

REPORT OF THE
STATE DEPARTMENT OF HEALTH

IOWA

1986

State of Iowa
1936

REPORT OF THE
STATE DEPARTMENT OF HEALTH

FOR THE
BIENNIAL PERIOD ENDING JUNE 30, 1936

WALTER L. BIERRING, M. D.
Commissioner

Published by
THE STATE OF IOWA
Des Moines

IOWA STATE DEPARTMENT OF HEALTH

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*Term expired April 1, 1936.

**Term expired April 1, 1936.

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LETTER OF TRANSMITTAL

Office of Commissioner

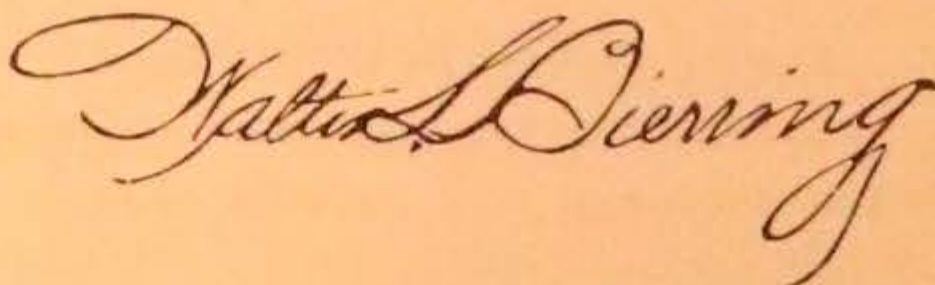
Iowa State Department of Health

Des Moines, Iowa

To the HONORABLE CLYDE L. HERRING, *Governor of Iowa*:

Sir: In compliance with Section 2216, Code of Iowa, 1931, I hereby present to you the Twenty-seventh Biennial Report of the State Department of Health for the biennium ending June 30, 1936.

Very respectfully,

A handwritten signature in cursive script, reading "Walter S. Piercing". The signature is written in dark ink and is positioned above the printed name of the Commissioner.

Commissioner.

December 1, 1936.

TABLE OF CONTENTS

	Page
1. Administration	7
2. Financial Report	11
3. Public Health Engineering.....	14
4. Vital Statistics	32
5. Communicable Diseases	160
6. Laboratory	198
7. Child Health and Health Education.....	221
8. Public Health Nursing.....	230
9. Examination and Licensure.....	234
10. Division of Law Enforcement.....	237
11. Barbering	241
12. Cosmetology	245

REPORT OF THE STATE DEPARTMENT OF HEALTH

DIVISION OF ADMINISTRATION

DR. WALTER L. BIERRING, M. D., Commissioner

This biennial report is distinguished by two main features of commanding interest. The mortality rates from many of the preventable diseases have been definitely lowered during this period, and at the same time public health services have been expanded to a considerable extent. The first reflects the extensive utilization of available resources operating under limited appropriations, and the other gives promise of more adequate health protection in the future.

The infant mortality rate has been decreased by 18.7 per cent during this period. The lowered incidence and mortality rate of diphtheria again reflects the extensive and effective immunization programs carried on particularly in those counties where the mortality rate heretofore has been above the average.

The use of prophylactic agents has been an important feature in the prevention of certain diseases. The department has distributed free such preventatives as diphtheria toxoid, smallpox vaccine, typhoid vaccine, silver nitrate solution, and other biological agents. At the same time the department has constantly promoted the use of these preventive agents through intensive educational campaigns.

Investigations in undulant fever (brucellosis), malta fever, or Bang's disease, have been carried on in cooperation with the veterinarians of the state so that this disease is gradually being brought under control in this state. It is interesting to note that the strain or type of this infectious disease in Iowa is most common in hogs and therefore many instances of infection have been reported among packing house employees.

All the outbreaks of typhoid fever during this biennium have been traced to typhoid carriers, and while such outbreaks often required extensive laboratory work and investigation, the detection of the source of infection and control of the particular typhoid carrier fully justified the labor expended.

In sanitation a greater degree of progress has been made in this field than any other which comes within the function of the depart-

ment. Stream pollution and sewage disposal problems have engaged the efforts of the division of Public Health Engineering, and very remarkable results have been obtained. Many sewage disposal systems have been installed, particularly in the larger cities on the Des Moines, Iowa and Cedar rivers. Others have been extended and greatly improved.

A community sanitation project has been instituted through Federal aid from the Works Progress Administration under the supervision of the director of Public Health Engineering, and an engineer detailed from the United States Public Health Service, resulting in the construction of sanitary privies in more than twenty counties of the state.

The supervision of the construction and maintenance of swimming pools, as well as special investigations of summer resorts at the different lake and tourists camps, have been greatly extended during this period.

An important fact that can scarcely be exaggerated is that there has been no water borne outbreak of typhoid fever during the past two years, all of the epidemics being due to milk borne infections.

HEALTH EDUCATION

The emphasis on health education has been prominent in all the activities of the department. Advantage has been taken of the radio, press and the opportunity given in public addresses. Motion picture films, specially prepared literature, the publication of quarterly bulletins, weekly health messages, have been important factors. The department is much indebted to Dr. John H. Peck, M. D., Medical Director, Iowa Tuberculosis Association, Dr. A. H. Woods, M. D., Director of the Iowa State Psychopathic Hospital, and Mr. Jack J. Hinman, Jr., Chief of Water Division of the State Hygiene Laboratories, State University of Iowa, for their splendid contributions in the texts of the following bulletins respectively: Control of Tuberculosis in Iowa; Successful Living; Sanitation of Swimming Pools. These publications met with a very popular demand, and were widely distributed, many requests being received from other states.

The personnel of the department has taken advantage of every occasion to present in a technical way the possibilities of disease prevention and promotion of health.

Although great progress has been made in the control of pre-

ventable diseases, it has been difficult to adequately carry out effective measures in the smaller communities and rural areas, the inhabitants of which still suffer much life loss from diseases that are distinctly preventable. These factors are of fundamental importance in formulating policies and programs for future administration. They indicate the need of the expansion of public health services so that preventive medicine can be applied more adequately to the people who have not enjoyed these benefits in the past. It is expected to meet this situation through Federal funds now made available under the provisions of the Social Security Act.

This can be best accomplished by the establishing of organized public health services in local communities, counties, and districts. Three county health units have been established in Woodbury, Washington and Des Moines counties. It is planned to organize health districts throughout the state comprising four to six counties, which will constitute sub-divisions of the State Department of Health. In each county a public health nursing service will be formed and each health district will be supervised by a qualified medical director, a public health engineer, and a supervisory public health nurse. Under this plan it will be possible to greatly improve health and sanitary conditions in the smaller communities and particularly the rural areas.

It is further planned to expand public health activities through the development of a new division of industrial hygiene and sanitation. The purpose of this division will be to determine the occupational hazards in this state. It is to be noted that there are 168,000 persons engaged in mechanical, manufacturing and mining industries, indicating that industrial hazards are a definite public health problem in Iowa. A laboratory for this division is being specially equipped with all the essential mechanic and laboratory devices for the study of environmental conditions concerned with workers in the different industries. This work will be carried on in cooperation with the State Department of Labor and the Industrial Commissioner.

It is further proposed to greatly extend the activities in social hygiene, particularly as concerned with the control of syphilis. In order to properly attack this well named "black plague," it will be necessary to furnish all laboratory examinations free and for this purpose a special state appropriation will be necessary. It is also intended to furnish available drugs without cost particu-

larly during the transmissible stage of the disease. This is done with the thought that a lower expense will encourage people to have more adequate treatment carried out. All investigation will be done in cooperation with the several professional agencies, particularly the medical and nursing professions, all treatment to be under the control of licensed physicians. The report of the laboratory division indicates that there has been a marked increase in the volume of examinations made during the biennium which implies a greater confidence in laboratory methods, a greater alertness with respect to accurate diagnosis and the detection of the sources of infection and causes of disease.

The extension of laboratory services is one of the most important functions of the department, and distinctly reflects the gratifying progress that has been made in expanding public health work in Iowa.

It is a privilege at this time to record recognition for the valuable services rendered to the department by Dr. Frederick J. Swift, M. D., Deputy Commissioner, who terminated his services in the Department on April 1, 1936, in order to assume the important duties of Superintendent of the Iowa Soldiers' Home Hospital at Marshalltown.

The report of the different divisions will furnish more in detail the activities of the department during this biennium.

Respectfully submitted,

WALTER L. BIERRING, M. D.,
Commissioner.

FINANCIAL STATEMENT

APPROPRIATIONS FOR EACH YEAR OF THE BIENNIUM
July 1, 1934—June 30, 1936

PUBLIC HEALTH ADMINISTRATION

	1934-35	1935-36
General Office	\$ 45,340.00	\$ 45,160.00
Child Health and Health Education.....	6,600.00	8,500.00
Law Enforcement	4,200.00	3,940.00
Public Health Engineering.....	18,910.00	19,280.00
Miscellaneous Receipts (General Office).....	.06	
Fleet discount on Cars (Engineering Division)....	100.35	
Total	\$ 75,150.41	\$ 76,880.00

EXPENDITURES BY DIVISIONS

GENERAL OFFICE

	1934-35	1935-36
Salaries	\$ 34,793.84	\$ 33,799.94
Traveling	2,061.75	1,994.25
Biologicals, Equipment and Contingent Expense..	7,016.79	6,164.03
Transfer to State Geological Survey.....		150.00
Total	\$ 43,872.38	\$ 42,108.22

CHILD HEALTH AND HEALTH EDUCATION

	1934-35	1935-36
Salaries	\$ 7,200.00	\$ 8,220.00
Traveling	1,039.96	867.90
Contingent Expense	67.85	507.16
Total	\$ 8,307.81	\$ 9,595.06

PUBLIC HEALTH ENGINEERING

	1934-35	1935-36
Salaries	\$ 13,638.10	\$ 13,915.00
Traveling	1,704.72	2,152.32
Equipment and Laboratory.....	2,790.52	1,137.07
Replacement of Cars.....	662.61	
Stream Pollution	147.83	178.51
Transfer to State Geological Survey.....		100.00
Total	\$ 18,943.78	\$ 17,482.90

LAW ENFORCEMENT

	1934-35	1935-36
Salary	\$ 2,940.00	\$ 2,940.00
Traveling	1,009.10	909.48
Total	\$ 3,949.10	\$ 3,849.48

APPROPRIATIONS FOR EXAMINING AND LICENSING BOARDS

	1934-35	1935-36
Medical	\$ 900.00	\$ 1,000.00
Dental	2,400.00	2,400.00
Osteopathy	1,560.00	1,560.00
Chiropractic	1,560.00	1,680.00
Additional for Chiropractic.....		350.00

Nurses	5,280.00	
Embalmers	970.00	970.00
Optometry	750.00	750.00
Podiatry	395.00	395.00
Barbers	15,150.00	15,520.00
Additional for Barbers.....		1,000.00
Cosmetology	11,360.00	12,040.00
Additional for Cosmetology.....	1,000.00	750.00
Total	\$ 41,325.00	\$ 38,415.00

EXPENDITURES—EXAMINING BOARDS

MEDICAL

	1934-35	1935-36
Per Diem	\$ 661.00	\$ 605.00
Traveling	305.73	190.82
Total	\$ 966.73	\$ 795.82

DENTAL

	1934-35	1935-36
Per Diem	\$ 1,640.00	\$ 1,510.00
Traveling	549.48	739.19
Total	\$ 2,189.48	\$ 2,249.19

OSTEOPATHY

	1934-35	1935-36
Salary of Secretary.....	\$ 1,080.00	\$ 1,047.58
Board Members (Per Diem).....	200.00	330.00
Board Members (Traveling).....	58.34	193.27
Total	\$ 1,338.34	\$ 1,570.85

CHIROPRACTIC

	1934-35	1935-36
Salary of Assistant Secretary.....	\$ 1,080.00	\$ 1,080.00
Board Members (Per Diem).....	450.00	525.00
Board Members (Traveling).....	409.58	394.62
Total	\$ 1,939.58	\$ 1,999.62

NURSES

	1934-35
Salaries (Director and Part Time Secretary).....	\$ 2,527.50
Traveling (Director)	223.08
Board Members (Per Diem).....	780.00
Board Members (Traveling).....	111.69
Contingent Expense	14.70
Total	\$ 3,656.97

EMBALMERS

	1934-35	1935-36
Per Diem	\$ 470.00	\$ 720.00
Traveling	452.01	458.02
Total	\$ 922.01	\$ 1,178.02

OPTOMETRY

	1934-35	1935-36
Per Diem	\$ 242.00	\$ 265.00
Traveling	75.93	68.05
Total	\$ 317.93	\$ 333.05

PODIATRY

	1934-35	1935-36
Per Diem	\$ 235.00	\$ 195.00
Traveling	59.09	156.53
Total	\$ 294.09	\$ 351.53

BARBERS

	1934-35	1935-36
Salaries	\$ 9,260.32	\$ 9,281.71
Traveling (Inspectors)	4,611.31	4,839.06
Per Diem (Board Members)	770.00	870.00
Traveling (Board Members)	483.07	529.70
Contingent Expense	8.95	69.45
Total	\$ 15,133.65	\$ 15,589.92

COSMETOLOGY

	1934-35	1935-36
Salaries	\$ 5,017.50	\$ 5,460.00
Traveling (Inspectors)	3,390.27	3,909.45
Per Diem (Board Members)	3,383.00	2,565.00
Traveling (Board Members)	476.68	499.71
Contingent Expense	14.35	14.65
Total	\$ 12,281.80	\$ 12,448.81

FEES COLLECTED FOR LICENSES AND ANNUAL REGISTRATIONS
BY THE DEPARTMENT AND REMITTED TO THE
STATE COMPTROLLER

	1934-35	1935-36
Medical	\$ 8,369.00	\$ 9,064.00
Dental	2,808.00	2,454.00
Dental Hygiene	57.00	40.00
Osteopathy	1,723.09	1,251.00
Chiropractic	3,084.00	2,650.00
Nurses	5,616.00	
Embalmers	2,994.00	3,872.00
Optometry	1,406.00	1,476.00
Podiatry	162.00	125.00
Barbers	18,796.00	19,745.00
Cosmetology	23,871.00	23,451.00
Vital Statistics (Birth and Death Certificates)....	472.00	1,023.00
Total	\$ 69,358.09	\$ 65,151.00

REPORT OF THE DIVISION OF PUBLIC HEALTH ENGINEERING

A. H. WIETERS, M. S., Director

PERSONNEL

The personnel of the division throughout the biennium was as follows: A. H. Wieters, Director, P. J. Houser, W. R. Mark, Jr., R. B. McAllister and E. G. Fiala, Assistant Engineers. During the latter part of the biennium two additional engineers, C. D. Mullinex and G. C. Ahrens, were added through funds made available by the U. S. Public Health Service from Social Security funds.

AIMS AND POLICIES

It has been the policy of the Director to organize and develop the work of the division with the viewpoint of making it a service rather than a law enforcement agency, although in some instances legal powers must be invoked. In keeping with this policy, it is the aim of the division to assist local agencies, both official and non-official, and individuals, in most economically solving their problems in environmental sanitation.

GENERAL

For the most part the work of the biennium was conducted along similar lines as previously. Due to new and unprecedented demands in some branches of activity, it has been necessary to curtail somewhat other phases of the work. With a limited personnel it has been impossible to carry on all functions of the division in as detailed a manner as they deserve, and it has been necessary for the Director to choose the activities which in his opinion would yield greatest public health dividends at the expense of other worthy projects.

As high lights of the work of the division during the biennium, the following are cited:

First. Material progress in the long campaign for the abatement of stream pollution as evidenced by the large number of sewage treatment plants built during the biennium.

