what is any community worth whose conditions are such that its inhabitants are not well and able to produce their sustenance, for to be a consumer and not a producer is to become a public charge; and any State that expends money in order that its inhabitants may be kept well and prosperous produces conditions that increase longevity, happiness and prosperity.

It is hardly necessary to build up imaginary conditions to portray to an intelligent people, like those in our State, that Iowa is now in a condition to go forward rapidly in public health work. To go backward is folly and extremely non-progressive, therefore we must go forward or else become oblivious to our own personal needs.

The last General Assembly appropriated the sum of \$5,000 for public health purposes. This amount was to be sufficient to carry out all public health measures for over two millions of people, thus making an appropriation of one-fifth of a cent for each person. If a family was composed of five persons, then the appropriation for this family for all public health purposes would be one cent. It should be remembered also in this connection that the Secretary's salary must be paid from this \$5,000 appropriation.

In addition to this appropriation the sum of \$900 annually is appropriated for one Extra Clerk to the Board of Health. This amount has been insufficient to carry on the work. If we should tabulate this so that a picture of the expenditures could be seen, it would appear thus:

Secretary's salary	\$1,200.00
One clerk	900.00
Stationery, printing and binding.....	98.17
	<hr/>
Total.....	\$3,098.17

This leaves \$1,901.83 for all other expenses of the Board, including postage, office supplies and members' expenses. It must be remembered that at least two-thirds of the expenses of publishing the Iowa Health Bulletin have been paid from fees received from the Board of Medical Examiners, and Embalmers' and Nurses' Departments; but the future of these fees from these departments cannot warrant a reliance for support for such expenses. The members of the Board receive no compensation for their services in connection with the Board of Health, and are allowed only actual traveling expenses incurred in going to and from the meetings.

If one could take the time to study carefully the laws relating to the State Board of Health, an idea or partial understanding could be obtained concerning the numerous duties and responsibilities which devolve upon this Board. It is almost impossible for anyone outside of those immediately responsible for the discharge of the duties of the Board to comprehend the wide field and varied detail of the work or its vast importance to the people of the State.

It is earnestly desired that the Thirty-fourth General Assembly look into the work to be done by the State Board of Health and make such suitable provision as seems best to protect the people from the ravages of disease and death. Presumption has it that the Board is provided with ample means to perform all the duties incumbent upon it, but the numerous demands for advice, investigations, and many other services required by the public cannot receive the attention they deserve owing to the lack of funds and proper support.

By the strictest economy, and leaving undone many important things that should have been done during the biennial period just passed, the Board has the following favorable summary to present:

CLASSIFIED SUMMARY.

	Aggregate expenses	Fees collected	Appropriations
Board of Health	\$ 12,992.81	\$ 15.00	\$ 10,000.00
Extra clerk hire			1,800.00
Nurses' department	1,958.14	1,510.00	
Embalmers' department	2,850.99	3,012.00	
Optometry department	2,741.06	7,635.00	
Bacteriological laboratory	11,830.11		12,000.00
Vital statistics	4,055.08		4,000.00
Board of medical examiners	8,664.57	11,551.36	
Itinerant physicians' fees		3,250.00	
Totals	\$ 45,087.76	\$ 26,973.36	\$ 27,800.00

Aggregate receipts:	
Fees collected	\$26,973.36
Appropriations	27,800.00
Total	\$54,773.36
Aggregate expenses	45,087.76
Surplus	\$ 9,685.60
Special appropriation for publishing Rules and Regulations	\$ 500.00
Total expenditure for same	493.87
Balance charged off June 30, 1910	\$ 6.13

Note.—Attention is hereby called to the general condition of the various accounts, recording the transactions in all the departments connected with the State Board of Health office. The statement exhibits the final results at the close of each year of the biennial period, 1908-1909 and 1909-1910.

Department	Condition of Account	Year	Source of Income
Board of Health.....	Balance chg. off.... \$ 1.17	1908-09	\$5,000 Annual Appropriation.
Board of Health.....	Balance chg. off.... 301.55	1909-10	\$5,000 Annual Appropriation.
Embalmers' Dept.....	Balance chg. off.... .87	1908-09	Fees.
Embalmers' Dept.....	Balance chg. off.... 146.73	1909-10	Fees.
Nurses' Dept.....	Balance on hand.... 1,355.89	1908-09	Fees.
Nurses' Dept.....	Balance chg. off.... 1,350.99	1909-10	Fees.
Board of Med. Ex.....	Balance chg. off.... 47.13	1908-09	Fees.
Board of Med. Ex.....	Balance chg. off.... 1,138.97	1909-10	Fees.
Vital Statistics.....	Balance chg. off.....	1908-09	\$2,000 Annual Appropriation.
Vital Statistics.....	Overdrawn	75.08 1909-10	\$2,000 Annual Appropriation.
Bac. Laboratory.....	Overdrawn	21.66 1908-09	\$5,000 Annual Appropriation.
Bac. Laboratory.....	Balance chg. off.... 87.24	1909-10	\$5,000 Annual Appropriation.
Bd. Optometry Ex.....	Balance chg. off.... 3,714.53	1909-10	Fees.

The above figures show the condition of these accounts as taken from the State Auditor's and State Treasurer's books.

By the strictest economy and the very best management possible, the Board has put forth every effort to keep its expenditures within the appropriation; but, to accomplish this, the few clerks have been overworked, the Secretary and his assistants have had to work overtime, and the usefulness and efficiency of the Board have necessarily been limited. At no time since the present Secretary has assumed charge of his office has there been help enough to do the work required, in the arduous duties to be performed in the office of the State Board of Health.

We have been informed that the Legislature seriously objects to the Board expending money beyond the amount appropriated, and the Secretary is firmly convinced that the State has had to suffer for lack of attention in public health work, because of the lack of funds to carry on the work, as is so successfully done in most of the neighboring States; and, as the continually increasing duties and responsibilities placed upon the State Board of Health ought not to be disregarded and cannot be discharged with the insufficient funds and office force at its disposal, it is evident that the State and its people must suffer very materially in the future unless ample provision is made by the coming Legislature.

It will be noted in the statement made above that the State Auditor annually charges off all surpluses in all the various accounts kept for the State Board of Health. This is according to law and is perfectly right in so far as the appropriations are concerned; *but it is all wrong to charge off surpluses in the Fee Accounts.* The departments supported by fees should be allowed to use all the fees collected; for, when the fiscal year ends and the fees are charged off, the departments are left without funds, or any recourse whatever, to carry on their business, hence these departments are made to suffer and their business has to be left undone for lack of funds.

It will be observed that the Nurses' Department had on hand July 1, 1910, \$1,350.96. This money was paid in by the nurses and was charged off, though the law does not so state that this shall be done. This procedure of taking these funds away leaves the Nurses' Department without any means to carry on the business of the department; and what is to be said along this line for the Nurses' Department is equally true in regard to all the departments supported by fees. It will be noted that the sum of \$1,138.97 was charged off in the Medical Examiners' Department, thus leaving this department without funds on July 1, 1910, the end of the fiscal year, and, because of this, many bills had to be held without payment waiting for more fees to be collected.

Again it should be noted that the Optometry Board of Examiners suffered a like result, when at the end of the fiscal year, the sum of \$3,714.53 was charged off, and the Department of Optometry has been without funds since July 1, 1910, with which to conduct the business of its department. This has handicapped the work in all these departments, and has caused a great amount of worry to the Secretary, because of the demands made upon the office for work to be done and which had to be omitted for the reason that no funds

were available to carry on the work, and criticism has been unjustly made against the Board because the work could not be done.

The coming General Assembly should remand all these fees to the departments from which they have been taken, and hereafter these departments which are supported by fees should be allowed to use all the fees collected. If this method seems not best, then the General Assembly should make a sufficient appropriation for this work, and require all fees to be turned into the State Treasury.

In concluding this unpleasant condition, it is to be hoped that it will not be taken by members of the Legislature as a criticism, but will be taken in the kindly spirit in which it is sent, and with the hope that proper legislation will be enacted, so that all the work of the Board may in the future progress prosperously and successfully as in our neighboring States.

Because of the extra work and the great demands made upon the Iowa State Board of Health, the Secretary and assistants have had more work than could possibly be done by the force now employed. The \$900 annually for extra clerk hire has not been sufficient, and the State Board of Health office will be without funds with which to pay two clerks now employed after January 1, 1911, and it is requested that the General Assembly make available at once an appropriation of \$900 with which to pay two clerks now employed. We have not enough help at the present time, and if no funds are immediately provided with which to pay the two clerks now employed, the work of the State Board of Health will be made to suffer still more, and the general work of public health must be left undone.

A bill should be immediately introduced providing for an appropriation of \$900, and made available at once in order that relief may be had and the work of the State Board of Health be permitted to progress. This matter was all brought to the attention of Governor Carroll and the members of the Executive Council early in June and July, but no arrangement could be legally made for paying clerk hire, because of the charging off of the amounts mentioned heretofore. The Secretary urges that relief may be forthcoming, for the exigencies of the office demand that immediate action be taken.

The Secretary begs to submit to the General Assembly, in view of the facts set forth as herein stated, the following statement of necessary appropriations for annual expenses essential to economically and properly perform the duties of the State Board of Health and allied departments:

	Amount Necessary.
<i>Board of Health Department.</i>	
One assistant to Secretary.....	\$ 1,200.00
One clerk and stenographer.....	900.00
One record and filing clerk.....	900.00
For expenses incident to publishing the Bulletin and Instructive Information	1,800.00
Postage	600.00
Printing, stationery and office supplies.....	1,600.00
Members' traveling and incidental expenses.....	2,500.00
Contingent expenses, including extra clerk hire, investigations, sanitary educational matters and other incidental expenses..	2,500.00

Total for Board of Health.....\$12,000.00

N. B. The above estimate does not include or make any provision for the Secretary's salary.

	Amount Necessary.
<i>Embalmers' and Nurses' Departments.</i>	
One clerk and stenographer.....	\$ 900.00
Salary, printing, stationery, postage, office supplies, members' expenses and other incidental and contingent expenses to be paid from fees collected for these departments.	

	Amount Necessary.
<i>Medical and Optometry Examiners' Departments.</i>	
One clerk and stenographer.....	\$ 900.00
Salary, printing, stationery, postage, office supplies, members' expenses and other incidental and contingent expenses to be paid from fees collected for these departments.	

	Amount Necessary.
<i>Vital Statistics Department.</i>	
One assistant to Registrar.....	\$ 1,200.00
One clerk and stenographer.....	900.00
Printing, stationery, postage, office supplies and other incidental and contingent expenses, including extra clerk hire...	1,900.00

Total for Vital Statistics Department.....\$ 4,000.00

N. B. It is recommended that a law be enacted providing for a fee of fifty cents (\$.50) to be paid to the State for each certified copy of death certificate issued by the Department of Vital Statistics, to persons requesting the same. All such fees so collected shall be turned into the State Treasury as are other fees of a like character, and placed to the credit of Vital Statistics, but in no sense to be used except as may be provided by appropriation.

Note.—The State Board of Health has added a new department for the purpose of distributing Diphtheria Antitoxin to the people of the State, thus saving them annually more than the entire appropriation asked for all departments. It should be noted that the work to be done in the State Board of Health office is classified under five heads, viz.:

- I. Board of Health.
- II. Embalmers and Nurses.
- III. Medical Examiners and Optometry Examiners.
- IV. Vital Statistics.
- V. Antitoxin.

While the divisions or departments are separate in a measure, the work must all be done under one head, and supervision must be complete; hence the necessity of having sufficient help so that the work may be done fully and promptly. The Secretary of the State Board of Health has charge of all the departments, and all the business is transacted in this office, and are considered departments of the State Board of Health, and since the duties of these departments have assumed such large proportions, the work has suffered because of insufficient assistants to carry on the necessary correspondence and work, hence the reason that very many things have necessarily had to be neglected, more especially the detail work and daily correspondence.

In making the above estimates no provision has been made for the Secretary's salary. This, the Secretary believes, should be in proportion to the services to be rendered to a great State like Iowa, with its two millions and over of inhabitants.

In connection with the responsibility of the State, in regard to the protection of the public health, it would be very interesting to compare the annual appropriations of other States with that of Iowa. None of the other States have as extensive responsibilities as the Iowa Board, many of them having but one or two departments, and a much smaller State population. A careful investigation and comparison may be of service in arriving at the needs of the Iowa Board.

STATE BOARD OF HEALTH

STATE BOARD OF HEALTH.

GENERAL SUMMARY OF CLASSIFIED EXPENSES.

	1908-9.	1909-10.
Members' expenses attending Board meetings.....	\$ 860.16	\$ 598.14
Members' expenses—other official.....	260.42	298.64
Salaries and clerk hire.....	2,315.51	2,212.62
Postage	130.00	219.29
Stationery, printing and binding.....	964.85	1,031.49
Books and miscellaneous	268.11	189.79
Telephone and telegraph.....	59.00	121.69
Expressage	12.40	26.79
Total expenses for the year.....	\$4,870.45	\$4,698.45

Actual expenses, 1908-9.....\$4,870.45

Deficit paid 128.38

Total\$4,998.83

Appropriation, 1908-9.....\$5,000.00

Total expense, 1908-9..... 4,998.83

Amount charged off June 30, 1909.....\$ 1.17

Actual expenses, 1909-10.....\$4,698.45

Appropriation, 1909-10.....\$5,000.00

Total expense, 1909-10..... 4,698.45

Amount charged off June 30, 1910.....\$ 301.55

STATE BOARD OF HEALTH.

Special Appropriation of \$500.00 for publishing New Rules. Chapter 241, Acts of the 33d G. A.

SUMMARY OF EXPENDITURES.

Printing and binding	\$365.75
Clerk hire	17.38
Expressage	66.40
Postage	42.00
Miscellaneous	2.34

Total expense\$493.87

Amount of appropriation.....\$500.00

Total expense of publication, etc..... 493.87

Balance charged off June 30, 1910.....\$ 6.13

DISPOSITION MADE OF FEES COLLECTED

STATE BOARD OF HEALTH.

DISPOSITION MADE OF FEES COLLECTED.

By the State Board of Health (Maternity Hospital Department) from July 1, 1908, to June 30, 1910, inclusive, made in compliance with the provisions of Chapter 6, Acts of the Twenty-eighth General Assembly:

Date	Source Received	Amount collected	Disposition Made of Fees Collected	Date	Amount
8-25-08	Nora A. Pangle, maternity hospital renewal fee	\$ 5.00	Deposited with State Treas...	10-19-08	\$ 5.00
9-15-08	Sabra J. Jones maternity hospital renewal fee	\$ 5.00	Deposited with State Treas...	10-19-08	5.00
9-14-09	Nora A. Pangle, maternity hospital renewal fee	\$ 5.00	Deposited with State Treas...	11-22-09	5.00
	Total collected.....	\$15.00	Total deposited.....		\$15.00

Note.—No expenditures were made in this department.

STATE BOARD OF HEALTH.

EMBALMERS' DEPARTMENT.

GENERAL SUMMARY OF CLASSIFIED EXPENSES.

	1908-9.	1909-10.
Members' and examiners' expenses and per diem....	\$ 494.34	\$ 524.82
Salaries and clerk hire.....	354.00	318.88
Postage	125.00	118.00
Stationery, printing, binding and engraving.....	276.13	380.90
Books and miscellaneous.....	250.11	16.00
Express	1.56	5.55

Totals\$1,501.14 \$1,364.15

Total expenses July 1, 1908, to June 30, 1910.....\$2,865.29

Total fees collected and deposited with State Treasurer for biennial period\$3,012.00

Total amount expended for biennial period..... 2,865.29

Balance on hand, June 30, 1910.....\$ 146.71

Amount charged off, June 30, 1910..... 146.71

STATE BOARD OF HEALTH.
NURSES' DEPARTMENT.

GENERAL SUMMARY OF CLASSIFIED EXPENSES.

	1908-9.	1909-10.
Members' and examiners' expenses and per diem....	\$ 486.25	\$ 577.64
Salaries and clerk hire.....	15.50	6.88
Postage	35.00	106.00
Stationery, printing and binding.....	202.63	111.73
Books and miscellaneous	24.57	15.04
Expressage	7.69	2.61
Drawing and engraving .....	.....	50.00
Totals	\$ 771.64	\$ 869.90
Total expenses, July 1, 1908, to June 30, 1910.....		\$1,641.54
Total fees collected and deposited with State Treasurer for biennial period		\$1,510.00
Balance in State Treasury, June 30, 1908.....		1,500.00
Total		\$3,010.00
Total expenses for biennial period.....		1,641.54
Balance in State Treasury, July 1, 1910.....		\$1,368.46

STATE OF IOWA.

BOARD OF MEDICAL EXAMINERS.

GENERAL SUMMARY OF CLASSIFIED EXPENDITURES.

	1908-9.	1909-10.
Members' and examiners' expense and per diem.....	\$1,871.06	\$4,527.89
Salaries and clerk hire.....	486.00	421.89
Secretary's expense at examinations.....	65.28	.....
Drawing and engraving.....	82.50	.....
Printing	248.25	199.42
Stationery	1.75	82.37
Postage	85.00	94.79
Books and periodicals	12.00	6.00
Sheriffs' fees	11.55	.....
Telephone and telegraph.....	15.49	.75
Association membership fees.....	5.00	5.00
Legal instruments	2.00	.....
Expressage	18.93	32.63
Contingent and miscellaneous	61.09	87.42
Total expenses for year.....	\$2,965.90	\$5,458.16

Total expense for biennial period.....\$ 8,424.06
Deficit, July 1, 1908..... 2,064.89

Actual expenses, 1908-1910.....\$10,488.95

Total receipts for biennial period.....\$11,551.36
Actual expenses for biennial period..... 10,488.95

Balance on hand, July 1, 1910.....\$ 1,062.41

STATE OF IOWA.

BOARD OF OPTOMETRY EXAMINERS.

GENERAL SUMMARY OF CLASSIFIED EXPENDITURES.

From Date of Organization, July 13, 1909, to June 30, 1910.	
Members' expense (per diem and other official).....	\$1,450.84
Salaries and clerk hire.....	931.70
Printing	429.96
Stationery	103.25
Postage	130.00
Books and periodicals.....	63.75
Legal instruments	2.00
Attorney's and sheriff's fees.....	1.05
Telephone and telegraph.....	.29
Expressage	14.28
Miscellaneous	756.55
Total expenditures	\$3,883.67
Total amount received.....	\$7,635.00
Total amount expended.....	3,883.67
Balance charged off, June 30, 1910.....	\$3,751.33

STATE BOARD OF HEALTH.
DEPARTMENT OF VITAL STATISTICS.

GENERAL SUMMARY OF CLASSIFIED EXPENSES.

	1908-9.	1909-10.
Salaries and clerk hire.....	\$1,435.75	\$1,768.75
Printing and stationery	361.70	223.23
Expressage	2.90	2.65
Postage	53.57	46.00
Books and miscellaneous.....	146.08	34.45
Totals	\$2,000.00	\$2,075.08
Appropriation	\$2,000.00	
Actual expenses, 1908-1909.....	2,000.00	
Appropriation	\$2,000.00	
Actual expenses, 1909-1910.....	2,075.08	
Overdrawn, July 1, 1910.....	\$ 75.08	

STATE BOARD OF HEALTH.
DEPARTMENT OF VITAL STATISTICS.

SALARIES AND CLERK HIRE.

July 1, 1908, to June 30, 1910, paid under appropriations made by Section 7, Chapter 109, Acts of the Thirty-first General Assembly, and Section 1, Chapter 136, Acts of the Thirty-second General Assembly:

Gertrude Kennedy, salary as assistant registrar, 12 months, 1908-1909	\$ 900.00
Gertrude Kennedy, salary as assistant registrar, 4 months, 1909..	330.00
Frances Jones, clerk hire, 148½ days at \$2.00, 1908-1909.....	297.00
Frances Jones, clerk hire, 170 days at \$2.50, 1909.....	425.00
Frances Jones, salary as assistant registrar, 2 months, 1909.....	150.00
Frances Jones, clerk hire, 21½ days at \$2.50, 1910.....	53.75
Ethel Whittle, clerk hire, 5 days at \$2.50, 1909.....	12.50
Rosa I. Pelton, clerk hire, 33 days at \$2.50, 1909.....	82.50
Rosa I. Pelton, clerk hire, 24 days at \$2.50, 1910.....	65.00
Mary Kean, clerk hire, 12½ days at \$2.50, 1909.....	31.25
Lela G. Thomas, clerk hire, 13 days at \$2.50, 1909.....	32.50
Isabel Sumner, salary as assistant registrar, 19 days, 1910.....	54.81
Isabel Sumner, salary as assistant registrar, 5 months, 1910.....	375.00
Mae Valentine, clerk hire, 7 days at \$2.87, 1910.....	20.19
Mae Valentine, clerk hire, 5 months, 1910.....	375.00
Total.....	\$3,204.50

STATE LAW RELATIVE TO QUARANTINE.

CHAPTER 156. ACTS OF THE THIRTY-THIRD GENERAL ASSEMBLY.

An Act to repeal Sections Twenty-five Hundred and Seventy-a (2570-a), Twenty-five Hundred Seventy-a1 (2570-a1), Twenty-five Hundred and Seventy-b (2570-b), and Twenty-five Hundred and Seventy-one (2571) of the Supplement to the Code, 1907, relating to care of persons affected with contagious diseases, the payment of quarantine expenses and the publishing and distribution of regulations of local boards of health.

Be It Enacted by the General Assembly of the State of Iowa:

SECTION 1. That the law as it appears in sections twenty-five hundred and seventy-a (2570-a), twenty-five hundred and seventy-a1 (2570-a1), and twenty-five hundred and seventy-b (2570-b), and twenty-five hundred and seventy-one (2571), of the Supplement to the Code, 1907, are hereby repealed and the following enacted in lieu thereof:

"When any person shall be sick or infected with any contagious or infectious disease, dangerous to the public health, whether a resident or otherwise, the local board of health through the Mayor or Township Clerk, shall make such provisions as are best calculated to protect the inhabitants therefrom, and may remove such persons to a separate house, a house of detention or hospital, but quarantine shall not be established or maintained or fumigation required except in cases of scarlet fever (including scarlet rash and scarletina), smallpox, diphtheria (including membranous croup), cholera, leprosy, cerebro-spinal meningitis and bubonic plague. In case any person or persons liable for the support of such person under quarantine or restrained under and by virtue of this act, shall be financially unable to secure the proper care, provisions or medical attendance, it shall be the duty of the Mayor or Township Clerk to procure for such diseased person, proper care, provisions, supplies and medical attendance, while so quarantined or restrained. All bills for supplies furnished and services rendered by order of the Mayor or Township Clerk as herein provided, for persons removed to a separate house, or house of detention, or hospital, or for persons financially unable to provide for their sustenance and care, shall be allowed and paid for, only on a basis of the local market price for such provisions, services and supplies in the locality in which such services and supplies may have been furnished. All services and supplies furnished to individuals or families under the provisions of this section must be authorized by the

local board of health or by the Mayor or Township Clerk acting under standing regulations of such local board, and a written order therefor designating the person or persons, employed to furnish such services or supplies, issued before such services or supplies were actually furnished, shall be attached to the bill when the same is presented for audit and payment. No bill for any expenses incurred for any person during quarantine or for disinfecting premises or effects shall be allowed or paid except in cases removed to a separate house, or house of detention unless it shall be found that such person is financially unable to pay said bill.

"Provided that nothing contained in this section shall be construed to prevent any person removed to a separate house or house of detention or hospital as herein provided, from employing, at his own expense, the physician or nurse of his choice, nor from providing such supplies and commodities as he may require. It is further provided that if the person receiving services or supplies be not a legal resident of the county in which such bills were incurred and paid, the amount so paid shall be certified to the board of supervisors of the county in which said party claims residence or owns property and the board of supervisors of such county shall reimburse the county from which such claim is certified, in the full amount originally paid by it.

"All fumigations and disinfections, for the protection of the public health, shall be done in accordance with the regulations of the State Board of Health and under the directions of the local board, which shall direct the attending physician to superintend or perform the work. In case there be no attending physician or in case the attending physician refuses to perform this duty, then it shall be the duty of the local board of health to provide some other suitable person to perform such work.

"All bills and expenses incurred in carrying out the provisions of this section and establishing, maintaining and raising quarantine and furnishing necessary detention hospitals shall be filed with the clerk of the local board of health. This board at its next regular meeting or special meeting called for the purpose shall examine and audit the same and if found correct, approve and certify the same to the county board of supervisors for payment. If the board of supervisors determine such bills payable, under the provisions of this act, it shall order the county auditor to draw warrant therefor upon the poor fund of said county. The board of supervisors shall not be bound by the action of the local board of health in approving such bill but may increase or diminish the same as may be just and reasonable. The forcible removal of infected persons as herein provided shall be effected by an application made to any civil magistrate in the manner provided in section twenty-five hundred and sixty-nine (2569) of the Code, for the removal and abatement of nuisances, who shall issue the warrant as directed in such cases, to remove such person or persons to the place designated by the local board of health and to take possession of a condemned or infected house, lodging-room, premises or effects. The officers designated by such magistrate shall be entitled to receive for such services such reas-

nable compensation as shall be determined by the local board of health. The amount so determined to be certified to and paid in the same manner as other expenses incurred under the provisions of this section."

SECTION 2. Local boards of health shall meet for the transaction of business on the first Monday in April and November in each year and at such other times as it may be deemed necessary. Local boards of health shall furnish to the State Board of Health reports of their proceedings at such times and in such form as may be reasonably required by the State Board of Health. They shall give notice of all regulations adopted by publication thereof in some newspaper of general circulation in the town, city or township, or by posting a copy thereof in five public places therein. The secretary of the State Board of Health immediately after the adoption of any rules and regulations of said board, in accordance with section one of this act, shall forward a certified copy of such rules to the county auditor of each county. Whenever such rules may be amended or changed, similar notice shall be forwarded to each county auditor.

The State Board of Health shall cause to be printed such number of copies of the rules and regulations by it adopted as may be necessary to supply the needs of the several counties of the state and upon application forward the required number to the county auditors of the state for distribution to the several boards of health within the county.

The clerk of each local board of health shall upon request furnish a copy of said rules to any resident, physician or citizen. It shall be the duty of the official when establishing quarantine, to furnish to the person or persons quarantined a copy of the rules and regulations covering such quarantine.

SECTION 3. This act, being deemed of immediate importance, shall take effect and be in force from and after its publication in the Register and Leader and Des Moines Capital, newspapers published in Des Moines, Polk County, Iowa.

Approved April 5, A. D. 1909.

RULES AND REGULATIONS ADOPTED BY THE IOWA
STATE BOARD OF HEALTH.

CHAPTER I.

QUARANTINE REGULATIONS.

Rule I.—The following diseases are subject to quarantine: Scarlet fever (including scarletina and scarlet rash), diphtheria (including membranous croup), smallpox, cholera, leprosy, epidemic cerebro-spinal meningitis and bubonic plague.

Rule II.—Quarantine shall be established by serving a written notice signed by the Mayor of the city or town, or the Clerk of the township, upon the head of the family or occupants of the premises and by posting in a conspicuous place upon each building, hall, lodging room, or place wherein exists or is suspected to exist an infectious disease, the following described sign: A yellow card not less than twelve inches square, having printed thereon in large letters the word "Quarantine," followed by the name of the disease and the words: "Notice! No person shall be permitted to enter or leave these premises except as provided by the Rules and Regulations of the State Board of Health."

Signed.....
Mayor or Township Clerk.

Rule III.—All cases of diseases listed in Rule 1 shall be immediately reported to the Mayor of the city or town or Clerk of the Township by the physician, if any be in attendance, otherwise by the householder of the premises wherein such disease exists.

In every case a written notice also shall be sent within twenty-four hours to the Mayor of the city or town or to the Township Clerk.

Rule IV.—Sec. 1.—It shall be the duty of the Mayor and Township Clerk, upon receiving notice of the existence of any case of scarlet fever, (including scarletina or scarlet rash), diphtheria (including membranous croup), smallpox, epidemic cerebro-spinal meningitis, Asiatic cholera, bubonic plague or leprosy, to forthwith quarantine the premises as provided for in Rule 2 of of this Chapter, and to take such other measures as may be necessary and proper for the restriction and suppression of such disease.

Sec. 2.—It shall be the duty of the Mayor of every city or town and the Clerk of every township to report to the Secretary of the State Board of Health, within twenty-four (24) hours after being notified thereof, of every case of quarantinable disease reported to him; and upon receiving notice of the subsidence of such disease, to likewise immediately report that fact, together with the mode of termination, whether by death or recovery. All reports provided for in this regulation shall be made upon postal cards in accordance with the following forms adopted by the State Board of Health.

REPORT OF QUARANTINABLE DISEASES.

DEPARTMENT OF PUBLIC HEALTH.

County _____ Date _____ 191__

To the Secretary, State Board of Health:

The following cases of quarantinable diseases were reported to this office today:

For Quarantine	No.	Total for Month to date	For Quarantine	No.	Total for Month to date
Scarlet fever			Bubonic Plague		
Smallpox					
Diphtheria					
Cerebro-spinal meningitis					
Asiatic Cholera					
Leprosy					
Total			Total		

M. D.
Health Officer.

City or Township of _____ Mayor-Clerk.

TERMINATION OF QUARANTINE.

DEPARTMENT OF PUBLIC HEALTH.

County _____ Date _____ 191__

To the Secretary, State Board of Health:

The following cases of infectious diseases, previously reported to you from this office, have terminated as follows:

	Recovery	Deaths
Scarlet fever		
Smallpox		
Diphtheria		
Cerebro-spinal meningitis		
Asiatic Cholera		
Leprosy		
Bubonic Plague		
Total		

The premises infected by these diseases have been properly disinfected and released.

Mayor-Clerk.

M. D.
Health Officer.

City or Township _____

N. B.—The foregoing cards must be provided by the Local Board of Health.

Sec. 3.—The Mayor of each city or town, and the Clerk of each township shall designate and detail certain peace officers as Sanitary Police.