Second. Unprecedented improvement in existing water works and sewage treatment plants in the way of extensions and reconstruction, brought about largely by the Federal Works activities.

Third. The institution of sanitary milk surveys.

Fourth. The beginning of the decentralization of the division

activities through the establishment of county and district health units. This is the beginning of much needed expansion which will permit carrying the division activities into the strictly rural areas.

Fifth. A Community Sanitation Program sponsored jointly by the U. S. Public Health Service and the State Department of Health, and carried out with the assistance of WPA.

MAJOR ACTIVITIES

Following is a tabulation of the major field activities of the division during the biennium as compared with the four preceding biennial periods. Each of the major classes of investigation is discussed under a separate heading in later sections of the report.

TABLE I

	1934-36	1932-34	1930-32	1928-30
Water Inspections	1,057	1,124	1,169	335
Sewerage Inspections	373	362	197	111
Swimming Pools	21	32	43	51
Rendering Plants	7	10	9	15
*Tourist and Other Camps.....	28	65	163	192
Miscellaneous	143	110	133	91
Lake Surveys	9	11	5	8
State Parks	42	69	59	4
Major Stream Pollution Studies...	23	14	4	4
Stream Pollution Inspections.....	15	20	22	18
Railroad Water Inspections.....	157	208	217	202
Major Plans and Specifications				
Reviewed	121	84	85	68
U. S. Weather Station Inspections.	None	5	2	None
Stream Pollution Hearings.....	3	None	2	None
Orders issued requiring installation of sewage disposal.....	14			
County Homes	12	None	None	None
Typhoid Fever	1	None	None	None

*Tourist and Other Camps—Includes

Transient Camps	6
CCC	6
Summer Camps	12
Tourist	4

STREAM POLLUTION

The division has not been as active in field investigations of stream pollution during the biennium as in the past, principally due to the fact that major studies previously begun were completed during the biennium. In cooperation with the State Planning Board, studies on the smaller streams, including Raccoon, Boone, Rock, Big Sioux, Little Sioux, Boyer, Nishnabotna, Nodaway, Soldier, Beaver, Floyd, Maple, Wapsipinicon, Maquoketa and Upper Iowa rivers, and Keg Creek, were made. These surveys were in

no sense as elaborate as those previously made on the major streams, however sufficient information was obtained to point out major sources of pollution.

Detailed reports covering long periods of study of the pollution of the Des Moines, Cedar and Iowa rivers were presented to the Commissioner during the period, and as a result hearings were held as follows: On the pollution of the Des Moines River, August 3, 1934, and continued on September 17, 1934; Cedar River, June 3, 1935; and on the Iowa River, July 18, 1935, and continued on August 7, 1935.

As a result of these hearings, the Commissioner of Health, with the approval of the State Executive Council, ordered Estherville, Emmetsburg, Humboldt, Fort Dodge, Des Moines and Ottumwa on the Des Moines River to install sewage treatment works. Plants at Estherville and Humboldt are nearing completion. Fort Dodge has had detailed plans and specifications prepared and is ready to award a contract, while Emmetsburg, Des Moines and Ottumwa have appealed from the order of the Department of Health to the respective district courts and such appeals are still pending. Des Moines, however, has made an application for Federal grant and loan for the construction of a sewage treatment plant.

Following the Cedar River hearing, the Commissioner, with the approval of the State Executive Council, ordered the Marshall Canning Company at Waverly, Cedar Falls, Cedar Falls Canning Company at Cedar Falls, Cedar Heights, Waterloo, Rath Packing Company at Waterloo, Vinton, Iowa Canning Company at Vinton and LaPorte City to install treatment plants. The Marshall Canning Company at Waverly, City of Vinton and the Iowa Canning Company at Vinton have complied with the orders, and all of the other cities and industries have taken definite steps towards the construction of treatment plants, which construction will be under way shortly. When these projects are completed, there will be no raw sewage discharged into the Cedar River from the Minnesota line to the junction of the Cedar with the Iowa.

As a result of the hearing on the Iowa River, the Commissioner, with the approval of the Executive Council, ordered Marshalltown, Belle Plaine and Marengo to install treatment plants. Belle Plaine and Marengo have taken definite steps toward the construction of plants and Marshalltown has appealed to the District Court, which appeal is now pending. The cities of Eldora and Tama, and the

Central Fibre Products Company of Tama appeared before the Commissioner at this hearing; however, at that time they agreed to construct sewage treatment plants, hence no orders were issued. Such plants are now under construction and will be in operation shortly. When this construction program is completed, Marshalltown will be the only city discharging untreated sewage into the Iowa River above the junction of the Iowa and Cedar.

The following tabulation gives the sewerage and sewage disposal data in Iowa as of July 1, 1936:

In the last column are included municipalities which have taken definite steps towards the construction of sewage treatment plants by making application for grants and loans for such construction from the Federal government. It does not include those cities which have been ordered to construct plants but have made no move towards construction of plants.

Further evidence as to the progress made in abating stream pollution will be found in the list of municipalities where sewage treatment plants have been constructed during the biennium.

TABLE II
SEWERAGE AND SEWAGE DISPOSAL DATA ON IOWA CITIES AND TOWNS
(Based on 1930 Population)

July, 1936

	Municipalities Having Sanitary Sewers		Municipalities Treating Sewage		Per Cent* Population Served by Sanitary Sewers Where Sewage Is Treated	Including Plants Being Formulated		
	No.	Population	No.	Population		No.	Population	Per Cent
First Class Cities, population over 15,000.....	16	658,800	3	94,741	14.4	7	366,137	55.6
Second Class Cities, population 2,000-15,000.....	89	372,106	58	239,529	64.4	64	264,406	71.1
Incorporated Towns with population between 1,000 and 2,000.....	91	124,771	72	97,844	78.4	72	97,844	78.4
Incorporated Towns with population between 500 and 1,000.....	108	79,103	83	61,293	77.5	83	61,293	77.5
Incorporated Towns with population under 500.....	27	10,835	24	9,693	89.4	25	10,186	94.0
Totals (All Incorporated Municipalities).....	331	1,245,675	240	503,100	40.4	251	799,866	64.2

*Includes plants actually under construction.

REVIEW OF PLANS AND SPECIFICATIONS

Following is a tabulation giving the number of new water works, sewerage, sewage disposal and swimming pool projects approved during the biennium. This list includes only new plants or major reconstruction of plants and does not include projects comprising main extensions and sewer extensions. It will be noted that the total number of plans approved during the biennium is approximately fifty per cent greater than in either of the two preceding biennial periods and that most of the increase is in the construction of new sewage disposal plants. This increase is no doubt due largely to Federal aid in financing these improvements.

TABLE III

	1934-36	1932-34	1930-32	1928-30
Water Works Improvements.....	57	52	41	33
Sewerage and Sewage Disposal....	51	32	33	25
Swimming Pools	13	None	11	10
	<hr/>	<hr/>	<hr/>	<hr/>
	121	84	85	68

WATER WORKS IMPROVEMENTS

Following is a list of municipalities for which plans and specifications for proposed water works improvements were reviewed during the biennium. In spite of increased activity in public construction due to the availability of Federal grants and loans, new water works construction in Iowa did not show a great increase over previous biennial periods. This no doubt is due to the fact that Iowa now has 551 municipalities which have water works systems, this number being exceeded in only two states in the United States. Consequently the need for new water works in Iowa is far less than in most other states.

TABLE IV

WATER WORKS PLANS AND SPECIFICATIONS

- Adel. Water works improvements. Approved November 30, 1935.
- Armstrong. Iron removal plant. Approved November 1, 1935.
- Buffalo Center. Iron removal plant. Approved June 24, 1936.
- Bussey. Well. Approved March 23, 1936.
- Cherokee. Elevated water tank. Approved October 8, 1935.
- Clarion. Water treatment plant. Approved August 17, 1935.
- Clinton. Well. Approved October 2, 1935.
- Coin. Well. Approved February 28, 1935.
- Dallas Center. Well. Approved August 28, 1934.
- Dallas Center. Water works system. Approved January 7, 1935.

- Decorah. Reinforced concrete reservoir. Approved September 27, 1934.
Decorah. Pump house and deep well. Approved August 8, 1935.
Dubuque. Well. Approved July 8, 1935.
Dubuque. Water tank and tower. Approved December 7, 1935.
Eagle Grove. Water treatment plant. Approved January 31, 1936.
Elliott. Water works improvement. Approved December 29, 1934.
Farragut. Iron removal plant. Approved June 29, 1936.
Glidden. Water softening equipment. Not approved.
Greenfield. Water works improvements. Approved October 26, 1935.
Hull. Surface water reservoir. Approved April 2, 1935.
Kensett. Water works. Approved April 3, 1936.
Keokuk. Water works plant, distribution system and elevated tank. Approved January 18, 1936.
Keystone. Water mains. Approved November 12, 1935.
Knoxville. Additional wells. Approved June 2, 1936.
Lake Ahquabi. Water works improvements. Approved November 5, 1935.
Lake Wapello. Water works. Approved October 15, 1935.
Lamoni. Water treatment plant. Approved September 13, 1935.
Lenox. Well. Approved February 28, 1935.
Lime Springs. Elevated water tank. Approved December 14, 1935.
Livermore. Iron and odor removal plant. Approved October 24, 1935.
Mallard. Iron removal plant. Approved December 19, 1935.
Martelle. Water works system. Approved September 10, 1934.
Martelle. Well. Approved February 28, 1935.
Montezuma. Deep well, pump house and well head. Approved October 21, 1935.
Mt. Pleasant. Well. Approved April 8, 1935.
Mt. Pleasant. State Hospital. Water works improvements. Approved July 2, 1935.
Muscatine. Distribution storage reservoir. Approved August 10, 1935.
New Hampton. Municipal well. Approved September 27, 1934.
Newton. Elevated steel water tank. Approved January 16, 1936.
North English. Elevated water tank. Approved December 14, 1935.
Ocheyedan. Iron removal plant. Approved October 29, 1935.
Rembrandt. Water works system. Approved February 14, 1935.
Rolfe. Well. Approved April 6, 1935.
Sabula. Elevated water tank. Approved December 14, 1935.
Seymour. Water treatment plant. Approved December 6, 1935.
Sigourney. Iron removal plant. Approved October 28, 1935.
Stanhope. Elevated tank and tower extension. Approved March 26, 1935.
State Center. Iron removal plant. Approved August 16, 1935.
Storm Lake. Water treatment plant. Approved June 27, 1935.
Story City. Iron removal plant. Approved April 1, 1936.
Strawberry Point. Well. Approved September 23, 1935.
Titonka. Water works system. Approved November 4, 1935.
Urbandale. Water works system. Approved August 28, 1934.
Webster County Home. Elevated tank and tower. Approved June 21, 1935.
Wesley. Elevated tank and tower. Approved July 3, 1935.
Wheatland. Elevated water tank. Approved December 14, 1935.
Whiting. Public water works system. Approved February 1, 1935.

In addition to this list, a large number of minor improvements, such as water main extensions, etc., were made for which no plans were submitted.

SEWERAGE AND SEWAGE DISPOSAL CONSTRUCTION

Following is a list of municipalities for which plans and specifications for proposed sewerage and sewage disposal plants were reviewed during the biennium.

TABLE V

SEWERS AND SEWAGE DISPOSAL PLANS AND SPECIFICATIONS

- Ackley. Activated sludge plant—alternate. Approved November 21, 1934.
- Alden. Sewage treatment plant. Approved March 2, 1936.
- Anthon. Sewage disposal improvements. Approved August 21, 1934.
- Backbone State Park. Sewerage system and sewage disposal. Approved October 12, 1934.
- Bedford. Sewage pumping plant and sprinkling filter. Not approved.
- Britt. Sewerage system and sewage disposal plant. Approved November 22, 1935.
- Brooklyn. Sewage treatment plant. Approved February 11, 1936.
- Cedar Rapids. Sections F, G, H, and I. of sewage treatment plant. Approved July 23, 1934.
- Cedar Rapids. Section J. of sewage treatment plant. Approved December 3, 1934.
- Cedar Rapids. Camp Good Health. Sewage disposal plant. Approved November 12, 1935.
- Clear Lake. Extension of sludge bed at sewage disposal plant. Approved January 17, 1936.
- Collins. Sewer system and disposal plant. Not approved. Project abandoned.
- Corning. Sewage treatment plant. Approved September 14, 1934.
- Davenport. Change in sewer system, Stacey Heights. Approved March 9, 1936.
- Decorah. Sewage disposal plant. Approved March 4, 1935.
- Donnellson. Sewers and sewage treatment plant. Approved November 14, 1935.
- Eldora. Sewage treatment plant. Approved May 14, 1935.
- Estherville. Sewers and sewage treatment plant. Approved November 16, 1935.
- Fairfield. Sewage disposal plant. Approved March 9, 1936.
- Graettinger. Sanitary sewerage system. Approved May 23, 1936.
- Harlan. Sewage disposal plant. Approved September 14, 1935.
- Humboldt. Sewage treatment plant. Approved November 12, 1935.
- Iowa City. Sewer extension (North Trunk). Approved December 18, 1935.
- Iowa City. Clear water sewer, Market St. from Johnson St. Approved March 17, 1936.

- Keystone. Sewers and sewage treatment plant. Approved November 12, 1935.
- Lake Ahquabi. Sewerage system and sewage disposal. Approved October 12, 1934.
- Lake Keomah. Sanitary sewers. Approved August 15, 1934.
- Lake Keomah. Sewage disposal system. Approved October 22, 1935.
- Lake McBride. Sewage treatment plants for privately owned cottages. Approved August 7, 1934.
- Lake Wapello. Sanitary sewers and sewage disposal plant. Approved August 8, 1934.
- Monroe. Sewer system. Approved December 6, 1935.
- Nashua. Main sewers and sewage disposal plant. Approved January 6, 1936.
- New Hampton. Sewer extensions. Not approved.
- Osage. Sewage treatment plant. Approved January 12, 1935.
- Osceola. Sewer extensions and sewage disposal plant. Approved February 6, 1936.
- Oskaloosa. Sewage disposal plant. Approved November 6, 1934.
- Ricketts. Sanitary sewer system and tank treatment. Approved April 3, 1936.
- Riphey. Sewage disposal plant. Approved January 29, 1935.
- Rockwell. Sewerage system and sewage treatment plant. Approved January 5, 1936.
- Sidney. Sanitary sewer system and sewage disposal plant. Approved September 28, 1935.
- Sigourney. Sewage disposal plant. Approved November 27, 1935.
- Stacyville. Sewer system and sewage disposal plant. Approved February 27, 1936.
- Storm Lake. Sewage treatment plant additions. Approved June 25, 1935.
- Sutherland. Improvement to trickling filter. Approved December 7, 1934.
- Tama. Section "A" of sewage treatment plant. Approved November 30, 1935.
- Tama. Section "B" of sewage treatment plant. Approved February 15, 1936.
- Vinton. Pumping station, pressure line and sewage treatment plant. Approved November 27, 1935.
- Washington. Intercepting sewer and pumping station. Approved October 28, 1935.
- Waverly. Collection and outfall sewers and sewage disposal plant. Approved January 10, 1935.
- Waverly. Fifth Ave. Northwest sewer project. Approved November 30, 1935.
- What Cheer. Sewage disposal plant. Approved December 4, 1935.

It will be noted that this list includes a number of municipalities where existing obsolete sewage treatment plants were replaced with new plants.

In addition to the above major improvements, and not included in the list, were a large number of minor improvements consisting of extension of sewerage facilities within towns previously sewered and the reconditioning of existing plants, particularly the resanding of existing filters. For the most part these projects were car-

ried out as Federal work relief projects with the result that in addition to the new plants constructed during the biennial period, the old plants are in the best condition noted since this division was established.

PUBLIC WATER SUPPLIES

Routine investigation of public water supplies continued to be one of the major activities of the division during the biennium and the number of water plant inspections made was approximately the same as for the previous biennial period.

There are now 150 fully approved public water supplies as against 108 at the close of the previous biennium, and 31 four years ago. Following is a list of the approved water supplies:

TABLE VI
APPROVED WATER SUPPLIES

Albia	Dike	Kingsley
Alexander	Dubuque	Klemme
Allison	Durant	Lake Mills
Ames	Eagle Grove	Lake View
Anamosa	Earlville	LaPorte City
Anthon	Eldon	Latimer
Armstrong	Eldora	LeMars
Audubon	Emerson	Lenox
Aurelia	Emmetsburg	Leon
Belle Plaine	Essex	Lisbon
Bellevue	Estherville	Little Rock
Belmond	Farnhamville	Livermore
Bettendorf	Farragut	McGregor
Blairstown	Fonda	Madrid
Boone	Forest City	Malvern
Brandon	Fort Dodge	Manly
Brooklyn	Fort Madison	Manning
Buffalo Center	Garwin	Maquoketa
Burlington	Glenwood	Marble Rock
Cedar Falls	Glidden	Marshalltown
Cedar Heights (Purchases from Cedar Falls)	Grand Junction	Mason City
Cedar Rapids	Grand Mound	Massena
Centerville	Granville	Maurice
Chariton	Greene	Moorhead
Charlotte	Hampton	Missouri Valley
Chelsea	Harlan	Mount Pleasant
Clarence	Hawarden	Nevada
Clarinda	Hornick	Newell
Clinton	Hudson	New Hampton
Coralville (Purchases from Iowa City)	Humboldt	New London
Council Bluffs	Independence	New Sharon
Cresco	Indianola	Newton
Davenport	Iowa City	Northwood
Dedham	Iowa Falls	Ogden
Denver	Irwin	Onawa
Des Moines	Jefferson	Osage
	Jewell	Oskaloosa
	Kanawha	Oxford Junction
	Keokuk	Paullina

Peterson	Sioux Rapids	Van Horne
Pocahontas	Sloan	Walcott
Pomeroy	Smithland	Washington
Postville	Spencer	Waterloo
Red Oak	State Center	Waverly
Rock Valley	Storm Lake	Webster City
Rockwell City	Tama	Wesley
Roland	Underwood	West Bend
Salix	University Park (Pur-	West Burlington
Shenandoah	chases from Oskaloosa)	Winthrop
Sigourney	Urbandale (Purchases	Wyoming
Sioux Center	from Des Moines)	Yale
Sioux City	Valley Junction	

The number of fully approved water supplies is not a true criterion of improvements that have been made. The requirements for full approval are rigid and probably ninety per cent of the remaining supplies in the state on the unapproved list have failed to secure complete approval because of some minor defects.

Major defects in the nature of possible direct sources of infection have been for the most part eliminated and the remaining defects are practically all in the classification of potential hazards rather than direct hazards. It is gratifying to note that the municipalities, for the most part, have taken a greater interest in their water supplies, as is demonstrated by the very greatly increased number of requests for special investigation of water supplies now being made to this division. As was done previously, the municipal officials are apprised of the defects, both verbally and by written reports, with specific recommendations for correcting them. Consequently there is no excuse for the local authorities to be ignorant of existing conditions and the responsibility for disease which may be transmitted by water rests entirely upon the local authorities.

The physical and mineral quality of water is receiving more attention from the general public, as is noted by the increase in the number of water softening and iron removal plants constructed during the biennium and the installation of equipment for surface water supplies for better control of taste and odors. In the development of new wells, more attention is also given to securing a water of better mineral quality.

Routine determinations of the fluoride content in waters of the state have continued during the biennial period and no new areas of toxic fluoride content have been disclosed. No progress has been made in the attempt to remove fluorides from the water by treatment, and as a result four of the municipalities in Iowa where the fluoride content renders the water definitely toxic are developing

new water supplies, namely: Ankeny, Oakland, Stuart and Greenfield. There are a few remaining municipalities where clinical evidence indicates a toxic effect of fluorides where nothing has been done to correct the situation.

The Planning Board project under which mineral analyses of water are made has been continued, but at a greatly decreased rate. To date, 1,120 complete mineral analyses have been made.

In number of municipalities having water works, Iowa stands near the top of the list of states. However, in percentage of population connected and using the public water supplies, there is much to be desired and the division is making a special effort to secure the extension of water works facilities in those towns now having water works.

Iowa is blessed with abundant underground water resources. Much of the water, however, is heavily mineralized. At the present there is no regulation as to drilling operations, with the result that highly mineralized water is ruining good water occurring in horizons above and below due to faulty construction and failure to plug abandoned wells. A still more insidious practice is that of utilizing abandoned drill holes for the disposal of sewage and other wastes, thus endangering entire water-bearing strata. Legislation requiring the registration of all drill holes with some state department with strict regulation of drilling practices, is needed.

Under the cooperative arrangement with the U. S. Public Health Service, 157 railroad coach watering points were inspected during the biennium and recommendations as to certification were made to the Surgeon General of the U. S. P. H. S., as follows:

RAILROAD WATER INSPECTIONS

Favorably certified	83
Provisionally certified	63
Prohibited	11
	157

SEWAGE PLANT OPERATION

In addition to the routine inspections of sewage disposal plants that have been made in conjunction with the water supply surveys, one engineer has devoted a considerable portion of his time to complete investigations of the new plants which have been built. These investigations include efficiency tests over twenty-four to forty-eight hour periods, including the collection of analyses of composited samples from the various units of the plant. Considerable

time is spent in instructing the operators, who are usually new and untrained men, as to the proper laboratory procedure and other operation details of the plant. This work has proved exceedingly valuable, particularly to the non-technical operators of the small plants, and the benefit of the work is reflected in the improved operation of plants.

In stream pollution abatement, it is just as necessary to require the efficient operation of existing plants as it is to construct new plants. With added personnel, this work could be well expanded.

SWIMMING POOLS

During the biennium a number of new swimming pools have been constructed, principally under WPA grants. For the most part these pools have been excellently equipped with purification devices for keeping the water in a satisfactory condition and these pools show a great improvement over the older pools built some years ago.

Following is a list of municipalities where swimming pools have been built:

TABLE VII

SWIMMING POOL PLANS AND SPECIFICATIONS

Decorah.	Municipal Swimming Pool.	Tentatively approved June 6, 1936.
Des Moines.	Birdland Municipal Swimming Pool and Bath House.	Approved August 3, 1935.
Dubuque.	Municipal Swimming Pool.	Approved March 27, 1936.
Dyersville.	Municipal Swimming Pool.	Not approved.
Eagle Grove.	Municipal Swimming Pool.	Approved August 28, 1934.
Grundy Center.	Municipal Swimming Pool.	Approved April 18, 1935.
Marshalltown.	Municipal Swimming Pool.	Approved December 31, 1935.
Newton.	Fred Maytag Swimming Pool. (Municipal).	Approved August 27, 1935.
Oskaloosa.	Municipal Swimming Pool.	Approved May 11, 1936.
Pella.	Municipal Swimming Pool.	Approved June 23, 1936.
Red Oak.	Municipal Swimming Pool.	Approved November 12, 1935.
Villisca.	Municipal Swimming Pool.	Approved December 9, 1935.
Waverly.	Municipal Swimming Pool.	Approved May 13, 1935.

Routine inspections of swimming pools with the view of assisting the operator in maintaining a satisfactory quality of water were instituted during the latter part of the biennium, and results would indicate the service is valuable and very much appreciated by the communities operating swimming pools. Swimming pools, if improperly operated, may well become foci of infection rather

than the source of health giving sport for which they are intended. This type of service should be expanded.

STATE PARKS

Routine inspections of sanitary facilities in state parks have continued through the biennium and the Conservation Commission has cooperated to the fullest extent. The past biennium has brought a splendid improvement in sanitary facilities in the state parks and the Conservation Commission is to be commended for their painstaking efforts in this regard. The splendid cooperative arrangement now existing between the Conservation Commission and the Health Department on sanitation in parks could well be extended to other state agencies.

TOURIST AND OTHER CAMPS

Due to the fact that the tourist camps are now for the most part cabin type camps which come under the jurisdiction of the Agriculture Department under the Hotel Law and are inspected by that Department, little was done on tourist camps during the biennium.

The Agriculture Department, however, in their inspections pay no attention to the water supply, and in the case of many camps located outside of city limits where city water is not available, there is a great need for the checking of such water supplies.

A tremendous increase in the use of house trailers also is creating a sanitary problem which requires some attention. As long as these house trailers are parked in regularly inspected tourist camps, the sanitation problem is not so great. However, with the promiscuous parking of these trailers on vacant lots, in back yards and other places, the sanitation problem becomes apparent. Regulation of the auto trailer appears to be necessary.

The division has continued making inspections of summer camps, such as Y. M. C. A., Y. W. C. A., Boy Scout and similar semi-public camps for youngsters. These inspections are made upon request only. Such requests have been continually increasing and it is believed that practically all such camps have been inspected during the biennium.

HOUSING AND PLUMBING

General supervision of the Housing Law and Plumbing Law has continued in cooperation with the local plumbing and housing

departments which are charged with the administration of these laws.

An attempt has been made to stimulate interest among the local plumbing officials to begin campaigns for the removal of dangerous cross-connections between plumbing fixtures and water lines. This is an extremely important phase of plumbing work which for many years has been overlooked, and one which requires careful attention. It is a difficult problem in view of the fact that remedial measures in many cases are likely to prove quite costly. Steps should be taken to prevent the installation of new plumbing with cross-connection hazards and to remove existing serious cross-connection hazards. This task is so time-consuming that the detailed surveys must be made by the city departments; however the State Department of Health should cooperate in every way possible.

STATE INSTITUTIONS

In cooperation with the Board of Control, the investigation of water supplies and sewerage facilities has continued, the Department acting only in an advisory capacity to the Board of Control.

Due to the lack of personnel the program of complete sanitary inspection of institutions under the Board of Control, which would include in addition to water and sewerage inspections, all sanitary features such as housing, ventilation, plumbing and fire hazards, was discontinued. This discontinuance is regrettable, but unavoidable under the circumstances.

Public health engineering service in cooperation with the State Board of Control could profitably be greatly expanded. However, this will require additional personnel.

NUISANCES

As usual, hundreds of complaints of nuisances have been received and the former policy of referring all such complaints to the local boards of health in an effort to have the complaints adjusted locally has been continued. In spite of this policy, it will be noted from the summary that more than one hundred such inspections have been made at the request of the local boards of health or five or more citizens, as required by law.

NEW ACTIVITIES

Rural Sanitation

With Federal funds available under the provisions of the Social Security Act, an additional engineer became available in April,

1936, whose duty it will be to develop a Rural Sanitation Program. One of the principal functions of the rural sanitation engineer will be to advise the Department of Public Instruction, the county superintendents of schools and local school boards in their sanitation problems, and it is the aim that there be developed a cooperative program with the State Department of Public Instruction which will lead to better rural school sanitation.

In addition, the services of this engineer will be used to promote better rural sanitation, principally by improved water supplies and sewerage facilities. Records of the laboratory over a period of years indicate that about eighty-five per cent of the rural water supplies are unsatisfactory upon analysis. A survey by the Planning Board on rural housing indicates that more than sixty per cent of the rural homes in ten Iowa counties had unsatisfactory sewerage facilities.

Milk Sanitation

During the biennium a Milk Sanitarian was added to the staff through funds obtained under the Social Security Act. This service is purely a cooperative service, as the enforcement of the state laws on milk sanitation are now under the Department of Agriculture. The Milk Sanitarian is making surveys of city milk supplies and reporting the conditions found to the city officials. The U. S. Public Health Service Standard Ordinance is used in these surveys for the purpose of comparison. After the report is made to the city, the Milk Sanitarian is available to the city for the purpose of revising the ordinance and assisting the cities in the establishment of local inspections.

Due to the detailed work involved, it does not appear practical at this time for the state to attempt detailed milk inspection work. That better milk sanitation is needed is borne out by the results shown on the surveys and by the epidemics of milk-borne disease which have occurred in Iowa during the past several years. In larger cities, milk inspection can be handled by the city. In the smaller towns, however, a milk inspector for each town is impractical and therefore an attempt is being made to work out a scheme whereby the smaller towns have the advantage of milk inspection by grouping several towns together or by the establishment of county or district inspectors.

The milk survey was instituted late in the biennium and nine surveys have been made, as follows:

Boone (2 surveys)
Cedar Rapids
Oskaloosa
Davenport

Marshalltown
Fort Dodge
Waterloo
Mason City

District and County Health Units

The need for better facilities for local health work has for a long time been apparent and the appropriation by Congress, under the provision of the Social Security Act, for state and local aid in health work provides a means where this work can be begun.

Three county health units were established late in the biennium and in each of the county units a graduate sanitary engineer has been employed. This engineer will be available to carry on routine work now carried on by the central office of the State Department of Health in a much more detailed and efficient manner than is now possible, and is a step towards decentralization of such health service. Obviously, this is only a beginning and the expansion of this work either in county or district health units with the aim of ultimately covering the entire state should be continued.

Many of the routine duties of the central division of engineering can be transferred to the district and county engineers with the double result that such work can be more completely carried out and the time of the central office staff will be released for special technical investigational work.

Industrial Hygiene

With funds appropriated by Congress under the Social Security Act, some work in industrial hygiene is contemplated. There are employed in Iowa 168,000 men and women in mechanical, mineral and manufacturing industries. No surveys have ever been made to determine occupational disease hazards to this large group of workers, nor is there provision in the state law for compensation for occupational disease. Shortly there will be employed two trained industrial hygienists whose purpose it will be to make a survey of industrial hazards in the state, to be followed by detailed investigations of plants employing hazardous processes.

The work will be largely of a fact-finding and advisory nature and close cooperation with the State Department of Labor and the Industrial Commissioner will be maintained.

Community Sanitation

A Community Sanitation WPA project, sponsored by the Department jointly with the U. S. Public Health Service, was started during the biennium.

Under this project, sanitary: concrete floor and riser, earth pit privies are built at schools and private homes, WPA furnishing all labor and the owner furnishing all material used. The program was authorized in 39 counties in southern Iowa, but during the biennium labor was made available by WPA in only a third of the counties, as follows: Adams, Boone, Cass, Fremont, Madison, Mahaska, Marshall, Marion, Mills, Page, Pottawattamie, Taylor and Warren. Nine hundred seventy-six privies were built in these counties up to the end of the biennium.

It is expected that this project will be expanded in the near future to include all of the 39 counties originally approved, and the plan contemplates the construction of 12,000 units during the next year if labor is made available by WPA.

Other Federal Activities

The division has cooperated by furnishing information and assistance to the numerous Federal agencies throughout the biennial period, notably, the National Resources Committee, State Planning Board, Civilian Conservation Corps camps, Public Works Administration, Works Progress Administration, Resettlement Administration and Emergency Conservation Works.

Considerable time has been spent in compiling data and preparing reports on water resources for the Planning Board.

The Federal Works agencies require that all plans involving sanitary engineering be approved by the Department, and this has added greatly to the routine work of the Department because of the extended activity on this type of construction. The division has attempted to cooperate in every way possible with all of the Federal agencies in matters pertaining to sanitary engineering.