Sec. 4.—Sanitary Police Officers shall visit all quarantined premises within their jurisdiction at least once in every twenty-four (24) hours to see that quarantine is properly observed, and shall make daily report thereof to the Mayor or Clerk of the township.

Rule V.—If any person shall wilfully or maliciously, or without written authority, remove or deface or cause to be removed or defaced any quarantine sign or signal of danger, officially posted upon the quarantined premises, as provided by regulations of the State Board of Health, he shall be deemed to have violated the regulations of the State Board of Health, and shall be prosecuted accordingly.

Rule VI.—Upon the termination of any of the diseases named in Rule I, the attending physician or Health Officer shall report the fact in writing to the Mayor or Township Clerk, who shall then order the infected premises, together with all persons, furniture, bedding, clothing and all other articles therein contained to be disinfected according to the regulations of the State Board of Health, and under the direction of the Local Board of Health, which shall direct the attending physician to superintend or perform the work. In case there be no attending physician or in case the attending physician refuses to perform the work or fails to perform it according to the regulations of the State Board of Health, it shall be the duty of the Local Board of Health to provide some other suitable person to perform such work.

Rule VII.—Whenever any premises are quarantined, special attention must be given to all pet animals kept thereon. Cats and dogs shall be excluded from the house, and prevented from running at large. Before the quarantine is raised all such animals shall be thoroughly washed in a disinfecting solution. Special precautions must be taken to destroy all mice and rats. When flies are present, all doors and windows shall be securely screened and fresh fly paper placed in each room daily.

Rule VIII.—Quarantine shall be released only upon order of the Mayor or Township Clerk after receipt of a written report from the attending physician or health officer stating that the disease has terminated and that the premises and all infected persons have been properly disinfected in strict accordance with Rule 6. This report shall state the number of persons on the premises, the number who have suffered from the disease, their names, ages, when the disease appeared in each case and how it terminated.

When all regulations pertaining to quarantine and disinfection have been complied with the quarantine shall be released.

Rule IX.—No letters or other articles coming from quarantined premises shall under any circumstances be placed in any postoffice, letter box or rural delivery. If on account of carelessness or neglect any such infected article shall have been placed in a postoffice, letter box or rural delivery, all such letters or articles, together with such other articles as have come in contact therewith, shall be detained and immediately disinfected by the Health Officer, without unnecessary delay or removal from the custody of the postmaster.

Rule X.—No person except the attending physician shall be permitted to enter or leave any premises while the same are under quarantine, except as specially provided for by the regulation of the State Board of Health and in strict accordance therewith. The Secretary or members of the State Board of Health may enter any premises under quarantine whenever, in their opinion, it is necessary for purposes of investigation or to enforce the regulations of the State Board of Health.

CHAPTER II.

SPECIAL REGULATIONS.

Rule I.—Scarlet Fever.—Sec. 1.—Quarantine shall be maintained in scarlet fever until the complete recovery of the patient, including complete desquamation, and this shall be certified to by the attending physician or Health Officer.

Sec. 2.—In case the disease terminates by death, quarantine may be released, unless there are other children on the premises who have not had the disease, in which case the quarantine shall be maintained for ten days after the date of death.

Sec. 3.—Quarantine shall not be released in any case until the infected persons and the infected premises have been disinfected according to Rule 6.

Rule II.—Diphtheria.—Sec. 1.—The period of quarantine for diphtheria shall be determined by release cultures whenever possible, and the following rules shall be rigidly observed:

1. Each culture for release shall be taken by the attending physician from both nose and throat of the patient.
2. No culture for release shall be taken until five days after the disappearance of all membrane or inflammation of the nose or throat.
3. Second and subsequent cultures shall not be taken within twenty-four hours of the preceding culture.
4. All examinations of cultures for release shall be made by a bacteriologist appointed by the Director of the State Bacteriological Laboratory.
5. Quarantine shall not be released until two consecutive negative cultures are reported by the bacteriologist to the Mayor or Township Clerk.

Sec. 2.—In case the culture method for release is not used quarantine shall be maintained for twenty-eight days from the beginning of the last case on the premises.

Sec. 3.—If the disease terminates by death quarantine may be released unless there are other children on the premises, in which case quarantine must be maintained for seven days longer. In case the surviving children have been recently protected by immunizing doses of antitoxin and one negative culture has been made from the nose and throat of each, in accordance with the rules for release cultures, the quarantine may be released.

Sec. 4.—The breadwinner of the family quarantined for diphtheria may be permitted to pursue his usual avocation at the discretion of the Local Board of Health, but no person from the infected premises shall be permitted to attend any public gathering or school in any capacity nor to travel upon any public conveyance. To obtain permission from the Local Board of Health to leave the premises the breadwinner shall agree not to enter the sick room and he shall change his clothing upon leaving and entering the infected house and shall wash his face and hands in a disinfecting solution.

Sec. 5.—Quarantine shall not be released in any case until the infected persons and infected premises have been disinfected according to Rule 6.

Rule III.—Smallpox.—Sec. 1.—Quarantine shall be maintained in smallpox until the complete recovery of the patient and until after the disappearance of crusts from all parts of the body, as certified to in writing by the attending physician or Health Officer.

Sec. 2.—In case of the termination of the disease by death, quarantine may be released unless there are persons on the premises who are unprotected from smallpox, either by vaccination or having previously had smallpox, in which case the quarantine shall be continued for fourteen days longer.

Sec. 3. Any person who has been vaccinated within three years, or who has had smallpox, may be released from quarantine upon proper disinfection of his person and clothing.

Sec. 4.—Quarantine shall not be released in any case until the infected premises and all infected persons have been properly disinfected according to Rule 6.

Rule IV.—Vaccination.—Sec. 1.—Vaccination for smallpox is the introduction by scarification of the bovine vaccine virus through the skin.

Sec. 2.—In addition the Iowa courts have held that the administration by mouth of a proper preparation of variolinum constitutes a legal method of vaccination.

Rule V.—Meningitis.—Sec. 1.—In case of epidemic cerebro-spinal meningitis quarantine shall be maintained until the recovery of the patient from the acute symptoms and this shall be certified to by the attending physician or Health Officer.

Sec. 2.—In case the disease terminates by death quarantine may be released after ten days from date of death.

Sec. 3.—Quarantine shall not be raised in any case until the infected premises and all infected persons have been properly disinfected according to Rule 6.

Rule VI.—Leprosy.—Sec. 1.—All persons affected with leprosy shall be continuously confined upon their home premises. It shall be the duty of the Health Officer of the Local Board of Health to report to the Secretary of the State Board of Health the name, age, social condition and residence of all persons affected with this disease within the community over which he has jurisdiction, and the Local Board shall keep a record of the particulars required herein.

Rule VII.—Bubonic Plague.—Sec. 1.—Quarantine shall be maintained in Bubonic plague until complete recovery of the infected person.

Sec. 2.—In case of the termination of the disease by death quarantine shall be maintained for fourteen days from date of death.

Sec. 3.—Quarantine shall not be released in any case until all infected persons and all infected premises are properly disinfected according to Rule 6. In addition all pet animals and in so far as possible all rats and mice shall be destroyed.

Rule VIII.—Asiatic Cholera.—Sec. 1.—Quarantine shall be maintained in case of Asiatic cholera until the complete recovery of the infected person and this shall be certified to in writing by the attending physician or Health Officer.

Sec. 2.—In case the disease terminates by death quarantine shall be maintained for fourteen days from date of death.

Sec. 3.—Quarantine shall not be raised in any case until all infected persons and the infected premises are disinfected according to Rule 6.

Rule IX.—Dairy Products.—Sec. 1.—The sale of milk or dairy products from any quarantined premises is prohibited.

Sec. 2.—However, if the dairy and barns are situated a safe distance from the quarantined dwelling and if no person, utensil or water from the infected premises comes in contact with such dairy products, the Local Board of Health shall satisfy themselves of these facts and may then allow the said products to be disposed of.

Sec. 3.—But such products as have been exposed to infection shall not be sold or disposed of.

Rule X.—Release of Healthy Persons from Quarantine.—Sec. 1.—Any adult living in premises under quarantine or any child who has previously had the disease for which the quarantine has been established may be released from quarantine, after proper disinfection, by written order of the Local Board of Health, but persons so released shall not re-enter the premises until the quarantine is released. (In quarantine for smallpox no unvaccinated person shall be released before the end of the quarantine period.)

Rule XI.—All persons suffering from any disease subject to quarantine or residing upon premises infected with any such disease, shall be excluded from the public schools. The superintendent, teacher or other official in charge of any school, shall be held personally responsible for the enforcement of this regulation, and under no circumstances shall such superintendent, teacher or official allow any person so excluded to re-enter such school, except upon the presentation of a written permit, showing that such person has been properly disinfected and regularly released from quarantine. All such permits must be signed by the Mayor or Township Clerk, and by the Health Officer of the Local Board of Health. This regulation shall also apply to academies, seminaries and colleges.

Rule XII.—Sec. 1.—No person suffering from tuberculosis shall be permitted to attend any public or private school as a pupil, nor shall any such person be employed in any school in any capacity.

Sec. 2.—Whenever any person shall have reason to believe that this rule is being violated he shall so inform the Mayor or Township Clerk, and it shall then be the duty of the Local Board of Health to investigate the case and exclude said pupil or employe from school unless the Board is fully satisfied that said pupil or employe is not tubercular.

Sec. 3.—The Local Board of Health shall cause the Health Officer to procure from the suspected individual a sample of sputum or other discharge and shall forward this to the State Bacteriological Laboratory for examination, and shall use such other means as are usual and customary to determine the presence or absence of tuberculosis.

Sec. 4.—All examinations made by or for the local Board of Health shall be free of expense to the patient.

CHAPTER III.

RULES FOR DISINFECTION.

Rule I.—Disinfection of Individuals.—Before being released from quarantine all persons shall be subject to the following requirements:

Sec. 1.—They shall be removed to a room that has been properly disinfected.

Sec. 2.—The entire body, including the hair, shall be washed with a solution of bichloride of mercury (1 part to 3,000 parts of water) or 2½ solution of carobolic acid.

Sec. 3.—They shall then be subjected to a full bath with soap and hot water, after which they shall be provided with clothing that has been disinfected or that has not been on the premises.

Rule II.—Disinfection of Premises.—For every 1,000 cubic feet of space to be disinfected the following materials and quantities shall be used:

Formalin (40% solution of formaldehyde).....	11 ounces
Water	11 ounces
Potassium permanganate (fine crystals).....	9 ounces

Rule III.—Preliminary Preparations.—Before beginning disinfection the requirements as prescribed in the following sections shall be complied with:

Sec. 1.—The person employed to do the disinfecting shall wear a cap and gown so constructed as to completely cover his clothing and shall cover his face with a piece of gauze. After all arrangements are complete, these garments shall be left on the premises and disinfected in the same manner as other disinfected articles. The shoes worn by the operator should also be disinfected. This may be done by the use of Standard Disinfecting Solutions 1 or 2.

Sec. 2.—All holes, cracks and other external apertures shall be sealed by pasting over them pieces of paper, or filling them with clean, damp, cotton rags.

Sec. 3.—All bedding and other clothing, carpets and rugs should be hung on chairs, or upon lines stretched across the room for that pur-

pose. Books should be placed on edge or hung upon a line in such a manner as to spread the pages. Drawers, cupboards and trunks should be opened and while their contents need not be unnecessarily disarranged, they should be loosened in such a manner as to give free access to the disinfecting gas. Windows should be securely closed, but left unlocked in order to admit of their being opened from the outside after the disinfection is complete.

Sec. 4.—When using formaldehyde, no open vessel containing water should be left in the room.

Sec. 5.—The temperature of the room shall in no case be below 60 degrees F. (probably 70 deg. F. or above). If the atmosphere is unusually dry, the amount of moisture should be increased by boiling a kettle of water in the room, or by pouring boiling water from one vessel to another for five or ten minutes before beginning the disinfection.

Sec. 6.—A large wash tub should be placed near the center of the room, conveniently situated so as to be seen through one of the windows. In this should be placed a tin or galvanized iron pail about 12 to 16 inches deep. It is advisable to cover the outside of the pail with asbestos paper, leaving the top open.

Rule IV.—Mode of Operation.—Sec. 1.—When the room or house to be disinfected has been properly prepared in accordance with the above requirements the proper quantity of potassium permanganate should be placed in the pail. The solution of 40 per cent formaldehyde mixed with the water should be placed in a tin dipper or other vessel convenient for pouring rapidly, and when everything is in readiness, should be poured upon the crystals of permanganate of potash contained in the pail. The operator should immediately leave the room, closing the door and stopping all cracks in the manner indicated. This operation should be performed quickly, as the gas is generated very rapidly. The door should be locked in order to prevent accidents, and the room or building, as the case may be, kept closed for at least 8 hours. At the expiration of this time the windows should be opened from the outside, and in the space of 15 or 20 minutes the door may be opened, allowing the air to blow through the room. If the odor remaining is very strong, a little ammonia-water sprinkled upon the floor will soon neutralize the formaldehyde and hasten the disappearance of the odor.

Sec. 2.—After the fumigation as prescribed in this rule has been completed all bedding, clothing, etc., that will not be harmed by boiling should be boiled for at least half an hour. When possible, mattresses, rugs and heavy curtains should be sterilized by steam under pressure at 120 deg. C., for 30 minutes. When this is not possible, these articles should be taken out of doors and thoroughly aired and exposed to the rays of the sun for an hour or so.

Sec. 3.—Papers, cheap books, rags and other articles of little or no value should be burned.

In addition to the above requirements all woodwork, and, if possible, the walls, should be washed with a liquid disinfectant, such as solution of bichloride of mercury, one part of bichloride of mercury to 1,000

parts of water. Where the wall paper is loose or dilapidated it should be removed and burned.

Rule V.—Disinfection of Vehicles.—Sec. 1.—All cabs, boats, hearses, and other vehicles used in the removal of a patient or the body of a person affected with, or who has died from any contagious or infectious disease, shall be disinfected in the manner defined in Section 2 of this rule.

Sec. 2.—Remove all cushions, curtains and other accessories and place them in a small room or tight cupboard, and disinfect them in accordance with the requirements prescribed in Rule 5. If the vehicle can be closed up, it should be fumigated in the same manner as prescribed in Rule 5. If this is impracticable it should be washed inside and out with a solution of bichloride of mercury, one part to 1,000 parts of water.

Rule VI.—Pet Animals.—All cats and dogs and other pet animals kept upon the premises infected with any contagious or infectious diseases, shall be thoroughly washed with soap in a tub of hot water containing 5 per cent solution of carbolic acid.

Rule VII.—Additional Requirements.—When it is necessary to disinfect any premises and the presence of bed bugs or other vermin is suspected, sulphur must be used in addition to formaldehyde. The following is the most convenient and effective manner of using the same:

Place in the room a wash boiler containing about 6 to 8 inches of boiling water. Place a brick in the center of the water and upon this a sulphur candle. Light the candle and be sure that it is burning well before starting the formaldehyde fumigation. If possible the water in the washboiler should be kept boiling by means of a stove or gas lamp.

Rule VIII.—Disinfection should always be done under the direction of the Local Board of Health, and under the personal supervision of the attending physician or the Health Officer. The person employed to do the disinfecting should be one specially trained to understand the various methods to be used and the precautions to be observed, and should be held personally responsible to the Local Board of Health.

Rule IX.—Standard Disinfectants. (All should be plainly labeled "POISON.")—*Solution No. 1.*—Carbolic acid. 95% carbolic acid, one-half pint; water five quarts. May be used for sputum cups, washing furniture, metal surfaces, various secretions and exudates.

Caution.—This should not be used for the face or delicate skin.

Solution No. 2.—Carbolic acid (2½ per cent solution). Mix one part of Sol. No. 1 with one part of water. May be used for washing hands, face or hair.

Solution No. 3.—Bichloride of Mercury Solution, 1 to 1,000.—Prepare by dissolving one drachm (60 grains) of corrosive sublimate in one gallon of soft boiled water. The ordinary solution of bichloride of mercury deteriorates in a very short time. A convenient way of using bichloride is by use of specially prepared tablets, which may be purchased at any drug store, or to have on hand a stock solution which will not deteriorate. This may be prepared as follows:

Bichloride of mercury	330½ grams
Citric acid	156 grams
Water	20 liters or 5 gallons
A little coloring material.	

M. Sig: One ounce of this solution mixed with one pint of water makes a solution of 1-1,000.

Prepare in glass, earthen or wooden vessels (not in metal vessel); it must not be used for disinfecting metal surfaces. Use for disinfecting hands, clothing, woodwork, discharges, etc. Good for sprinkling floors of offices and public buildings before sweeping.

Solution No. 4.—Bichloride of Mercury 1-3,000.—Mix one part of Sol. No. 3 with two parts of water. May be used for bathing entire body.

Solution No. 5.—Chloride of Lime.—Dissolve six ounces of fresh chloride of lime (best quality) in one gallon of water. Especially useful for feces, urine and sputum.

Notes.—Sunshine is Nature's best disinfectant, and should be utilized as much as possible. Let it enter the sick room freely.

Many of the so-called disinfectants that have been placed upon the market are absolutely worthless and should be avoided.

CHAPTER IV.

SECRETARY OF THE STATE BOARD OF HEALTH SHALL SUPERVISE LOCAL BOARDS.

Rule I.—Sec. 1.—The Secretary of the State Board of Health is the Executive Officer of the Board. He shall have general supervision over all Local Boards in the enforcement of quarantine and the prevention of infectious diseases. When he has reason to believe that the regulations of this Board are not properly enforced by the Local Board of any city, town or township, and that the public health is endangered by reason of such neglect upon the part of any such Local Board, he shall instruct the officials of said Board regarding their duties, and in the event of their failure to conform to such instructions, shall notify the President of the State Board of Health, who may convene the State Board in special session, whereupon the said Board shall, if it deem necessary, immediately assume control within the territorial jurisdiction of such Local Board, and shall continue in control until such time as there is no further danger to the public. All expenses thus incurred by the State Board or its representatives shall be paid as provided for in Section 2572 of the Code as amended by Chapter 107, Acts of the 29th General Assembly.

Sec. 2.—The Secretary of the State Board of Health or any member thereof is hereby authorized to enter and leave any and all quarantined premises within the state, when necessary to make an investigation or to enforce the regulations of the State Board of Health.

LOCAL BOARDS TO KEEP RECORD.

Rule II.—The Mayor of each incorporated city or town, and the Clerk of the township shall keep a complete record of all cases of contagious or infectious diseases reported within his jurisdiction; said record shall include the name, age, sex, social condition and address of each patient, and the name of the attending physician, and nurse, the date of quarantine and release, the date of disinfection, and the name of the person who disinfected the premises. A copy of said record shall be forwarded to the Secretary of the State Board of Health by the 1st day of February in each year, and shall include all data recorded up to and including December 31st preceding.

HEALTH OFFICER, ELECTION, QUALIFICATIONS AND COMPENSATION OF.

Rule III.—Every Local Board of Health shall, at its first meeting in April of each year, elect a competent physician as Health Officer, whose term of office shall be one year, unless sooner removed by said Board or the acts of a body having superior jurisdiction. In the event of such removal, or if a vacancy occur from other causes, the Board shall immediately proceed to fill such vacancy. To be qualified for election as Health Officer, the person selected must be the legal holder of a certificate regularly issued by the State Board of Medical Examiners of this state, authorizing him to practice medicine in the state of Iowa, and said certificate must be recorded in the office of the County Recorder of the county wherein he resides. The physician selected as Health Officer should be the most competent person available for this position. The salary of the Health Officer shall be determined by the Local Board of Health, and should be an amount sufficient to compensate him for the time and ability required to properly discharge the duties of his office.

DUTIES OF THE HEALTH OFFICER.

Rule IV.—The Health Officer shall be the sanitary advisor of the Local Board of Health, and in addition thereto shall personally inspect the schools and all public buildings and public utilities within the jurisdiction of the Local Board. He shall require the owners, managers, or superintendents of all such institutions to conduct and maintain the same in a proper sanitary condition, and order persons affected with any transmissible disease or ailment excluded from the schools and other places used by the general public. All orders for the release of quarantine in incorporated cities or towns must have the approval of the Health Officer before such orders are valid. In cases of sickness where no physician is in attendance, the Health Officer shall investigate as to the character of such sickness, and report to the Mayor or Township Clerk, and in like circumstances, when the sickness is caused by a quarantinable disease, determine the fact of its termination. He shall also attend and represent his Local Board at the sanitary conferences called by the State Board of Health, his actual expenses therefor being allowed and paid by the Local Board of Health so represented.

REVOCATION OF PHYSICIAN'S CERTIFICATE.

Rule V.—If any physician or Osteopath fail or neglect to conform to quarantine regulations or to report promptly to the Mayor or Township Clerk all cases of quarantinable disease to which he has been called professionally, that official shall make affidavit setting forth the facts and the names of witnesses thereto, and file same with the Secretary of the State Board of Health, whereupon the offender shall be cited to appear before the State Board of Medical Examiners and show cause why his certificate should not be suspended or revoked.

RECOMMENDATION.

* The 33d General Assembly passed a law which, among other things, provides as follows: "But quarantine shall not be established or maintained or fumigation required except in cases of scarlet fever (including scarlet rash and scarletina), smallpox, diphtheria (including membranous croup), cholera, leprosy, cerebro-spinal meningitis and bubonic plague."

This makes it impossible for any health authorities to require disinfection after erysipelas, typhoid fever, pneumonia or tuberculosis.

The dangerous character of these diseases, and especially of tuberculosis, prompts the State Board of Health to recommend as strongly as possible that all premises be thoroughly disinfected voluntarily at the termination of any of these diseases.

GUILFORD H. SUMNER, M. D.,

Secretary Iowa State Board of Health.

Dated at Des Moines, Iowa, the 6th day of September, 1909.

REPORT OF INFECTIOUS DISEASES

REPORT OF INFECTIOUS DISEASES FOR THE FISCAL YEAR ENDING JUNE 30, 1906.

1908	76	63	79	115	71	18	10	1	51	12	8	473	
July	50	40	58	115	70	3	3	6	35	3	3	494	
August	30	103	10	38	23	3	2	0	154	5	5	491	
September	186	237	40	120	24	53	1	0	97	12	6	733	
October	191	222	49	605	54	105	2	0	77	13	6	1,368	
November	154	135	133	418	91	114	14	0	36	17	10	1,138	
December													
1909													
January	179	94	90	603	51	182	64	0	20	40	75	1,496	
February	176	77	109	706	46	195	96	0	46	16	43	1,377	
March	155	70	155	706	51	51	40	1	37	25	31	1,341	
April	145	51	50	413	22	9	4	0	14	14	16	1,117	
May	82	48	53	397	37	7	0	1	3	3	0	872	
June	54	43	23	97	36	7	0	1	2	3	0	572	
Total	1,448	1,219	996	4,003	588	745	203	3	546	221	228	10,200	
	Scarlet fever	Diphtheria	Small-pox	Cerebro Spinal Meningitis	Measles	Whooping cough	Chicken-pox	Mumps	Puerperal fever	Typhoid fever	Tuberculosis	Pneumonia	Total

REPORT OF INFECTIOUS DISEASES FOR THE FISCAL YEAR ENDING JUNE 30, 1910.

Epidemic Paralysis	50
Cerebro-Spinal Meningitis	18
Tuberculosis	51
Scarlet Fever	1240
Smallpox	754
Diphtheria	1054
Measles	459
Typhoid Fever	125
Puerperal Fever	1
Whooping Cough	60
Pneumonia	4
Total	3816

TABLE No. 1

REPORT OF INFECTIOUS DISEASES ARRANGED ACCORDING TO COUNTIES FOR THE FIRST SIX MONTHS OF THE FISCAL YEAR ENDING JUNE 30, 1910.

County	Disease	July	August	September	October	November	December	Total
Adair	Cerebrospinal meningitis				1			1
Adair	Tuberculosis						1	1
Adams	Scarlet fever		1	6	5			12
Allamakee	Scarlet fever					2		2
Allamakee	Smallpox					1		1
Appanoose	Scarlet fever				20	19		39
Appanoose	Diphtheria			1	6	16	21	44
Audubon	Scarlet fever	1	3	4	4	5		15
Audubon	Diphtheria						1	1
Benton	Scarlet fever			6				6
Benton	Diphtheria			2				2
Benton	Smallpox					6		6
Black Hawk	Scarlet fever		1	1				2
Black Hawk	Diphtheria				2			2
Boone	Smallpox	1			1	2	1	4
Boone	Scarlet fever		2	2	3	2	2	13
Bremer	Diphtheria			1				1
Bremer	Scarlet fever					1		1
Buchanan	Typhoid fever	1						1
Buchanan	Scarlet fever				1	2		3
Buena Vista	Typhoid fever	1			1			2
Butler	Diphtheria				1		2	3
Calhoun	Puerperal fever					1	2	3
Carroll	Diphtheria				1		4	5
Cass	Cerebrospinal meningitis				1			1
Cass	Scarlet fever			1				1
Cass	Diphtheria				1			1
Cass	Cerebrospinal meningitis				1			1
Cass	Typhoid fever			1				1
Cedar	Scarlet fever				1			1

TABLE No. 1—CONTINUED

County	Disease	July	August	September	October	November	December	Total
Cerro Gordo	Diphtheria	1						1
Cerro Gordo	Scarlet fever			1				1
Cerro Gordo	Smallpox					2		2
Cherokee	Typhoid fever				1			1
Chickasaw	Scarlet fever	1						1
Chickasaw	Diphtheria			1				1
Chickasaw	Smallpox					1		1
Clarke	Scarlet fever						2	2
Clarke	Diphtheria				1			1
Clay	Scarlet fever	1			1			2
Clayton	Scarlet fever					7		7
Clayton	Diphtheria			1				1
Clinton	Smallpox	6						6
Clinton	Tuberculosis			1				1
Clinton	Scarlet fever				1	2		3
Clinton	Diphtheria					2		2
Clinton	Whooping Cough	1		1				2
Crawford	Typhoid fever							
Crawford	Scarlet fever	1	1					2
Crawford	Diphtheria					2		2
Dallas	Measles	1	1					2
Dallas	Scarlet fever					2	1	3
Dallas	Diphtheria							
Dallas	Smallpox			1				1
Davis	Scarlet fever						1	1
Decatur	Diphtheria					1		1
Delaware	Whooping Cough	10						10
Delaware	Scarlet fever	2	1					3
Delaware	Measles							
Delaware	Diphtheria					3	1	4
Delaware	Smallpox					44	16	60
Des Moines	(No report)							
Dickinson	Scarlet fever	1						1
Dubuque	Scarlet fever					7		7
Emmet	Diphtheria					1		1
Emmet	Scarlet fever				5		1	6
Fayette	Diphtheria						1	1
Fayette	Scarlet fever						3	3
Fayette	Diphtheria				2			2
Fayette	Smallpox				1			1
Fayette	Measles					1		1
Floyd	(No report)							
Franklin	Diphtheria					1		1
Franklin	Smallpox					1	2	3
Fremont	Typhoid fever			1				1
Green	Scarlet fever			1				1
Grundy	Diphtheria				1			1
Grundy	Scarlet fever						2	2
Grundy	Typhoid fever							
Guthrie	Scarlet fever	1			1			2
Hamilton	Scarlet fever	1						1
Hamilton	Diphtheria			2	2	4	2	10
Hancock	Whooping cough							
Hancock	Diphtheria	2						2
Hardin	Smallpox						1	1
Hardin	Diphtheria		1		1			2
Hardin	Typhoid fever				4			4
Harrison	Scarlet fever					1	1	2
Henry	Diphtheria	1						1
Howard	(No report)							
Humboldt	Scarlet fever	1	1					2
Humboldt	Diphtheria	1						1
Ida	Typhoid fever					1		1
Iowa	Scarlet fever				1	1	1	3
Iowa	Diphtheria			2	1			3
Iowa	Measles		1					1

TABLE No. 2

REPORT OF INFECTIOUS DISEASES ARRANGED ACCORDING TO COUNTIES FOR THE LAST SIX MONTHS OF THE FISCAL YEAR ENDING JUNE 30, 1910.