THE TRAINING OF PERSONNEL

Recognizing the necessity of trained public health engineering personnel, the U. S. Public Health Service has made available to the Iowa Health Department, funds for training personnel. A special three months' course for graduate sanitary engineers was established at the University of Minnesota, the first course being given beginning April, 1936. Two public health engineers from Iowa enrolled in this school, both of whom have been employed in county health units. This training course will be repeated and fills a very definite need in supplying properly trained men in public health engineering.

RECOMMENDATIONS

Following are the recommendations for the coming biennium:

1. That district public health units be established as rapidly as possible and that the major portion of the routine work of the central division of engineering be transferred to well qualified district engineers.
2. That central water and sewage laboratory facilities be established in Des Moines.
3. That milk investigation work be expanded.
4. That a competent biologist be employed to assist in stream pollution investigations.
5. That new legislation be sought which will give the division jurisdiction over operation of swimming pools.

DIVISION OF VITAL STATISTICS

R. L. McLAREN, Director

INTRODUCTION

The Model Registration Law requiring the registration of Births, Deaths, Marriages and Divorees was enacted by the General Assembly of 1921. The Division was created by the State Board of Health (now the State Department of Health), Local Registrars appointed and registration was begun on July 1, 1921. Since that date approximately one million two hundred and forty-six thousand (1,246,000) records have been registered and the individual certificates permanently filed with the State Department of Health, Des Moines, Iowa.

The present day value and need of these records was scarcely anticipated at the time of the enactment of the law. The law provides a penalty for any physician or midwife attending a birth and refusing or neglecting to file a complete birth certificate within ten days of same, and for any licensed embalmer conducting a funeral without filing a death certificate and securing a burial permit before burial is made. The moral and professional obligation of physicians and licensed embalmers to their patrons is not discharged until they have provided for the proper registration of births attended and funerals conducted. The mother of every child born in Iowa, and the family or friends of every deceased person should interest themselves in, and insist upon the prompt filing of complete certifi-

cases in order that their legal rights may be preserved, and the required proof of birth or death may be available as provided for by law to meet the future contingencies.

During the period of 1933-1935 (inclusive), special attention has been given to the matter of more nearly accurate and complete registration and it is our belief that the figures in this report present the prevailing conditions. Although the fact that birth rates throughout most of the civilized world have been showing a decrease, Iowa has maintained a very satisfactory average during this period. Death rates will necessarily continue on an average basis, with very little fluctuation, due to the fact that while the annual rates for Infant Mortality, Neo-Natal deaths and the age groups up to 20 years, which are primarily affected by communicable and preventable diseases, will be constantly lowered through the development and extension of public health programs, this will be offset by the increased deaths resulting from those diseases that affect the higher age groups, since the average span of life is well over 60 years, more people are living to the age characterized by such ailments as heart disease, cancer and diseases of the kidney and nervous system—diseases which have not responded to the efforts of medical science to lower the incidence of mortality. These changing conditions, coupled with the apparent results of modern living on human vitality, present a challenge to thoughtful people, and particularly to those interested in public health work, to reduce to a minimum the deaths of infancy and early life that not only make for an unnecessarily high death rate, but are prejudicial to that state of health and usefulness that men should enjoy after the age of sixty.

NEW TABULATING MACHINE EQUIPMENT

During the month of April, 1936, through financial aid afforded by the provisions of the Social Security Act, the Division of Vital Statistics was provided with sufficient funds to install tabulating equipment.

Under the tabulating machine method, analysis need not be limited to the few essential statistical reports. The punch cards, after being used for the compilation of the regular periodic reports, are available for additional analysis which may be required at any future date. By retaining the punch card after the regular reports are made additional special tabulations may be made at later dates with a minimum of cost, time, and effort.

cent increase over 1929, and 1934 shows a 7.5 per cent increase over 1933.

Deaths. Mortality statistics show a 2.9 per cent increase in deaths for this period, with the greatest yearly increase occurring in 1926. The death rate in 1926 was 5 per cent greater than in 1925.

Maternal Deaths. The period decrease for maternal deaths is 7.1 per cent. The greatest yearly increase occurring in 1929. The rate for 1929 was 16.7 per cent greater than in 1928.

Infant Mortality. The period decrease for infant mortality is 18.7 per cent. The greatest yearly increase occurring in 1934. The rate for 1934 was 5.2 per cent greater than in 1933.

Diseases of the Heart are the main cause of death during the thirteen-year period from 1923 to 1935, inclusive. Mortality statistics show an increase of 69.2 per cent during this period. This increase has been steady, with the greatest yearly increase occurring in 1932. The rate in 1932 was 10.2 per cent greater than in 1931.

Cancer occupies second place during this period, with a period increase of 34.4 per cent, and with the greatest yearly increase occurring in 1930. The rate in 1930 was 4.4 per cent greater than in 1929.

Cerebral Hemorrhage, Embolism and Thrombosis occupy third place, with a period increase of 17.6 per cent, and with the greatest yearly increase occurring in 1926. The rate in 1926 was 11.9 per cent greater than in 1925.

Pneumonia occupies fourth place in both 1923 and 1935, although this disease fluctuated from fourth to fifth and sixth positions during the intervening years. There was a period decrease of 2.3 per cent, with the greatest yearly increase occurring in 1934. The rate in 1934 was 20.4 per cent greater than in 1933.

Congenital Malformations and Diseases of Early Infancy occupy fifth place in 1923 and eighth place in 1935, with a period decrease of 30.7 per cent, and with the greatest yearly increase occurring in 1934. The rate in 1934 was 10.8 per cent greater than in 1933.

Accidents (all forms) are in sixth place in 1923 and in fifth place in 1935, with a period increase of 20.4 per cent, and with the greatest yearly increase occurring in 1930. The rate in 1930 was 14.1 per cent greater than in 1929. It should be noted that *Automobile Accident Deaths* show a period increase of 129.5 per cent, with the greatest yearly increase occurring in 1930. The rate in 1930 was 48.2 per cent greater than in 1929.

Nephritis (acute) and chronic) occupies seventh place in 1923 and sixth place in 1935, with a period increase of 4.4 per cent. The greatest yearly increase occurring in 1925. This increase of 15.9 per cent over 1924 was offset over the rest of the period by a decrease of 9.7 per cent from 1925 through 1931.

Influenza occupies eighth place in 1923 and tenth place in 1935, showing a period decrease of 52.1 per cent. This disease fluctuated considerably during the intervening years from eighth place to ninth, tenth, and seventh places. The highest rate for this period occurring in 1928, which year also showed the greatest yearly increase. The rate in 1928 (56.7 per 100,000 population) was 112.4 per cent greater than in 1927.

Tuberculosis occupies ninth place in 1923 and eighth place in 1935, showing a period decrease of 40.8 per cent. This decrease has been fairly steady with only two increases during the entire period. 1925 shows a 1.2 per cent increase over 1924, and 1935 shows an increase of 6.0 per cent over 1934.

Diabetes Mellitus occupies tenth place in 1923 and ninth place in 1935, with a period increase of 17.7 per cent, and with the greatest yearly increase occurring in 1930. The rate in 1930 was 14.4 per cent greater than in 1929.

POPULATION

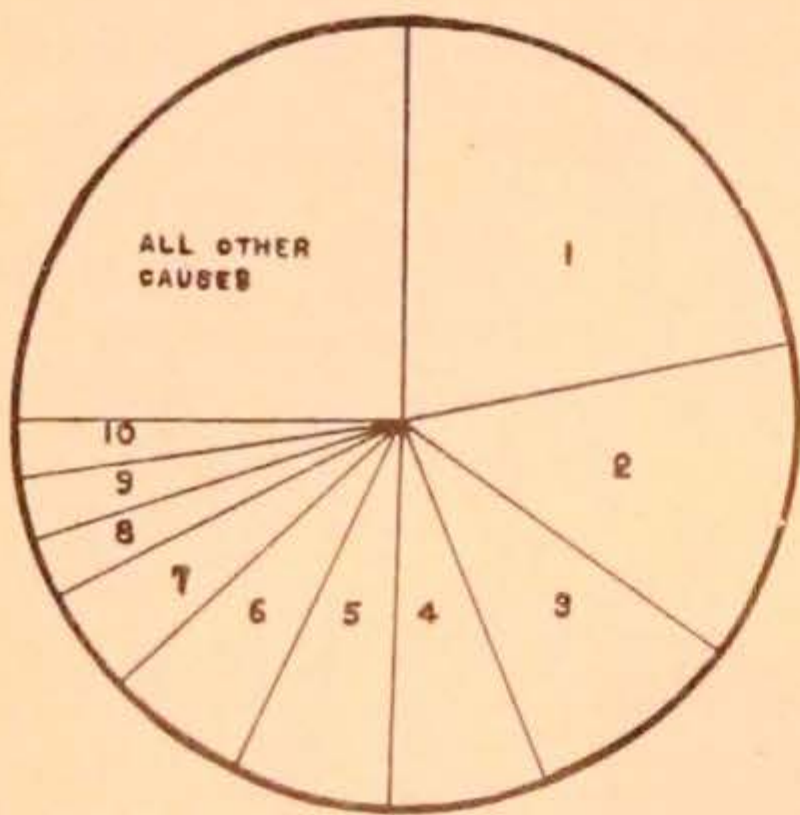
Because of the unusual economic conditions that have prevailed since 1930, and the fact that no accurate data, relative to the migration of people from one state to another or the trend of rural-urban movements, is available, it is deemed unwise to attempt to compute estimated populations for Cities and Counties of the state for 1934 and 1935. Hence we are using the estimated population of 1933, furnished by the Vital Statistics Division of the U. S. Census Bureau as the basis for computing rates in this report.

ESTIMATED POPULATION—IOWA—1933

	Iowa	Cities Over 25,000 Population	Cities of 2,500-25,000	Rural
White	2,497,000	714,300	365,700	1,417,000
Colored	25,000	10,000	1,000	1,000
Total	2,522,000	724,300	366,700	1,431,000

TEN LEADING CAUSES OF DEATH
STATE OF IOWA

1935



Cause	Per Cent
1. Diseases of the Heart...	22.0
2. Cancer	12.3
3. Cerebral Hemorrhage, Thrombosis, Embolism	10.2
4. Pneumonia	7.5
5. Accidents	7.0
6. Nephritis	6.0
7. Congenital Malforma- tions and Diseases of Early Infancy...	4.0
8. Tuberculosis	2.0
9. Diabetes Mellitus	2.0
10. Influenza	2.0

NUMBER OF DEATHS WITH DEATH RATES (PER 1,000 POPULATION) BY COUNTIES, 1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair	104	7.5	122	8.8	110	7.9
Adams	78	7.5	90	8.6	81	8.0
Allamakee	197	10.2	200	12.2	185	11.3
Appanoose	290	10.5	305	12.3	283	11.4
Arden	73	6.0	81	6.6	89	7.3
Benton	211	9.2	224	9.8	207	9.1
Black Hawk	187	8.9	195	8.3	210	9.0
Boone	159	9.1	153	8.8	159	9.1
Bremor	175	10.2	194	11.3	173	10.1
Buchanan	302	15.4	305	15.6	335	17.1
Buena Vista	179	9.1	174	9.3	166	8.9
Butler	152	8.6	130	7.4	140	7.9
Calhoun	168	9.5	165	9.4	158	9.0
Carroll	280	12.4	284	12.6	300	13.3
Cass	210	10.8	214	11.0	202	10.4
Cedar	130	7.8	158	9.4	144	8.6
Cerro Gordo	108	7.1	111	7.3	102	6.7
Cherokee	272	14.4	252	13.3	264	14.0
Chickasaw	136	9.3	168	11.5	150	10.2
Clarke	166	10.1	118	11.4	169	10.5
Clay	138	8.5	126	7.8	159	9.8
Clayton	241	9.8	242	9.9	233	9.5
Clinton	168	9.1	150	8.1	131	7.1
Crawford	181	8.6	189	9.0	186	8.9
Dallas	266	10.4	262	10.2	251	9.8
Davis	123	11.0	121	11.7	130	11.7
Decatur	150	10.1	151	10.1	168	11.3
Delaware	158	8.7	166	9.2	165	9.1
Des Moines	83	7.3	76	6.7	79	6.9
Dickinson	102	9.2	110	9.9	119	10.7
Dubuque	168	8.5	154	6.8	126	6.9
Emmet	129	10.0	104	8.1	109	8.4
Fayette	214	10.8	282	9.7	267	9.2
Floyd	198	10.1	187	9.5	184	9.4
Franklin	142	8.6	136	8.2	129	8.4
Fremont	149	9.6	129	9.6	152	9.8
Greene	115	7.0	127	7.7	122	7.4
Grundy	93	6.6	78	5.5	88	6.2
Guthrie	163	9.4	176	10.2	158	11.3
Hamilton	183	8.6	209	9.9	200	9.4
Hancock	108	7.0	90	6.1	108	7.3
Harold	210	9.2	227	9.9	225	9.8
Harrison	226	9.9	204	8.2	188	7.5
Henry	258	16.3	221	18.2	203	17.1
Howard	147	11.2	129	9.6	122	9.3
Humboldt	88	6.7	80	6.1	102	7.7
Ia	94	7.4	106	8.8	98	8.0
Iowa	119	6.9	183	10.6	159	9.2
Jackson	212	11.5	207	11.2	208	11.3
Jasper	188	8.8	179	8.4	171	8.0
Jefferson	158	9.7	179	11.0	163	10.0
Johnson	129	9.3	144	9.7	147	9.9
Jones	189	9.8	188	9.7	206	10.6
Keokuk	171	8.9	181	9.5	152	7.9
Kossuth	229	9.0	207	8.1	206	7.8

NUMBER OF DEATHS WITH DEATH RATES (PER 1,000 POPULATION) BY COUNTIES, 1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee.....	126	10.3	108	8.9	125	10.2
Linn.....	238	9.0	275	10.4	259	9.8
Louisa.....	116	10.0	98	8.5	102	8.8
Lucas.....	162	10.7	151	10.0	140	9.3
Lyon.....	108	6.7	123	8.0	108	7.1
Madison.....	140	9.8	171	11.9	150	10.5
Mahaska.....	118	7.6	113	7.2	91	5.8
Marion.....	248	9.6	280	10.8	243	9.4
Marshall.....	131	8.1	105	6.5	107	6.6
Mills.....	139	8.7	163	10.3	124	7.8
Mitchell.....	142	10.1	119	8.4	121	8.6
Monona.....	149	8.1	157	8.5	137	7.4
Monroe.....	181	12.1	177	11.8	163	10.9
Montgomery.....	159	9.5	200	11.9	188	11.2
Muscatine.....	127	10.2	135	10.8	111	8.9
O'Brien.....	185	10.0	138	7.5	179	9.7
Osceola.....	75	7.4	83	8.2	109	10.7
Page.....	355	13.5	443	16.9	384	14.7
Palo Alto.....	115	7.5	118	7.7	120	7.8
Plymouth.....	227	9.3	254	10.5	231	9.5
Pocahontas.....	93	5.9	99	6.3	95	6.1
Polk.....	208	6.8	217	7.1	186	6.1
Pottawattamie.....	165	5.9	208	7.4	160	5.7
Poweshiek.....	181	9.7	201	10.7	182	9.7
Ringgold.....	121	10.1	118	9.9	105	8.8
Sac.....	169	9.5	159	9.0	159	9.0
Scott.....	157	9.4	146	8.7	129	7.7
Shelby.....	146	8.4	137	7.9	121	7.0
Sioux.....	185	6.9	205	7.6	209	7.8
Story.....	179	8.5	188	8.9	188	8.9
Tama.....	197	9.0	181	8.2	172	7.8
Taylor.....	138	9.3	149	10.0	136	9.2
Union.....	202	11.5	225	12.9	198	11.3
Van Buren.....	136	10.8	153	12.1	137	10.9
Wapello.....	130	10.8	158	13.2	146	12.2
Warren.....	171	9.7	170	9.6	174	9.8
Washington.....	207	10.4	188	9.5	205	10.3
Wayne.....	142	10.3	148	10.7	134	9.7
Webster.....	124	6.7	91	4.9	116	6.2
Winnebago.....	106	8.1	119	9.1	129	9.8
Winneshiek.....	200	9.7	190	8.8	207	9.6
Woodbury.....	158	6.9	166	7.3	163	7.1
Worth.....	86	7.7	86	7.7	87	7.8
Wright.....	180	8.9	185	9.2	147	7.3
Rural.....	16,238	9.3	16,738	9.6	16,205	9.3
Urban.....	9,427	12.9	10,020	13.7	10,160	13.9
State.....	25,665	10.3	26,758	10.8	26,365	10.6

NUMBER OF DEATHS WITH DEATH RATES (PER 1,000 POPULATION) BY CITIES OVER 10,000 POPULATION—STATE OF IOWA, 1933-1934-1935

Ames.....	76	7.0	94	8.6	95	8.7
Boone.....	165	13.9	187	15.7	158	13.3
Burlington.....	344	12.6	404	14.9	410	15.1
Cedar Rapids.....	627	10.9	678	11.8	686	12.0
Clinton.....	352	13.5	399	14.2	372	14.3
Council Bluffs.....	605	14.0	587	13.6	595	13.8
Davenport.....	762	12.5	737	12.0	789	12.9
Des Moines.....	1,657	11.4	1,748	12.0	1,922	13.2
Dubuque.....	572	13.6	649	15.4	625	14.8
Fort Dodge.....	250	11.2	315	14.1	344	15.4
Fort Madison.....	189	13.4	168	11.9	180	12.8
Iowa City.....	689	43.1	748	46.8	722	45.1
Keokuk.....	278	18.3	301	19.8	239	15.7
Marshalltown.....	235	16.1	282	15.9	302	17.1
Mason City.....	236	12.0	308	12.9	292	12.2
Muscatine.....	244	14.4	283	16.7	316	18.7
Newton.....	101	8.1	103	8.3	128	10.3
Oskaloosa.....	149	14.6	167	16.4	146	14.3
Ottumwa.....	364	12.6	396	13.7	403	13.9
Sioux City.....	1,048	13.0	1,019	12.5	1,004	12.5
Waterloo.....	384	8.0	486	10.1	432	9.0
Urban.....	9,427	12.9	10,020	13.7	10,160	13.9

	575	6	1	2	3	4	5	6	7	27	30	49	53	119	90	70	58	32	1
23	Respiratory system																		
24	Meninges and central nervous system	19	4	3	1	2	1	1		1	2	2	1	1		1		1	
25	Intestines and peritoneum	13	2								4	2	1	1		1		1	
26	Vertebral column	12								1	1	1	1	2	4	1		1	
27a	Bones (vertebral column excepted)	1															1		
27b	Joints	2																	
28	Skin and subcutaneous cellular tissue	1																	
29	Lymphatic system (bronchial, mesenteric, and retroperitoneal glands excepted)	6																1	
30	Genitourinary system	9			1													1	
31	Other organs									2	2	2			2	2	1		
32a	Acute disseminated tuberculosis	15	1																
32b, c	Other disseminated tuberculosis	2		1												1			
33	Leprosy		21	1						1	3	5	2	12	22	31	19	3	
34	Syphilis	130								2	3	1	2	4		1	1		
35	Gonococcus infection and other venereal diseases	14	1							2									
36	Purulent infection, septicemia (non-puerperal)	15	1	1			2						1	2	4	1	1	2	
37	Yellow fever															2			
38	Malaria	4						1											1
39	Other diseases due to protozoal parasites	3								1									
40	Ankylostomiasis																		
41a	Hydatid cysts, liver																		
41b	Hydatid cysts, other organs																		
42	Other diseases caused by helminths																		
43	Mycoses	4																	
44	Other infectious and parasitic diseases	10	2	5			1					1		1					
	II.—Cancers and other tumors	5,176	3	2	1	1	2	11	8	9	17	30	51	132	417	703	903	704	2
(45 a, e)	Cancer and other malignant tumors	3,035	1	2	1	1	6	7	7	6	13	25	43	163	357	674	932	732	2
(45f)	Buccal cavity	100						1						5	7	17	31	38	1
(46a)	Pharynx	21							1						2	4	8	6	
(46b)	Esophagus	35													3	15	7	30	
(46c)	Stomach and duodenum	608									1	1	3	27	51	134	270	211	
(46e)	Liver and biliary passages	283									1	1	1	8	32	56	98	83	1
(46f)	Pancreas	81									1	1	1	4	5	28	32	10	
(46dgh)	Other digestive tract and peritoneum	554	1		1					1	1	8	7	25	74	131	168	137	
47	Respiratory system	92							1		1	2	2	8	24	23	23	8	
48	Uterus	239							1		1	5	8	29	64	72	46	23	
49	Other female genital organs	61							1	1	1	2	3	13	22	22	11	5	
50	Breast	286										1	8	33	70	67	67	40	
51	Male genitourinary organs	270									2	1	1	4	19	44	107	92	
52	Skin	69										1	1	1	5	10	14	38	
53	Other or unspecified organs	246		2			1	5	3	4	5	3	6	17	28	51	70	51	
54a	Nonmalignant tumors, ovary	3												2	1				

DEATHS (EXCLUSIVE OF STILLBIRTHS) FROM EACH CAUSE, BY
AGE, IN THE STATE OF IOWA, YEAR 1933—Continued

List number	Cause of Death	All deaths	Age											Age unknown					
			Under 1 year	1 year	2 years	3 years	4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years		35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 years and over
	VII.—Diseases of the circulatory system.	6,009	5	4	2		1	9	15	25	35	40	63	179	392	915	1,732	2,500	2
980	Pericarditis	15						2						2	1		3	5	
91a	Acute endocarditis	48			1		1	2	4	6	6	5	5	7	6	2	5	3	
91b	Endocarditis, unspecified (under 45 years).	7	1	1			1	1	1	1				1					
92a	Endocarditis, specified as chronic, and other valvular diseases																		
92b	Endocarditis, unspecified (45 years and over)	279					2	4	10	14	11	25	49	73	154	268	369		
93a	Acute myocarditis	77					2	1						5	14	18	40		
93b	Myocarditis, unspecified (under 45 years).	47					2	1						5	10	8	13		
93c	Chronic myocarditis and myocardial degeneration	11	1											5					
93d	Other diseases of myocardium	1,256		1					3	1	3	7	27	78	169	375	591	1	
94a	Angina pectoris	650										1	1	29	95	191	332	1	
94b	Diseases of coronary arteries	476											2	37	100	167	135		
95a	Functional diseases of heart	784							1	1	3	6	26	69	175	264	239		
95b	Other and unspecified diseases of heart	41	1											4	6	11	17		
96	Aneurysm (except of heart)	109		2	1			1	3	9	13	9	9	60	130	252	384		
97	Arteriosclerosis (coronary arteries excepted)	51							1					6	8	8	8		
98	Gangrene	306												5	27	141	336		
99	Other diseases of arteries	34	1												4	1	27		
100	Diseases of veins (varices, hemorrhoids, phlebitis, etc.)	46							2		1			5	5	11	20		
101	Diseases of lymphatic system (lymphangitis, etc.)	17						1						4	5	2	4		
102	Idiopathic anomalies of blood-pressure	4	1											1			1	1	
103	Other diseases of circulatory system	23												3	9	4	7	2	
		8										1							

	1,774	1,099	425	371	265	155	54	40	34	24	18	10	22	37	40	110	128	174	190	289
VIII.—Diseases of the respiratory system																				
Diseases of nasal fossae	6	3						1								3	2	1		1
Diseases of nasal fossae annexae	11	1							2				1	1		3	2	1		1
Diseases of larynx	10	3	3													1				
Acute bronchitis	21	4						1							1	1	3	5	1	16
Chronic bronchitis	33																		15	27
Bronchitis, unspecified	14	2														15		1	5	6
Bronchopneumonia	656	156	23	12	7	2	6	5	7	2	4				5	35	56	39	97	243
Capillary bronchitis	10	4	2				1									70	67	105	159	250
Lobar pneumonia	802	50	13	4	5	3	12	7	14	14	14	14	14	14	27	2	1	5	1	1
Pneumonia, unspecified	14	3														2	1	1	1	1
Pleurisy	22															4	2	1	3	6
Pulmonary embolism and thrombosis	22															5	3	2	3	4
Pulmonary congestion, edema, hemorrhagic infarct	41	2														1	1	1	8	30
Asthma	50	1							1	2	1				1	2	10	11	9	11
Pulmonary emphysema	4																		1	3
Other diseases of respiratory system (tuberculosis excepted)	23		2				2	1	1	1				3		2	1	3		8
IX.—Diseases of the digestive system																				
Diseases of pharynx and tonsils	87	3	3	3	4	4	4	5	5	5	5			7	4	8	6	14	7	7
Diseases of buccal cavity and annexa	15		1													1	2	3		4
Diseases of esophagus	6																	1	1	2
Ulcer of stomach	107						1		1	1	3					8	23	26	28	17
Ulcer of duodenum	52										1			2	2	6	13	15	8	5
Other diseases of stomach (cancer excepted)	42	5	1	1	1										2	3	3	6	6	11
Diarrhea, enteritis (under 2 years of age)	100	80	20	15	10	3	5	3	3	3	3		1	7	3	4	9	7	17	35
Diarrhea, enteritis (2 years and over)	129			2	8	5	28	24	26	32	26		26	26	16	48	51	50	38	10
Appendicitis	290		1	2	3	5	28	24	26	32	26		26	26	1	6	9	27	20	37
Hernia	102								1	1	1			1	1	20	18	27	31	46
Intestinal obstruction	100	21	2	2	1	1	1	4	6	1	5		1	5	5	2	2	4	1	7
Other diseases of intestines	21		1						2						2	2	12	20	26	27
Cirrhosis of liver	114					1									2	2	2	4	4	2
Yellow atrophy of liver	11														1	4	2	1	4	6
Other diseases of liver	30		1				1								3	4	18	24	35	18
Biliary calculus	60														2	0	18	24	35	18
Other diseases of gall-bladder, biliary passages	136		1						1						7	13	27	39	28	25
Diseases of pancreas	10														1	1	1	5	5	2
Peritonitis, cause not specified	34		1	2		1	1	1	1	1	1		1	4		5	5	9	5	2

DEATHS (EXCLUSIVE OF STILLBIRTHS) FROM EACH CAUSE, BY
AGE, IN THE STATE OF IOWA, YEAR 1933—Continued

List number	Cause of Death	All deaths	Age												Age unknown			
			Under 1 year	1 year	2 years	3 years	4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 44 years		45 to 54 years	55 to 64 years	65 to 74 years
	X.—Diseases of the genitourinary system	2,019	10	1	2	2	6	9	12	18	29	30	109	167	295	533	796	
130	Acute nephritis (including unspecified under 10 years)	76	4	1	1	2	2	1	1	3	3	3	13	9	9	11	13	
131	Chronic nephritis	1,294								7	15	30	63	111	198	349	523	
132	Nephritis, unspecified (10 years and over)	297							1	1	2	4	5	18	36	52	87	
133	Other diseases of kidneys, ureters (perinephal diseases excepted)	70	5					1		2	5	1	5	8	14	9	20	
134	Calculi of urinary passages	33										1	5	6	4	10	7	
135	Disease of bladder (tumors excepted)	24											1	1	7	7	15	
136	Diseases of urethra, urinary abscess, etc.	9											2	1	4	2	1	
137	Diseases of prostate	239										1		4	20	87	127	
138	Diseases of male genital organs, not specified as venereal	2	1												1			
139a	Cysts of ovary	16								2		4	3	1	5		1	
139b	Other diseases of ovaries, diseases of tubes and parametrium	25							3	3	4	5	5	2	1	2		
139c	Diseases of uterus	24										1	7	7	3	4	2	
139d	Nonpuerperal diseases of breast (cancer excepted)																	
139e	Other diseases of female genital organs																	
	XI.—Diseases of pregnancy, childbirth and the puerperal state	210							15	44	45	43	59	1				
140	Abortion with septic conditions	37							8	11	12	7	4					
141	Abortion without mention of septic conditions (includes hemorrhages)	15							1	1	5	2	6					
142a	Ectopic gestation, septic conditions specified	6								2	1	1	2					

142l	Ectopic gestation, septic conditions not mentioned	5								7	7		8				
143	Other accidents of pregnancy (hemorrhage not included)	3								1	1	1					
144a	Placenta praevia	10									4	1	5				
144b	Other puerperal hemorrhages	9							1	4	2	1	1				
145a	Puerperal and ectopic conditions, septi- cemia and pyemia (abortion excluded)	39							5	6	7	10	10	1			
145b	Puerperal tetanus and ectopic conditions (abortion excluded)																
146	Puerperal albuminuria and eclampsia	36							2	10	7	7	10				
147	Other toxemias of pregnancy	5							2	1		1	1				
148	Puerperal phlegmasia alba dolens, embolus, sudden death (not specified as septic)	10									2	4	4				
149	Other accidents of childbirth	34							1	7	6	8	12				
150	Other and unspecified conditions of puerperal state	1											1				
	XII.—Diseases of the skin and cellular tissue	34	7	2		1		2	1	5	2	2		3	4	5	
151	Furuncle, carbuncle	5		1				1				1					2
152	Phlegmon, acute abscess	10	1	1		1		1	1	4				1			
153	Other diseases of skin and annexa, and of cellular tissue	19	6								1	1	2		2	4	3
	XIII.—Diseases of the bones and or- gans of locomotion	34		1		1	1	8	4	1	3			5	1	5	4
154	Osteomyelitis	23		1			1	6	4	1	1			4	1	2	2
155	Other diseases of bones (tuberculosis excepted)	2				1											1
156	Diseases of joints, other organs of locomotion	9						2			2			1		3	1
	XIV.—Congenital malformations	251	227	6	1	3	1	5	1	1	4	1	1				
157a	Congenital hydrocephalus	28	22	2		1		2				1					
157b	Spina bifida and meningocele	35	33	1		1											
157c	Congenital malformations of heart	137	123	3	1		1	3	1	1	3		1				
157d	Other congenital malformations	51	49			1					1						
	XV.—Diseases of early infancy	972	972														
158	Congenital debility	58	58														
159	Premature birth	608	608														
160	Injury at birth	205	205														