County	Disease	January	February	March	April	May	June	Total
Adair	Scarlet fever				1	1	1	3
Adams	Scarlet fever	1	2	2	1	1	1	8
Allamakee	Scarlet fever		2	1	2			5
Appanoose	Scarlet fever	1	2					3
	Diphtheria		1					1
Audubon	Scarlet fever		3	1	1			5
	Diphtheria					3		3
	Smallpox			1	1			2
Benton	Scarlet fever	8	12	4	1	2	2	29
	Diphtheria	5	6	4	3	1		19
	Smallpox		1	1	1	3	2	7
	Typhoid fever	4	5					9
Black Hawk	Scarlet fever	1	1	2				4
	Diphtheria	2	1	1	1			5
	Measles		1	14	7			22
	Whooping cough			2				2
	Typhoid fever	7						7
Boone	Scarlet fever	1		3	5	3		12
	Diphtheria					2		2
Bremer	Scarlet fever				1	1		2
Buchanan	Scarlet fever			4	7			11
	Smallpox		8	1		1	2	12
	Measles			1				1
Buena Vista	Diphtheria		1		2			3
	Smallpox	1				2		3
	Cerebrospinal meningitis				1			1
	Measles			1		9		10
Butler	Epidemic paralysis					1		1
Calhoun	Scarlet fever	6	3					9
	Diphtheria					4		4
	Smallpox	10						10
Carroll	Diphtheria	4	2					6
	Smallpox		1					1
Cass	Scarlet fever			6	2			8
	Diphtheria		1	1				2
	Smallpox	1						1
Cedar	Scarlet fever	1	10	3			1	15
	Diphtheria	1						1
	Smallpox	3		1				4
Cerro Gordo	Smallpox	24		1	1			26
	Typhoid fever	1	1					2
	Epidemic paralysis			1	3	15	16	35
Cherokee	Smallpox	24		1	1			26
	Typhoid fever	1	1					2
Chickasaw	Epidemic paralysis			1			1	2
Clarke	Scarlet fever	1	6	3	1			11
	Diphtheria					1		1
	Measles	7						7
	Typhoid fever						1	1
Clay	Scarlet fever	1		3				4
	Diphtheria		3					3
	Measles			15				15
Clayton	Scarlet fever	7	6	4	7			24
	Smallpox	1					1	2
	Tuberculosis				1			1
Clinton	Scarlet fever		3		1	3		6
	Diphtheria	3						3
	Smallpox			1	2			3
Crawford	Scarlet fever		2			1		3

TABLE No. 2—CONTINUED

County	Disease	January	February	March	April	May	June	Total
Dallas	Scarlet fever		5	3	1		1	10
	Diphtheria		2				1	3
	Smallpox	1		6	2	4	1	14
	Measles			1				1
Davis	Scarlet fever	1			1			2
	Cerebrospinal meningitis					1		1
Decatur	Diphtheria		2					2
	Measles		1	1				2
Delaware	Scarlet fever				2			2
	Diphtheria		3	2	4	1		10
	Smallpox		4			1	10	15
Des Moines	Smallpox							3
Dickinson	Diphtheria		1		3			4
Dubuque	Smallpox	26	25	7			1	69
Emmet	Scarlet fever		1					1
	Diphtheria	19						19
Fayette	Scarlet fever	13	8	13	4		2	38
	Diphtheria		1	1	1		1	4
	Smallpox					1		1
	Measles		1	1	1			3
Floyd	Diphtheria	2			1			3
	Smallpox		2		1			3
	Scarlet fever		1		5			6
Franklin	Diphtheria				2		1	3
	Epidemic paralysis				2	2		4
Fremont	Scarlet fever	1		7				8
	Smallpox			1				1
Green	Scarlet fever	1	2	1				4
	Diphtheria		2					2
	Tuberculosis					1	1	2
Grundy	Scarlet fever	11	1		1			13
	Smallpox		4					4
Guthrie	Scarlet fever	9	5	2	1			17
	Diphtheria				3			3
	Smallpox			1				1
Hamilton	Scarlet fever		1	2	1			4
	Diphtheria				8		1	9
	Smallpox					1		1
Hancock	Scarlet fever						2	2
	Epidemic paralysis				2	6	1	9
Hardin	Scarlet fever		1				1	2
Harrison	Scarlet fever	7	4	1		2		14
	Diphtheria		3					3
Henry	Scarlet fever			2	1			3
	Diphtheria							2
Howard	Scarlet fever	3						3
	Diphtheria	3		2			1	6
Humboldt	Scarlet fever	1				2		3
Iowa	Scarlet fever		3		1		5	9
	Diphtheria		3	1			1	5
Jackson	Scarlet fever					1	1	2
Jasper	Smallpox			1	1			2
Jefferson	Diphtheria					1		1
	Smallpox		1	1				2
	Scarlet fever					1		1
Johnson	Diphtheria		1					1
	Scarlet fever			5				5
Jones	Scarlet fever			1	1			2
	Diphtheria		1	2				3
	Smallpox	1	2					3
	Measles					1	4	5
Keokuk	Scarlet fever	3	4	10				17
	Smallpox				1			1
	Measles			10				10
Kossuth	Scarlet fever	3	5	5	2	2		17
	Smallpox					2	1	3
Lee	Scarlet fever					2	1	3
	Diphtheria					1		1

TABLE No. 2—CONTINUED

County	Disease	January	February	March	April	May	June	Total
Linn	Scarlet fever	17	6	10	8	9	3	53
	Diphtheria	3	1	4	4	4	2	18
	Smallpox	7			1	16	25	49
Louisa	Scarlet fever					1		1
	Lucas	2						2
Lyon	Diphtheria		5	9				14
	Scarlet fever		3	3	1			3
	Diphtheria		1	6				7
Madison	Smallpox		6	6				6
	Scarlet fever	2	1	1				4
	Smallpox				1			1
Mahaska	Scarlet fever		2	2	10			14
	Diphtheria		1		7		1	3
	Smallpox				7	1		3
Marion	Measles			14		1		14
	Typhoid fever	5	12					17
	Scarlet fever			2				2
Marshall	Diphtheria		2			3	1	6
	Smallpox	2						2
	Cerebrospinal meningitis				1			1
Mills	Measles					2	1	3
	Scarlet fever	3	5		1	3		12
	Diphtheria	1	1			13		15
Mitchell	Smallpox	4	1					5
	Cerebrospinal meningitis							1
	Diphtheria		1					1
Monona	Scarlet fever					6		6
	Smallpox		1	1	1			3
	Scarlet fever	1	1	1				3
Monroe	Cerebrospinal meningitis				1			1
	Measles			1				1
	Diphtheria	3		3				6
Montgomery	Smallpox	2	1					3
	Typhoid fever		3					3
	Pneumonia	1	2					3
Muscatine	Scarlet fever			4	1	1		6
	Diphtheria	1			4		1	6
	Scarlet fever		6	3	3	2	1	15
O'Brien	Diphtheria	1	2	1	3	2		9
	Scarlet fever						1	1
	Diphtheria	1			1			2
Osceola	Diphtheria					1		1
	Smallpox			1				1
	Scarlet fever	6	4	2	4	1	3	20
Page	Diphtheria		1		3			4
	Scarlet fever	1		2				3
	Diphtheria		3		1			4
Palo Alto	Diphtheria	1						1
	Scarlet fever							1
	Diphtheria	1	3		1			5
Plymouth	Diphtheria	1						1
	Scarlet fever			1				1
	Smallpox				1	1		2
Pocahontas	Scarlet fever							1
	Smallpox				1	1		2
	Scarlet fever	7	6	4	8	11	3	39
Polk	Diphtheria	15	7	6	5	6	4	43
	Smallpox	27	14	35	26	30	13	145
	Scarlet fever	1		4	8	16	29	29
Pottawattamie	Diphtheria				2	3	5	5
	Smallpox	1			4		16	21
	Measles				300	2		302
Poweshiek	Whooping cough				2			2
	Typhoid fever				10		4	14
	Tuberculosis						1	1
Ringgold	Scarlet fever	7		1				8
	Diphtheria	1						1
	Smallpox	6		13				19
Sac	Scarlet fever			1	1			2
	Diphtheria						1	1
	Scarlet fever		1	1				2
	Diphtheria					1		1

TABLE No. 2—CONTINUED

County	Disease	January	February	March	April	May	June	Total
Scott	Scarlet fever	2	7	23	6	7	10	55
	Diphtheria	13	22	9	18	4	6	72
	Smallpox		2	3	2	4	3	14
Shelby	Measles							1
	Typhoid fever	2	3	5	2			12
	Tuberculosis	3	5					8
Sioux	Pneumonia			1				1
	Scarlet fever			2	2	2		6
	Diphtheria				4	4		8
Story	Typhoid fever	1						1
	Scarlet fever	4		3	5	20		32
	Diphtheria	11	2			1		14
Tama	Smallpox	6	12	15				33
	Cerebrospinal meningitis				1			1
	Measles							1
Taylor	Scarlet fever		14	6	2		1	23
	Diphtheria		3					3
	Smallpox		17					17
Union	Scarlet fever	1	1	1				3
	Diphtheria			1	1			2
	Cerebrospinal meningitis						1	1
Van Buren	Scarlet fever		5			5	1	11
	Scarlet fever	2			3			5
	Diphtheria					3		3
Wapello	Smallpox					2		2
	Scarlet fever		1	2				3
	Diphtheria	1	1	1	5	4		12
Warren	Scarlet fever	6			1			7
	Diphtheria	7	1					8
	Diphtheria	4	3	2				9
Washington	Measles	4	1					5
	Scarlet fever		1	1				2
	Diphtheria				2	7		9
Wayne	Measles					1	4	5
	Scarlet fever				3	3	2	8
	Diphtheria			1				1
Webster	Epidemic paralysis					1		1
	Scarlet fever	2			1			3
	Diphtheria	1			4	2		7
Winnebago	Smallpox		5					5
	Scarlet fever				10			10
	Diphtheria		1					1
Winneshek	Smallpox			2	2	1		5
	Measles			2				2
	Tuberculosis		1					1
Woodbury	Scarlet fever	8	11	15	8	5	6	53
	Diphtheria	7	5	1	5	4	2	24
	Smallpox	7	1	2	1	2	1	14
Worth	Measles				1			1
	Scarlet fever				2			2
	Diphtheria	1			1	1		3
Wright	Diphtheria	1						1
	Smallpox		1	1				2
	Total							2,895
Total for first six months								1,421
Total for last six months								2,895
Total for fiscal year								3,816

REPORT OF DEATHS FOR THE QUARTER ENDING SEPT. 30, 1908.

	July	August	September
Total deaths (stillbirths included)	1,513	1,607	1,539
Total preventable diseases	334	235	292
Stillbirths	78	72	54
Under 1 year	186	231	230
From 1 to 10 years	115	176	170
From 10 to 21 years	102	85	68
65 years and over	529	461	523
Foreign born	333	349	324
Native born	1,117	1,249	1,168
Accidents from petroleum products			1
Appendicitis	8	17	10
Cancer	112	93	92
*Diphtheria	9	15	11
*Influenza	2	2	1
*Measles	3		
*Meningitis	29	26	34
*Pneumonia	29	42	40
*Puerperal septicemia	3	3	
*Scarlet fever	2	1	1
*Smallpox	19	12	21
Suicide	39	78	68
*Tuberculosis (pulmonary)	26	26	26
*Tuberculosis (other forms)	18	28	27
*Typhoid fever	115	95	83
Violence	22	9	15
*Whooping cough			

*Preventable diseases.

The following deaths were reported to this office for the quarter ending December 31, 1908.

	October	November	December	Total
Total deaths (stillbirths included)	1,675	1,549	1,609	4,923
Total preventable diseases	315	294	318	927
Stillbirths	69	61	64	194
Under 1 year	305	180	215	600
From 1 year to 10 years	153	90	104	356
From 10 to 21 years	89	71	67	227
65 years and over	595	580	558	1,738
Foreign born	350	261	417	1,168
Native born	1,222	1,191	1,238	3,661
Accidents from petroleum products				2
Appendicitis	11	12	5	28
Cancer	119	106	106	331
*Diphtheria	36	28	23	87
*Influenza	2	5	10	17
*Measles	1	1	1	3
*Meningitis	39	9	18	47
*Pneumonia	104	118	127	349
*Puerperal septicemia	1	5	1	7
*Scarlet fever		2	2	4
*Smallpox			1	1
Suicide	20	13	15	48
*Tuberculosis (pulmonary)	77	99	85	261
*Tuberculosis (other forms)	39	17	17	63
*Typhoid fever	39	19	25	83
Violence	68	51	57	176
*Whooping cough	6	9	8	23

*Preventable diseases.

1909.

	January	February	March	April	Total
Total deaths (stillbirths included)	1,363	1,831	2,118	1,980	7,862
Total preventable diseases	573	519	679	535	2,306
Stillbirths	77	75	77	70	299
Under 1 year	294	320	310	267	1,191
From 1 to 10 years	144	143	161	128	576
From 10 to 21 years	91	68	95	92	346
65 years and over	697	698	790	751	2,936
Foreign born	477	441	515	471	1,904
Native born	1,423	1,444	1,575	1,462	5,904
Accidents from petroleum products					2
Appendicitis	20	11	15	10	56
Cancer	116	84	92	112	404
Diphtheria	24	13	10	8	55
Influenza	31	32	56	54	173
Measles	3	4	6	4	17
Meningitis	33	16	25	30	103
Pneumonia	320	306	396	256	1,248
Puerperal septicemia	3	1	1	4	9
Scarlet fever	7	4	16	14	41
Smallpox	1				1
Suicide	23	11	15	18	67
Tuberculosis (pulmonary)	122	92	117	121	452
Tuberculosis (other forms)	25	27	27	26	105
Typhoid fever	26	19	14	10	69
Violence	54	48	87	47	239
Whooping cough	9	5	11	8	33
Glanders	1				1

REPORT OF DEATHS FROM ALL CAUSES, FROM MAY 1, 1909, TO
 JANUARY 1, 1910.

County	May	June	July	August	September	October	November	December	Total
Adair	10	12	7	15	12	5	9	11	81
Adams	12	10	9	9	7	2	9	7	65
Allamakee	19	13	21	16	12	16	17	12	126
Appanoose	6	11	25	30	19	20	21	25	157
Audubon	13	6	7	12	14	6	4	9	71
Benton	18	16	10	21	17	19	13	15	122
Black Hawk	18	21	17	30	22	35	29	32	194
Boone	21	29	19	25	31	30	29	19	182
Bremer	11	14	16	11	8	7	13	11	91
Buchanan	21	14	10	13	20	21	21	19	147
Buena Vista	6	13	8	4	6	11	7	6	60
Butler	18	8	12	9	10	14	9	16	97
Calhoun	8	10	7	7	7	15	6	12	73
Carroll	10	14	17	13	11	14	7	12	97
Cass	13	14	17	13	9	10	16	10	102
Cedar	21	13	15	12	12	11	6	15	105
Cerro Gordo	17	8	13	17	17	19	6	12	109
Cherokee	11	12	7	12	10	13	7	7	79
Chickasaw	3	9	9	8	10	8	10	12	69
Clarke	6	9	8	8	7	9	6	7	69
Clay	3	7	6	11	13	12	6	9	69
Clayton	23	18	15	14	20	21	11	28	159
Clinton	41	37	40	41	32	47	32	40	310
Crawford	12	13	16	13	13	18	15	15	120
Dallas	16	6	24	16	13	11	11	24	126
Davis	12	7	12	4	8	8	7	5	63
Decatur	7	12	6	12	10	12	10	12	81
Delaware	13	20	13	14	11	14	11	13	109
Des Moines	55	32	32	36	31	33	30	37	287
Dickinson	5	7	5	7	7	2	7	4	45
Dubnque	64	53	37	50	53	47	47	47	398
Emmet	9	6	6	3	7	3	3	9	56
Fayette	28	17	15	13	21	19	21	21	160
Floyd	8	11	14	13	15	8	17	10	96
Franklin	18	6	6	15	9	7	9	21	89
Fremont	10	8	9	9	13	11	10	5	75
Greene	8	3	7	6	14	16	14	15	83
Grundy	5	6	4	7	4	6	8	6	46
Guthrie	20	16	7	15	18	11	18	11	110
Hamilton	18	15	14	8	16	19	13	11	114
Hancock	6	4	5	2	10	4	5	9	45
Hardin	31	17	11	16	19	15	14	13	126
Harrison	18	12	4	8	14	13	11	13	96
Henry	27	8	20	30	18	24	18	18	189
Howard	11	9	4	5	9	10	6	12	96
Humboldt	9	17	2	5	13	10	4	9	69
Ia	9	5	9	5	6	8	6	3	51
Iowa	7	13	13	27	10	14	10	17	111
Jackson	19	19	11	13	20	17	9	15	128
Jasper	15	19	20	29	25	27	9	21	156
Jefferson	15	7	10	9	8	15	7	9	80
Johnson	32	15	30	27	34	52	26	16	212
Jones	16	23	39	27	41	60	16	19	241
Keokuk	23	12	19	11	12	19	13	23	132
Kossuth	20	11	14	16	11	19	14	10	106
Lee	42	35	48	44	23	33	22	37	293
Linn	48	50	45	79	51	61	43	50	447
Louisa	4	7	9	8	5	14	7	14	68
Lucas	2	5	11	8	7	12	6	12	69
Lyon	6	5	5	6	2	6	5	3	38
Madison	6	15	15	6	12	12	3	17	89
Mahaska	35	20	15	20	23	26	11	27	177
Marion	26	12	19	22	19	13	11	15	137
Marshall	42	31	24	38	43	40	32	39	289
Mills	18	17	11	14	11	16	11	15	113
Mitchell	9	3	15	9	14	9	11	6	76

 REPORT OF DEATHS FROM ALL CAUSES, FROM MAY 1, 1909, TO
 JANUARY 1, 1910—CONTINUED

County	May	June	July	August	September	October	November	December	Total
Monona	12	28	10	12	12	10	5	16	105
Monroe	28	17	17	26	18	23	22	13	164
Montgomery	16	14	13	24	18	16	8	6	115
Muscatine	24	18	19	21	23	40	23	26	194
O'Brien	11	10	9	10	12	11	10	9	82
Osceola	7	2	4	7	3	5	9	4	35
Page	20	20	16	29	32	26	26	30	199
Palu Alto	7	7	8	9	8	9	8	9	65
Plymouth	15	13	7	13	2	13	7	17	87
Pocahontas	11	4	9	5	5	15	7	7	63
Polk	121	96	88	142	116	110	120	96	880
Pottawattamie	49	46	51	62	34	50	39	49	377
Poweshiek	18	11	8	15	12	15	11	16	106
Ringgold	4	15	4	8	13	9	3	3	59
Sac	14	9	13	12	10	8	13	16	95
Scott	57	45	63	74	49	64	56	61	469
Shelby	6	6	6	14	8	5	6	7	58
Sioux	12	20	12	9	6	16	7	8	90
Story	19	15	18	19	25	20	17	18	151
Tama	18	16	13	10	11	13	11	25	117
Taylor	13	15	13	20	17	10	12	16	116
Union	15	13	14	19	17	19	8	7	103
Van Buren	14	13	6	8	9	10	4	14	78
Wapello	44	31	40	44	42	33	31	44	309
Warren	14	9	11	11	12	12	11	11	72
Washington	20	13	15	28	19	16	12	13	136
Wayne	14	15	18	12	12	13	6	13	108
Webster	24	17	21	18	19	27	32	23	183
Winnebago	13	8	6	6	7	7	10	5	62
Winneshiek	21	17	19	15	15	19	16	17	139
Woodbury	50	48	59	67	55	55	56	61	451
Worth	7	2	5	6	6	9	8	8	52
Wright	16	7	10	18	9	7	8	7	82
Totals	1,869	1,963	1,594	1,853	1,717	1,800	1,504	1,737	18,097

REPORT OF DEATHS FROM JANUARY 1, 1910, TO JULY 1, 1910.*

CLASSIFIED WITH REFERENCE TO DISEASES.

	January	February	March	April	May	June
Typhoid fever	24	29	22	23	14	11
Measles	2	1	7	13	13	4
Scarlet fever	9	9	15	7	11	6
Whooping cough	4	3	5	11	20	13
Diphtheria	28	10	16	21	12	14
Influenza	16	30	1	20	6	2
Other epidemic diseases	1			1	2	
Pellagra	1	1				
Tuberculosis of the lungs	113	113	111	122	106	123
Other forms of tuberculosis	3	2	3	5	11	12
Cancer and other malignant tumors	106	92	104	98	111	96
Simple meningitis	36	24	24	17	13	12
Cerebro spinal meningitis	20	1	1	7	20	8
Cerebral hemorrhage and softening of the brain	102	73	72	64	57	65
Paralysis	59	56	46	33	32	56
Apoplexy	56	58	57	61	50	50
Organic heart disease	185	197	236	195	193	179
Acute bronchitis	45	32	36	24	31	13
Broncho pneumonia	31	22	31	15	25	11
Pneumonia	196	186	223	158	99	99
Disease of stomach	18	5	12	24	11	3
Diarrhoea and enteritis	26	12	21	15	19	25
Hernia and obstruction of the bowels	23	19	20	31	7	26
Peritonitis	27	21	33	27	30	26
Appendicitis	28	16	14	9	9	12
Cirrhosis of liver	27	8	18	23	15	15
Nephritis and Bright's disease	74	86	76	73	76	62
Diseases of genito-urinary system	7	5	3	6	2	13
Puerperal septicemia	23	11	18	10	11	10
Other puerperal diseases	7	1	7	16	7	11
Gangrene	12	1	11	13	11	7
Malformation and injuries at birth	4	9	5	4	4	2
Imanition	33	28	44	40	52	43
Arterio sclerosis	40	31	16	22	14	26
Senile debility	115	105	121	98	104	87
Suicide	23	17	28	23	16	26
Homicide	7	6	1	3	1	7
Ill-defined causes	252	303	243	309	154	157
Accidents	65	61	121	72	66	119
Violence	5		1	2		11
Stillbirths	70	69	85	88	58	40
Premature births	43	35	30	49	48	34

REPORT OF DEATHS FROM JANUARY 1, 1910, TO JULY 1, 1910.*

CLASSIFIED WITH REFERENCE TO AGES.

	January	February	March	April	May	June
Under 1 year	24	171	202	171	153	179
1 to 5 years	82	78	82	99	77	84
5 to 10 years	43	33	54	49	40	48
10 to 20 years	85	76	66	92	70	73
20 to 30 years	123	121	151	98	110	70
30 to 40 years	142	110	138	136	104	102
40 to 50 years	115	145	167	147	121	118
50 to 60 years	178	153	189	162	144	137
60 to 70 years	244	237	298	226	181	198
70 to 80 years	344	351	371	326	261	321
80 to 90 years	277	245	281	208	171	210

REPORT OF DEATHS FROM JANUARY 1, 1910, TO JULY 1, 1910.*

CLASSIFIED WITH REFERENCE TO SEX.

	January	February	March	April	May	June
Male	1,028	875	1,074	915	795	918
Female	826	825	885	724	640	533

REPORT OF DEATHS FROM JANUARY 1, 1910, TO JULY 1, 1910.*

CLASSIFIED WITH REFERENCE TO COLOR.

	January	February	March	April	May	June
White	1,816	1,689	1,993	1,614	1,428	1,441
Colored	88	11	26	23	7	10

REPORT OF DEATHS FROM JANUARY 1, 1910, TO JULY 1, 1910.*

CLASSIFIED WITH REFERENCE TO NATIVITY.

	January	February	March	April	May	June
Natives	1,845	1,248	1,410	1,247	1,078	1,082
Foreigners	488	433	511	377	351	363
Unknown	21	19	38	15	6	

REPORT OF DEATHS FROM JANUARY 1, 1910, TO JULY 1, 1910.*

CLASSIFIED WITH REFERENCE TO MARITAL RELATIONS.

	January	February	March	April	May	June
Single	551	528	614	548	494	578
Married	790	741	836	717	688	556
Widowed	406	391	449	345	280	294
Divorced	24	14	19	17	14	26
Unknown	13	16	41	12	9	3

*Note.—This report is for the last six months of the biennial period. No record is obtainable for the preceding months upon the above basis for the reason that the method of keeping the record as now kept was not inaugurated until January 1, 1910.

GUILFORD H. SUMNER, M. D.,
Secretary.

TOTAL NUMBER OF DEATHS FOR BIENNIAL PERIOD.

	1908-1909	1909-1910
July	1512	1594
August	1607	1853
September	1539	1717
October	1675	1860
November	1549	1504
December	1699	1737
January	1933	1854
February	1831	1600
March	2118	1969
April	1980	1639
May	1869	1435
June	1563	1451
Total	20,886	20,313
Total number of deaths for Biennial Period		41,199

REPORT OF DIVORCES, MARRIAGES AND BIRTHS FOR FISCAL YEAR BEGINNING JULY 1, 1908, AND ENDING JUNE 30, 1909.

County	Divorces	Marriages	Births
Adair	7	100	293
Adams	16	124	212
Allamakee	4	129	289
Appanoose	35	307	491
Audubon	12	113	281
Benton	25	164	189
Black Hawk	72	428	578
Boone	27	300	457
Bremer	10	156	295
Buchanan	17	182	142
Buena Vista	5	155	120
Butler	5	96	228
Calhoun	13	155	235
Carroll	13	211	268
Cass	13	219	288
Cedar	14	148	301
Cerro Gordo	23	272	389
Cherokee	7	137	276
Chickasaw	8	129	238
Clarke	12	127	228
Clay	8	125	195
Ch Clayton	12	183	504
Clinton	70	100	455
Crawford	12	170	432
Dallas	28	159	344
Davis	8	105	244
Decatur	12	144	261
Delaware	10	152	249
Des Moines	35	338	358
Dickinson	7	60	144
Dubuque	39	496	458
Emmet	6	85	194
Fayette	22	223	412
Floyd	11	128	235
Franklin	6	100	269
Fremont	105	105	297
Greene	9	140	249
Grundy	7	93	211
Guthrie	16	147	297
Hamilton	6	154	303
Hancock	6	100	231
Hardin	15	168	390
Harrison	98	182	394
Henry	23	168	330
Howard	5	101	405
Humboldt	8	97	107
Ida	4	103	165
Iowa	3	92	300
Jackson	24	168	323
Jasper	30	202	468
Jefferson	8	148	272
Johnson	19	228	472
Jones	16	156	299
Keokuk	13	196	316
Kossuth	5	151	495
Lee	63	281	256
Linn	102	605	851
Louisa	6	70	233
Lucas	14	155	217
Lyon	5	117	141
Madison	9	116	243
Mahaska	20	254	518
Marion	21	204	314
Marshall	26	271	335
Mills	12	99	230
Mitchell	2	98	230
Monona	19	160	332

REPORT OF DIVORCES, MARRIAGES AND BIRTHS FOR FISCAL YEAR BEGINNING JULY 1, 1908, AND ENDING JUNE 30, 1909—CONTINUED

County	Divorces	Marriages	Births
Monroe	18	250	552
Montgomery	12	158	258
Muscatine	45	282	404
O'Brien	13	116	311
Osceola	5	88	197
Page	29	242	364
Palo Alto	7	95	231
Plymouth	10	124	411
Pocahontas	2	117	231
Folk	384	1,442	1,501
Pottawattamie	77	968	534
Poweshiek	6	150	319
Ringold	11	105	236
Sac	12	106	238
Scott	67	674	847
Shelby	13	132	316
Sioux	10	179	537
Story	23	308	395
Tama	15	146	340
Taylor	13	143	273
Union	22	191	192
Van Buren	19	112	250
Wapello	66	472	383
Warren	8	130	237
Washington	9	138	314
Wayne	9	140	217
Webster	23	236	485
Winebag	3	68	251
Winneshiek	6	145	422
Woodbury	128	605	557
Worth	3	80	133
Wright	16	143	297
Totals	2,245	19,790	23,425

REPORT OF DIVORCES, MARRIAGES AND BIRTHS FOR FISCAL YEAR BEGINNING JULY 1, 1909, AND ENDING JUNE 30, 1910.

County	Divorces	Marriages	Births
Adair	14	122	270
Adams	9	118	238
Allamakee	4	294	296
Appanoose	39	290	527
Audubon	3	124	278
Benton	19	193	428
Black Hawk	68	517	461
Boone	15	299	583
Bremer	8	127	344
Buchanan	4	145	348
Buena Vista	7	129	279
Butler	5	113	359
Calhoun	4	143	313
Carroll	10	144	410
Cass	12	199	384
Cedar	12	120	344
Cerro Gordo	24	263	445
Cherokee	6	174	299
Chickasaw	4	89	229
Clarke	11	99	224
Clay	7	118	199
Clayton	7	185	544
Clinton	59	476	968
Crawford	7	164	448
Dallas	23	180	408
Davis	12	122	241
Decatur	14	153	299
Delaware	15	119	155
Des Moines	34	439	410
Dickinson	4	60	70
Dubuque	20	518	700
Emmet	8	10	139
Fayette	26	240	537
Floyd	17	133	250
Franklin	7	117	313
Fremont	11	198	316
Greene	11	149	210
Grundy	4	96	319
Guthrie	12	272	258
Hamilton	11	181	380
Hancock	4	89	250
Hardin	13	159	366
Harrison	14	166	414
Henry	19	160	391
Howard	13	105	257
Humboldt	4	99	296
Ida	10	108	299
Iowa	10	145	333
Jackson	22	180	313
Jasper	24	214	512
Jefferson	8	153	265
Johnson	23	263	420
Jones	18	156	280
Keokuk	17	156	331
Kossuth	9	163	500
Lee	58	464	38
Linn	113	685	898
Louisa	10	106	146
Lucas	29	124	242
Lyon	5	129	302
Madison	11	121	254
Mahaska	51	249	463
Marion	11	235	387
Marshall	38	339	462
Mills	29	90	285
Mitchell	7	111	266
Monona	11	180	350

REPORT OF DIVORCES, MARRIAGES AND BIRTHS FOR FISCAL YEAR BEGINNING JULY 1, 1909, AND ENDING JUNE 30, 1910—CONTINUED

County	Divorces	Marriages	Births
Monroe	23	272	493
Montgomery	22	178	304
Muscatine	53	333	366
O'Brien	11	156	339
Osceola	2	67	212
Page	25	229	434
Palo Alto	8	103	248
Plymouth	4	153	483
Pocahontas	4	95	296
Polk	313	1,594	1,097
Pottawattamie	96	1,147	925
Poweshiek	8	310	325
Ringgold	9	120	248
Sac	19	103	322
Scott	77	677	982
Shelby	2	78	355
Sioux	8	238	624
Story	8	299	432
Tama	17	188	427
Taylor	15	136	277
Union	20	180	182
Van Buren	15	109	109
Wapello	4	483	509
Warren	19	164	325
Washington	12	190	338
Wayne	124	124	124
Webster	22	340	520
Winnebago	4	89	296
Winneshiek	11	276	450
Woodbury	183	771	927
Worth	4	70	293
Wright	6	144	429
Totals	2,187	22,002	30,328

VITAL STATISTICS DEPARTMENT.

LET THE PEOPLE OF IOWA READ AND REFLECT—VITAL STATISTICS—THE VERY FOUNDATION OF SANITARY SCIENCE—ABSOLUTELY NECESSARY TO PREVENTION OF TUBERCULOSIS.

The Secretary of this Board never realized the value of proper vital statistics until the opportunity presented itself for study in this office.

We are indebted to the Department of Commerce and Labor for the following very excellent comment:

"Our Absurd Vital Statistics.—Vital Statistics in this country are an infant science. Yet they are the very basis and foundation of any attempt to better the general health. Knowledge of what is killing us before our time is the first step toward saving our lives. The Census Bureau does its best to acquire this essential information."—Samuel Hopkins Adams in McClure's, July, 1908.

"Resolved, That the achievement of the registration of all deaths, with their causes, immediately after their occurrence, and the prompt return of certificates from local registrars to the central bureau of vital statistics, thereby giving the sanitary authorities of the state timely information of the exact prevalence and distribution of disease, is the most important of all sanitary measures, AND SHOULD BE UNREMITTINGLY URGED UNTIL successfully carried out in every state of the Union."—Associated Health Authorities and Sanitarians of Pennsylvania. 1904.