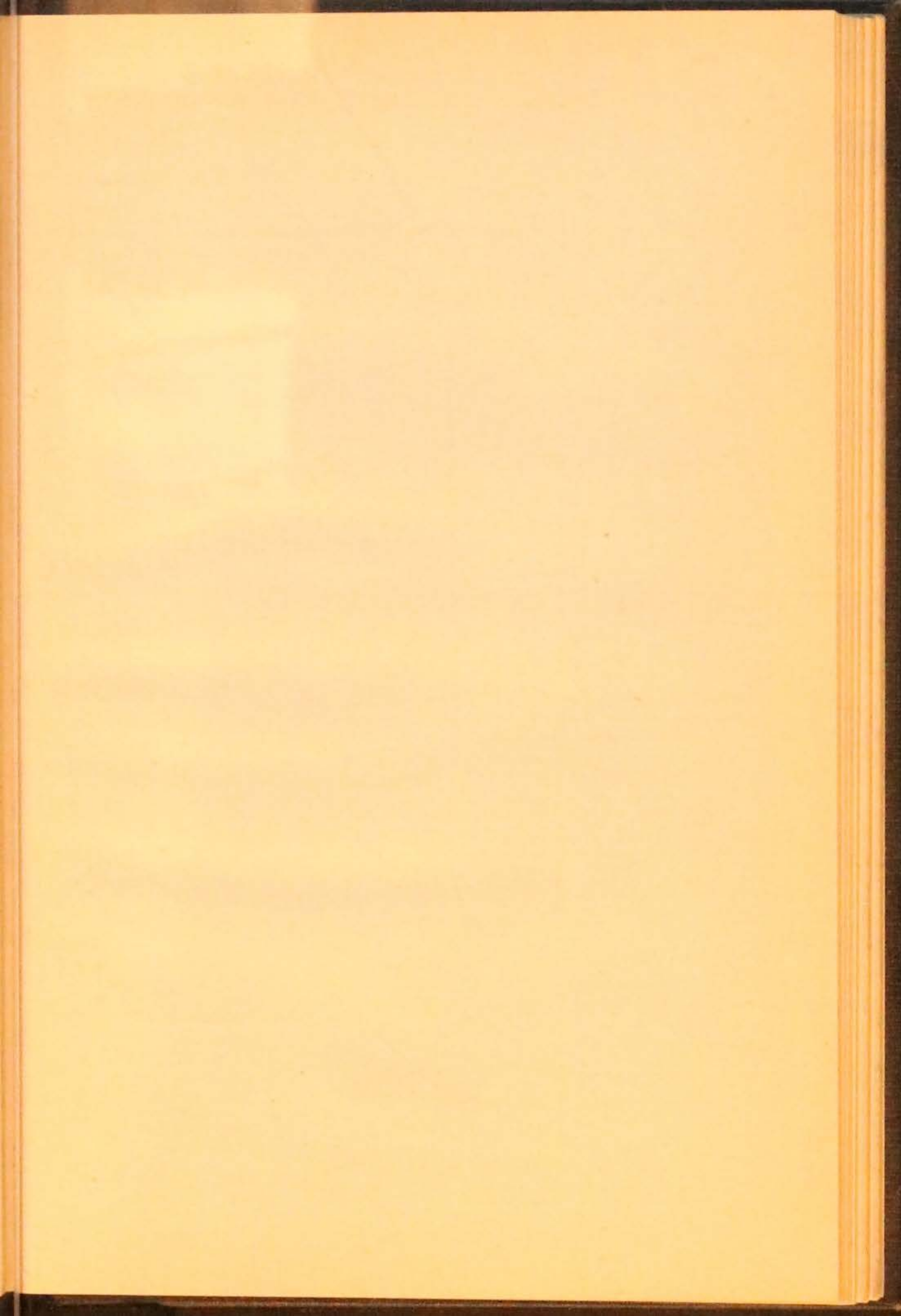
DEATHS (EXCLUSIVE OF STILLBIRTHS) FROM EACH CAUSE BY AGE, IN THE STATE OF IOWA—
YEAR 1933—Continued

List number	Cause of Death	All deaths	Age											Age unknown				
			Under 1 year	1 year	2 years	3 years	4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years		35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years
161	Other diseases peculiar to early infancy	101	101															
	XVI.—Senility	448													5	45	308	
	XVII.—Violent and accidental deaths	2,348	33	28	21	19	14	74	61	101	152	127	112	279	278	318	423	
163	Suicide	499							1	6	22	27	27	90	100	90	25	
	By solid or liquid poisons or by absorption of corrosive substances	67								1	5	2	4	15	10	12	1	
164	By poisonous gas	75						1		1	3	7	4	17	19	10	2	
165	By hanging or strangulation	133								1	2	7	6	20	26	24	12	
166	By drowning	20											1	4	5	3	2	
167	By firearms	178								4	12	10	12	32	33	34	5	
168	By cutting or piercing instruments	16												1	3	5	4	
169	By jumping from high places	4													2	1		
170	By crushing																	
171	By other means	6																
	Homicide	74	1	2	1			1	2	2	5	13	8	15	17	2	2	
173	By firearms	55							2	1	4	9	5	15	13	2	1	
174	By cutting or piercing instruments	4													1			
175	By other means	15		2	1			1		1	1	3	2		3	1		
	Accidental, other, or undefined	1,775	32	26	20	19	14	73	58	93	125	87	77	174	161	226	306	
176	Attack by venomous animals	3						1				1					1	
177	Poisoning by food	3															1	
178	Absorption of poisonous gas	29			1												7	
	Supplemental	2								1								
179	Other acute accidental poisonings (gas excepted)	19	1	6		1					2	1		2	1	1		
180	Conflagration	31		1	2	1		1	1	2	2	1	2	5	3	1	5	
181	Burns (conflagration excepted)	80	4	5	9	4	3	4	4	1	4	1	1	11	7	7	8	

(A)

DEATHS (EXCLUSIVE OF STILLBIRTHS) FROM EACH CAUSE, BY
AGE, IN THE STATE OF IOWA, YEAR 1933—Continued

List number	Cause of Death	All deaths	Under 1 year	1 year	2 years	3 years	4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 years and over	Age unknown
	This supplemental list is made in accordance with the requirements of the International Conference at Paris, 1929. The deaths shown in this tabulation are supplemental to those reported opposite Titles 178 to 194, inclusive. Comparable figures for titles shown in prior years will be found opposite the International List Titles. To obtain the total number of deaths in 1930 due to any of the accidental causes, the supplemental figures should be added to those reported opposite the International List numbers in the regular table.																		
201	Accidents in mines and quarries.....	12								2	1	1	2	1	1	3	1		
202	Accidents from agricultural machinery.....	9									1		1	2	1	2	2		
203	Elevator accidents.....	5					1									2	2		
204	Accidents from machinery used for recreation.....																		
205	Other machinery accidents.....	26				1					1		4	5	7	8	3	2	
206	Railroad and automobile collisions.....	41						2	1	1	5	10	2	5	8	4	3	2	
207	Other railroad accidents.....	83	1		1			2	1	8	6	6	7	17	9	11	11	3	
208	Street car and automobile collisions.....	3										1	1	1					
209	Other street car accidents.....	4																	
210	Automobile accidents (primary).....	514		2	1	7	8	26	10	44	62	37	31	58	58	70	64	36	
211	Motorcycle accidents.....	5								2		2						1	
212	Other land transportation accidents.....	37			1	2		6	2	3		4	1	1	2	6	5	4	
213	Water transportation accidents.....	14							2	1	2		2	6	1				
214	Air transportation accidents.....	11									4	1	2	3					



MORTALITY

Figures and Rates,
1923-1935

	1923		1924		1925		1926		1927	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Deaths (all causes).....	25,378	10.3	23,774	9.8	24,204	10.0	25,466	10.5	24,532	10.1
Typhoid.....	76	3.1	65	2.7	80	3.3	52	2.1	54	2.2
Smallpox.....	6	0.2	12	0.5	42	1.7	2	0.1	2	0.1
Measles.....	128	5.2	262	10.8	13	0.5	63	2.6	225	9.3
Scarlet fever.....	145	5.9	85	3.5	49	2.0	46	1.9	41	1.7
Whooping cough.....	170	6.9	139	5.7	95	3.9	163	6.7	105	4.3
Diphtheria.....	239	9.7	151	6.2	117	4.8	111	4.6	121	5.0
Influenza.....	1,119	45.3	412	17.0	748	30.9	1,118	46.1	618	26.7
Tuberculosis (all forms).....	1,101	44.6	1,006	41.6	1,018	42.1	918	37.9	873	36.0
Cancer (all forms).....	2,391	96.0	2,402	99.3	2,507	103.6	2,593	107.6	2,689	110.9
Diabetes mellitus.....	469	18.6	454	18.8	449	18.6	488	20.1	433	17.9
Heart diseases (all forms).....	3,403	137.8	3,365	139.1	3,598	148.7	3,970	163.8	4,036	166.4
Pneumonia (all forms).....	1,569	61.0	1,639	70.3	1,637	67.6	1,811	74.7	1,508	62.2
Accidents (all forms).....	1,534	62.2	1,399	57.8	1,454	60.1	1,465	60.5	1,460	60.2
*Accidents—automobile.....	242	9.8	211	8.7	271	11.2	264	10.9	284	11.7
Cerebral hemorrhage, embolism and thrombosis.....	2,278	92.3	2,362	97.7	2,225	91.9	2,494	102.9	2,476	102.1
Nephritis—acute and chronic.....	1,524	61.7	1,487	61.5	1,726	71.3	1,719	70.9	1,690	69.7
Congenital malformations and early infancy diseases.....	1,630	68.5	1,575	65.1	1,500	61.9	1,456	60.1	1,512	62.4
Appendicitis.....	369	14.9	400	16.5	380	15.7	385	15.9	390	16.5
Diarrhea and enteritis (under 2 years).....	292	11.8	243	10.0	297	12.3	259	10.7	195	8.0
Diarrhea and enteritis (over 2 years).....	137	5.5	122	5.0	218	9.0	155	6.4	145	5.9
Acute anterior poliomyelitis.....	21	0.9	16	0.7	42	1.7	12	0.5	28	1.2
Homicides.....	52	2.1	66	2.7	66	2.7	57	2.4	59	2.4
Suicides.....	318	12.9	345	14.3	346	14.3	367	15.1	422	17.4
Maternal.....	286	5.6	294	6.0	267	5.6	276	6.0	263	5.9
Infant mortality.....	2,964	57.8	2,698	55.2	2,673	55.9	2,683	58.7	2,478	55.4
Stillbirths.....	1,284	2.5	1,670	3.4	1,557	3.3	1,260	2.8	1,283	2.9
Births.....	51,305	20.8	48,887	20.2	47,760	19.7	45,714	18.9	44,688	18.4

*Excluding collisions with railroad trains and street cars.

†Less than one tenth of 1 per 100,000 population.

1935 figures provisional.

Death and birth rate per 1,000 population

Maternal death and infant mortality rate per 1,000 live births.

Stillbirth rate per 100 live births.

All other diseases rate per 100,000 population.

State of Iowa admitted to the death registration area in 1927.

Released July 16, 1936.

AND BIRTH
State of Iowa
(Inclusive)

1928	1929	1930	1931	1932	1933	1934		1935	
						No.	Rate	No.	Rate
25,315	10.2	25,681	10.4	25,252	10.6	25,681	10.4	25,315	10.2
24	2.2	28	2.4	27	1.5	27	1.5	24	1.3
14	0.2	20	1.0	104	1.8	1	0.2	1	0.1
52	2.3	58	2.8	68	3.4	61	2.5	68	2.8
84	3.4	109	4.4	84	3.4	88	3.5	44	1.8
67	2.7	47	1.9	44	1.8	38	1.5	50	2.2
1,005	50.7	1,038	51.3	990	50.1	1,038	50.7	1,005	49.7
850	41.6	891	43.3	825	40.3	850	41.6	850	41.6
2,725	111.5	2,759	111.1	2,868	110.0	2,725	111.5	2,725	110.2
477	19.4	465	18.7	558	21.4	477	19.4	477	19.9
4,288	174.1	4,400	182.1	4,755	196.3	4,288	174.1	4,288	173.1
1,714	69.7	1,696	65.1	1,692	78.1	1,714	69.7	1,714	70.1
1,528	63.2	1,725	70.4	1,987	80.5	1,528	63.2	1,528	71.9
329	13.4	404	16.4	601	24.3	329	13.4	329	22.5
2,474	100.0	2,625	106.7	2,474	100.0	2,474	100.0	2,474	108.5
1,650	66.5	1,637	66.4	1,610	64.3	1,650	66.5	1,650	64.4
1,421	57.8	1,334	54.1	1,414	57.2	1,421	57.8	1,421	47.5
207	10.1	421	17.1	464	18.8	207	10.1	207	14.1
177	7.2	110	4.5	151	7.7	177	7.2	177	4.1
153	5.9	90	3.6	109	6.4	153	5.9	153	3.9
14	0.6	22	0.9	32	1.3	14	0.6	14	0.2
50	2.3	64	2.6	78	3.2	50	2.3	50	2.1
297	10.1	417	16.9	471	19.0	297	10.1	297	16.8
210	4.8	255	5.6	251	5.9	210	4.8	210	5.2
2,300	53.0	2,214	52.5	2,300	53.0	2,300	53.0	2,300	47.0
1,122	27.7	1,590	31.1	1,340	31.1	1,122	27.7	1,122	27.7
43,878	17.6	42,196	17.1	42,733	17.3	43,878	17.6	43,878	16.5

COMPARISON OF MORTALITY STATISTICS IN IOWA, 1933-1934

The State Department of Health announces that there were 26,758 deaths during 1934 as compared with 25,665 during 1933. The death rate for 1934 being 10.8 per 1,000 population against a death rate of 10.3 per 1,000 population for 1933. The following table gives the number of deaths from each cause with death rate per 100,000 population.

Cause of Death	Number of Deaths		Rate per 100,000 Estimated Population	
	1934	1933	1934	1933
Total deaths (all causes ex. of stillbirths).....	26,758	25,665	1,076.8	1,034.0
I. Infectious and parasitic diseases.....	1,810	2,038	72.8	84.5
Typhoid and paratyphoid fever.....	53	22	2.1	0.9
Smallpox.....	1		†	
Measles.....	73	9	2.9	0.4
Scarlet fever.....	61	45	2.5	1.8
Whooping cough.....	88	66	3.5	2.7
Diphtheria.....	38	55	1.5	2.2
Influenza.....	456	870	18.4	35.1
Dysentery.....	54	25	2.2	1.0
Erysipelas.....	55	45	2.2	1.8
Acute poliomyelitis.....	9	14	0.4	0.6
Lethargic or epidemic encephalitis.....	19	41	0.8	1.7
Epidemic cerebrospinal meningitis.....	23	39	1.1	1.6
Tetanus.....	27	20	1.1	1.0
Tuberculosis (all forms).....	620	654	24.9	26.3
Respiratory system.....	521	575	21.0	23.2
Meninges and central nervous system.....	19	19	0.8	0.8
Intestines and peritoneum.....	24	13	1.0	0.5
Vertebral column.....	12	12	0.5	0.5
Genitourinary system.....	10	9	0.4	0.4
Acute disseminated.....	16	15	0.6	0.6
Chronic and unspecified disseminated.....		2		0.1
Other forms.....	18	9	0.7	0.4
Syphilis.....	167	139	6.7	5.2
Malaria.....	1	4	†	0.2
Other infectious and parasitic diseases.....	60	53	2.4	2.1
II. Cancers and other tumors.....	3,245	3,176	130.6	128.0
Cancer and other malignant tumors.....	3,121	3,035	125.6	122.3
Of the buccal cavity and pharynx.....	109	121	4.4	4.9
Of the esophagus.....	27	25	1.1	1.1
Of the stomach and duodenum.....	615	698	24.7	28.1
Of the liver and biliary passages.....	280	283	11.3	11.4
Of the pancreas.....	84	81	3.4	3.3
Of others of the digestive tract and peritoneum.....	547	554	22.0	22.3
Of the respiratory system.....	92	92	3.7	3.7
Of the uterus.....	297	239	12.0	9.6
Of the female genital organs.....	84	61	3.4	2.5
Of the breast.....	300	286	12.1	11.5
Of the male genitourinary organs.....	353	270	14.2	10.9
Of the skin.....	65	69	2.6	2.8
Of other or unspecified organs.....	268	246	10.8	9.9
Nonmalignant tumors.....	93	53	3.7	2.1
Tumors of which the nature is not specified.....	31	38	1.2	1.5
III. Rheumatic diseases, nutritional diseases, diseases of endocrine glands, and other general diseases.....	864	818	34.8	33.0
Acute rheumatic fever.....	34	47	1.4	1.9
Chronic rheumatism, osteoarthritis.....	61	53	2.5	2.1
Diabetes mellitus.....	615	574	24.7	23.1
Pellagra.....	2	2	0.1	0.1
Exophthalmic goiter.....	97	86	3.9	3.5
Diseases of thymus gland.....	21	24	0.8	1.0
Diseases of adrenals (Addison's disease not specified as tuberculous).....	9	10	0.4	0.4
Others of this class.....	25	22	1.0	0.9

COMPARISON OF MORTALITY STATISTICS IN IOWA, 1933-1934
—Continued

Cause of Death	Number of Deaths		Rate per 100,000 Estimated Population	
	1934	1933	1934	1933
IV. Diseases of the blood and blood-making organs	287	303	11.5	14.6
Hemorrhagic conditions	18	20	0.7	0.8
Pernicious anemia	113	174	4.5	7.0
True leukemias	86	92	3.5	3.7
Pseudoleukemias (Hodgkin's disease)	38	41	1.5	1.7
Diseases of spleen	9	12	0.4	0.5
Others of this class	23	24	0.9	1.0
V. Chronic poisonings and intoxications	48	53	1.9	2.1
Alcoholism	47	51	1.9	2.1
Other chronic poisonings	1	2	.1	0.1
VI. Diseases of the nervous system and of organs of special sense	3,518	3,283	141.6	132.3
Encephalitis (nonepidemic)	43	35	1.7	1.4
Meningitis	51	46	2.1	1.9
Progressive locomotor ataxia (tabes dorsalis)	26	21	1.0	0.8
Cerebral hemorrhage	2,625	2,475	105.6	99.7
Cerebral embolism and thrombosis	134	132	5.4	5.3
Softening of brain	21	20	0.8	0.8
Hemiplegia, other paralysis, cause unspecified	50	48	2.0	1.9
General paralysis of insane	78	79	3.1	3.2
Dementia praecox and other psychoses	72	54	2.9	2.2
Epilepsy	75	66	3.0	2.7
Convulsions (under 5 years)	10	9	0.4	0.4
Other diseases of the nervous system	121	129	4.9	5.2
Diseases of organs of vision		2		0.1
Diseases of ear	64	39	2.6	1.6
Diseases of mastoid process	36	31	1.4	1.2
Others of this class	112	97	4.5	3.9
VII. Diseases of the circulatory system	6,246	6,009	251.3	242.1
Diseases of the heart	5,509	5,280	221.4	212.7
Acute endocarditis and endocarditis under 45 years	60	55	2.4	2.2
Chronic endocarditis, valvular diseases	1,054	1,056	43.6	42.5
Diseases of myocardium	2,046	1,964	82.3	79.1
Angina pectoris	424	456	17.1	18.4
Diseases of coronary arteries	890	784	35.8	31.6
Other diseases of the heart	1,005	965	40.4	38.9
Aneurysm (except of heart)	20	31	0.8	1.2
Arteriosclerosis (coronary arteries excepted)	589	566	23.7	22.8
Gangrene	29	34	1.2	1.4
Other diseases of the circulatory system	99	98	4.0	3.9
VIII. Diseases of the respiratory system	2,103	1,774	84.6	71.5
Diseases of nasal fossae and annexa	20	19	0.8	0.8
Diseases of larynx	9	10	0.4	0.4
Bronchitis	111	88	4.5	3.5
Bronchopneumonia (including capillary bronchitis)	704	606	32.0	26.8
Lobar pneumonia	973	802	39.2	32.3
Pneumonia unspecified	20	14	0.8	0.6
Pleurisy	45	32	1.8	1.3
Pulmonary embolism and thrombosis	9	23	0.4	0.9
Pulmonary congestion, edema, hemorrhagic infarct	58	43	2.3	1.7
Asthma	34	50	1.4	2.0
Other diseases of the respiratory system	30	27	1.2	1.1
IX. Diseases of digestive system	1,908	1,664	76.8	67.0
Diseases of pharynx and tonsils	130	87	5.2	3.5
Diseases of buccal cavity and annexa	14	15	0.6	0.6

COMPARISON OF MORTALITY STATISTICS IN IOWA, 1933-1934

—Continued

Cause of Death	Number of Deaths		Rate per 100,000 Estimated Population	
	1934	1933	1934	1933
Ulcer of stomach and duodenum.....	157	159	6.3	6.4
Other diseases of stomach (cancer excepted).....	41	42	1.6	1.7
Diarrhea and enteritis (under 2 years).....	187	100	7.5	4.0
Diarrhea and enteritis (2 years and over).....	127	122	5.1	4.9
Appendicitis.....	478	396	19.2	16.0
Hernia.....	97	102	3.9	4.1
Intestinal obstruction.....	195	190	7.8	7.7
Cirrhosis of liver.....	157	114	5.5	4.6
Yellow atrophy of liver.....	5	11	0.2	0.4
Other diseases of liver.....	23	20	0.9	0.8
Biliary calculi.....	117	99	4.7	4.0
Other diseases of gall-bladder, biliary passages.....	121	136	4.9	5.5
Diseases of pancreas.....	17	10	0.7	0.4
Peritonitis, cause not specified.....	37	34	1.5	1.4
Other diseases of digestive system.....	25	27	1.0	1.1
X. Diseases of genitourinary system.....	2,026	2,019	81.5	81.3
Acute nephritis (including unspecified under 10 years).....	54	76	2.2	3.1
Chronic nephritis.....	1,328	1,294	53.4	52.1
Nephritis, unspecified (10 years and over).....	196	207	7.9	8.3
Other diseases of kidneys, ureters (nonpuerperal).....	66	70	2.7	2.8
Calculi of urinary passages.....	23	33	0.9	1.3
Diseases of bladder (tumors excepted).....	15	24	0.6	1.0
Diseases of prostate.....	279	239	11.2	9.6
Diseases of female genital organs (not specified as venereal).....	58	65	2.3	2.6
Other diseases of genitourinary system.....	7	11	0.3	0.4
XI. Diseases of pregnancy, childbirth, and the puerperal state.....	216	210	8.7	8.5
Puerperal septicemia.....	97	82	3.9	3.3
Other puerperal causes.....	119	128	4.8	5.2
XII. Diseases of skin and cellular tissue.....	47	34	1.9	1.4
XIII. Diseases of bones and organs of locomotion.....	40	34	1.6	1.4
XIV. Congenital malformations.....	276	251	11.1	10.1
XV. Diseases of early infancy.....	1,079	972	43.4	39.2
Congenital debility.....	67	58	2.7	2.3
Premature birth.....	674	608	27.1	24.5
Injury at birth.....	236	205	9.5	8.3
Other diseases peculiar to early infancy.....	102	101	4.1	4.1
XVI. Senility.....	446	448	17.9	18.0
XVII. Violent and accidental deaths.....	2,492	2,348	100.3	94.6
Suicide.....	443	499	17.8	20.1
Homicide.....	50	74	2.4	3.0
Accidental, other, or undefined.....	1,999	1,775	80.1	71.5
Absorption of poisonous gas.....	26	31	1.0	1.2
Burns (conflagration excepted).....	97	95	3.9	3.8
Drowning.....	97	109	3.9	4.4
Traumatism by firearms.....	36	54	1.4	2.2
Traumatism by cutting or piercing instruments.....	28	26	1.1	1.0
Traumatism by fall.....	590	567	23.7	22.8
Traumatism by crushing.....	196	151	7.9	6.1
Excessive heat (burns excepted).....	200	14	8.0	0.6
Due to electric currents.....	17	17	0.7	0.7
Other external causes.....	703	711	28.3	28.6
XVIII. Ill-defined causes of death.....	107	111	4.3	4.5

COMPARISON OF MORTALITY STATISTICS IN IOWA, 1933-1934
—Continued

This additional tabulation is made in accordance with the requirements of the International Conference at Paris, 1929. The deaths included represent a reclassification of accidental deaths for comparison with figures reported in prior years.

Cause of Death	Number of Deaths		Rate per 100,000 Estimated Population	
	1934	1933	1934	1933
Mine and quarry accidents.....	13	12	0.5	0.5
Machinery accidents.....	34	40	1.4	1.6
Railroad accidents.....	132	126	5.3	5.1
Collision with automobile.....	38	43	1.5	1.7
Other railroad accidents.....	94	83	3.8	3.3
Street car accidents.....	5	7	0.2	0.3
Collision with automobile.....	3	3	0.1	0.1
Other street car accidents.....	2	4	0.1	0.2
Automobile accidents.....	531	514	21.4	20.7
Motorcycle accidents.....	2	5	0.1	0.2
Other land transportation accidents.....	34	37	1.4	1.5
Water transportation accidents.....	4	14	0.2	0.6
Air transportation accidents.....	14	11	0.6	0.4

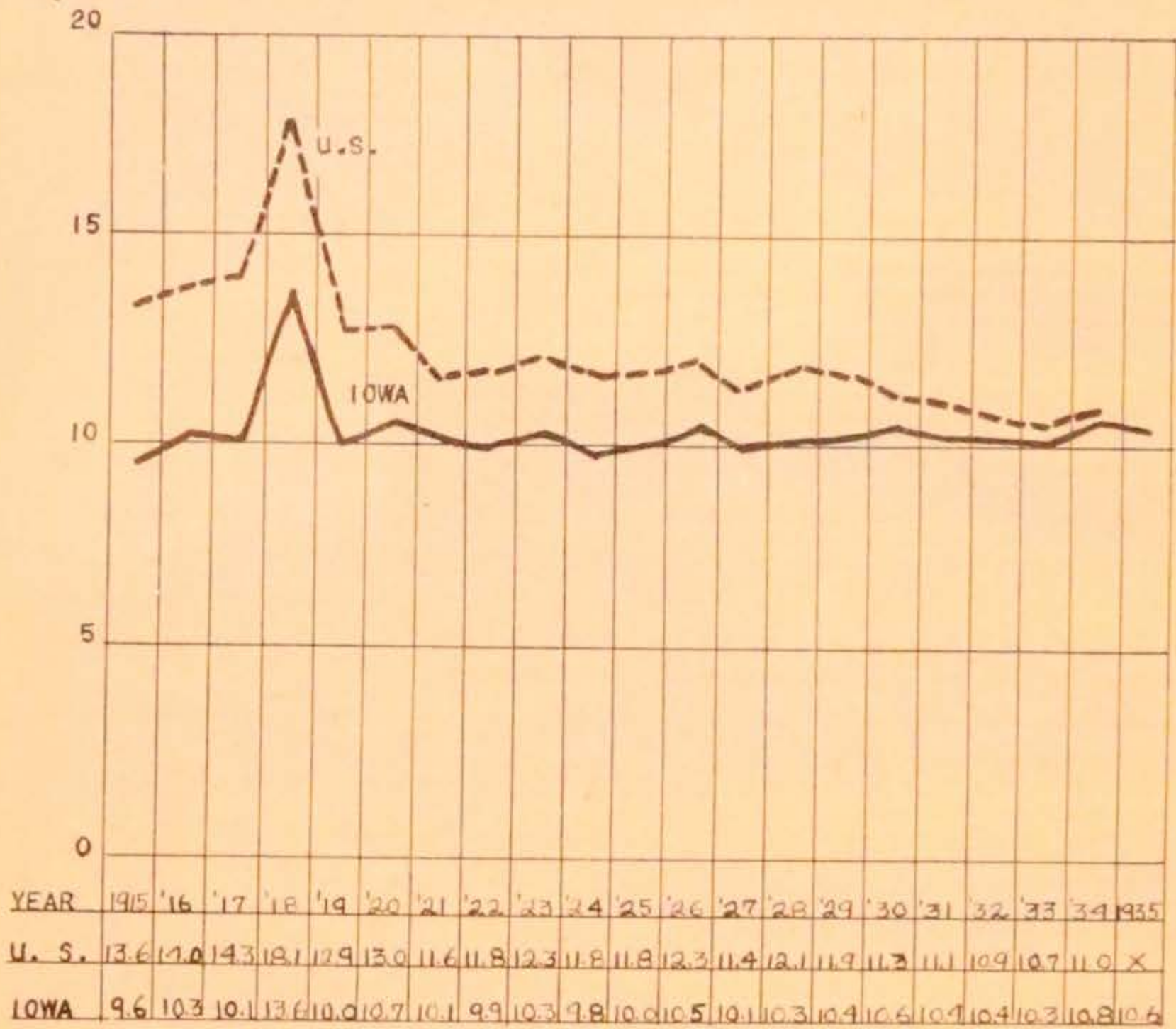
Deaths in the preceding table are included under their appropriate titles of the International List as shown in the following table:

Absorption of poisonous gas.....	6	2	0.2	0.1
Burns (conflagration excepted).....	13	15	0.5	0.6
Mechanical suffocation.....	2	3	0.1	0.1
Drowning.....	5	14	0.2	0.6
Cutting or piercing instruments.....	13	8	0.5	0.3
Fall.....	56	69	2.3	2.8
Crushing.....	181	146	7.3	5.9
Due to electric currents.....		2		0.1
Other accidents.....	493	507	19.8	20.4

†Less than one-tenth of 1 per 100,000 population.

GENERAL DEATH RATES
U. S. AND IOWA
1915-1935

Rate Per 1,000
Population



X - FIGURES NOT AVAILABLE

COMPARATIVE PROVISIONAL SUMMARY OF MORTALITY
STATISTICS IN IOWA, 1934-1935

Cause	Number		Rate	
	1934	1935	1934	1935
Total deaths all causes (excluding stillbirths)*.....	26,758	26,365	10.8	10.6
Total live births*.....	42,463	41,021	17.1	16.5
Infant deaths (under one year of age) (1).....	2,150	1,930	50.6	47.0
Maternal deaths (puerperal state) (1).....	216	214	5.1	5.2
Stillbirths (1).....	1,142	1,110	26.9	26.8
Typhoid and paratyphoid fever.....	53	33	2.1	1.3
Smallpox.....	1	1	(a)	(a)
Measles.....	73	146	2.9	5.9
Scarlet fever.....	61	70	2.5	2.8
Whooping cough.....	88	44	3.5	1.8
Diphtheria.....	38	56	1.5	2.2
Influenza.....	456	539	18.4	21.7
Acute poliomyelitis and polioencephalitis.....	9	6	0.4	0.2
Lethargic or epidemic encephalitis.....	19	17	0.8	0.7
Epidemic cerebrospinal meningitis.....	28	56	1.1	2.2
Tuberculosis (all forms).....	620	656	24.9	26.4
Cancer (all forms).....	3,121	3,232	125.6	130.2
Diabetes mellitus.....	615	541	24.7	21.7
Appendicitis.....	478	352	19.2	14.1
Diseases of nervous system and organs of special sense (Ex. cerebral hemorrhage).....	893	585	36.0	23.5
Cerebral hemorrhage.....	2,625	2,754	105.6	110.6
Diseases of circulatory system (Ex. diseases of heart).....	737	668	29.9	26.8
Diseases of the heart.....	5,569	5,790	221.4	233.1
Diseases of the respiratory system (Ex. pneumonia).....	316	234	12.7	9.4
Pneumonia (all forms).....	1,787	1,964	71.9	74.9
Diseases of the digestive system (Ex. diarrhea and enteritis—under 2 years).....	1,721	1,459	69.3	58.6
Diarrhea and enteritis under 2 years.....	187	103	7.5	4.1
Diseases of genitourinary system (Ex. nephritis).....	448	444	18.0	17.8
Nephritis (all forms).....	1,578	1,473	63.5	59.2
Diseases of early infancy.....	1,079	945	43.4	37.9
Suicide.....	443	421	17.8	16.9
Homicide.....	59	51	2.4	2.0
Total accidental deaths.....	1,990	1,865	80.1	75.1
Absorption of poisonous gas.....	26	34	1.0	1.4
Burns (conflagration excepted).....	97	66	3.9	2.7
Accidental drowning.....	97	95	3.9	3.8
Traumatism by firearms.....	36	41	1.4	1.6
Traumatism by cutting and piercing instruments.....	28	28	1.1	1.1
Traumatism by fall.....	590	598	23.7	24.0
Excessive heat.....	200	52	8.0	2.1
Excessive cold or exposure.....	9	6	0.4	0.2
Accidental deaths due to electric currents.....	17	6	0.7	0.2
Accidents in mines and quarries.....	13	18	0.5	0.7
Accidental deaths due to agricultural machinery.....	34	25	1.4	1.0
Railroad and auto collision.....	38	44	1.5	1.8
Other railroad accidents.....	94	73	3.8	2.9
Street car and auto collision.....	3	7	0.1	0.3
Other street car accidents.....	2	6	0.1	0.2
Automobile accidents.....	531	560	21.4	22.5
Motorcycle accidents.....	2	12	0.1	0.5
Other land transportation accidents.....	34	30	1.4	1.2
Water transportation accidents.....	4	13	0.2	0.5
Air transportation accidents.....	14	2	0.6	(a)
All other accidents.....	121	149	4.9	6.0
All other causes of deaths.....	1,726	1,861	69.5	75.1

(a) Less than one-tenth of 1 per 100,000 population.