"Public hygiene is built upon, is controlled and directed by, and is everlastingly in debt to vital statistics. The might and the right to direct the future of preventive medicine, to make and terminate contracts, to approve and reject risks, to test materials and methods, to invest means and to distribute profits, these things belong inalienably to vital statistics. Every wheel that turns in the service of Public Health must be belted to this shaft, otherwise preventive medicine must remain invertebrate and unable to realize the profits available from the magnificent offering of collateral sciences. If the unborn historian of hygiene in the twentieth century shall find one anomaly more curious than any other, it will be that the twentieth century, opening with prodigious resources, immediately available, ran a third or half its course before these resources became so standardized that each unit of power might be accounted for in a definite scheme of vital statistics."—Dr. John S. Fulton, Secretary-General of the International Congress on Tuberculosis, in an address before the American Public Health Association, 1902.

"The question that most naturally arises to one interested in the prevention of tuberculosis in this country is, What is the mortality from tuberculosis in the United States?"

"It is necessary to confess frankly that an exact answer cannot be given to this question. Neither can the total number of deaths in the

United States from tuberculosis (or any other disease) be stated for any year, nor can the death rate, which is dependent upon an exact registry of all deaths from this cause, be given.

"In the absence of facts, and only in the absence of facts, estimates may be permissible. In his letter accepting the presidency of the International Congress on Tuberculosis the President of the United States (President Roosevelt), has referred to the loss of TWO HUNDRED THOUSAND LIVES A YEAR in our country from this cause. The statement is a reasonable one and probably well within the limits of precision attaching to any estimate."

The death certificates for the past four years have been carefully and painstakingly searched for reports of deaths from tuberculosis, and the following report is respectfully submitted:

DEATHS FROM TUBERCULOSIS IN IOWA FOR THE FOLLOWING YEARS:

County	1906	1907	1908	1909
Adair	9	12	8	5
Adams	4	8	6	5
Allamakee	12	7	13	12
Appanoose	25	17	28	18
Audubon	4	4	8	7
Benton	9	23	19	22
Black Hawk	19	17	20	23
Boone	12	9	13	23
Bramer	10	11	14	16
Buchanan	20	29	37	21
Buena Vista	8	14	10	6
Butler	8	6	9	11
Calhoun	10	11	8	9
Carroll	8	11	3	4
Cass	10	6	9	9
Cedar	7	9	7	7
Cerro Gordo	15	9	12	6
Cherokee	12	21	12	15
Chickasaw	14	10	9	12
Clarke	9	16	10	9
Clay	12	12	6	7
Clayton	14	15	16	20
Clinton	22	30	31	22
Crawford	8	7	8	5
Dallas	11	7	8	9
Davis	14	11	6	12
Decatur	4	19	10	9
Delaware	7	11	10	10
Des Moines	30	20	43	23
Dickinson	10	2	2	2
Dubuque	42	68	58	44
Emmet	7	11	6	9
Fayette	18	12	19	17
Floyd	8	9	11	9
Franklin	5	10	8	7
Fremont	13	14	8	13
Greene	13	5	10	12
Grundy	3	3	6	5
Guthrie	11	14	7	4
Hamilton	13	14	10	14
Hancock	6	2	7	2
Hardin	10	15	15	20
Harrison	15	8	8	8
Henry	16	29	37	29
Howard	6	15	14	9
Humboldt	3	4	10	5
Ia	2	1	7	11

DEATHS FROM TUBERCULOSIS—CONTINUED

County	1906	1907	1908	1909
Iowa	13	21	3	14
Jackson	4	10	11	16
Jasper	14	12	14	22
Jefferson	7	9	11	12
Johnson	13	14	23	15
Jones	12	10	17	15
Keokuk	12	11	14	12
Kossuth	4	9	11	8
Lee	42	39	29	35
Linn	51	47	41	48
Louisa	1	11	9	11
Lucas	13	15	1	7
Lyon	5	7	1	3
Madison	9	6	11	6
Mahaska	19	22	22	20
Marion	29	33	20	12
Marshall	22	27	33	31
Mills	16	20	13	21
Mitchell	13	10	7	3
Monona	5	18	5	10
Monroe	12	27	21	29
Montgomery	3	7	10	14
Muscatine	25	27	14	38
O'Brien	7	9	3	7
Osceola	2	2	2	5
Page	21	17	19	26
Palo Alto	7	6	8	7
Plymouth	6	12	12	3
Pocahontas	13	7	2	10
Polk	101	93	90	108
Pottawattamie	55	43	36	35
Poweshiek	10	14	11	11
Ringgold	8	8	10	9
Sac	6	7	7	7
Scott	64	59	74	68
Shelby	7	14	4	8
Sioux	7	9	6	7
Story	18	30	21	30
Tama	12	17	15	14
Taylor	16	13	11	15
Union	14	17	12	7
Van Buren	7	8	9	9
Wapello	40	40	38	39
Warren	15	22	27	18
Washington	16	16	23	15
Wayne	16	12	5	18
Webster	13	19	19	24
Winnebago	11	13	9	7
Winneshiek	13	17	13	18
Woodbury	53	53	45	41
Worth	8	11	8	11
Wright	11	14	10	14
Totals	1,502	1,661	1,548	1,597

DEATHS FROM ACCIDENTAL POISONING IN IOWA FOR THE FOLLOWING YEARS

County.	1905	1908	1909
Sioux	1		
Story	1		
Union	1		
Wapello	1		
Washington	1		
Total	19		
County.		1908	
Black Hawk		1	
Boone		1	
Clinton		1	
Dubuque		1	
Emmet		1	
Fayette		1	
Guthrie		2	
Hardin		1	
Harrison		3	
Humboldt		1	
Iowa		1	
Jefferson		1	
Johnson		1	
Jackson		1	
Plymouth		1	
Polk		1	
Pottawattamie		1	
Poweshiek		1	
Sioux		1	
Wapello		1	
Washington		1	
Winneshiek		1	
Total		25	
County.			1909
Calhoun			1
Cass			1
Cerro Gordo			2
Chickasaw			1
Clinton			1
Crawford			1
Benton			1
Butler			1
Decatur			1
Des Moines			1
Howard			1
Lee			1
Linn			1
Mahaska			1
Marshall			1
Mills			1
Polk			2
Sac			1
Wapello			1
Washington			1
Wayne			1
Webster			1
Woodbury			1
Total			25
County.	1907		
Black Hawk	1		
Bremers	1		
Cedar	1		
Dallas	1		
Jasper	2		
Mahaska	1		
Marion	1		
Montroe	1		
Page	1		
Pocahontas	1		
Sac	1		
Shelby	1		

NUMBER OF DEATHS FROM ALL CAUSES IN THE PRINCIPAL
CITIES OF IOWA FOR THE YEARS OF 1908 AND 1909.

	1908	1909
Boone	185	135
Burlington	963	865
Cedar Rapids	394	449
Clinton	219	223
Council Bluffs	419	461
Davenport	629	609
Des Moines	1,001	1,054
Dubuque	447	507
Fort Dodge	145	139
Fort Madison	118	123
Keokuk	289	221
Marshalltown	279	276
Muscatine	194	226
Oskaloosa	121	137
Ottumwa	851	330
Sioux City	658	614
Waterloo	254	201

NUMBER OF DEATHS FROM TYPHOID FEVER OCCURRING IN DES
MOINES DURING 1909.

Month.	No. of Deaths.
January	4
February	1
March	1
April	1
May	1
June	1
July	1
August	2
September	3
October	2
November	1
December	1
Total	16

REMEMBER.

Typhoid fever is prevalent during the autumn, winter and spring months. It is a germ disease. It is contracted by ingestion of typhoid germs in water, milk, dairy products, oysters, and fancy foods that come in contact with infected water and milk. These germs are contained in the excretions of typhoid patients.

Our water supply may be contaminated by faulty sewerage, surface drainage or unsanitary surroundings.

Our food may be infected through the medium of flies.

Typhoid fever is preventable.

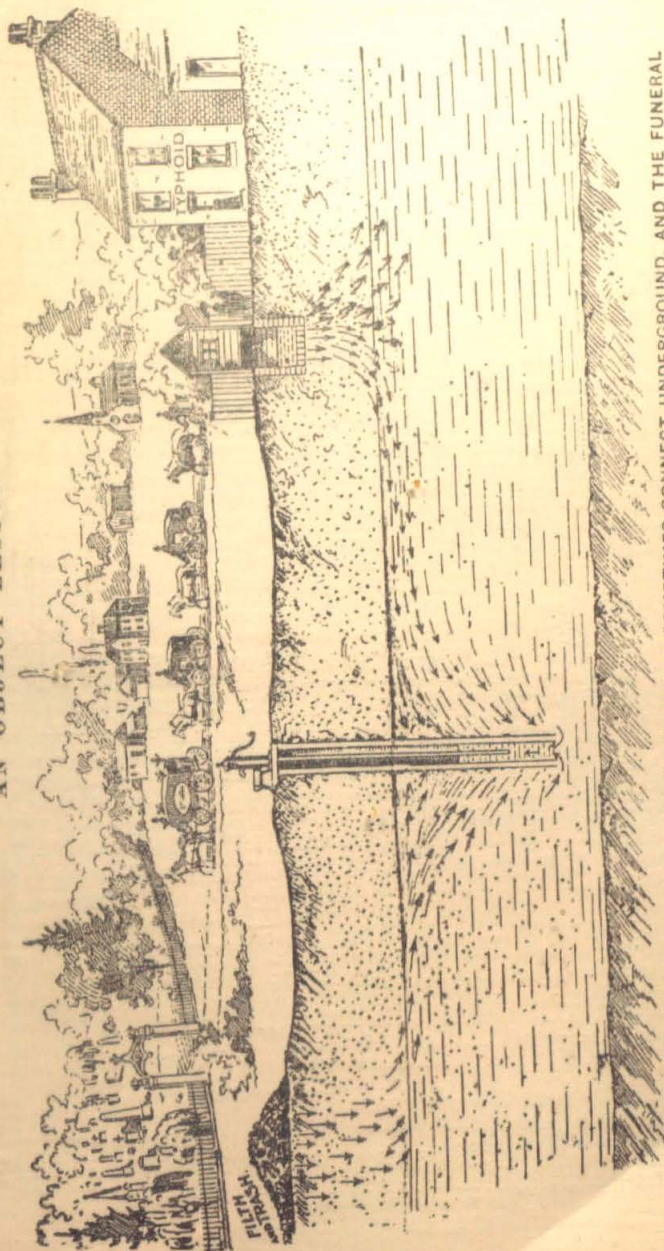
Boil all drinking water, if there is the least suspicion that it is contaminated.

Watch the source of your ice supply.

Look after your milk supply and all dairy products.

It is well to remember that a large percentage of the dairy herds are infected with tuberculosis hence it is absolutely essential that all cities and municipalities should have a milk inspection ordinance.

AN OBJECT LESSON



THIS PICTURE SHOWS HOW PRIVY VAULTS AND WELLS SOMETIMES CONNECT UNDERGROUND, AND THE FUNERAL PROCESSION MAKES PLAIN THE OUTCOME.

NUMBER OF BABIES UNDER ONE YEAR OF AGE WHO DIED IN DES
 MOINES DURING 1909, AND CAUSES OF DEATH.

Cause of death.	No.
Stillbirths	55
Premature births	61
Accidental Burns	1
Accidental poisoning	1
Acute gastritis	13
Anterior poliomyelitis	1
Appendicitis	1
Broncho pneumonia	9
Capillary bronchitis	5
Concussion of the brain	1
Cardiac insufficiency	5
Congenital heart trouble	4
Cholera infantum	17
Convulsions	3
Diphtheria	3
Hydrocephalus	3
Inflammation of brain	2
Inflammation of lungs	4
Intussusception	4
Indigestion	1
Ileo colitis	7
Ill-defined causes	4
Jaundice	2
Malnutrition	6
Meningeal hemorrhage	3
Marasmus	13
Malformation	3
Meningitis	6
Measles	1
Morphine poisoning	1
Inanition	29
Non-closure of foramen ovale	4
Pertussis	8
Pleuritis	1
Pneumonia	20
Pulmonary oedema	3
Peritonitis	1
Spina Bifida	1
Syphilis	1
Tubercular meningitis	3
Tuberculosis	5
Tetany	1
Shock due to exposure and cold	1
Found dead in vacant lot (about 2 weeks old)	1
Unknown infant, premature	1
Total	320

 ANNUAL REPORT OF INFECTIOUS DISEASES DURING 1909, SHOW-
 ING COMPARISON WITH 1908.

 CASES OF INFECTIOUS DISEASES REPORTED TO THE IOWA STATE BOARD
 OF HEALTH AS OCCURRING IN THE STATE OF IOWA.

	Cases		Deaths	
	1908	1909	1908	1909
Scarlet fever	1,929	1,217	4	14
Diphtheria	1,364	963	49	62
Smallpox	2,229	846		4
Cerebro-spinal meningitis	121	15	5	3
Measles	5,565	2,799	7	13
Whooping cough	875	253	4	4
Chickenpox	919	459		
Mumps	297	296		1
Puerperal fever	3	4	1	
Typhoid fever	600	183	19	17
Tuberculosis	218	304	23	55
Pneumonia	349	175	7	18
Totals	15,060	7,307	119	191

STATISTICS SHOWING THE NUMBER OF DEATHS IN THE STATE OF IOWA, OF PERSONS 90 YEARS AND OVER FOR THE MONTHS OF JANUARY, FEBRUARY, MARCH AND APRIL, 1910.

County	Social Relation	Years Months Days	Nativity	Sex	Date	Cause of Death
Adams	Widowed	90-4-25	Foreign	Male	February	Arterio sclerosis.
Allamakee	Widowed	94-10-7	Native	Male	March	Influenza.
Allamakee	Widowed	100-8-22	Unknown	Male	March	Senile debility.
Allamakee	Widowed	95-11-16	Unknown	Male	March	Senile debility.
Appanoose	Married	95-1-8	Foreign	Male	April	Senile debility.
Appanoose	Widowed	93-1-8	Native	Male	March	Gangrene.
Black Hawk	Unknown	93	Unknown	Female	January	Dropsy.
Black Hawk	Widowed	90-10	Foreign	Male	February	Senile debility.
Black Hawk	Widowed	90-2-20	Native	Female	February	Bronchitis.
Black Hawk	Widowed	91-2-28	Native	Female	March	Senile debility.
Black Hawk	Single	91-2-28	Native	Female	February	Senile debility.
Boone	Married	91-7-7	Native	Male	March	Senile debility.
Boone	Widowed	98	Foreign	Female	March	Senile debility.
Buena Vista	Widowed	98	Native	Female	March	Senile debility.
Buena Vista	Widowed	98	Native	Female	March	Senile debility.
Calhoun	Widowed	91-5-4	Foreign	Female	March	Senile debility.
Carroll	Widowed	91-9-23	Foreign	Female	March	Senile debility.
Carroll	Widowed	90-9-9	Native	Female	January	Senile debility.
Cass	Widowed	90	Foreign	Female	March	Senile debility.
Cedar	Widowed	96	Foreign	Female	March	Senile debility.
Cedar	Widowed	92-2-30	Native	Female	March	Senile debility.
Cedar	Widowed	93	Native	Female	April	Bronchitis.
Clark	Widowed	91-4-2	Native	Female	February	Bronchitis.
Clark	Widowed	92-11-26	Native	Female	April	Senile debility.
Clay	Widowed	91-7-27	Native	Male	February	Senile debility.
Clay	Widowed	94-6-6	Native	Male	April	Senile debility.
Clayton	Married	93-2-7	Native	Male	January	Senile debility.
Clayton	Married	93-2-7	Native	Male	March	Senile debility.
Clayton	Widowed	93-2-7	Native	Male	March	Senile debility.
Clayton	Widowed	90-8-25	Foreign	Female	March	Senile debility.
Clayton	Widowed	90-4-14	Foreign	Female	March	Senile debility.
Clynton	Widowed	90-1-11	Foreign	Female	January	Senile debility.
Clynton	Widowed	91-3	Foreign	Female	January	Senile debility.
Clynton	Widowed	93-8-2	Foreign	Male	January	Senile debility.
Crawford	Widowed	92-10-9	Native	Female	April	Apoplexy.
Dallas	Widowed	91-5-21	Native	Female	April	Senile debility.
Dallas	Widowed	90-10-15	Native	Female	April	Arterio sclerosis.
Davis	Widowed	90-3-23	Native	Male	March	Cerebral hemorrhage.
Decatur	Widowed	90-3-23	Native	Male	January	Senile debility.
Decatur	Single	90-2-28	Native	Female	January	Senile debility.

SHOWING DEATHS IN STATE OF PERSONS OVER NINETY 69

Des Moines	Widowed	90-3-28	Foreign	Female	January	Fracture of femur.
Des Moines	Married	90-7-6	Native	Male	January	Senile debility.
Dubuque	Single	100	Native	Male	January	Senile debility.
Dubuque	Married	92-7	Native	Female	February	Senile debility.
Dubuque	Widowed	91-5-17	Foreign	Female	February	Senile debility.
Dubuque	Widowed	93-6-5	Native	Female	March	Paralysis.
Dubuque	Widowed	93-6-5	Native	Female	March	Paralysis.
Floyd	Widowed	96-9-18	Foreign	Female	January	Senile debility.
Floyd	Widowed	90	Native	Female	February	Senile debility.
Floyd	Single	93	Native	Male	March	Kidney trouble.
Greene	Widowed	90-8-5	Foreign	Male	February	Senile debility.
Greene	Widowed	93-9-16	Native	Female	February	Senile debility.
Guthrie	Widowed	91-2-3	Foreign	Female	February	Uremic coma.
Guthrie	Widowed	91-6-17	Native	Female	April	Senile debility.
Hamilton	Widowed	91-2-3	Foreign	Female	March	Senile debility.
Hamilton	Widowed	90-1-14	Foreign	Female	March	Arterio sclerosis.
Hancock	Widowed	90-6-20	Native	Female	March	Senile debility.
Hancock	Widowed	92-0-10	Native	Female	March	Senile debility.
Harrison	Widowed	93-11-32	Foreign	Female	April	Shock following fall.
Harrison	Single	91	Native	Female	February	Septicemia.
Henry	Widowed	93-4-25	Native	Female	April	Senile debility.
Howard	Widowed	93-4-25	Native	Female	February	Senile debility.
Jackson	Widowed	101-6-17	Foreign	Female	February	Senile debility.
Jackson	Widowed	90-9-2	Native	Female	February	Senile debility.
Jasper	Widowed	93-9-11	Native	Male	March	Heart disease.
Jasper	Widowed	91-11-20	Native	Male	January	Apoplexy.
Jasper	Widowed	91-4-12	Foreign	Male	February	Senile debility.
Johnson	Widowed	99	Foreign	Female	March	Bronchitis.
Johnson	Single	96-10-21	Native	Female	March	Senile debility.
Johnson	Widowed	93-6-7	Native	Female	March	Senile debility.
Johnson	Widowed	91-1-27	Foreign	Female	April	Senile debility.
Jones	Widowed	94-6-28	Native	Male	February	Senile debility.
Jones	Widowed	91-1-30	Native	Male	February	Senile debility.
Kossuth	Widowed	97-1-9	Native	Female	February	Senile debility.
Lee	Widowed	92-2-17	Native	Female	January	Senile debility.
Linn	Widowed	92-2-17	Foreign	Female	January	Senile debility.
Linn	Widowed	91-1-14	Foreign	Female	March	Bronchitis.
Linn	Widowed	93-9-28	Native	Female	March	Senile debility.
Linn	Widowed	92-0-14	Native	Female	March	Senile debility.
Louis	Married	90-10	Foreign	Male	April	Acute gastritis.
Lyon	Widowed	90-10	Foreign	Female	April	Apoplexy.
Madison	Widowed	91-0-5	Native	Female	March	Senile debility.
Madison	Married	91-0-5	Native	Female	March	Senile debility.
Marion	Widowed	92-2-18	Native	Female	March	Senile debility.
Marshall	Married	90	Foreign	Female	April	Senile debility.
Marshall	Widowed	94-3-24	Foreign	Female	April	Senile debility.
Monona	Married	97-10-15	Foreign	Female	March	Paralysis.

STATISTICS SHOWING THE NUMBER OF DEATHS IN THE STATE OF IOWA, OF PERSONS 90 YEARS AND OVER, FOR THE MONTHS OF JANUARY, FEBRUARY, MARCH AND APRIL, 1910—CONTINUED

County	Social Relation	Years Months Days	Nativity	Sex	Date	Cause of Death
Monona	Married	92-6-18	Native	Male	April	Bronchitis.
Monroe	Widowed	90	Foreign	Male	January	Cystitis.
Monroe	Married	90	Native	Male	February	Senile debility.
Monroe	Widowed	92	Native	Male	April	Senile debility.
Montgomery	Married	94-0-28	Foreign	Male	January	Senile debility.
Montgomery	Widowed	95	Native	Male	February	Senile debility.
Montgomery	Widowed	90-3-13	Native	Female	February	Heart disease.
Muscatine	Married	92-6-19	Foreign	Male	February	Senile debility.
Muscatine	Widowed	92-0-7	Native	Female	March	Senile debility.
Muscatine	Widowed	93-2-5	Native	Female	April	Senile debility.
O'Brien	Widowed	92-11-16	Native	Male	March	Senile debility.
Page	Widowed	91	Foreign	Male	March	Pneumonia.
Palo Alto	Single	113-1-90	Foreign	Male	April	Senile debility.
Polk	Widowed	95	Native	Female	March	Apoplexy.
Pottawattamie	Widowed	90	Native	Male	January	Senile debility.
Pottawattamie	Widowed	90-21	Native	Male	January	Senile debility.
Poweshiek	Widowed	91-11-3	Native	Female	February	Senile debility.
Poweshiek	Widowed	95-10-21	Foreign	Female	March	Congestion of the lungs.
Ringgold	Widowed	92	Native	Female	April	Influenza.
Sac	Single	92-4-10	Native	Female	March	Paralysis.
Scott	Widowed	90-11-8	Native	Female	January	Apoplexy.
Scott	Widowed	90-3-25	Native	Female	February	Senile debility.
Scott	Widowed	97-8-6	Native	Male	March	Broncho pneumonia.
Scott	Widowed	95-11-14	Foreign	Female	March	Pneumonia.
Story	Widowed	95-7-24	Native	Female	January	Accident.
Tama	Widowed	90-1-13	Native	Female	January	Bronchitis.
Taylor	Married	90-19	Native	Male	February	LaGrippe.
Taylor	Widowed	92-1-2	Native	Female	April	Senile debility.
Union	Married	97-11-21	Native	Female	January	Paralysis.
Wapello	Widowed	90-5-25	Native	Female	February	Pneumonia.
Warren	Single	90	Foreign	Male	March	Senile debility.
Washington	Widowed	90	Foreign	Female	January	Senile debility.
Washington	Married	92-10	Foreign	Male	April	Senile debility.
Webster	Widowed	96-8-13	Foreign	Female	March	Pneumonia.
Webster	Married	92-11-11	Native	Male	April	Senile debility.
Woodbury	Widowed	91-9-14	Foreign	Male	January	Senile debility.
Woodbury	Widowed	93-8	Foreign	Female	January	Senile debility.
Woodbury	Widowed	90	Foreign	Female	January	Senile debility.
Woodbury	Unknown	92	Native	Male	January	Arterio sclerosis.
Woodbury	Widowed	90-2-29	Foreign	Female	February	Pneumonia.
Woodbury	Widowed	91-9-13	Native	Female	March	Paralysis.
Worth	Widowed	99-9-26	Foreign	Female	January	Arterio sclerosis.
Worth	Widowed	90	Foreign	Male	March	Bronchitis.

PROPER REGISTRATION OF VITAL STATISTICS, BIRTHS, STILL-BIRTHS, DEATHS, MARRIAGES, DIVORCES, SICKNESS.

Every individual has a reasonable right to demand that his or her birth, death, marriage or divorce (should there be a marriage or divorce), shall be properly recorded somewhere besides in the Old Family Bible, for in many instances the absence of such record works a great hardship, besides inconvenience and hardship in many instances similar to the two cases which I shall relate and which are said to have actually occurred. A young man and wife came from Switzerland and settled in a nearby state. They were hardy, honest and industrious. They settled in the county of Switzerland, doubtless being attracted by the name of their home-land. In the course of time a baby girl came to brighten their home. The father being thrifty and intelligent, was soon made a foreman in a saw-mill. When his child was about two years old, the father was accidentally killed by a log rolling over him. Time had not been sufficient for him to accumulate property, hence the wife struggled with wash-tub and needle to earn a living for herself and child. One day the news came that a brother of the father, the child's uncle in Switzerland, had died leaving \$12,000 to the issue of his brother. Great was the rejoicing which, on account of the neglect of the physician to record the birth, was to become bitter sorrow. Before the Swiss Government would turn over the property, it must have proof that the little child was the issue of the dead man. Neighbors knew of the birth of the child but could not testify except as to their belief of the fatherhood. The testimony of the mother was not admissible in her own country for she could lead any child into court and declare any man to be the father. It was the physician's birth certificate, made at the time of birth and presumably in the presence and by the authority of the father, that the law demanded. It could not be produced, and the helpless infant that the physician should have been eager to protect and serve, lost its inheritance. What a cruel and unnecessary blow was this from the hand of a practitioner of the learned and benevolent science of medicine. Surely a physician's duty to the families he serves and to the helpless infants are not fully performed until he has made out a certificate of birth and taken reasonable care that it is made of due legal record. Another incident is related of a farmer who left his valuable estate in trust to his unthrifty son, to go to his granddaughter on her twenty-first birthday. The girl had been told that the date of her birth was on a certain day of the month and year; and always celebrated the day as her birth-

day. The time came when she believed she was twenty-one, and therefore claimed her inheritance. Her father denied her age, saying she was only nineteen. The family bible was appealed to, but the leaf containing the family record was gone. No birth record had been rendered and the attending physician was dead. The court was in a quandary. A Solomon was needed for judgment. At last a neighbor remembered that a valuable cow belonging to the grandfather had given birth to a calf on the day the girl was born, and he could swear to it. Perhaps the grandfather had recorded the date of the birth of the calf. His farm books showed this to be the case. The date of the birth of the human being was established.

What has been related regarding births is essentially true of the other Departments of Vital Statistics. It is as necessary that all stillbirths and deaths be reported in order that the proper tables of mortality may be made. These tables are essentially useful in studying all public health measures; and without them, we are like one traveling on a road with no guide-posts.

Marriages and divorces should also be properly recorded, for, in many instances a lack of proper records leads to serious complications as in cases of improper records of births.

Another important department of Vital Statistics is the proper recording of prevailing contagious and infectious diseases, for with such information at hand, Boards of Health are enabled to take active measures to prevent the spread of such diseases. It should be stated in this connection that the number of communicable diseases to be reported to the State Department of Health should be amplified and made to include the following: Anterior poliomyelitis, anthrax, bubonic plague, cancer, cerebrospinal meningitis, chickenpox, cholera, diphtheria, hydrophobia, leprosy, measles, ophthalmia neonatorum, pellagra, pneumonia, scarlet fever, smallpox, tetanus, pulmonary or laryngeal tuberculosis, typhoid fever, typhus fever, whooping cough and yellow fever.

Referring again to births: If society is to continue, it must be recruited by births. While our population is increasing by immigration, if we are to have a healthy growth, the number of births must exceed that of deaths, hence the early notification of births is essential for the prevention of disease, and the total number of births in a state or a city is the basis of that important ratio known as Infant mortality. The full measure of protection to infant life can not be given unless all births are promptly reported.

If we are to obtain accurate statistics of births, it is necessary that every birth should be properly reported for record. Upon a proper record of Vital Statistics therefore depends the prosperity and health of all states and nations. It is the most important of all departments of public health boards and should be the most liberally provided with funds for the carrying on of the work of proper registration and reports. Vital statistics is the complete registration and tabulation of the population, marriages, births, diseases, deaths, and divorces. Coupled with this, the full analyses of all the resulting illustrations with the purpose in view to examine thoroughly the path of sanitary progress.

Because of the importance to the people of Iowa, the legislature should, before adjournment, make ample provision for this department, and formulate a law whereby proper records may be kept and full reports secured.

It was that genuine philosopher and statesman, Benjamin Franklin who said, "Public Health is Public Wealth." The truth of this statement cannot be disputed and it is to be hoped that our present statesmen will become enthused with these true economics to the extent that needed legislation will be enacted for improving the present public health measures.

Disraeli said, "The care of the public health is the first duty of statesmen." Gladstone said, "In the health of the people lies the strength of the Nation," and only a short time since, the New York City Board of Trade passed unanimously, a resolution which reads as follows:

"Resolved, That the health and protection of life are more precious to the people and more necessary to their happiness than even the extension of our commerce, the fostering of our agricultural interests, the solving of our financial problems, the cheapness or efficiency of our postal service, the importance of improving our rivers and harbors or the enlargement of our navy."

The men who gave utterance to these statements were practical, successful business men who have accomplished much, and were not physicians or sanitarians. It must be acknowledged however, that the teachings of the medical profession have always been in accord with the resolutions now so universally adopted.

The conclusion is, therefore, that the importance of vital statistics to the family, the State and to medicine, can hardly be over-estimated. The physician is, except in instances, the only member of society who can supply information in regard to causes of death and the presence of infectious diseases; and a physician should remember when reporting vital statistics that he is giving obedience to the statutes of Iowa, on which he depends for protection; and that he is protecting the innocent and helpless, thus doing a general good and serving the profession to which he belongs and which he should delight to honor.

EMBALMERS' DEPARTMENT.

On the 30th day of June, 1910, there were in the State of Iowa, 1,059 licensed embalmers in good standing with the Iowa State Board of Health.

During the biennial period, July 1, 1908, to June 30, 1910, there were 165 embalmers' licenses issued upon examination.

The Embalmers' Department is as complete as any department of the Board of Health, and the embalmers of the state feel a keen interest in all public health measures, for to them, in many instances, is left the important details to be carried out in protecting the public from contagious and infectious diseases. The embalmers feel that they are a constituent part of the State Board of Health, and the office of the Board is the general center for the diffusion of knowledge relative to the prevention and spread of disease.

DISINTERMENTS.

During the biennial period, ending June 30, 1910, a total of 2,098 disinterment permits were issued from the State Board of Health office as follows:

1908-09		1909-10	
July	69	July	71
August	57	August	61
September	84	September	127
October	145	October	123
November	108	November	102
December	65	December	34
January	21	January	14
February	24	February	24
March	60	March	93
April	107	April	135
May	105	May	136
June	76	June	93
Total	921	Total	1,013
Special Disinterment Permits issued	164		
Total number of permits issued	2,098		

NURSES' DEPARTMENT.

At the end of the biennial period, June 30, 1910, there were 969 nurses registered in Iowa. Of this number 254 were granted certificates during the last biennial period. Of this number 66 were registered without examination, as provided for in Section 2, Chapter 139, Acts of the 32d General Assembly; 10 were registered without examination, as provided for in Section 2575-a-29, Supplement to the Code, and 178 were registered after having passed a satisfactory examination before this Board.

Since January 1, 1910, all nurses who applied for registration were required to pass an examination as the time for registration without examination as fixed by law expired January 1, 1910. Nurses holding diplomas from any of the following list of training schools are eligible to examination before this Board:

TRAINING SCHOOLS IN GOOD STANDING WITH THE STATE BOARD OF HEALTH, JUNE 30, 1910.

Atlantic	Atlantic Hospital Training School.
Boone	Eleanore Moore Hospital.
Burlington	Burlington City Hospital.
Burlington	Mercy Hospital.
Carroll	St. Anthony's Hospital.
Cedar Rapids	Mercy Hospital.
Cedar Rapids	St. Luke's Hospital.
Cherokee	Cherokee State Hospital.
Clarinda	Clarinda State Hospital.
Clinton	Agatha Hospital.
Clinton	St. Joseph's Mercy Hospital.
Council Bluffs	Jennie Edmundson Memorial Hospital.
Council Bluffs	Mercy Hospital.
Creston	Coakley's Public Hospital.
Creston	Cottage Hospital.
Davenport	Davenport Hospital.
Davenport	Mercy Hospital.
Davenport	St. Luke's Hospital.
Des Moines	Iowa Methodist Hospital.
Des Moines	Mercy Hospital.

Dubuque	Finley Hospital.
Dubuque	St. Joseph's Mercy Hospital.
Glenwood	Glenwood State Hospital.
Ida Grove	Conn Brothers' Hospital.
Independence	Independence State Hospital.
Iowa City	State University Hospital, (Regular).
Iowa City	State University Hospital, (Homeopathic).
Keokuk	Graham Hospital.
Keokuk	St. Joseph's Hospital.
Maquoketa	Iowa Sanatorium Training School.
Marshalltown	St. Thomas' Mercy Hospital.
Mason City	City Park Hospital.
Muscatine	Benjamin Hershey Memorial Hospital.
Muscatine	Bellevue Hospital.
Mt. Pleasant	Mt. Pleasant State Hospital.
Nevada	Iowa Sanitarium Training School.
Oskaloosa	Abbott Hospital.
Oskaloosa	Oskaloosa Public Hospital.
Ottumwa	Ottumwa Hospital.
Sioux City	German Lutheran Hospital.
Sioux City	Samaritan Hospital.
Sioux City	St. Joseph's Mercy Hospital.
Sioux City	St. Vincent's Hospital.
Waterloo	Synodical Presbyterian Hospital.

BOARD OF MEDICAL EXAMINERS.

The total number of physicians registered and practicing in this state June 30, 1910	3,624
Ratio 1 to every 605 persons.	
Number of certificates issued during biennial period	373
Number of certificates issued upon examination	231
Number of certificates issued under reciprocal agreements with other states	142
Number of Itinerants' licenses issued during biennial period.....	13
Number of Osteopathic certificates issued	24

The State Board of Medical Examiners, believing that the standard of medical education should be advanced, has adopted a preliminary requirement; therefore all persons contemplating, after January 1, 1911, the study of medicine, surgery and obstetrics, or who expect to appear before the Iowa State Board of Medical Examiners for examination must be graduates of a fully accredited* high school, academy, or seminary in which at least two years of foreign language is required, and in addition thereto, two full years of college work in an accredited college, which shall include at least ten semester hours† of chemistry, ten of physics (or six, if one year in the subject was done in high school), six of biology, and ten of foreign language. The foreign language taken in college must include enough Latin to make the total Latin taken in high school and college together equal to two years' work in that subject.

All colleges requiring a lesser standard of qualifications will not be considered in good standing with the Iowa State Board of Medical Examiners.

*By an 'accredited' high school, academy and seminary is meant one that has been inspected and fully accredited by the State University of the State in which it is located; or, in other words, a high school, academy or seminary, a diploma from which would admit the holder to the College of Liberal Arts of the State University of Iowa without examination. The matriculation examination for entrance on the study of medicine must be conducted by one especially qualified and not by any member of the medical faculty. Any disputes arising as to an accredited school or as to the standard of examination for applicants for matriculation shall be referred for settlement to the Iowa State Inspector of Schools.

†By 'semester hour' is meant a subject taken for one hour a week during one semester. This equals from sixteen to eighteen hours of didactic class-room work or thirty-two to thirty-six or more hours of laboratory work.

MEDICAL INSTITUTES, LIQUOR-CURE INSTITUTES AND MEDICAL ADVERTISERS.

It is noticeably apparent that a large number of institutes for the cure of diseases, liquor and other habits are being established within the State of Iowa, and it has been suggested that all such institutions should be inspected and licensed, if found worthy. These institutions seem to be flourishing, and it is the right and duty of the state to examine the work that is being done, in order that an unsuspecting public may be protected against the connivings and machinations of humbugs. The innocent and unwary are always the prey upon which some of these institutions feed, and the State is the custodian of the people's rights and should throw around all such, its mighty arm of protection to the extent that their condition may be bettered rather than made worse.

It is not an uncommon thing to receive daily inquiries at the State Board of Health office relative to some of these institutions. What is to be done for our people along this line must be done through the enactment of a proper and efficient law to protect us from unworthy practitioners who, like the roaring lion, go about seeking whom they may devour.

There are some practitioners who lend their titles and influences to the crafty and unprincipled, for no other purpose than to prey upon the innocent and helpless. The Iowa law provides that a physician's license may be revoked for 'unprofessional conduct,' but it does not define unprofessional conduct. In this connection it is worthy of note to call attention to the manner of advertising of some of these various institutions where these treatments and so-called cures are so marvelously made. The reading of some of these advertisements leads the afflicted to seek charlatans, who have no other purpose than to secure what cash their poor victims have. It is absolutely necessary that some curb be placed upon these advertising institutions and their methods. What has been said of those who are machinators and parasites and who subsist upon the very life of their victims, is equally true of some of the advertising quacks who seem to be permitted to go about under the guise of licensed itinerant practitioners of medicine. Those who are false, flaming Beacons cast their blaze afar; and the poor suffering mortal, seeing the rays of false hope glimmer in the glaring advertisement and well-worded testimonial, composed with the adroitness of a spider which weaves its net for an unsuspecting victim, stands and views the blaze, thinking that the West yet glimmers with some streaks of day, then unsuspectingly steps into the lair to be preyed upon and relieved of his cash.

It is fittingly proper that a definition should be incorporated into the law defining 'gross unprofessional conduct' so that he who runs may read understandingly, and thus avoid misleading an unsuspecting public; therefore the words, 'gross unprofessional conduct,' as used in Section 2578, Chapter 17, Title 12, of the Code, should be declared to mean:

First. The procuring or aiding or abetting in procuring a criminal abortion.

Second. The employment of what are popularly known as 'cappers' or 'steerers' in procuring practice.

Third. The obtaining of a fee on the assurance that a manifestly incurable disease can be permanently cured.

Fourth. A willful betrayal of the professional secret to the detriment of the patient.

Fifth. All advertisements of medical business in which untruthful and improbable statements are made.

Sixth. All advertisements of any kind, of any medicine or means, whereby the monthly periods of women can be regulated or the menses can be re-established if suppressed.

Seventh. Conviction of any offense involving moral turpitude.

Eighth. Habitual intemperance in the use of ardent spirits, narcotics or stimulants; or the commission of other grossly unprofessional or dishonorable conduct of a character likely to deceive or defraud the public.

The finale of this is, that men who are to practice medicine in Iowa are to be honorable with suffering humanity, dealing in merciful ministrations, avoiding the avarice of the unprincipled, seeking the good for the many and rendering value received to all.

THIRD BIENNIAL REPORT OF STATE BOARD OF HEALTH BACTERIOLOGICAL LABORATORY, FOR THE PERIOD COMMENCING JULY 1, 1908, AND ENDING JUNE 30, 1910.

The following report of the State Board of Health Bacteriological Laboratory, prepared by the Director, Dr. Henry Albert, is herewith submitted.

NUMBER AND KINDS OF EXAMINATIONS.

During the past two years 22,861 examinations were made in the laboratory. Of these 11,729 were for diphtheria, 2,733 for typhoid fever, 7,211 for tuberculosis, and 1,188 miscellaneous.

Diphtheria.—Of the 11,729 examinations for diphtheria, 4,515 were for diagnosis, of which 1,420 were positive, 2,943 negative and 152 questionable; 7,214 were made for release from quarantine, of which 2,847 were positive, 4,351 negative, and 16 questionable.

Typhoid Fever.—Of the 2,733 examinations of blood for the Widal reaction for typhoid fever, 917 were positive, 1,437 negative, and 379 questionable.

Tuberculosis.—Of the 7,211 examinations of sputum for tubercle bacilli, 1,775 were positive and 5,436 negative.

Miscellaneous.—The 1,188 miscellaneous examinations are divided as follows: Water, 265; milk, 68; rabies, 23; meningitis, 10; secretions, excretions and exudates, 822.

TABULATED, THE EXAMINATIONS ARE AS FOLLOWS:

Kind of Specimen	Positive	Negative	Diagnosis reserved	Total
Diphtheria	4,367	7,294	168	11,729
Typhoid fever	917	1,437	379	2,733
Tuberculosis	1,775	5,436		7,211
Miscellaneous—				
Water				265
Milk				68
Rabies				23
Meningitis				10
Secretions, excretions and exudates				822
Grand Total				22,861

Table giving in a comparative way the number of examinations made during the first, second, and third biennial periods:

	1st Biennium July 1904-1906	2d Biennium July 1906-1908	3d Biennium July 1908-1910
	Total	Total	Total
Diphtheria			
For diagnosis	1,188	2,966	3,205
Positive	425	790	1,022
Negative	757	1,891	2,141
Diagnosis reserved	2	141	132
For release from quarantine	1,067	3,015	4,970
Positive	283	575	2,099
Negative	784	2,439	2,865
Diagnosis reserved		43	16
Typhoid fever			
Positive	386	1,129	1,537
Negative	650	1,185	867
Diagnosis reserved	81	142	1,484
Tuberculosis			
Positive	1,111	1,509	2,521
Negative	1,431	4,191	4,999
Miscellaneous			
Water and sewage	98	427	1,369
Milk			353
Rabies	23	120	68
Meningitis	6	28	23
Sec., exc., etc.	790	873	10
Grand Total	7,778	15,819	22,961

Table giving in a comparative way the number of examinations made annually since the establishment of the laboratory:

	1904-05	1905-06	1906-07	1907-08	1908-09	1909-10
Diphtheria	1,415	2,331	4,450	4,090	5,084	6,915
Typhoid fever	406	698	711	844	1,213	1,920
Tuberculosis	1,381	1,632	2,399	3,248	3,586	5,025
Miscellaneous	139	288	693	474	554	534
Totals	3,561	5,199	8,433	8,856	10,437	12,924

Tabulated reports from the auxiliary laboratories are as follows:

Locality	In Charge Of	Diphtheria	Typhoid fever	T. B. C.	Total
Des Moines	L. S. Ross	1,273	59	167	1,501
Mason City	F. Albert	839		94	934
Davenport	H. M. Decker	394		52	446
Burlington	E. J. Wehman	258		84	342
Stox City	E. W. Mels	416	49	127	592
Dubuque	R. R. Harris	123		125	248

NUMBER OF CULTURE STATIONS.

There are at the present time 797 culture stations of the bacteriological laboratory. These are located in 739 cities and towns. During the past biennium 31,738 diagnosis outfits have been supplied to the various culture stations. Of these 16,930 were diphtheria outfits; 5,375 typhoid fever and 9,433 tuberculosis outfits.

PASTEUR TREATMENT FOR RABIES.

In accordance with arrangements made with the Hygienic Laboratory of the Public Health and Marine Hospital Service, Washington, D. C., the Pasteur treatment is now being given without charge at the laboratory to all who apply for same, and in which the evidence is sufficient that they have recently been bitten by an animal affected with hydrophobia. The treatment was begun February 11, 1909, when the first patient was received. Thus far twenty-two patients have applied for treatment, fifteen of whom have received it. In none of the cases that have received the Pasteur treatment has the disease developed subsequently.

ANTIMENINGITIS SERUM:

Early in the biennium arrangements were made with Dr. Flexner, Director of the Rockefeller Institute of Medical Research, New York City, for supplying the laboratory with antimeningitis serum for the treatment of cases in Iowa. In response to requests, 78 doses of the serum have been sent to physicians in the States. The Director of the Rockefeller Institute has recently informed me that having fulfilled their purpose in proving the value of the serum, they may discontinue its manufacture at any time after six months from date of issuing the notice. The serum has proved to be so valuable in the treatment of the specific form of cerebrospinal meningitis that the manufacture of it will no doubt be assumed by some of the commercial biological houses.

WATER EXAMINATIONS.

The water examinations made in the laboratory have all been in connection with cases or epidemics of typhoid fever, the object of the examination being to discover the possible source of infection. On February 19, 1910, the Director of the laboratory was called to Oskaloosa to investigate an epidemic of typhoid fever. Up to that time there had been reported, during the several months previous, about sixty cases of typhoid fever with about twelve deaths from that disease. The investigation revealed the fact that the source of a large number of the cases was milk, delivered to a central depot by a farmer whose son had typhoid fever last fall and who had an attack of cystitis and presented the symptoms of general malaise suggestive of a mild secondary attack of typhoid fever this winter. The Widal reaction was still positive. He was one of the milkers and no doubt was the source of infection of many of the cases. It was also found that the city of Oskaloosa has about 500 shallow wells and about the same number of privy vaults. Such were no doubt responsible for a number of the cases. It was therefore recommended that milk from the farm on which the case of typhoid fever existed be excluded from the city supply, and that the shallow wells and privy vaults be condemned as soon as it was feasible and practicable to extend the city water and sewerage system. Since the time of the investigation there have been only a few new cases of typhoid fever, all of which could be traced to some previous case.

FINANCIAL REPORT.

CLASSIFIED SUMMARY OF EXPENDITURES FOR BIENNIAL PERIOD.

<i>Permanent Equipment:</i>	
Furniture and Filing Cases	\$ 164.14
Apparatus	1,251.80
Diagnosis	893.19
<hr/>	
<i>Current Expense:</i>	
Salaries	\$6,879.96
Express	638.37
Postage	780.00
Animals and Feed	333.54
Traveling Expenses	189.61
Telephone and Telegraph	68.69
Printing	285.98
General Laboratory Expenses	437.95
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Total	\$9,614.10
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Total	\$11,923.23

Bills covering the various items and receipts for same are to be found in the offices of the Auditor of State and Secretary of the State Board of Health.

The work of the laboratory during the past biennium has consisted almost entirely of routine diagnostic work, there having been but very little time for work of an investigating nature. The work of the Board of Health Laboratory may be very profitably increased along a number of lines, such, for instance, as the making of bacteriological and serum tests for venereal infections, a water survey of the State, testing blood for the typhoid bacilli, etc.

SPECIFIC RECOMMENDATION.

I especially recommend that the laboratory be provided with a "field man" whose duty it shall be to personally make such investigations of unsanitary conditions in the States, more especially in connection with epidemics of typhoid fever and other diseases that require laboratory examinations. Although many specimens of water have been examined in the laboratory for evidence of pollution with "typhoid" material, such examinations alone are very unsatisfactory. Aside from the fact that they frequently throw but very little light on the source of infection, they often cause much valuable time to be lost. What is needed is a man who, whenever an epidemic of typhoid fever appears in a community, can immediately go to the place, personally inspect all possible sources of infection and make such laboratory examinations as may be necessary. I therefore recommend that the State Board of Health request the legislature to appropriate a sum of \$4,000.00 annually, of which not to exceed \$3,200.00 shall be used to pay the salary of an "Epidemiologist to the Bacteriological Laboratory" of the Board and the balance to pay for the necessary expenditures in connection with such field investigations.

HENRY ALBERT,
Director.

STATE BOARD OF OPTOMETRY EXAMINERS.

In accordance with the provisions of Chapter 167, Acts of the Thirty-Third General Assembly, Governor Carroll appointed the following named gentlemen as members of the State Board of Optometry Examiners:

James G. McMasters, Optometrist, Cedar Rapids; George S. Dunlap, Optometrist, Sioux City; Emile F. Renaud, Optometrist, Keokuk, T. U. McManus, M. D., physician member of the State Board of Health. The secretary of the State Board of Health, Dr. L. A. Thomas, acting as secretary of the Board as provided by law.

The first meeting was held in the office of the State Board of Health, July 13, 1909. The Board proceeded to organize by the election of James G. McMasters as President for the ensuing year.

THE STATE LAW RELATIVE TO THE PRACTICE OF OPTOMETRY.

CHAPTER 167, ACTS OF THE 33D GENERAL ASSEMBLY.

SECTION 1. Practice of Optometry Defined. The practice of optometry is defined to be the employment of any means other than the use of drugs for the measurement of the powers of vision and the adaptation of lenses for the aid thereof.

Sec. 2. Board of Optometry Examiners—Term—Vacancies. The Board of Optometry Examiners shall be appointed by the governor and consist of three optometrists who have been engaged in the practice of optometry not less than five years in the state of Iowa, and are recommended by the Iowa State Association of Optometrists, one physician member of the State Board of Health, and the Secretary of the State Board of Health. They shall be appointed on or before July 1, 1909, and each year thereafter and their terms of office shall be one year from July 1st of each year. Vacancies shall be filled by the governor, but the number of optometrists shall neither be increased nor diminished by any appointment to fill vacancy.

Sec. 3. Organization—Meeting—Quorum—Regulations. The Board shall organize by selecting one of its members as President and the Secretary of the State Board of Health shall serve as the Secretary for the Board. They shall meet at least once each year the second Tuesday in July and at such other times as they may deem necessary in the office of the State Board of Health. A majority of the Board shall constitute a quorum and its meetings shall at all reasonable times be open to the public. This Board shall have power to make all needed regulations for its government and proper discharge of its duties in accordance with this act.

Sec. 4. Who Not Eligible to Appointment. No members of the faculty of any optical school or college or members of any wholesale or jobbing optical house shall be eligible to an appointment upon the State Board of Examiners in Optometry.

Sec. 5. Examination—License or Certificate—Record Kept. The Board shall, at any regular meeting, and may, at any special meeting, examine applicants for a license to practice optometry. Such examination shall be confined to such knowledge and requirements as are essential to the practice of optometry. Said Board shall issue a license or certificate duly authorizing such as are found to be qualified to practice optometry. Such certificate shall be conclusive as to the rights of the lawful holders of same to practice optometry in the state of Iowa. The name, age, nativity, location, number of years of practice of the person to whom a license is given, the number of the license and date of registration thereof shall be entered in a book kept in the office of the Secretary of the Board, which shall be open to the inspection of the public, and the number of the book and page containing such entries shall be noted on the face of the license.

Sec. 6. Qualifications—Examination—Existing Practitioners. On and after October 1, 1909, every person desiring to begin or continue the practice of optometry in this state must furnish satisfactory evidence that he is twenty-one years of age and of good moral character; that he has a preliminary education equivalent to at least two years study in an accredited high school; that he has studied three years in the office of a registered optometrist or is a graduate from a standard school of optometry, before he shall be eligible to examination by the Board. A standard school of optometry shall include a course of instruction of not less than two years duration and the terms of schooling shall not be less than three months each year. And he shall not be entitled to be registered or to receive a license from the Board unless he shall show proficiency in the following subjects: Physiology, Medical Physics, Practical Optometry, Anatomy of the Eye and Ophthalmology. Every person successfully passing such examination shall be registered by the Board and receive a license. But any person who is a bona fide resident of Iowa who shall have continuously engaged in the practice of optometry for more than five (5) years in the state prior to the passage of this act, shall (upon submitting proof of same) be entitled to receive from said Board a license to practice and a certificate of exemption from examination.

Sec. 7. Certificate of Exemption—Revocation of License or Certificate—Public Hearing. Every person entitled to a certificate of exemption from examination as herein provided must make application therefor and present the evidence to entitle him thereto on or before six months after the passage of this act or he shall be deemed to have waived his right to such certificate. Any license issued by said Board of Examiners may be revoked by said Board for violation of the law, incompetency, immorality or inebriety. Provided that before any certificate or license shall be revoked, the holder thereof shall have notice in writing of the charge or charges against him, and at a day specified in said notice,

and at least five (5) days after the service thereof, be given a public hearing and have ample opportunity to produce testimony in his behalf and confront the witnesses against him. Any person whose certificate has been revoked may, after the expiration of ninety (90) days, apply to have same regranted upon a satisfactory showing that the disqualification has ceased.

SEC. 8. Fees. The fee for said examination shall be fifteen dollars (\$15.00), for which a license shall be issued, to practice optometry in this state. Fee payable in advance to Secretary of the Board. Should the applicant fail in his first examination he shall have the right to appear at the next meeting of the Board for another examination free of charge. For a certificate of exemption a fee of ten dollars (\$10.00) shall be paid to the Secretary of the Board of Examiners, for which a license shall be issued to practice optometry in this state; said fees constitute a fund for expenses made necessary by this act. From this fund the Board shall cause to be paid all necessary expenses incurred in the administration of this act.

SEC. 9. Licenses Filed with Clerk of District Court—Fee. Every person to whom a license is issued under this act shall file the same for record with the clerk of the district court in the county or counties in which he desires to practice optometry and the clerk of the district court shall be entitled to a fee of fifty cents (.50) for recording such license.

SEC. 10. Compensation—Expenses. Each member of the Board of Examiners (except the Secretary) shall be paid five dollars (\$5.00) for each day actually engaged in the duties of his office with actual expenses incurred by him in the discharge of such duties, from the fund created by the payment of fees by applicants for examination. Secretary shall receive his necessary expenses incurred for services which cannot be performed at the capitol. All printing, postage and other contingent expenses necessarily incurred under the provisions of this act shall be paid from said fund. All expenses incurred under the provisions of this act shall be itemized thereupon and audited and a warrant drawn therefor on the optometrist's fund in the same manner as other expenses of the State Board of Health.

SEC. 11. Not applicable to Merchants or Dealers—Unlawful Practice. This act shall not be construed to apply to merchants or dealers who sell glasses as merchandise and who do not profess to be optometrists or practice optometry as herein defined. Any person practicing optometry shall be prohibited from using the prefix "doctor" to his name, unless he is a duly registered and licensed physician and surgeon and his rights to such being allowed by the State Board of Medical Examiners, nor shall he advertise himself in such a manner as to lead the public to believe him to be different than an optometrist as defined in this section.

SEC. 12. Penalty. Any person who shall practice optometry in this state in violation of the provisions of this act shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not exceeding one hundred dollars (\$100.00) or imprisonment in the county jail not more than thirty (30) days.

SEC. 13. Unappropriated Funds Turned into State Treasury. All unappropriated funds arising under this act shall be accounted for and turned into the State Treasury on June thirtieth of each year.

Approved March 27, A. D. 1909.

RULES AND REGULATIONS.

GOVERNING THE EXAMINATIONS OF THE BOARD OF OPTOMETRY.

The examination shall begin at 9 o'clock A. M. on the dates set by the Board.

Any candidates using a book, instrument, or device of any kind to assist them, not allowed by the Board of Examiners, shall forfeit their right to further continue the examination and shall also forfeit the examination fee.

Any candidate receiving assistance from or giving assistance to any other candidate shall forfeit his right to continue the examination and forfeit the examination fee.

Questions must be asked where the candidate is in doubt as to the correct interpretation of a question, of a member of the Board only.

Time limits will be allowed on the different subjects during the examinations as follows:

On written work consisting of twenty questions, covering Anatomy, Ophthalmology, Physiology, and Medical Physics, three hours' time will be given. On written work consisting of thirty questions in Practical Optometry, Sections 1 and 2, four hours will be allowed. Oral examinations will be given as soon as practicable after the written examination has been completed.

The examinations will be given on the day and time specified and will continue from day to day until finished. One hour will be allowed for lunch, but no one must leave an unfinished paper.

No candidate will be allowed to leave the room during the examination unless accompanied by one of the members of the Board or an assistant.

Candidates will be given numbers by the Secretary or Assistant Secretary before commencing the examination, and will be expected to remember and answer by number during the taking of the examination.

Candidates who are successful in obtaining a certificate after taking the examination must immediately upon receipt of the certificate take or send same to the County Clerk of the county of their residence and have the same recorded.

Candidates who have been notified that they were successful in passing the examination must expect a reasonable length of time to elapse after they have paid their certificate fee before they receive their certificates.

Candidates must not under any circumstances expect a report on the examination as to their standing in less than two weeks at least after taking the same, and such information as to their standing will be sent by the Secretary only in writing.

Place your confidential number on the left hand top corner of each page. On no account must your name appear on the paper. Give your name only to the Secretary or Assistant Secretary. At the close of the

examination hand your papers together with the questions to the Secretary or Assistant Secretary. Number your pages of your examination paper in consecutive order on right hand top corner. Do not fold your papers.

A general average of 75 per cent is required to pass.

These rules should be read carefully by every candidate before taking the examination, and will be furnished gratis to any prospective candidate upon application to any Board member.

SCHEDULE OF SUBJECTS FOR WRITTEN EXAMINATION IN OPTOMETRY.

Anatomy and Ophthalmology:

Anatomy	5
Ophthalmology	5— 10 questions.

Physiology and Medical Physics:

Physiology	8
Medical Physics	2— 10 questions.

Practical Optometry:

Section 1.....	15
Section 2.....	15— 30 questions.

Total.....	50 questions.
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Answers to questions are rated on the scale of 100 for each division. An Oral Examination in Practical Optometry is conducted by the three Optometrists of the Board, and the applicants are rated for such Oral Examination upon the scale of 200 points. A general average of 75 per cent for the whole examination, including written and oral subjects, is required to pass.

Since this Board was organized 564 Optometrists were granted Certificates of Exemption from examination in accordance with the provisions of Section 6, and 161 received certificates after having passed a satisfactory examination before this Board. Of this number, 14 held certificates of exemption, but surrendered them upon receiving certificates upon examination, therefore there are at the present time 651 Registered Optometrists in the State.

RECOMMENDATION.

The Secretary in the preceding part of these pages calls attention to Section 13 of the Optometry law, which is as follows:

"SECTION 13. *Unappropriated Funds Turned Into State Treasury.* All unappropriated funds arising under this act shall be accounted for and turned into the State Treasury on June 30th of each year."

It will be noted that any unappropriated funds on hand June 30th of each year are charged off, thus taking from the Board its means of support. Since this department is to be self-sustaining, it would seem ad-

visable that the State should return to this Board the sum of three thousand seven hundred fourteen dollars and fifty-three cents (\$3,714.53), the amount charged off and taken from this Board June 30, 1910. This amount was paid in by the Optometrists of the State and in no sense was it procured from the State by taxation, hence the Secretary believes that it is advisable to return this amount and repeal Section 13 of the law, and enact in its stead a clause to the effect that the Board of Optometry Examiners is to be sustained by this amount returned to them and such other fees as may be collected according to the stipulation of the Optometry law as it now stands, or may be hereafter amended. It is hoped that the Legislature may see the propriety and justness of this recommendation, as the money to be returned and collected hereafter does not and will not come from the State.

WATERLOO'S MILK ORDINANCE.

BY HON. R. A. DOTY, MAYOR OF WATERLOO.

After having satisfied ourselves, from the best authorities, on the subject, that there was actual danger of transmitting disease (more particularly tuberculosis) through the medium of milk, we set about to remedy the cause, feeling that we owed a duty to our citizens, as protectors of the public health.

Without any model to guide us, we drafted an ordinance, which provided for the licensing of dealers in milk, cream, and buttermilk, the same to be issued upon certain conditions, without any fee or cost to the dealer. The conditions, upon which a license was granted, were as follows: 1st, that all dealers should make application to the clerk of the Board of Health, setting out the number of cows in the supply herd, location of herd, and other details necessary to arrive at the exact conditions. 2d, that all milk, cream, or buttermilk sold in the city, should come from cows that had passed a satisfactory Tuberculin test, and was free from other disease. 3d, that the city would appoint a milk inspector, whose duty it was to inspect all cows, by subjecting to at least once each year a Tuberculin test, and a sanitary inspection of premises, utensils, etc., at least once in thirty days, such inspection to be free of cost to the dealer or producer. 4th, all licenses to be granted by the Board of Health, after having been appraised by the inspector, that all the requirements had been met. 5th, that all cows reacting under the Tuberculin test, should be segregated from the other herd, or disposed of through an abattoir, having U. S. inspection.

After this ordinance was prepared, we invited the dealers and producers of milk products to meet the Board and make their protests, if any. At the meeting, we had with us, a representative from the U. S. Bureau of Animal Industry, for the purpose of setting out the reasons for and necessities for such inspection. The meeting was well attended, and to say that the producers came prepared to kill off the ordinance by nipping it in the bud, would be putting it mildly. The meeting ended in a near riot, with no tangible argument against the adoption, other than that of infringement of rights and financial loss, and threats of a well-organized milk famine.

If there had been up to that time, any question in the minds of the Board as to the feasibility of the adoption of the ordinance, it was there settled beyond question, and the ordinance was adopted by unanimous vote.

The ordinance was adopted in October, 1908, to go into effect May 1st, 1909, giving plenty of opportunity to prepare for the same. The Board had some little difficulty in procuring a suitable inspector, but finally went to the college at Ames and procured a good man. This was accomplished sometime in April, 1909. Up to that time, no step had been taken by the dealers or producers to comply with the ordinance, but as expressed by some, they were waiting to hear that it had been abandoned as impractical. At about this time, our Health Officer, Dr. Sumner, took the matter up with Secretary Wilson through our State Senators, and received word that the Department would assist us, and accordingly sent to us, Dr. Wm. Thompson, who was of great assistance to us. The work was started under the most trying circumstances, but we were determined to win, and when the producers found out that it was no bluff and that Uncle Sam had interested himself in the project, they gave way inch by inch, and the work progressed. In fact, it came so fast that we were obliged to ask for more help from the Department, which was granted and Dr. Walter McHenry was detailed to us and he is still with us, and much of our success can be attributed to Doctors Thompson and McHenry, they having the United States behind them, and both being of great experience in the work.

There has been much resistance to the work on the part of the producers, but the worst kickers are now boosters for the project, as they have seen with their own eyes, evidence which cannot be denied. The scheduled milk famine has never materialized, and there is today, milk waiting for a market in Waterloo. The objection on account of advances in the price of milk, cannot be advanced, because the price of milk in Waterloo does not exceed the price in other cities of like size. The main reason of objection on the part of the dealer was, that he could no longer buy milk at a slight raise over butter fat prices, and sell it at famine prices, as the producer saw that he was entitled to part of the profit, having suffered all the loss by cleaning of his herds, (which was perfectly just and equitable), and therefore, in order to get sufficient supply, the dealer was forced to pay a reasonable price for his product.

We are perfectly satisfied with the results here, and only hope that other cities will get into line, and compel a state-wide campaign for the eradication of this loathsome disease within our borders. It will pay in a financial way alone, let alone the element of humanity and decency.

R. A. Doty, Waterloo, Iowa.

March 1, 1910.

THE WATERLOO MILK ORDINANCE.

BY DR. WILLIAM THOMPSON, INSPECTOR IN CHARGE OF CO-OPERATIVE TUBERCULOSIS INVESTIGATIONS, IOWA AND NEBRASKA, FOR U. S. GOVERNMENT.

In consequence of the efforts of Dr. G. H. Sumner, Health Officer of Waterloo, Iowa, toward securing a safe milk supply for the infant population of that city, the City Council passed an ordinance providing that all milk and cream intended for sale in Waterloo be derived from cows

which have been subjected to and have passed an official tuberculin test, and further, that the milk and cream be produced under proper conditions and the dairies and dairy equipment used in connection with the production and handling of these products be maintained in a sanitary condition.

May 1, 1909, Dr. Sumner obtained the assistance of the Federal Bureau of Animal Industry, which Bureau detailed the writer, and later Dr. Walter McHenry, to assist the City Officials in inaugurating the work of tuberculin testing and inspection of dairies and dairy equipment. The City appointed, as City Veterinarian and Dairy Inspector, Dr. Fred W. Law, a graduate of the veterinary department of Iowa's far-famed Agricultural College, and, together with the two Government Inspectors, work was at once commenced. At the start, some opposition was encountered among the producers, but by kindly and considerately placing the facts before them, their co-operation was readily accorded, and today all milk and cream sold in Waterloo is derived from tuberculin tested cows. Over 2000 cows have been tested, 12 per cent of which, responded to the test and these have been slaughtered in establishments having government inspection. Each addition made to a tuberculin tested herd is promptly reported by the owner and as promptly tested by the inspectors. The annual retesting of the herds has already been commenced, and with very few exceptions, the work is meeting with the hearty co-operation of the producers, themselves. Not a great deal has been spent on improvements, but a great advance has been made in methods of handling, and Waterloo is now being supplied with a wholesome, healthy milk product.

The results so far obtained at Waterloo indicate that, with such an ordinance wisely and considerately administered, any city having the will to do, can accomplish the same results.

Farmers in that vicinity, who do, as well as those who do not market their milk in Waterloo, have become actively interested in the eradication of bovine tuberculosis from their herds and realize, that, independent of the requirements of an ordinance, it pays to own and maintain a herd free from tuberculosis, and that once a herd is tested more attention is paid to the productive capacity of the individual members of the herd, with the result that the business is placed upon a more profitable basis, and the tendency is for the individual producer to enlarge operations, so that, what once appeared to be burdensome, meddlesome restrictions, have, in fact, proved a blessing in disguise.

WILLIAM THOMPSON,

South Omaha, Nebraska.

March 5, 1910.

THE MINNESOTA METHOD OF HANDLING SMALLPOX.

BY H. M. BRACKEN, M. D., SEC'Y, MINNESOTA STATE BOARD OF HEALTH, IN A PAPER READ BEFORE THE IOWA STATE HEALTH OFFICERS' ASSOCIATION, DR. BRACKEN SAID IN PART.

I am asked to explain the present method of handling smallpox in Minnesota and its results. Briefly, this may be described as one of penalizing the unvaccinated and placing a premium on the vaccinated. Those opposed to vaccination in Minnesota have succeeded in practically eliminating compulsory vaccination from the state. It has, therefore, been necessary for the Minnesota State Board of Health to take such a position as to secure general vaccination without the help of laws, i. e., by appealing to the people themselves.

Under the old quarantine regulations, if a case of smallpox appeared in a place, someone would at once demand a strict quarantine of all individuals, resident in the house with the smallpox patient. Under the present Minnesota regulations, the house bears a smallpox sign, which is simply a warning. The patient and the unvaccinated members of the household are forbidden to leave the premises, but no restriction is placed on the movements of the vaccinated resident in the house. If some neighbor complains, stating that smallpox would be spread by such a procedure, the physician or sanitary authority appealed to, should ask if the complaining person is protected by vaccination. If the answer is in the affirmative, the complainant can be assured that the danger of contracting the disease is practically nil. If the answer is in the negative, then the question to be asked of the complaining party is, "Why should you expect the municipality and the quarantined individuals to spend large sums of money in an attempt (often fruitless) to protect you from smallpox by means of a rigid quarantine when you can protect yourself by so simple and inexpensive a procedure as that of vaccination?" The complainant may say that he (or she) does not believe in vaccination. To this, the answer can easily be made: "We have no time to argue with you. It has been fully demonstrated that vaccination does protect. The whole character of smallpox epidemics has been changed since the results of vaccination have been made known. It is for YOU to decide whether you will protect yourself by vaccination or take your chance of having smallpox."

The argument is sometimes presented that while this is a fair position to take with adults, it is not fair toward the children who are not able to determine for themselves what is for the greatest good. In a sense, this may be true, but is it any worse for these children than it

would be to quarantine rigidly a group of vaccinated children because they were in residence with smallpox patients? Children have to bear the results of their patients' false reasoning in other matters than vaccination. Therefore, I cannot see why a burden should be placed upon the vaccinated in order that children or those opposed to vaccination may be protected.

The whole policy should be that of throwing the responsibility for the spread of the disease upon the unprotected individuals, rather than assuming the responsibility of controlling the disease by means of quarantine, which we all know is inefficient, due to the fact that it reaches only a certain per cent of the typical cases, in no way controlling the spread of the disease through the mild or concealed cases. It must be conceded that Germany with its excellent vaccination laws, is almost free from smallpox; further, that smallpox can never flourish in a well-vaccinated country.

The action of the Minnesota State Board of Health is based upon the following argument set forth at a board meeting held October 9, 1906:

"It having been established that smallpox will not occur in a well-vaccinated community, and that all attempts to restrain this disease in a community not protected by vaccination, by means of quarantine, will fail; that quarantine in a well vaccinated community is unnecessary; that attempts to control the spread of smallpox by means of quarantine are unscientific, irrational, expensive and misleading; that, in laying down strict rules for the quarantine of smallpox, sanitary authorities are favoring unscientific and illogical methods for its control and are conveying false ideals as to the safety of the public, the Minnesota State Board of Health advises that after January 1, 1908, further attempts to control smallpox by means of quarantine shall be abandoned.

The new regulations are as follows:

"11. The local health officer having knowledge of, or having reason to suspect, the existence of smallpox, shall investigate, and at once place upon the house where smallpox exists a sign setting forth the facts. This sign is to serve only as a warning to those who may wish to avoid the house, and not as an indication of quarantine. When the attending physician considers a smallpox patient as having recovered he shall report the fact in writing to the local health officer, who shall thereupon remove the warning card from the house. The patient must not leave the house until after the removal of the warning card."

While I have no statistics to prove the statement, I am advised by many physicians that there has been a marked increase in the number of vaccinations made in Minnesota since the new regulation went into effect.

In closing, permit me to state that I do not consider the present Minnesota plan equal in efficiency to that of a compulsory vaccination law; far from it. We cannot have satisfactory vaccine or vaccination without a compulsory vaccination law. With such a law, the vaccine producers could know just how much vaccine would be needed by a state during each year, and vaccinations could be made at the most desirable seasons of the year. Under such conditions the number of unsatisfactory vaccinations would be reduced to a minimum. Without such a law, vaccine producers are at a great disadvantage, for they are compelled to put out large quantities of vaccine in times of epidemic on short notice, and often at unfav-

orable seasons of the year. Vaccination should be free to those who need it and should be carried out at leisure by competent vaccinators and at a selected season of the year, not, as is often the case now, at the opening of the school, the very worst season of the year from every point of view.

The present Minnesota regulations relating to smallpox have now been in force for nearly two years. The State Board of Health has seen no reason to regret its action in taking this seemingly revolutionary course, while many of the early objectors to the new method have since expressed their sympathy with it and have admitted that they were wrong in their early criticisms.

Bearing upon the value of vaccination, it may be well to quote the following, which appears to have been taken from the report of the Pennsylvania Department of Health.*

SMALLPOX PER 1,000,000 INHABITANTS—1905.

Compulsory Vaccination.		Voluntary Vaccination.	
Germany	.....1.1 Cases	Belgium	.....99.9 Cases
Denmark	.....0.5 "	Russia	.....46.32 "
Sweden	.....2.1 "	Spain	.....56.3 "
Norway	.....0.6 "	Hungary	.....134.3 "

SMALLPOX IN MINNESOTA.

1907 COMPARED WITH 1908.

1907—With the regulations requiring strict quarantine of all inmates of infected homes.			1908—With modified regulations requiring quarantine of only the sick and unvaccinated inmates of the infected homes.		
Week ending	Oct. 7, 1907	11 cases	Week ending	Oct. 5, 1908	4 cases
" "	Oct. 14, "	6 cases	" "	Oct. 12, "	8 cases
" "	Oct. 21, "	45 cases	" "	Oct. 19, "	8 cases
" "	Oct. 28, "	59 cases	" "	Oct. 26, "	14 cases
" "	Nov. 4, "	59 cases	" "	Nov 2, "	11 cases
" "	Nov 11, "	92 cases	" "	Nov 9, "	17 cases
" "	Nov 18, "	43 cases	" "	Nov 16, "	18 cases
" "	Nov 25, "	57 cases	" "	Nov 23, "	25 cases
" "	Dec 2, "	62 cases	" "	Dec 1, "	25 cases
" "	Dec 9, "	81 cases	" "	Dec 7, "	67 cases
" "	Dec 16, "	152 cases	" "	Dec 14, "	51 cases
" "	Dec 23, "	170 cases	" "	Dec 21, "	82 cases
" "	Dec 30, "	259 cases	" "	Dec 28, "	66 cases
" "	Jan. 6, 1908	217 cases	" "	Jan. 4, 1909	33 cases
" "	Jan. 13, "	222 cases	" "	Jan. 11, "	44 cases
Total		1535 cases	Total		473 cases

*From bulletin of State Board of Health of Maine, September, 1909.

STATE BOARD OF HEALTH

SMALLPOX IN MINNESOTA—1909.

Week ending	Oct. 4, 1909	5 cases
" "	Oct. 11, "	2 cases
" "	Oct. 18, "	0 cases
" "	Oct. 25, "	3 cases
" "	Nov 1, "	1 cases
" "	Nov 8, "	14 cases
" "	Nov 15, "	31 cases
" "	Nov 22, "	76 cases
" "	Nov 29, "	30 cases
" "	Dec 6, "	15 cases
" "	Dec 13, "	35 cases
" "	Dec 20, "	20 cases
" "	Dec 27, "	9 cases
" "	Jan. 3, 1910	18 cases
" "	Jan. 10, "	10 cases
Total		289 cases

H. M. Bracken, M. D., Sec'y.

Minnesota State Board of Health.

March 1, 1910.

PROPER METHOD OF CONTROLLING THE SPREAD OF SMALLPOX.

BY WALTER L. BIERRING, M. D.
(College of Medicine, State University of Iowa.)

Doctor McManus has asked for an expression as to the proper method of controlling the spread of smallpox, and I gladly give my views on the subject.

If there is one fact that science has fully demonstrated it is that vaccination is a preventative of small pox. This is clearly demonstrated by the rarity of the disease in those countries where vaccination is compulsory and also among large bodies of men like the German Army. Again an epidemic of smallpox is quite impossible in a well vaccinated community.

As a measure for municipal or governmental control of the disease, it is far superior and a much more logical procedure than the present method of quarantine which is most unscientific and distinctly ineffective. The restraint of infected individuals by quarantine accomplishes but little in the control of any disease, as there are always a sufficient number of mild, concealed, or neglected cases in the field to spread the infection and continue the disease until it has exhausted the non-immune soil. On the other hand vaccination can suppress an epidemic of smallpox without quarantine, and it places the responsibility for having smallpox, where it properly belongs, i. e., the people themselves. This shifts the burden from the Board of Health authorities to the people who are most concerned, and as they come to recognize the necessity for protection the demand for same will promptly follow.

This idea of relying entirely on vaccination as a means of controlling smallpox has thus far received endorsement in only one state, that of Minnesota where quarantine for smallpox has been abolished during the past two years, and as far as I can learn there is no regret over the change or desire to return to the old method.

It would seem only just that provision should be made by the local or state authorities for supplying the vaccination free or at a very nominal cost. In time this will lead to compulsory vaccination and re-vaccination which is to be desired, but for the present it is to be hoped that the Minnesota plan can soon be established in Iowa.

Walter L. Bierring, M. D.,
State University of Iowa.

March 5, 1910.

MILD CASES OF SMALLPOX.

BY GUILFORD H. SUMNER, M. D.
(Secretary, Iowa State Board of Health.)

Many people and many physicians are misled by the term Varioloid (resembling Smallpox, or modified Smallpox); and, because of this, communities have become careless and indifferent to the seriousness of this disease. It may mean little or much, hence the term should be dropped from the description of this most loathsome disease. The first period may be typical and severe or mild. These symptoms may suddenly subside, and may be followed by an eruption which may consist of only a few pocks. Welch and Schamberg report a case in which but a single pock appeared. The pocks are usually small and superficial, and may easily be overlooked or their nature unsuspected.

Inquiry at the time of removal to the hospital, of a patient with well-marked smallpox, has often brought to light the fact that about two weeks prior, another member of the household had been sick who, upon examination had healed pocks. In one such case, the crust of the "pimple" from a suspected individual, gave the characteristic corneal reaction in the rabbit, so says Dr. Osler. These slight eruptions of the pocks generally appear on those parts of the body where most found in well-marked cases. The first place where these pocks usually appear is on the forehead. These may heal without leaving any scars, but occasionally some scars are found. Many persons having this mild form of smallpox are able to follow their usual avocations, and here is where the great danger lies, as a severe case may be contracted at any time from one of these mild cases. If the pocks are not numerous on the face to the extent that they are not perceptible, then the disease may not be noticed; which may be the agency to spread and multiply the number of cases, some of which may be the confluent and purpuric forms.

The habit of saying that it is only a very mild form or it is only Varioloid, has done much evil. The nature of the disease is never changed by the character of the attack from which the infection is derived. The more severe forms of smallpox are just as apt to follow infection by these mild cases as from any other form, and it is to be remembered that shortly after the Spanish-American war, that a pandemic appeared in certain portions of the United States and that most of the cases were mild in character. The lesions from these mild cases presented no histological difference than those from the same stages of lesions in the severe cases, so says Dr. Osler; and he also says that the protoplasmic

and the intranuclear forms of the cytorocytes were present in the same numbers and relations, and such cases are now rarely found except in vaccinated persons. They may occur in unvaccinated persons as is evident from the descriptions of the disease in the pre-vaccinated period and in epidemics which take a very mild course. The very mild cases are certainly much more prevalent at the close of an epidemic than at any other time.

It is quite necessary, however, to note in this connection that there are cases on record where persons have had smallpox without an eruption. The writer has had one such case in his private practice. This form of the disease is known as the type which is described by Sydenham. It is reported that during the epidemic in Boston, which occurred a few years ago, cases of this kind were seen. It appears as an illness of an indefinite character, occurring chiefly in hospital attendants on the twelfth day after exposure to smallpox. The symptoms consist in headache, pain in the back, fever and nausea. These may be so slight that the individual pursues his ordinary vocations, or they may approach, in severity, an ordinary initial stage. The symptoms last two or three days, and then suddenly subside. The condition was well-marked in one of the physicians, investigating the disease during the Boston epidemic in 1901.

The characteristic initial rashes may appear during the attack. This was apparent in the writer's single case, which occurred in his practice in 1908. It is related that one patient, a pregnant woman, remembered having had a headache about two weeks after exposure to smallpox, but was not otherwise affected. Her child showed a typical eruption when two days old. It is reported that a newly born infant in the city of Des Moines was recently discovered, having a well-marked case of smallpox. This would, in a measure, verify the above statements.

A group of three cases which appeared in one of the large hospitals in Boston, the onset in whom was merely simultaneous, was traced to a ward tender who had had an attack of what was supposed to be the "Grip." The writer has observed a number of cases which were supposed to be "Grip," which afterwards proved to be mild smallpox or varioloid.

It is to be impressed upon the minds of everyone that the disease is capable of being transmitted during the initial stage and before the eruption, and the importance of the recognition and the isolation of all such cases during an epidemic is obvious.

In conclusion, it is only necessary to say that medical science has demonstrated beyond all doubt that vaccination and re-vaccination, properly administered, furnish the only preventative against this loathsome and filthy disease—smallpox.

Guilford H. Sumner, M. D.,
Secretary Iowa State Board of Health,

March 1, 1910.

VACCINATION VS. QUARANTINE.

BY J. A. EGAN, M. D., SECRETARY ILLINOIS STATE BOARD OF HEALTH.

It is a deplorable fact in matters of public health that only to a very limited extent at least, can our ideals be immediately realized, that our scientific ideas and procedures must wait upon a not-over-enthusiastic public sentiment. It is an entirely acceptable truth that vaccination will prevent the spread of smallpox, and that with proper vaccination universally applied, the disease can be absolutely abolished without recourse to any other agency. The logical and theoretic deduction then must be that other agencies are not essential, and being unessential should be eliminated. Scientific prevention of disease contemplates the employment of the simplest means that will absolutely assure us of results.

But those who have advocated the abolishment of other than the ideal and specific means of the eradication of smallpox, have reckoned without their host. They have assumed favorable or ideal conditions which do not exist. They have taken for granted the acceptance of the doctrine of vaccination by all the people, and an appreciation of its vital importance by the vast majority. The fact of certain immunity through vaccination is established, but not entirely accepted and as COUNCILMAN rather pessimistically remarks the order of mind which leads to the denial of the merits of vaccination will probably never disappear from the human race. Until the opposition and non-belief as to vaccination ceases, the abandonment of quarantine and other effective means of the prevention of smallpox, is premature. Quarantine is a means of prevention and until we are able to universally employ the means, we must cling to quarantine and gratefully accept the protection it affords. To abandon quarantine at this time would be foolhardy indeed.

There may be a time when the diphtheria patient may roam at will, because of the general acceptance of the doctrine of antitoxin; there may be a time when the toy pistol may be placed in the hands of babes and sucklings because of the conviction of doting parents that antitetanic serum will give them immunity from harm; there may be a time when the sporadic case of variola will occasion no concern, and when the people—all vaccinated and all singing the praises of vaccination—will fete the smallpox patient as a truly interesting and wholly innocuous spectacle, illustrating the folly of the ancient day of scientific skepticism. Until that Elysian day, however, we shall find it the part of wisdom to employ every practicable means to protect the people against themselves—and vaccination and quarantine will continue to work hand in hand to afford the maximum of immunity.

J. A. Egan, M. D.
Springfield, Illinois.
March 1, 1910.

SHOULD A STATE QUARANTINE AGAINST SMALLPOX?

BY D. W. CROUSE, M. D., FORMERLY OF IOWA, NOW LOCATED AT CITRONELLE, ALABAMA.

Before the days of vaccination, one of the greatest plagues was smallpox. About one-third who were attacked died, and the balance were marked and their beauty marred for the remainder of their lives. Under this great boon given to the world, smallpox has ceased to be a prevalent or dangerous disease in all civilized countries. Generation after generation, vaccinated has almost immuned the new generation. Smallpox can be entirely shut out from every community by thorough vaccination, and the individual who refuses to protect himself and his neighbor, by so simple a remedy, does not do his duty. The state that does not provide quarantine cannot be blamed by the individual who refuses to be vaccinated. While I believe vaccination should be compulsory and given to the poor free of charge, I do not believe that there should be state quarantine for this disease. If a community were careless and refused to make use of the means for their protection, then to turn the victim of smallpox in that community loose to go where he pleased and when he pleased would be the best argument; and it would soon immunize the neighborhood by having smallpox.

Out of one hundred persons exposed to smallpox and who have been vaccinated, two will take smallpox; and out of one hundred persons exposed to smallpox and not vaccinated, ninety-eight will have smallpox and two will escape. Those people who are so perverse as to not believe in the multiplication table, want to argue it; and instead of arguing, it would be better that they be exposed to the real thing. It is to be remembered that after the Cuban war, there were thousands of physicians who saw smallpox for the first time. Three thousand physicians in Iowa came in contact with cases during the next few years; and at the time I raised the inquiry, and only one had taken the disease, and he did not believe in vaccination. He died and was a victim of the multiplication table and a logical result. No, the state should go to the expense of vaccinating the people, but not to keeping up quarantine for the careless and stubborn. The rest will not need it.

D. W. Crouse, M. D.,
Citronelle, Alabama.
March 1, 1910.

EPIGRAMS RELATING TO THE STUDY OF SMALLPOX

FACTS WORTHY OF NOTE AND CONSIDERATION, SUBMITTED TO
AN INTELLIGENT PUBLIC.

HISTORY OF SMALLPOX.

Smallpox was first accurately described by Rhazes, an Arabian physician, in the ninth century of the Christian era, and distinguished by him from measles; but it is believed to be the same as the *pesta magna* described by Galen (A. D. 130-200). It prevailed also in China many centuries before the Christian era. It is known to have prevailed in the sixth century and again during the Crusades. The disease is believed to have been introduced into America by the Spaniards, having first appeared most fatally in Mexico in 1520, and in Massachusetts in 1633. In evidence of the virulence of the disease it may be mentioned that in Iceland in 1707, 18,000 perished out of a population of 50,000. In Mexico three and a half millions were suddenly smitten.

ITS RAVAGES.

Lord Macauley, writing of the death of Queen Mary in 1694, thus describes the ravages of smallpox: "That disease, over which science has since achieved a succession of glorious and beneficent victories, was then the most terrible of all the ministers of death. The havoc of the plague had been far more rapid; but the plague had visited our shores only once or twice within living memory; and the smallpox was always present, filling the churchyards with corpses, tormenting with constant fears all whom it had not yet stricken, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to the lover."

ITS DEATH ROLL.

All authors concur in testifying to the dreadful mortality occasioned in all countries by smallpox in pre-vaccination times, and to the consequent terror which its visitations everywhere excited. In the Middle Ages its death roll could be counted by millions. Before the introduction of vaccination—a little more than a century ago (1796)—the annual rate of mortality from the disease in England and Wales alone was three thou-

sand in every million of the population. In France about 30,000 people died annually from the disease, and over 40,000 in the regions then ruled by the Prussian monarchs. During that time it was said, "from smallpox and love but few escape."

Those who escaped death had to endure for the rest of their days all kinds of defects and disfigurements as a result of this frightful disease.

IT SPARED NEITHER PRINCE NOR PEASANT.

As it has been said smallpox, before the days of vaccination, spared neither high nor low, spread its terrors in the huts of the poor as well as the dwellings of the rich, even penetrating into the palaces of the princes, and more than once threatened with danger of total extinction the representatives of European dynasties.

That smallpox did not respect royalty is evidenced by the formidable list of kings, queens, and princes who died of the disease: William II of Orange, Emperor Joseph I of Austria, Louis XV of France, two children of Charles I of England, a son of James II of England, his daughter Queen Mary, and her uncle, the Duke of Gloucester, the son of Louis XIV, Louis, Duke of Burgundy, the dauphin, his wife, and their son, the Duc de Bretagne, Peter II, Emperor of Russia, Henry, Prince of Prussia, the last Elector of Bavaria, two German empresses, six Austrian archdukes and archduchesses, an elector of Saxony, and the Queen of Sweden (1741). The following were attacked with the disease, but recovered: Queen Anne of England, Peter III of Russia, Louis XIV of France, William of Orange (afterward William III), and Queen Maria Theresa of Austria. George Washington was "strongly attacked by the smallpox" during his early manhood while on a visit to the West Indies.

VACCINATION.

The greatest blessing ever conferred upon mankind was first performed on May 14, 1796, by Edward Jenner, whose discovery has made his name immortal.

"I cannot take that disease, for I have had cowpox," was the remark, made in Jenner's presence, concerning smallpox, by a milkmaid at Sodbury, England, where he was pursuing his professional studies. This remark is said to have created a profound impression in the mind of the young medical student and, as aptly stated by Welch and Schamberg, "It may be said to have been the awakening impulse, which, after years of study and experiment, culminated in the discovery which has conferred the greatest benefits upon the human race."

Of this discovery, Admiral Berkeley, Chairman of the Committee of the House of Commons (in 1802) to investigate into the petition of Jenner for a Parliamentary grant, in an eloquent speech, said, "The discovery of Dr. Jenner is unquestionably the greatest discovery ever made for the preservation of the human species."

Strong as were Jenner's convictions that he found a safe and absolute preventive against the most dreadful of all scourges which bade fair to depopulate the world, he bided his time and conducted sufficient investigations to demonstrate, most conclusively, the value of his discovery, be-

fore venturing to publish his observation to the world. Quoting his own words: "I placed it on a rock where I knew it would be immovable before I invited the public to look at it."

Thousands of lives have been saved by vaccination, and a thorough and continuous practice of vaccination would undoubtedly blot out smallpox from the face of the earth.

SOME OF THE RESULTS OF SMALLPOX.

Besides personal disfigurement, any one of the following may result from a case of unmodified smallpox—to say nothing of one of the confluent or hemorrhagic types: Death, abscesses, bed sores, blindness, carbuncles, deafness, gangrene, joint disease, heart disease, insanity, paralysis, and other nervous diseases, and pneumonia.

Defects of vision or total loss of sight often follow smallpox, particularly of the confluent form. Any degree of deafness may ensue. Children are especially liable to ear troubles, which may result in deafness for life. Any of the various forms of paralysis may occur.

And to think that this loathsome, disfigured countenance, which vividly reflects the anguish and torment that have racked the entire body, would not, nay, more, could not confront the reader, had this man been successfully vaccinated one, three, five, seven or more years before he was stricken by that monster Smallpox.

DURATION OF QUARANTINE.

BY G. E. DECKER, M. D., MEMBER, IOWA STATE BOARD OF HEALTH.

Under the old rules the period during which infected persons were kept in quarantine was arbitrarily prescribed.

Every case of a given disease was kept in the same number of days regardless of the fact that some cases were mild and others severe. While this apparently gave ample protection by keeping every one in long enough it tended to defeat its own object by reason of the antagonism it aroused.

Little objection is ever made to quarantine when the patient is desperately sick. Even the other members of the stricken family realize the importance of care when the outlook is grave and they will co-operate with the authorities to keep the disease from spreading. But in mild cases the laity cannot realize the importance of the same care. They can scarcely believe that mild scarlet fever may become fatal scarlet fever in the next exposure and usually they doubt the diagnosis and feel rebellious about the quarantine restrictions.

As a result of detaining in quarantine persons who are soon perfectly well, many mild cases of contagion have gone unreported in the past. For the physicians knew that, once the family was quarantined, the prescribed number of days must elapse before release was possible and so no amount of argument could ever convince the family that the physician was not to blame. Hence many unscrupulous physicians avoided blame and abuse by failing to report the mild cases.

The old rules regarding diphtheria for example were open to criticism.

It was provided that release cultures were not to be taken until after fourteen days had elapsed and that successive cultures should be taken at least forty-eight hours apart.

This was unjust to many patients who were promptly treated with antitoxin because these were often clinically well in two or three days; and if any dependence were to be placed upon release cultures there was no reason for waiting for two weeks before taking the first release culture.

It would seem that if the throat and nose could be shown to be free from diphtheria bacilli by two successive cultures such a patient might be safely released.

Reasoning in this way the Board established the new rule that release cultures may be taken five days after the membrane disappears and they may be taken on successive days.

It was felt that the throat and nose are rarely free from bacilli in less than five days and cultures taken before that time would merely be a waste of time.

This rule applies only to cases in which release cultures are taken. When no cultures are taken the quarantine must be maintained for twenty-eight days.

Smallpox and scarlet fever are the only other quarantinable diseases with which we are much concerned in Iowa and these may now be released when the attending physician or Health Officer certifies in writing that disquamation is complete.

If such certificates are honestly made out the public will be perfectly safe and if they are not it is easy for the public to find out which physicians are jeopardizing the health of the community.

It is true that the new Rules leave more to the honesty of the attending physician but after all the honesty and integrity of the medical profession is the mainstay in public health matters under any rules.

It is hoped that the modification of these rules will have the effect of inducing the laity to meet the health authorities half way in the matter of preventing disease since each case is treated on its merits and is released as soon as it can be in safety.

The members of the State Board of Health feel it incumbent upon them to make quarantine as bearable as possible because the last General Assembly through a mistaken idea of economy enacted a statute compelling the quarantined individual to bear all the expense of disinfection.

G. E. Decker, M. D.,
Davenport, Iowa,
March 5, 1910.

THE STATE EXAMINING BOARDS.

(BY A. P. HANCHETT, M. D., PRESIDENT STATE BOARD OF HEALTH, COUNCIL BLUFFS, IOWA).

The evolution of legal control of medicine, while tardy in its inception, has been rapid and radical in these later days. The first Board of Health for Iowa was organized in 1884, following the passage of a bill by our legislature, making it illegal to pass as a physician and to treat the sick except for such as had complied with certain conditions.

The requirements as first proposed were either a diploma from some college empowered to grant the degree of Doctor of Medicine, or at least five years of continuous practice of medicine in Iowa. This measure would not interfere with any who were well established in practice, but in some instances it has helped to keep imposters from coming into the state. However, it was soon discovered that it corrected the difficulty only in part, for small and incompetent Medical Colleges sprang up all over the country, and doctors were given diplomas without adequate training, but armed with a diploma, they could not be refused admission to practice.

This led to further legislation and the Board of Medical Examiners was created. It has two important functions. First, to determine that all physicians coming into the state to practice medicine and surgery are properly qualified, and, secondly, that all medical colleges in Iowa are equipped and are giving thorough modern training in medicine and surgery.

In the matter of the examination of physicians coming into the state, it has been the purpose of this Board always to conduct a thorough, practical examination, as free as possible from technicalities, and to determine as nearly as possible whether the applicant is really qualified for the important duties which he proposes to perform. In an experience of over ten years, this Board has found that a very large per centage of the graduates from our best Medical Colleges pass our examinations with good ratings, while those coming from inferior colleges fall in much larger numbers. We therefore took up the matter of supervising the Medical Colleges in the state, urging all to provide ample equipment and other facilities for giving the most thorough courses of training. In some instances this was found to be too expensive, or even impossible, and they have found it better to close their doors, sending their students to colleges having some endowment or receiving state assistance.

From certain quarters there has been raised the cry of "the doctor's trust," but any who have kept in touch with the wonderful advances in medical science during the last twenty-five years, will readily understand

that we have almost a new profession. The advances made in the study of bacteriology and its relation to many diseases; serum therapy and its remarkable achievements; microscopy, chemistry, pathology, modern surgery with antiseptics and asepsis, all have undergone such great changes during this period as to make practically a new science. Additional time and elaborate equipment are absolutely necessary if the work is to be properly accomplished.

The State Board of Medical Examiners has not only done this, but it has also brought about the relation of reciprocity between more than half of the states of this country and Iowa, thus making a re-examination unnecessary in removing from one state to another in a majority of instances. In short, it has been very active, as well as a very useful Board, conserving, protecting, and uplifting the profession within the borders of the state, and co-operating with similar Boards in every part of our country in the general advancement of our beloved and beneficent profession.

A. P. Hanchett, M. D.,
Council Bluffs, Iowa.
June 1, 1910.

COLD STORAGE AND THE HIGH PRICE OF FOOD.

Senator Lodge, of Massachusetts, has given considerable attention to the price of food products, and has discovered that cold storage is having something to do with the present high prices. It is safe to say that no man is better qualified to pass upon so important a question. Because of his excellent knowledge on this subject he introduced a resolution in Congress on April 7th of the present year.

The Lodge resolution had a hearing on April 25th, and the writer regrets that he had no opportunity to be present, and must be content to give the readers of the Bulletin the purport of his resolution. The Lodge resolution is of particular importance, for I believe if it becomes a law that it will be of material benefit in procuring wholesome food for the American people. It has been recently discovered that produce is kept in cold storage for a period ranging from one to three years, and in some instances even for a longer time. It strikes me that this is a condition which not only makes it possible to increase these prices, but places the consumer almost wholly at the mercy of people engaged in this trade. This condition cannot safely exist in this country, without seriously endangering the health and prosperity of our people.

I call attention to the following clippings which perhaps may give some idea of the importance of two very interesting subjects which are confronting the American people today. The one regarding the unpublished report of the Agricultural Department which shows the miserable condition of our milk and butter supply throughout the United States is of interest to everyone, especially to those who have children to rear.

We are now facing a complete revival of our resources throughout the entire country. The most effective reform along lines involving what we eat and drink is about to receive consideration from a public, which has been aroused through misrepresentations, greed and imposition, carried on by those who have reaped large profits from storing away the people's food in large warehouses, and adulterated the articles offered for sale in addition. It is highly gratifying to know that the lawmakers are "sitting up and taking notice."

This bill or resolution in effect will be two-fold. It will not only have a tendency to reduce the price of foodstuffs of this character, but will indirectly aid in bringing into the open market food more wholesome for consumption. It is well that the people of the great commonwealth of Iowa should look into these questions which are of such vital importance and in which the whole country should be interested.

The following was clipped from the Congressional Record of April 7, 1910:

Mr. Lodge: Mr. President, under the resolution the select committee has no authority to report by bill, but I introduce a bill covering the subject of the report. I introduce it myself, and ask that it be referred to the Committee on Manufactures, which had charge of the pure-food bill. I should like to have the bill read.

The bill (S. 7649), to prevent the sale or transportation in interstate or foreign commerce of articles of food held in cold storage for more than one year, and for regulating traffic therein, and for other purposes, was read the first time by its title, and the second time at length was as follows:

Be It Enacted, etc., That any article of food which has been held in cold storage for more than one year shall be deemed to be adulterated within the meaning of Sections 2 and 10 of the act approved June 30, 1906, entitled "An act for preventing the manufacture, sale or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein, and for other purposes." (34 Stat., 768.)

Sec. 2. That any article of food which has been held in cold storage for any period of time, if such article, or the package containing it, fail to bear a label plainly and correctly stating the period of time during which the article has been held in cold storage, shall be deemed to be misbranded within the meaning of Sections 2 and 10 of the act approved June 30, 1906, entitled "An act for preventing the manufacture, sale or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein and for other purposes." (34 Stat., 768.)

The Vice-President: The bill will be referred to the Committee on Manufactures.

At this writing we have not been made acquainted with the outcome of the above resolution, but it can be readily seen that there is merit in the measure. It is to be hoped that a thorough investigation will be made by the proper authorities and evils corrected, should any exist.

In the first part of this article reference was made to the unpublished report of the Agricultural Department, which related to the miserable condition of our milk and butter supply throughout the United States. It is a well-known fact throughout Iowa that the secretary of this Board has been interested for many years in a pure milk supply, and especially so on account of the rearing of infants, and that the people of Iowa may know how this subject is being considered by the national government and others qualified to know, the following article from the Washington Star of April 14, 1910, is given in its entirety:

Blame Put on Cow—Inquiry Into Spread of Great White Plague Proposed—Resolution in House—Infection from Milk, Cream, Butter and Cheese to Be Probed—Government Report Quoted—Startling Figures and Facts Contained in Department of Agriculture Bulletin.

Startling statements are contained in a resolution introduced in the House of Representatives today by Representative Herbert Parsons, of

New York, proposing an investigation by the Committee on Agriculture into the alarming spread of the great white plague through the medium of infected milk, cream, butter and cheese.

It appears from the facts set forth by these resolutions that tuberculosis will never be controlled, and certainly never eliminated, until there is the most rigid supervision of these articles of diet, particularly of butter, in which, it has just been discovered, the germs of tuberculosis thrive for 160 days.

An exhaustive investigation of this whole subject has just been completed by the bureau of animal industry of the Department of Agriculture. Mr. Parsons, obtaining an advance copy of the bureau's report, introduced the resolution of inquiry.

DISEASED COW IS BLAMED.

"It appears," says the preamble of the resolution, "that the alarming prevalence of tuberculosis in the human family in all parts of the United States and the District of Columbia and the prevalence of typhoid and other diseases which endanger the public health are due to a considerable extent to the consumption of milk and cream obtained from diseased cows, and to the consumption of butter produced from milk and cream which contains tuberculosis and typhoid bacilli."

The statement is made that tuberculosis bacilli remain alive and virulent in butter for a period of 160 days, during which time they are always ready to multiply under suitable conditions. The resolution then goes on to say that "more than one sample out of every twenty samples of commercial or market milk from various dairies supplying milk to the city of Washington were found to be infected with tuberculosis bacilli, causing great danger to the public health."

The bureau's unpublished report on this subject elaborates this statement as follows:

"It was also discovered that dairies which distribute milk infected with tubercle bacilli do so intermittently and not continuously or uninterruptedly. For example, one dairy tested on ten consecutive days was found to be distributing infected milk on the second, third and eighth days, and milk apparently free from tubercle bacilli on the remaining seven days.

INTERMITTENT DISTRIBUTION.

"When this intermittent occurrence of the tubercle bacilli in the milk from infected dairies is taken into consideration we may reasonably conclude that the presence of infection in about 5 per cent of the samples of milk examined at the station is a much more serious condition than it at first appears to be. If it is necessary to examine from three to five samples of milk from a dairy in order to determine the fact that the dairy is distributing tuberculous milk, then the occurrence of tubercle bacilli in five samples among a hundred from one hundred different dairies implies that from three to five times five dairies, or from fifteen to twenty-five among the hundred, intermittently distribute tuberculous milk.

"This is very important, because the number of infected dairies, rather than the percentage of infected milk, determines the extent to which the public is exposed to virulent tubercle bacilli through the use of milk and dairy products."

Another section of the report shows that the tests made in 1907 "on a large proportion of the herds supplying milk to the city of Washington" showed that about 17 per cent of the dairy cattle were infected with tuberculosis. The bureau estimates the annual loss from white plague among dairy cattle at \$23,000,000.

ERADICATION WORTH EXPENSE.

"To overcome the great losses before mentioned," says the report of the bureau, "is worth considerable trouble and expense. The benefits to follow from the eradication of tuberculosis from farm animals are so great and so obvious that the necessary expenditures, even though they must be heavy, may be regarded as a highly profitable investment."

Included with the report is a most interesting monograph on the subject of the relation of the tuberculous cow to the public health, in which the author, E. C. Schroeder, M. D. V., says:

"The need for this inquiry is emphasized by the knowledge that the commonest and most important disease of cows is also the commonest and most important disease of mankind. * * * During 1908, according to the most reliable figures obtainable, 160,000 human lives were prematurely ended by tuberculosis in the United States alone, and this enormous number does not include the deaths hastened by tuberculosis, but is chargeable to other immediate causes. Every one of these deaths was due to infectious material that had its origin within and was expelled from the bodies of tuberculous persons and animals. * * *

"Milk is often infected with tubercle bacilli that unless we know it to be derived from cows that are certainly free from tuberculosis it is not safe to use it in a raw state. Tubercle bacilli in milk are transferred to the cream, butter and cheese made from it and may occur in these products in greater concentration than in the milk from which they are derived.

"An excellent medium for the preservation of the life and virulence of tubercle bacilli is found in butter by reason of its moist, bland, opaque character. * * *

"The elimination of tuberculosis from the dairy herd is urgently requested, not only because the protection of public health requires it, but also because tuberculosis among cattle is a serious cause of pecuniary loss, so serious, indeed, that from the strictly economic point of view it must be regarded as the most important problem that those interested in animal husbandry can undertake to solve."

BACILLUS IN BUTTER.

The report of the bureau adds that "the testing of infected butter has been continued, and in the later experiments of this nature the conclusion reached through former work have been confirmed. Tubercle bacilli will

retain their vitality and virulence while in butter under common market conditions for at least five months.

"The vitality of the typhoid bacillus has been investigated both in butter and milk. On the one hundred and fifty-first day after the manufacture of butter from milk infected with typhoid bacilli living colonies of these bacilli developed on plates that were made from the butter. This proves that typhoid bacilli will retain their vitality under these conditions for one hundred and fifty-one days, and that during this period of time these micro-organisms are ready to multiply whenever placed in suitable environment."

The Parsons resolution proposes that the agriculture committee investigate with a view to recommending legislation looking to the inspection and making of butter and milk in such a way as to prevent the consumption of infected products of this sort.—Washington Star, April 14, 1910.

ANTITOXIN FOR THE PEOPLE OF IOWA.

The State Board of Health has closed a contract with the H. M. Alexander Laboratories by which the latter agree to furnish diphtheria antitoxin to anyone in the state for the following prices:

- 1,000 unit syringe package, 50 cents.
- 5,000 unit syringe package, \$2.00.

The Board has established distributing stations in various centers, where the antitoxin may be purchased as needed from the selected druggists.

The druggists will not have to advance anything for the antitoxin, but will be allowed to charge 10 cents on the 1,000 unit packages and 25 cents on the 5,000 unit packages. He will be expected to remit to the Alexander office once a month and keep such simple records as necessary.

The Alexander Company make a very fine product in a convenient package and in a highly concentrated form. The Board hopes in this way to put antitoxin within the reach of every family in the state, so that full advantage will be taken of its preventive and curative values.

PUBLIC HEALTH DISTRICTS.

District No. 1—Allamakee, Butler, Bremer, Black Hawk, Buchanan, Chickasaw, Clayton, Delaware, Fayette, Floyd, Grundy, Howard, Mitchell and Winneshiek. Represented by Dr. T. U. McManus, Waterloo.

District No. 2—Benton, Cedar, Clinton, Dubuque, Iowa, Jones, Jackson, Johnson, Linn, Muscatine and Scott. Represented by Dr. George E. Decker, Davenport.

District No. 3—Appanoose, Davis, Des Moines, Henry, Jefferson, Keokuk, Louisa, Lee, Mahaska, Monroe, Wapello, Washington and Van Buren. Represented by Dr. A. C. Moerke, Burlington.

District No. 4—Cerro Gordo, Calhoun, Emmet, Franklin, Hancock, Humboldt, Hamilton, Hardin, Kossuth, Palo Alto, Pocahontas, Webster, Winneshiek, Worth and Wright. Represented by Dr. E. E. Richardson, Webster City.

District No. 5—Buena Vista, Cherokee, Clay, Dickinson, Ida, Lyon, Osceola, O'Brien, Plymouth, Sioux, Sac and Woodbury. Represented by Dr. Albert deBey, Orange City.

District No. 6—Audubon, Adair, Cass, Crawford, Carroll, Greene, Guthrie, Harrison, Monona, Pottawattamie and Shelby. Represented by Dr. A. P. Hanchett, Council Bluffs.

District No. 7—Boone, Dallas, Jasper, Marshall, Madison, Marion, Polk, Story, Tama, Poweshiek and Warren. Represented by Dr. Guilford H. Sumner, Des Moines.

District No. 8—Adams, Clark, Decatur, Fremont, Lucas, Mills, Montgomery, Page, Ringgold, Taylor, Union and Wayne. Represented by Dr. B. L. Elker, Leon.

IOWA STATE BOARD OF HEALTH.
GUILFORD H. SUMNER, M. D., *Secretary*.

ANTITOXIN STATIONS.

The following antitoxin stations for the distribution of State Board of Health antitoxin have been established:

DISTRICT No. 1.	
Allamakee County:	Floyd County:
Lansing,	Charles City,
Waukon.	Marble Rock,
Black Hawk County:	Rockford.
La Porte City,	Grundy County:
Waterloo.	Grundy Center,
Bremer County:	Reinbeck.
Sumner,	Howard County:
Waverly.	Cresco.
Buchanan County:	Mitchell County:
Independence.	Osage.
Butler County:	Winneshiek County:
Allison,	Calmar,
Greene,	Decorah,
Parkersburg.	Ossian.
Chickasaw County:	DISTRICT No. 2.
Nashua,	Benton County:
New Hampton.	Belle Plaine,
Clayton County:	Garrison,
Elkador,	Vinton.
McGregor,	Cedar County:
Monona.	Tipton.
Delaware County:	Clinton County:
Manchester.	Clinton.
Fayette County:	Dubuque County:
Oelwein,	Dubuque.
West Union.	

Iowa County:
Marengo.

Jackson County:
Bellevue,
Maquoketa.

Johnson County:
Iowa City.

Jones County:
Anamosa,
Oxford Junction.

Linn County:
Cedar Rapids,
Center Point,
Marion.

Muscatine County:
Muscatine,
West Liberty,
Wilton Junction.

Scott County:
Davenport.

DISTRICT No. 3.

Appanoose County:
Centerville.

Davis County:
Bloomfield.

Des Moines County:
Burlington.

Henry County:
Mt. Pleasant.

Jefferson County:
Fairfield.

Keokuk County:
Sigourney.

Lee County:
Ft. Madison,
Keokuk.

Louisa County:
Wapello.

Mahaska County:
Oskaloosa.

Monroe County:
Albia,
Hiteman.

Van Buren County:
Farmington.

Wapello County:
Ottumwa.

Washington County:
Washington.

DISTRICT No. 4.

Calhoun County:
Rockwell City,
Lohrville.

Cerro Gordo County:
Mason City.

Emmet County:
Estherville.

Franklin County:
Hampton.

Hamilton County:
Webster City.

Hancock County:
Britt.

Hardin County:
Eldora,
Iowa Falls.

Humboldt County:
Humboldt.

Kossuth County:
Algona,
Bancroft.

Palo Alto County:
Emmetsburg.

Pocahontas County:
Laurens.

Webster County:
Ft. Dodge.

Winnebago County:
Forest City.

Wright County:
Clarion,
Eagle Grove.

Worth County:
Northwood.

DISTRICT No. 5.

Buena Vista County:
Sioux Rapids,
Storm Lake.

Clay County:
Spencer.

Cherokee County:
Cherokee.

Dickinson County:
Spirit Lake.

Ida County:
Ida Grove.

Lyon County:
Rock Rapids.

Osceola County:
Sibley.

O'Brien County:
Paullina,
Sheldon.

Plymouth County:
Akron,
LeMars.

Sac County:
Schaller.

Sioux County:
Hawarden,
Orange City.

Woodbury County:
Sioux City.

DISTRICT No. 6.

Adair County:
Adair,
Greenfield.

Audubon County:
Audubon.

Cass County:
Atlantic.

Crawford County:
Denison.

Carroll County:
Manning.

Greene County:
Jefferson.

Guthrie County:
Guthrie Center.

Harrison County:
Missouri Valley.

Monona County:
Onawa.

Pottawattamie County:
Council Bluffs.

Shelby County:
Harlan.

DISTRICT No. 7.

Boone County:
Boone.

Dallas County:
Perry,
Redfield.

Jasper County:
Newton.

Madison County:
Winterset.

Marion County:
Knoxville.

Marshall County:
Marshalltown.

Polk County:
Des Moines.

Poweshiek County:
Grinnell.

Story County:
Nevada.

Tama County:
Traer,
Toledo.

Warren County:
Indianola.

DISTRICT No. 8.

Adams County:
Corning.

Clarke County:
Osceola.

Decatur County:
Leon.

Fremont County:
Hamburg,
Sidney.

Lucas County:
Chariton.

Mills County:	Taylor County:
Glenwood.	Bedford,
Montgomery County:	Lenox.
Red Oak.	Union County:
Page County:	Creston.
Clarinda.	Wayne County:
Ringgold County:	Corydon.
Mt. Ayr.	

Whole number of towns supplied, 136.

Whole number of stations established, 141.

All of this work has been undertaken by the members of the Iowa State Board of Health without any expense whatever to the State.

PUBLIC DRINKING CUPS.

It has been repeatedly demonstrated that the use of what is commonly known as the public drinking cup is dangerous and is an undoubted source of communication of infectious diseases. In the *interest of public health*, the common drinking cup *should be abolished*.

The use of the public drinking cup on trains, in railroad stations, in public, parochial or private schools and in other educational institutions of the State of Iowa and all other states *should be abandoned*.

Let every corporation in charge of any railroad train, or station; any school board, board of education, township board of school directors, board of trustees of any public, parochial or private school, or educational institution; any person or persons responsible for, or having in charge, public drinking fountains *see to it that the common drinking cup is speedily abolished*.

Let the generous, broad intelligence of the people of Iowa assert itself and *come to the help* of the Iowa State Board of Health, which is trying to keep before the people of our *great commonwealth* all the advanced ideas which are destined to keep her inhabitants from sickness and death.

There are comparatively few people who will not admit that the germ diseases are to be found in the mouth and on the lips of those suffering from such disease, hence the germs are constantly communicated to any drinking cup or vessel that the person may use. This being true, no one can deny that the common drinking cup, in public places, *must inevitably be* the constant medium of such diseases and as truly a poisoned or infected cup at times as though it contained arsenic or strychnine. It is conceded that all disease germs which are spread in this manner are even *more dangerous than poisonous drugs*, because neither the sight, taste nor smell is a hint conveyed of the presence of the poison, and because it gives no immediate indication of the injury it has inflicted. The State Board of Health wishes to impress upon the people of Iowa that these matters are not "fads," and this agitation against the use of the common drinking cup must continue until the evil and its consequences are *entirely abolished*.

Vital statistics show, and it has been proven, that at least *seven hundred thousand of the million and a half* deaths occurring annually in the United States result from the minute parasite plants and animals which gain access to the body. *These invisible foes* wage a *continual warfare* against the human race. The Iowa State Board of Health sends out the warning.

IOWA STATE BOARD OF HEALTH.
GUILFORD H. SUMNER, M. D., *Secretary*.

A TIMELY WARNING ABOUT FLIES.

In every town and locality in the State many people have failed to heed the numerous warnings that have been issued against flies. Attention has been called to the fact that they are one of the most dangerous menaces to life and health with which mankind has to contend, being responsible for a large proportion of all cases of typhoid fever and diarrhoeal diseases of infants and many cases of tuberculosis and other contagious diseases.

They have caused thousands of deaths in Iowa and will continue their work of destruction until housekeepers awaken to the fact and inaugurate a warfare that will result in their extermination.

This can be accomplished definitely and effectively. It requires only the removal of filth. Flies breed in filth and in filth alone. Without filth there can be no flies. More than 90 per cent of them breed in stable manure and the balance in garbage, outhouses and other forms of refuse.

The fly season is at hand. Prompt action at this time may prevent many deaths during the summer and fall and grave responsibility rests upon all health officers and other citizens.

An immediate and thorough cleaning of premises should be effected and further accumulations of filth avoided. Stable manure should be kept in vaults or boxes—screened or covered or frequently sprinkled with lime or kerosene and should be removed at least once a week.

Garbage receptacles should be carefully covered, and the contents sprinkled with unslacked lime or oil.

Privy vaults should be made fly-proof and their contents sprinkled with lime.

In addition to the measure for the prevention of the breeding of flies, every effort should be made to prevent them from entering the house or having access to milk or other foods.

All doors and windows, especially those of the kitchen and dining-room should be screened.

Food exposed for sale should be screened and ordinances to this effect should be enacted and enforced.

Flies should be especially kept away from the sick and if one is discovered in the sick room it should be killed. Excreta and urine from the sick should be covered with fresh lime for an hour and then buried.

People who have cleaned their own premises should demand that their neighbors should do likewise and notify the Board of Health of any failures or refusals. It is important to remember that no house is

safe unless every other one for a mile around is clean. This applies especially to tenant's houses or rented quarters.

The saving of life and suffering will amply repay for all the trouble and expense.

Either man must kill the fly or the fly will kill the man.

Local Boards of Health and Local Health Officers, get busy.

A FLY MAGNIFIED.

A Federal health bulletin says: "If you saw a fly magnified until it was as big as a full-grown hen and saw the fly light on the bloodspit of a consumptive, in a cuspidor, and then fly with his feet covered with the germs of consumption and light on the nipple of the milk bottle being sucked by your child, and afterwards saw your child die of consumption, you would not charge the death of the child to Divine wisdom, but to human ignorance in permitting the fly to disease the child."

Therefore, keep the flies away from the milk!

DON'TS.

- Don't allow flies in your house.
- Don't permit them near your food, especially milk.
- Don't buy foodstuffs where flies are tolerated.
- Don't have feeding places where flies can load themselves with ejections from typhoid or dysenteric patients.
- Don't allow your fruits and confections to be exposed to the swarms of flies.
- Don't let flies crawl over the baby and swarm upon the nipple of its nursing bottle.

SUMMARY.—Clean up your premises inside and out, and then, as much as you can, see that others do the same. Strike at the root of the evil. The housefly breeds in horse manure, kitchen offal and the like. Dispose of these materials in such a way that the housefly cannot propagate. Screen all windows and doors, and insist that your grocer, butcher, baker and every one from whom you buy foodstuffs does the same. There is more health in a well-screened house than in many a doctor's visit.

After you have cleaned up your own premises, inspect the neighborhood for fly-breeding places. Call the attention of the owner to them, and if he does not remove them, complain to the Board of Health.

IOWA STATE BOARD OF HEALTH.
GUILFORD H. SUMNER, M. D., Secretary.

INFANTILE PARALYSIS.

SPECIAL BULLETIN OF THE IOWA STATE BOARD OF HEALTH.

History of Increasing Prevalence.—The actual founder of the doctrine of acute spinal paralysis in children is thought to be Jacob Von Heine. As early as 1840 he prepared a written account of the disease and gave a somewhat exhaustive bedside representation of it, especially in regard to the defective nourishment, and the deformities which followed. Some cases were described prior to Von Heine, by Underwood in 1784, Shaw in 1822, Bedham in 1835, and perhaps a few others; but knowledge concerning the disease was limited, and the separation of acute spinal paralysis from other forms of paralysis among children had not been established. In Von Heine's time the disease was comparatively rare; but his work started an epoch which was followed by numerous discussions, and during the years which followed a number of works were published, among whose authors were the noted Barthez, Kennedy, Vogt, Bierbaum and others, prominent among them being the investigations of Duchenne (de Boulogne). These furnished a very interesting bedside picture of the disease.

The discussions which followed brought out various opinions in regard to the location of the disease and the parts of the nervous system affected. It was observed that certain parts of the body became paralyzed; and, if the patient recovered, these parts were poorly nourished afterward and in many instances were deformed and useless, indicating that some part of the nervous system had been destroyed beyond repair. The real location of this destruction remained obscure, and various theories were advanced in regard to whether this disease was an essential, spinal or external paralysis. These discussions were carried on, advancing theories rather than presenting the results of personal observations. In 1860 Von Heine presented a second edition of his work, in which he declared without any reservation that the seat of the disease was in the spinal cord. Since that time the disease has been known as spinal infantile paralysis. Von Heine believed the changes to exist in the gray matter (the cellular portion) of the spinal cord. This was also the opinion of Duchenne, though on different grounds. Microscopic examinations of the spinal cord had not reached general acceptance at this time, hence better methods had to be secured in order to demonstrate through the microscope the particular parts of the spinal cord that were obliterated by the disease.

It was soon apparent that the investigators of spinal paralysis had reached a period when they began to study the disease from a bedside and microscopic standpoint. The actual number of cases belonging to this disease was more accurately defined and limited, and all deaths where possible were investigated. Such procedures led to a more definite understanding of the changed conditions of the diseased spinal cords of persons dying from infantile paralysis.

In 1863 Cornil first discovered alterations in the spinal cord itself, but in 1865 Prevost and Vulpian made positive observation that the injury to the spinal cord was situated in the gray nerve cells of the anterior horns. This was later confirmed by Lockhart and Clarke in 1868. In 1870 Charcot and Joffroy carefully investigated a case which stands at the very beginning of a number of observations which, in all cases of spinal infantile paralysis, demonstrated a positive disease of the spinal cord, especially of the gray matter in the anterior horns. That there was a destruction of nerve cells was established beyond all doubt by the cases investigated by Parrot and Joffroy, Roger and Damaschino, Roth, Leyden, F. Schultze, W. Mueller and others; and examinations of recent years have proven that in all cords examined, of persons dying from this disease, none are found without the loss of certain portions of the anterior horns. Some differences of opinion have arisen among observers regarding the significance or the origin of the process, and some apparently conflicting conditions have been discovered, but no one disputes that in this disease there is a destruction of the nerve cells in the anterior horns of the spinal cord. About this time it was proven beyond all reasonable doubt that this was not exclusively a disease of early childhood, but that it might occur in its typical form, during the later years of childhood or even in adult life. Later, reports from Charcot, Weiss, Schultze and others have verified these observations. The line of distinction between the form of the disease in adults and other forms of spinal disease, more especially acute ascending paralysis, acute central inflammation of the spinal marrow or its membranes, hemorrhage into the spinal cord, etc., can only be completed by further investigations.

Definition.—Infantile or spinal paralysis has very sharply defined clinical or bedside characteristics, and may be described as beginning suddenly, usually with fever, with severe brain symptoms (deafness, a profound sleepy condition, delirium, and general convulsions), there is very rapidly developed and complete paralysis with entire relaxation of the muscles, the paralysis being of variable distribution over the trunk and extremities, but generally in the form which attacks both the lower limbs; there is an absence of any severe disturbances of sensation, no paralysis of the muscles which control the bowels, neither has the patient any bed-sores. A rapid improvement sometimes takes place and the general condition becomes better if the paralysis proves not to be of a progressive character—indeed, gradual improvement of the same begins, although the restoration of movement is not uniform and remains in part lost forever. In some of the muscles there is extreme and rapidly progressing diminution of the muscles affected, together with degenera-

tion of tissue; the development of the bones is retarded; the extremities cold and blue. During the further course of the affection considerable deformities of the limbs and trunk arise (club-foot, curvatures of spine, paralytic contractions, etc.). The general condition of the patient is admirable, in spite of the permanent defects in the motor apparatus (moving parts) which almost invariably remain.

The disease may occur at all periods of life, though it is most frequent in children between the ages of one and four years. It is susceptible of an unusual number of grades of severity, attacking some mildly while others are made almost completely helpless.

The injury to the spinal cord, although not quite certainly determined for all cases, may be regarded as most probably consisting in an acute inflammation of the gray matter (nerve cells) of the anterior columns (anterior horns), which may extend more or less over the greater part of their entire length, but is disposed to be most heavily localized in the cervical (neck) and lumbar (back) enlargements.

Some Pathological Observations.—In spite of the numerous investigations of the past few years, the pathological anatomy of the *acute spinal paralysis* can only be incompletely given. We are, no doubt, justifiable in laying down as a strict requirement that only those cases shall be considered as affording conclusive anatomical results which have been accurately observed during life, and which have presented the well-marked clinical characteristics of the disease. It can hardly be otherwise, however, than that a disease with so sharp and well-characterized a clinical picture should have some uniform anatomical lesion as its basis. The use of the microscope has shown a more or less entire disappearance of the large, multipolar ganglion-cells; while those still remaining are found partly in all stages of degeneration and atrophy, partly, however, quite well preserved. It has not yet been possible to demonstrate any regular localization of these changes in definite groups of ganglion-cells within the anterior horns. A degree of softening which has been observed in the anterior horns has been accompanied by an entire disappearance of the nerve-fibres and axis-cylinders within the area of the softening. In the immediate vicinity of the softening there is frequently quite a striking multiplication of nuclei, as though preparation were being made for a species of encapsulating process. The appearance of the anterior horn, as a whole, is wasted and diminished in size.

These areas, or foci, sometimes extend, by means of little prolongations, backwards, or towards the sides. The tissue surrounding them may be more or less completely or approximately normal, with well preserved ganglion-cells. Generally, however, *slighter and more diffused changes* can be demonstrated throughout a greater or less portion of the gray matter usually throughout the entire dorsal portion, consisting of single granule-cells scattered through the tissue, and multiplication of nuclei, dilatation of blood-vessels, the disappearance of individual ganglion-cells. The accompanying diagram gives a clear picture of the localization and extent of the softening in the lumbar enlargement of

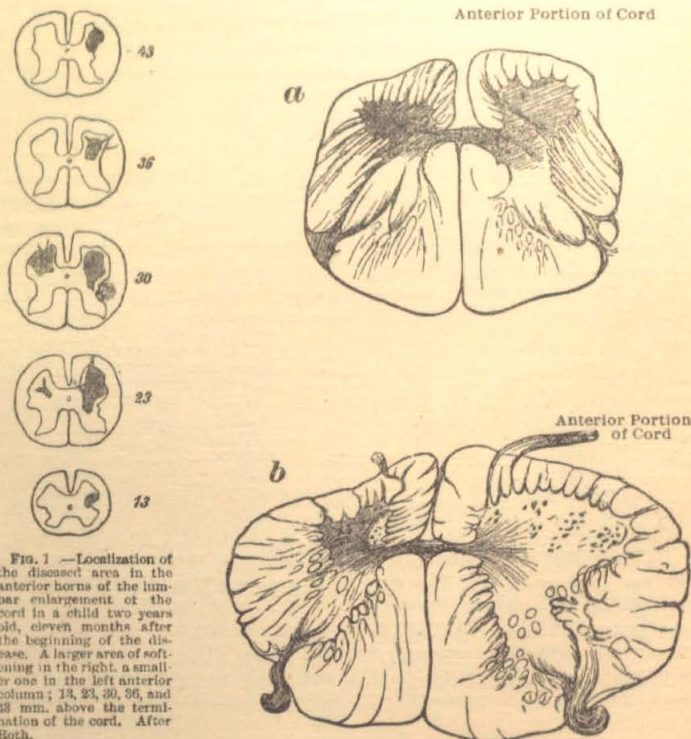


FIG. 1.—Localization of the diseased area in the anterior horns of the lumbar enlargement of the cord in a child two years old, eleven months after the beginning of the disease. A larger area of softening in the right, a smaller one in the left anterior column; 13, 23, 30, 36, and 43 mm. above the termination of the cord. After Both.

FIG. 2.—Spinal cord with acute spinal paralysis, forty-three years after the beginning of the disease. (a). Section through the lumbar (back) enlargement; both anterior horns and antero-lateral columns strongly shrivelled, more on the left side than on the right. No ganglion-cells are present. (b). Section through the cervical (neck) enlargement; the left anterior horn and antero-lateral column very strongly shrivelled. No ganglion-cells are present. The posterior columns and posterior horns in both sections are normal. A careful study of these figures will reveal much information regarding the lesions in the spinal cord as a result of acute infantile or spinal paralysis. After Charcot and Joffroy.

the spinal cord, according to Roth. Note illustrated lesions in Fig. 1, page 125.

Some very interesting observations made between seventeen and sixty-one years after the origin of the disease, by Cornil, Prevost, Lockhart and others, show that atrophy and shriveling of certain portion of the spinal cord are much more evident, even to the naked eye, and the wasting of the antero-lateral columns and the shrinking of anterior horns are especially prominent. These are irregularly reduced in their dimensions in various directions, narrowed and shriveled so that the entire form of a transverse section of the cord, as well as its markings, seem to be changed; this is especially prominent if the lesion is limited to one side. (See Fig. 2, page 125.)

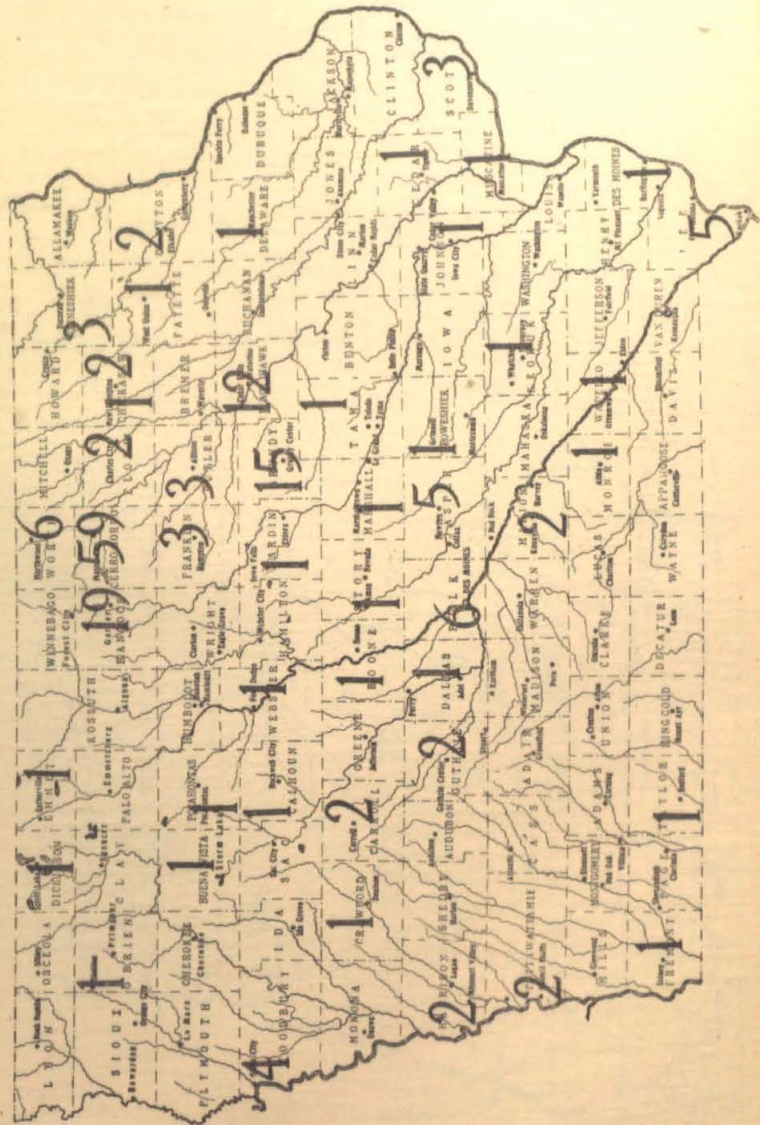
Infantile Paralysis Not a New Disease.—It has been known and described accurately by many authors and has been appearing in epidemic form more frequently in the last years, the conditions being in some way favorable for its spread, and this is in no way peculiar to this disease, having been observed in regard to epidemics of influenza, plague, small-pox and other diseases. The following figures show its increasing prevalence throughout the world in the last thirty years:

Years.	Average No.		
	Cases.	Outbreaks.	Cases.
1880-1884.....	23	2	11.5
1885-1889.....	93	7	13
1890-1894.....	151	4	38
1895-1899.....	345	23	15
1900-1904.....	349	9	39
1905-1909.....	8,054	25	322

It is easily seen from the above table that the disease has been on the increase during the past two decades. The disease has been increasingly prevalent in the northern section of the United States within the last five years, with an aggregate of over 5,000 cases. In 1907 New York suffered an epidemic of 2,500 cases, while in 1909 Massachusetts had 1,000 cases, Nebraska 619, and Minnesota several hundred. A newspaper report from Washington, D. C., estimates 100 cases there this summer.

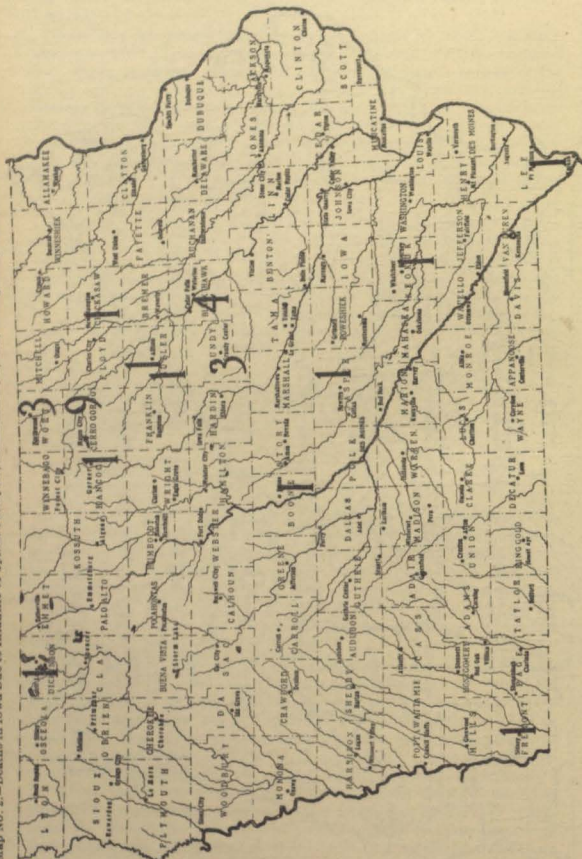
Occasionally cases of infantile or spinal paralysis have been noted in Iowa for years, but only in the last year has it assumed any great importance. Records in the Department of Vital Statistics show that during 1909 there were fifteen deaths reported as due to this disease, while in many other death certificates the causes of death are vaguely attributed to paralysis, brain paralysis, meningitis, etc., and it is safe to assume that some of these at least were really infantile paralysis. Since January 1, 1910, to August 24, 1910, death certificates filed in the Vital Statistics Department show that twenty-nine cases died from infantile or spinal paralysis. It is to be presumed from these reports of death that there were at least ten times as many cases which had occurred in the State of Iowa.

No. 1.—Cases of Infantile or Spinal Paralysis Reported to the Iowa State Board of Health Office, from January 1, 1910, to August 24, 1910, Inclusive.



The Dark Figures in each County Indicate the Number of Cases. Total Cases 196.

Map No. 2.—Deaths in Iowa Due to Infantile or Spinal Paralysis, from January 1, 1910, to August 24, 1910, Inclusive.



The Dark Figures in each county indicate the Number of Deaths. Total Deaths, 29.

In April a few cases appeared at Mason City, Cerro Gordo County, Iowa, and the months of May and June ushered in a well-marked epidemic of infantile or spinal paralysis in that city. The health authorities appealed to the Iowa State Board of Health, who in turn appealed to the Public Health and Marine Hospital Service of the United States Government, Washington, D. C., for aid in making an investigation into the causes of this epidemic. Surgeon General Wyman responded at once, and Past Assistant Surgeon Wade H. Frost was sent into Iowa to aid the Iowa State Board of Health and the local authorities at Mason city in determining the causes, if possible, that were operating to bring this disease into Iowa. Dr. Frost is at present working in Mason City, and is gathering all the information possible for the national government and the Iowa State Board of Health, which in due time will be published.

This is the first evidence at hand, showing that Iowa is in the throes of an epidemic of infantile or spinal paralysis. There have been reported to the Iowa State Board of Health Office since the first cases appeared at Mason City, 186 cases and 29 deaths.

The following counties of Iowa have reported cases and deaths as follows:

REPORT OF CASES OF ANTERIOR POLIOMYELITIS IN IOWA FROM JANUARY 1, 1910, TO AUGUST 24, 1910, INCLUSIVE.

County.	Cases	Deaths	County.	Cases	Deaths
Adair	0	0	Davis	0	0
Adams	0	0	Decatur	0	0
Allamakee	0	0	Delaware	1	0
Appanoose	0	0	Des Moines	1	0
Audubon	0	0	Dickinson	1	1
Benton	0	0	Dubuque	0	0
Black Hawk	12	4	Emmet	1	0
Boone	1	1	Fayette	1	0
Bremner	0	0	Floyd	2	0
Buchanan	0	0	Franklin	3	0
Buena Vista	1	0	Frederick	1	1
Butler	3	2	Greene	0	0
Calhoun	1	0	Grundy	15	3
Carroll	2	0	Guthrie	2	0
Cass	0	0	Hancock	19	1
Cedar	1	0	Hamilton	0	0
Cerro Gordo	59	9	Hardin	1	0
Cherokee	0	0	Harrison	2	0
Chickasaw	3	1	Henry	1	0
Clarke	0	0	Howard	0	0
Clay	0	0	Humboldt	0	0
Clayton	2	0	Ida	0	0
Clinton	0	0	Iowa	0	0
Crawford	1	0	Jackson	0	0
Dallas	1	0	Jasper	5	1

Jefferson .....	..	Polk	6	..
Johnson	1	Pottawattamie	2	..
Jones .....	..	Poweshiek	1	..
Keokuk	1	Ringgold .....	..	..
Kossuth .....	..	Sac .....	..	..
Lee	5	Scott	3	..
Linn .....	..	Shelby .....	..	..
Louisa .....	..	Sioux .....	..	..
Lucas .....	..	Story	1	..
Lyon .....	..	Tama	1	..
Madison .....	..	Taylor	1	..
Mahaska .....	..	Union .....	..	..
Marion	2	Van Buren .....	..	..
Marshall	1	Wapello	1	..
Mills .....	..	Warren .....	..	..
Mitchell .....	..	Washington .....	..	..
Monona .....	..	Wayne .....	..	..
Monroe	1	Webster	1	..
Montgomery .....	..	Winnebago .....	..	..
Muscatine	1	Winneshiek	3	..
O'Brien	1	Woodbury	4	..
Osceola .....	..	Worth	6	3
Page .....	..	Wright .....	..	..
Palo Alto .....	..	—	—	—
Plymouth .....	..	Total	186	29
Pocahontas	1	..	..	..

Experimental researches within the last year have demonstrated beyond doubt that the disease is infectious and communicable to monkeys. While the germ has not been isolated, it has been shown that it is present not only in the spinal cord, but also in the nasal mucous membrane, salivary glands and lymphatic glands of infected animals. The disease may be communicated to monkeys, not only by injection of the veins, but by feeding it into the stomach and by rubbing it into the nose. It is also suspected, though not proven, that the virus is present in the intestines. Special care should therefore be given in disinfecting the sputum, stools and urine, besides the general precautions used in scarlet fever. Studies of epidemics have confirmed the laboratory findings as to the infectious, communicable nature of this disease. The exact modes of transmission from person to person are not known. The disease is possibly transmitted through the *air in dust, fomites, food or drink*, possibly by *insects*, or even by *animals*. Healthy persons may apparently carry infection from the patient to the third person.

The following should be carefully noted:

1. The use of a solution of perhydrol (Merck's) containing 1 per cent. of hydrogen peroxide is advised as a gargle or spray for the throat in cases of disease. Also the same solution is recommended as a prophylactic for children exposed to the infection. The value of perhydrol in combating naso-pharyngeal and oral infections is confirmed by

Dr. Simon Flexner of the Rockefeller Institute for Medical Research, New York, and Dr. Paul A. Lewis, of New York, whose experimental investigations of epidemic poliomyelitis, carried out during the past several months, have added a large number of important facts to the knowledge of this disease. In their seventh note on "Active Immunization and Passive Serum Protection" (Jour. A. M. A., May 28, 1910), the authors state: "In view of the fact that the virus of poliomyelitis can enter the nervous system through the abraded mucous membrane of the nose, we have tested the effects of hydrogen peroxide and some other disinfecting agents on the virus. The virus is quickly destroyed by a dilution of perhydrol containing 1 per cent of hydrogen peroxide."

This authoritative statement confirms that made by W. Ford Robertson, pathologist to the Scottish Asylums, Edinburgh, who in a paper on "General Paralysis and Tabes Dorsalis," read before the Interstate Medical Congress at Melbourne (Lancet, Nov. 14, 1908), stated:

"We have endeavored to combat the naso-pharyngeal and oral infections by local measures. In view of the evidence of the destructive action of oxygen upon certain strains of the special bacilli, it occurred to me that Merck's perhydrol would be worthy of trial in the form of a nasal spray. We have used this extensively in a 1 per cent. solution, both as a nasal spray and as a mouth wash (applied daily or every other day), and there can be little doubt that distinct benefit has resulted in many cases."

2. There are types of the disease in which the paralysis is slight, involving only face muscles. In young children, cases with respiratory paralysis often resemble pneumonia, and such cases should be carefully observed to see if there is any paralysis of the limbs.

3. There is strong evidence that some cases of this disease show only premonitory symptoms, possibly sore throat and slight fever. These cases are believed to be as dangerously contagious as the paralytic cases, and when anterior poliomyelitis is prevalent, all such suspicious cases should be treated with the same precautions as typical cases.

4. Massachusetts has recently made this a "reportable" disease, and has issued a circular advising physicians to isolate cases and disinfect excreta of all kinds. The American Pediatric Society and the American Orthopedic Association, in session at Washington in May, 1910, recognizing that epidemic infantile spinal paralysis is an infectious, communicable disease, recommended careful studies of epidemics and measures similar to those adopted in Massachusetts for preventing its spread. Other States are also carrying out the same measures because of the fact that this disease has a mortality of 5 to 20 per cent, and 75 per cent or more of the patients recovering are permanently crippled.

5. The belief of medical men and experimental observers in laboratories is that infantile or spinal paralysis is due to a germ infection, and numerous observers have been led to examine the spinal fluid during life and the tissues after death for the presence of bacteria. To the present time the results have been unsatisfactory and, taking into consideration the possibility of contamination and accidental infection, chiefly negative.

Landsteiner and Popper, in 1909, successfully inoculated two monkeys with the spinal cord from fatal cases of poliomyelitis. Flexner and Lewis (Rockefeller Institute, New York) have infected monkeys and produced a disease similar to that in the human. They were able to transmit the disease through a series of monkeys by way of the *brain, peritoneal cavity and circulation*. *They were unable to discover bacteria by any method*. These detailed experiments prove beyond question that infantile paralysis is an infectious disease and is transmissible from one individual or animal to another.

6. The epidemics in Iowa have occurred in the summer and fall months, and this accords with the epidemics in other States and other parts of the world. It seems that dry, dusty weather is particularly favorable to the spread of the disease.

7. The serious aspect of the conditions which confronts our State can be fully understood when it is stated that the mortality ranges from 8 to 20 per cent. in the various epidemics, the death rate being highest in very young children, and in adults, and lowest in children from three to ten years of age. That which is worse than the direct mortality is the permanent paralysis of one or more of the arms or legs, with the consequent withering of the affected member and the crippling of the patient for life. This occurs in over 75 per cent of the cases and constitutes the worst feature of this scourge.

8. The disease occurs in two types, the well-marked type followed by paralysis of one or more muscle groups and the recently recognized abortive type which, owing to greater resistance of the patient and a lessened virulence of the infection, runs a milder course and terminates without paralysis.

9. The literature of this disease is only now being written and but little dependence can be placed upon descriptions in the text-books. Especially should the physician avoid trying to make all cases conform to any hard and fast description and refusing to recognize as infantile paralysis any cases which do not so conform. Many border-line cases will be found in the present epidemics.

10. In short, infantile or spinal paralysis is a contagious and infectious disease and must be handled as such. The degree of susceptibility to the disease is low. Only about six per cent of exposed persons develop the disease as compared to seventeen per cent for diphtheria, 22 per cent for scarlet fever and nearly 90 per cent for measles. This low degree of susceptibility is fortunate but has led to considerable misunderstanding and doubt as to the transmissibility of the disease because so many exposed persons escape infection.

11. It is to be noted that infantile or spinal paralysis is most prevalent during the months of *August and September*, and the Iowa State Board of Health requests that all local boards of health and health officers consider the necessity of acting quickly in this important work of educating the people to the extent that the disease is communicable and can be transmitted.

12. The National Public Health and Marine Hospital Service is rendering every efficient and timely aid to the Iowa State Board of Health at this time, by sending Passed Assistant Surgeon, Wade H. Frost, of the Service, into Iowa to make, in conjunction with the Iowa State Board of Health, a thorough investigation of the epidemic now prevalent in our state. This action on the part of the National Government shows that Surgeon General Wyman is the right man in the right place

SPECIAL RULES OF THE IOWA STATE BOARD OF HEALTH, REGARDING INFANTILE PARALYSIS. ADOPTED
AUGUST 17, 1910.

All cases of infantile or spinal paralysis, or suspected cases, shall be immediately reported by the attending physician or head of the family to the local board of health, who in turn must report the same at once to Dr. Guilford H. Sumner, Secretary, Iowa State Board of Health, Des Moines Iowa.

The State Board of Health recommends the quarantine of all cases of infantile or spinal paralysis for at least two weeks after the beginning of the disease, and a thorough disinfection of all infected premises after the termination of the disease.

It is a well established fact that the infectious material is found in the secretions of the nose and mouth of afflicted persons, and the Iowa State Board of Health therefore, recommends the use of sprays and gargles of perhydrol (Merck's) containing 1 per cent of hydrogen peroxide to prevent the further spread of the disease. All discharges from the patient should be disinfected by means of bichloride of mercury, carbolic acid or chloride of lime.

SANITARY PRECAUTIONS TO BE OBSERVED IN CARE OF CASES OF EPIDEMIC, INFANTILE OR SPINAL PARALYSIS.

1. Put patient in clean, bare, well ventilated room, screened to keep out insects.
2. The rest of the family should be kept at home as far as possible.
3. No person should be allowed to enter sick room except doctor and nurse.
4. Disinfection should be thoroughly carried out. Make disinfection solution as follows:

Solution No. 1. For stools and urine:

Add $\frac{1}{4}$ pound of Chloride of Lime to two gallons of water. Make fresh every day.

Solution No. 2. For hands and clothing:

Add two teaspoonfuls of Carbohc Acid, 95 per cent to one quart of water.

Solution No. 3. For hands and clothing:

Add two teaspoonfuls of Formalin to one quart of water.

5. To disinfect stool add one quart of Solution No. 1 and let stand for one hour. To disinfect urine add one pint of Solution No. 1 and let stand one hour.

6. When nurse leaves the room she should wash her hands in Solution No. 2 or Solution No. 3. She should wear an over-garment and remove the same on leaving the room.

7. All clothes and bed clothes before removing from sick room and all washable clothes before removing from premises should be soaked for one hour in Solution No. 2 or No. 3 as preferred.

8. All eating utensils and remnants of food used by patients should be boiled before taken from sick room.

9. All milk bottles received at the house must be boiled before returning to the dairy.

10. The rest of the family should take frequent baths and use perhydrol (Merck's) containing 1 per cent of hydrogen peroxide as a gargle and nose spray.

11. The house should be kept as free from dust as possible by sprinkling floors before sweeping and by using damp cloths for dusting.

12. All dogs, cats and other pets should be kept from the sick room.

13. Surrounding premises should be sprinkled daily.

14. Patients shall be kept isolated until placard is removed and house has been fumigated.

The above instructions should be carried out minutely not only for infantile or spinal paralysis, but for all contagious and infectious diseases. The use of deoderants to create smell in the room is useless and objectionable.

The Iowa State Board of Health wishes information on all cases of infantile or spinal paralysis and will furnish blanks for same upon application. A special request is made that all animals suffering from paralysis in any form should be noted and reported in connection with cases of infantile or spinal paralysis. For blanks address, Dr. Guilford H. Sumner, Secretary, Iowa State Board of Health, Des Moines, Iowa.

SAVE THE BABIES.

The State Board of Health has been notified from all sections of the State of the alarming infant mortality from entirely preventable causes. As the greatest asset of Iowa is its healthful population, it is important that every baby be kept well, and for these reasons the Board makes the following suggestions to fathers and mothers:

The hot weather of this season of the year is extremely dangerous to the lives of infants and young children, not only because of the depressing effect of high temperature in general, but especially because it is harder to preserve all articles of food, especially cow's milk, in hot weather.

For this reason it is especially important that cow's milk to be used for feeding babies should be the purest and freshest that you can afford to buy. During the hot weather ice is absolutely necessary for the preservation of milk, where a cool spring-house is not available, and no milk should be fed to a baby which is not cooled by ice around the bucket as soon as it comes from the cow, and it should be kept next to the ice until ready to be used. A little money spent for ice may prevent illness and its much greater expense for nursing, medicine and medical attendance. Unless you are absolutely sure your water supply is pure, it is safest to use water which has been boiled for drinking and for the preparation of the baby's food.

In practically all cases the mother can and should nurse her own baby. Breast-milk is the natural food for the new-born baby. No other food can compare with it. Ten bottle-fed babies die to one that is breast-fed.

Immediately after birth do not use any kind of artificial food or teas for the baby while waiting for the breast milk to come. Put the baby to the breast every four hours and give nothing else but water that has been boiled. The new baby needs nothing else and will not starve. After the milk comes under no circumstances should the baby nurse oftener than every two hours during the day and two or three times at night.

Do not nurse the baby whenever it cries. A moderate amount of crying helps to develop the lungs and every baby should cry during the day. Babies who are nursed irregularly, or whenever they cry, practically always get indigestion and then cry harder from the pain. Nurse regularly and the baby will soon learn to expect its nursing at the proper time. Give the baby a little water which has been boiled, several times a day. After two months the time between nursing should be 2½ to 3 hours in the day time, with only one or two feedings at night.

Do not wean the baby as long as he is gaining weight and never do so except by advice of your doctor. Do not follow the advice of friends or

neighbors about weaning. If the baby remains well, but after a time stops gaining weight, do not think that your milk is of no value, but consult your doctor about adding one or two bottles to help you out.

If it becomes necessary to feed the baby either entirely or only in part upon the bottle, remember that absolute cleanliness is necessary in all details of the feeding. Because some babies have lived through filth is no argument that yours will. As soon as a bottle is finished it should be thoroughly washed with cold water, then cleaned with hot water and borax (1 teaspoonful to a pint of water) and set aside in a sunny place for further cleansing before being used again. If you have only a few bottles and it becomes necessary to use the same one for the next feeding, boil it for a few minutes with a little soda in the water before putting fresh food into it. Never let the baby nurse from the remains of a bottle which he has not finished. Take it away from the crib, pour out the milk and clean at once. Stale milk curds sticking to the inside of the bottle becomes poisonous after a few hours and may contaminate fresh milk coming in contact with them. It is better and easier to have as many bottles as the daily number of feedings so that all can be boiled together before the food is prepared in the morning.

The care of the nipples is especially important. The simpler the safer. Do not use complicated nipples, and especially do not use a bottle with a long rubber tube. It is impossible to keep it clean and it will certainly cause bowel trouble. After a bottle is finished, the nipple should be removed at once, turned inside out over the finger and scrubbed with cold water and a brush kept only for this purpose. After use, always boil the brush. The cleansed nipple should be kept in fresh borax water (1 teaspoonful to a pint of water) in a covered glass. Rinse the nipple in boiling water before using it. Do not put the nipple into your own mouth to find out whether the milk is warm enough. Let a few drops fall on your wrist; if it is too hot for your wrist, it is too hot for the baby's mouth.

No general instructions can be given about the preparation of a milk mixture for your baby. Each baby needs a combination suited to his digestion. The mixture upon which some other baby is thriving may be too strong or too weak for your baby. Let your doctor tell you how to mix the food. If it is necessary to use cream do not buy it, it is likely to be stale, but get it by pouring off half a pint from the top of a quart bottle of milk, after cleaning the mouth of the bottle.

During the summer it is usual to bring the baby's food to a scald after it is prepared. It should then be poured into the clean bottles, corked with baked clean cotton and kept next to the ice until needed. Be sure not to heat a bottle when you go to bed and keep it in bed until nursing time, because you do not want to go to the ice box for it and heat it when the baby needs it. This is certain to make the baby sick.

If a bottle-fed baby is constipated give one or two teaspoonfuls of castor oil. If this does not relieve him within four hours then consult your doctor. At this time he will be able to prevent a serious summer complaint with which your baby is threatened. If there is any diarrhoea,

stop the milk at once, give nothing but pure water which has been boiled and call the doctor. It may not be too late.

Do not begin milk feeding again until the doctor orders it. Babies practically never starve and they are frequently killed by being fed after illness has gone. Every drop of milk that goes into a baby's mouth after bowel trouble begins, simply adds to the poison already there. Serious or fatal illness can be caused by keeping up milk feeding after the bowels become disordered. A bottle-fed baby should not vomit if its food is pure, unless it is fed too much at a time. Vomiting is usually a sign of approaching illness, either one of the serious diseases of childhood, or more commonly in hot weather, of summer diarrhoea. Vomiting due to this cause may be the first sign of trouble. If vomiting is repeated, stop feeding milk, give water which has been boiled, cool or at the temperature at which the milk is given, and consult your doctor at once.

Do not put too much clothing on the baby in summer. During the hottest weather a thin, loose dress and a diaper are enough for day and night. Never use tight waist bands. Petticoats and skirts should be supported by straps over the shoulders.

Bathe the baby every day. When it is very hot a quick sponging all over later in the day will give him comfort and make him sleep better.

Fresh air is as important for the baby's health as fresh food. During the summer keep the baby out of doors as much as possible and keep it out of the kitchen. They frequently get sunstroked from too much heat in-doors.

If the baby has an eruption or breaking out on the skin, consult the doctor. Every rash is not prickly heat; it may be some serious disease like scarlet fever, smallpox or chickenpox.

Issued by the IOWA STATE BOARD OF HEALTH.

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