*Rates based on 1,000 estimated population.

(1) Rates based up 1,000 live births.

Note: All other rates based upon 100,000 estimated population.

DEATHS (EXCLUSIVE OF STILLBIRTHS) FROM EACH CAUSE, BY AGE, IN THE STATE OF IOWA, YEAR 1934—Continued

List number	Cause of Death	All deaths	Under 1 year	1 year	2 years	3 years	4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 39 years	40 to 44 years	45 to 49 years	50 to 54 years	55 to 59 years	60 to 74 years	75 years and over	Age unknown
	VII.—Diseases of the circulatory system.	6,240	6	3	6			17	24	23	24	35	45	54	122	158	103	1,840	2,661	3	
90	Pericarditis	11			1			1	4	4	6	3	3	12	9	1	1	4	6		
91a	Acute endocarditis	52			3			2	4	1	1	1	1	1	2	1	1	3	3		
91b	Endocarditis, unspecified (under 45 years)	8																			
92a	Endocarditis, specified as chronic, and other valvular diseases	1,002	1	2	1			4	10	11	10	12	14	61	69	158	287	300	300	1	
92b	Endocarditis, unspecified (45 years and over)	82																			
92a	Acute myocarditis	56	1						1	1	1	1	1	3	6	18	26	32	32		
92b	Myocarditis, unspecified (under 45 years)	17						1							5	6	18	10	10		
92c	Chronic myocarditis and myocardial degeneration	1,275																			
96d	Other diseases of myocardium	608							1	1	2	3	2	16	63	163	373	648	648		
94a	Angina pectoris	424							1	1	1	1	1	2	30	84	195	374	374		
94b	Diseases of coronary arteries	590													10	36	103	167	312		
95a	Functional diseases of heart	42								1					37	91	136	303	256		
95b	Other and unspecified diseases of heart	902													1	3	11	8	17		
96	Aneurysm (except of heart)	20	1		1			2	7	3	3	4	8	10	3	14	297	301	301		
97	Arteriosclerosis (coronary arteries excepted)	580							1	1				1	4	5	4	4	4		
98	Gangrene	29			1																
99	Other diseases of arteries	62	1																		
100	Diseases of veins (varices, hemorrhoids, phlebitis, etc.)	17										1	2	2	7	15	16	17	17		
101	Diseases of lymphatic system (lymphangitis, etc.)	4																			
102	Idiopathic anomalies of blood-pressure	12						1													
103	Other diseases of circulatory system	4	1										1								

VIII.—Diseases of the respiratory system		2,103	271	72	28	25	21	28	24	37	26	35	46	108	144	213	320	705
104a	Diseases of nasal fossae	5	3							1								1
104b	Diseases of nasal fossae annexae	15			1	1		1	1	2	1			3	1	2		2
105	Diseases of larynx	9	3	1		3								1				1
106a	Acute bronchitis	30	5	2	1			2					1		2	1	3	13
106b	Chronic bronchitis	60	1							1	1	2		6		8	11	30
106c, d	Bronchitis, unspecified	21		1		1									1	1	1	16
107a	Bronchopneumonia	789	186	42	18	14	9	14	10	6	7	4	9	19	29	47	90	285
107b	Capillary bronchitis	5	3											1			1	
108	Lobar pneumonia	973	57	24	5	6	10	10	10	27	15	24	31	68	94	131	183	278
109	Pneumonia, unspecified	20	6										1	1	2		5	5
110	Pleurisy	45	3	2	3		2	1	2		2	2	1	5	5	5	5	7
111a	Pulmonary embolism and thrombosis	9												1	2	2	2	2
111b	Pulmonary congestion, edema, hemorrhagic infarct	58	2												2	3	7	44
112	Asthma	34	1									1	1	1	3	9	7	11
113	Pulmonary emphysema	6												1		1	2	2
114	Other diseases of respiratory system (tuberculosis excepted)	24	1						1			2	2	1	3	3	3	8
IX.—Diseases of the digestive system		1,908	202	52	36	27	17	74	59	71	74	47	67	162	223	271	274	250
115a	Diseases of pharynx and tonsils	130	3	4	7	6	3	12	6	11	14	5	10	12	8	14	9	6
115b	Diseases of buccal cavity and annexa	14		1				2				1	1		5		3	1
116	Diseases of esophagus	2															1	1
117a	Ulcer of stomach	111	1	1						1	3	2	7	14	22	27	16	17
117b	Ulcer of duodenum	46	1								1	1	2	7	9	8	10	7
118	Other diseases of stomach (cancer excepted)	41	7	1	1		1					2		1	3	3	3	18
119	Diarrhea, enteritis (under 2 years of age)	187	154	33														
120	Diarrhea, enteritis (2 years and over)	127			15	14	2	13		2	1	1	2	5	6	7	19	40
121	Appendicitis	478	1	4	10	6	8	38	45	53	40	20	23	56	66	61	38	9
122a	Hernia	97		1							1	3	2	5	11	19	32	23
122b	Intestinal obstruction	195	26	4	2	1	3	3	4	2	6	4	2	18	21	27	30	41
123	Other diseases of intestines	23	1					1			1	1	1	2		5	6	5
124	Cirrhosis of liver	137	1							1		1	2	19	18	29	37	29
125a	Yellow atrophy of liver	5										1	1		2			1
125b	Other diseases of liver	23	1							1			2	1	5	3	3	7
126	Biliary calculi	117										1	3	11	26	32	23	21
127	Other diseases of gall-bladder, biliary passages	121									3	1	7	8	17	29	34	22
128	Diseases of pancreas	17							1			2	1	1	2	6	4	
129	Peritonitis, cause not specified	27	6	3	1			5	3		4	1	1	2	2	1	6	2

DEATHS (EXCLUSIVE OF STILLBIRTHS) FROM EACH CAUSE, BY
AGE, IN THE STATE OF IOWA, YEAR 1934—Continued

List number	Cause of Death	All deaths	Under 1 year	1 year	2 years	3 years	4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 years and over	Age unknown
130	X.—Diseases of the genitourinary system	2,026	6	2		1	2	6	8	8	18	29	17	77	153	307	546	845	1
131	Acute nephritis (including unspecified under 10 years)	54	3			1		2	2	1	2	1	1	3	7	9	8	14	
132	Chronic nephritis	1,328					2	3	5	6	11	14	5	44	106	220	372	540	
133	Nephritis, unspecified (10 years and over)	196							1				2	5	18	27	42	101	
134	Other diseases of kidneys, ureters (per- peral diseases excepted)	66	3	1				1		1		3	5	6	7	16	10	13	
135	Calculi of urinary passages	2		1							1				2	3	7	9	
136	Disease of bladder (tumors excepted)	15										1		1	2	3	3	8	
137	Diseases of urethra, urinary abscess, etc.	4													1	2	1		
138	Diseases of prostate	279													1	22	97	158	1
139	Diseases of male genital organs, not specified as venereal	3														2		1	
139a	Cysts of ovary	11										1		3	3	3	1		
139b	Other diseases of ovaries, diseases of tubes and parametrium	26									3	8	4	9	2				
139c	Diseases of uterus	20									1	1		6	4	3	5		
139d	Nonpuerperal diseases of breast (cancer excepted)	1																	
139e	Other diseases of female genital organs	1																1	
140	XI.—Diseases of pregnancy, childbirth and the puerperal state	216								21	36	50	48	61					
141	Abortion with septic conditions	51								3	14	15	11	8					
142a	Abortion without mention of septic conditions (includes hemorrhages)	12								1	1	3	2	4					
	Ectopic gestation, septic conditions specified	2											1	1					

DEATHS (EXCLUSIVE OF STILLBIRTHS) FROM EACH CAUSE, BY
AGE, IN THE STATE OF IOWA, YEAR 1934—Continued

List number	Cause of Death	All deaths	Under 1 year	1 year	2 years	3 years	4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	65 to 74 years	75 years and over	Age unknown
160	Injury at birth	236	236																
161	Other diseases peculiar to early infancy	102	102																
162	XVI.—Senility	446													5	43	398		
	Senility																		
	XVII.—Violent and accidental deaths	2,492	47	27	18	21	12	54	55	138	153	114	126	272	309	296	320	528	2
163	Suicide	443							2	7	28	24	34	76	92	86	61	33	
	By solid or liquid poisons or by absorption of corrosive substances	62								3	6	5	6	9	17	4	8	4	
164	By poisonous gas	37								1	2	4	3	5	11	4	6	1	
165	By hanging or strangulation	129							1		1	7	3	22	21	40	19	15	
166	By drowning	17													3	6	4		
167	By firearms	175							1	3	19	8	20	33	32	31	18	10	
168	By cutting or piercing instruments	16											1	2	5		5	2	
169	By jumping from high places	1																	
170	By crushing	2																	
171	By other means	4											1	1	1				
	Homicide																		
173	By firearms	59							1	2	8	6	8	16	10	2	1	3	
174	By cutting or piercing instruments	37								1	7	6	2	10	8	1	1	1	
175	By other means	4								1	1		1	2					
	Accidental, other, or undefined	18							1		1		5	4	2	1			
176	Attack by venomous animals	1,990	46	27	18	20	12	54	52	129	117	84	84	180	207	208	258	492	2
177	Poisoning by food	1																	
178	Absorption of poisonous gas	10						1	1	1	1		1	6	2	2	4	2	
	Supplemental	20																	
179	Other acute accidental poisonings (gas excepted)	6																	
	Conflagration	18	1	2	2		1			2	2	1	1	1	2	2	1	7	
180		18						1		1				8	2		2		

(A)

DEATHS (EXCLUSIVE OF STILLBIRTHS) FROM EACH CAUSE, BY AGE, IN THE STATE OF IOWA, YEAR 1934—Continued

Last number	Cause of Death	All deaths													Age unknown			
		Under 1 year	1 year	2 years	3 years	4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 24 years	25 to 29 years	30 to 34 years	35 to 44 years	45 to 54 years		55 to 64 years	65 to 74 years	75 years and over
201	Accidents in mines and quarries																	
202	Accidents from agricultural machinery																	
203	Elevator accidents																	
204	Accidents from machinery used for recreation																	
205	Other machinery accidents																	
206	Railroad and automobile collisions																	
207	Other railroad accidents																	
208	Street car and automobile collisions																	
209	Other street car accidents																	
210	Automobile accidents (primary)																	
211	Motorcycle accidents																	
212	Other land transportation accidents																	
213	Water transportation accidents																	
214	Air transportation accidents																	
		13	1															
		11	5															
		5																
		1																
		19																
		38																
		54																
		5																
		2																
		331	4	9	4	32	8	57	54	38	34	61	73	65	59	35		
		2																
		34																
		4																
		14																

This supplemental list is made in accordance with the requirements of the International Conference at Paris, 1929. The deaths shown in this tabulation are supplemental to those reported opposite Titles 178 to 194, inclusive. Comparable figures for titles shown in prior years will be found opposite the International List Titles. To obtain the total number of deaths in 1930 due to any of the accidental causes, the supplemental figures should be added to those reported opposite the International List numbers in the regular table.

Accidents in mines and quarries
 Accidents from agricultural machinery
 Elevator accidents
 Accidents from machinery used for recreation
 Other machinery accidents
 Railroad and automobile collisions
 Other railroad accidents
 Street car and automobile collisions
 Other street car accidents
 Automobile accidents (primary)
 Motorcycle accidents
 Other land transportation accidents
 Water transportation accidents
 Air transportation accidents

NUMBER OF DEATHS—TYPHOID AND PARATYPHOID FEVER WITH
 RATES (PER 100,000 POPULATION—BY COUNTIES) 1933-1934-1935
 (Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair						
Adams						
Allamakee						
Appanoose	1	4.0	2	8.1		
Audubon						
Benton					1	4.4
Black Hawk	1	4.3				
Boone	1	5.8				
Bremer						
Buchanan	2	10.2				
Buena Vista			1	5.3		
Butler						
Calhoun			1	5.7		
Carroll			1	4.4	1	4.4
Cass			1	5.2		
Cedar						
Cerro Gordo	1	6.6				
Cherokee						
Chickasaw						
Clarke					1	9.6
Clay						
Clayton	1	4.1			1	4.1
Clinton						
Crawford						
Dallas					1	3.9
Davis			1	9.0		
Decatur					1	6.7
Delaware					1	5.5
Des Moines						
Dickinson						
Dubuque						
Emmet						
Fayette			1	3.4		
Floyd						
Franklin						
Fremont						
Greene						
Grundy						
Guthrie					1	5.8
Hamilton			1	4.7		
Hancock						
Hardin						
Harrison						
Henry						
Howard						
Humboldt						
Ida						
Iowa						
Jackson						
Jasper						
Jefferson						
Johnson						
Jones			1	5.2		
Keokuk						
Kossuth						

NUMBER OF DEATHS—TYPHOID AND PARATYPHOID FEVER WITH
 RATES (PER 100,000 POPULATION—BY COUNTIES) 1933-1934-1935
 —Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee						
Linn						
Louisa						
Lucas	2	17.3				
Lyon			2	13.2		
Madison						
Mahaska						
Marion			1	6.4		
Marshall			2	7.7		
Mills			1	6.2		
Mitchell						
Monona	1	7.1				
Monroe						
Montgomery			2	13.3	2	13.3
Muscatine						
O'Brien						
Osceola						
Page						
Palo Alto					1	3.8
Plymouth			1	6.5		
Pocahontas						
Polk						
Pottawattamie						
Poweshiek						
Ringgold	1	8.4				
Sac						
Scott						
Shelby	1	6.0				
Sioux						
Story			1	3.7		
Tama						
Taylor						
Union						
Van Buren						
Wapello						
Warren						
Washington						
Wayne						
Webster	1	7.3	2	14.5		
Winnebago						
Winneshiek						
Woodbury						
Worth						
Wright			2	9.9		
Rural	13	.7	24	1.4	11	.6
Urban	9	1.1	29	4.0	22	3.0
State	22	.9	53	2.1	33	1.3

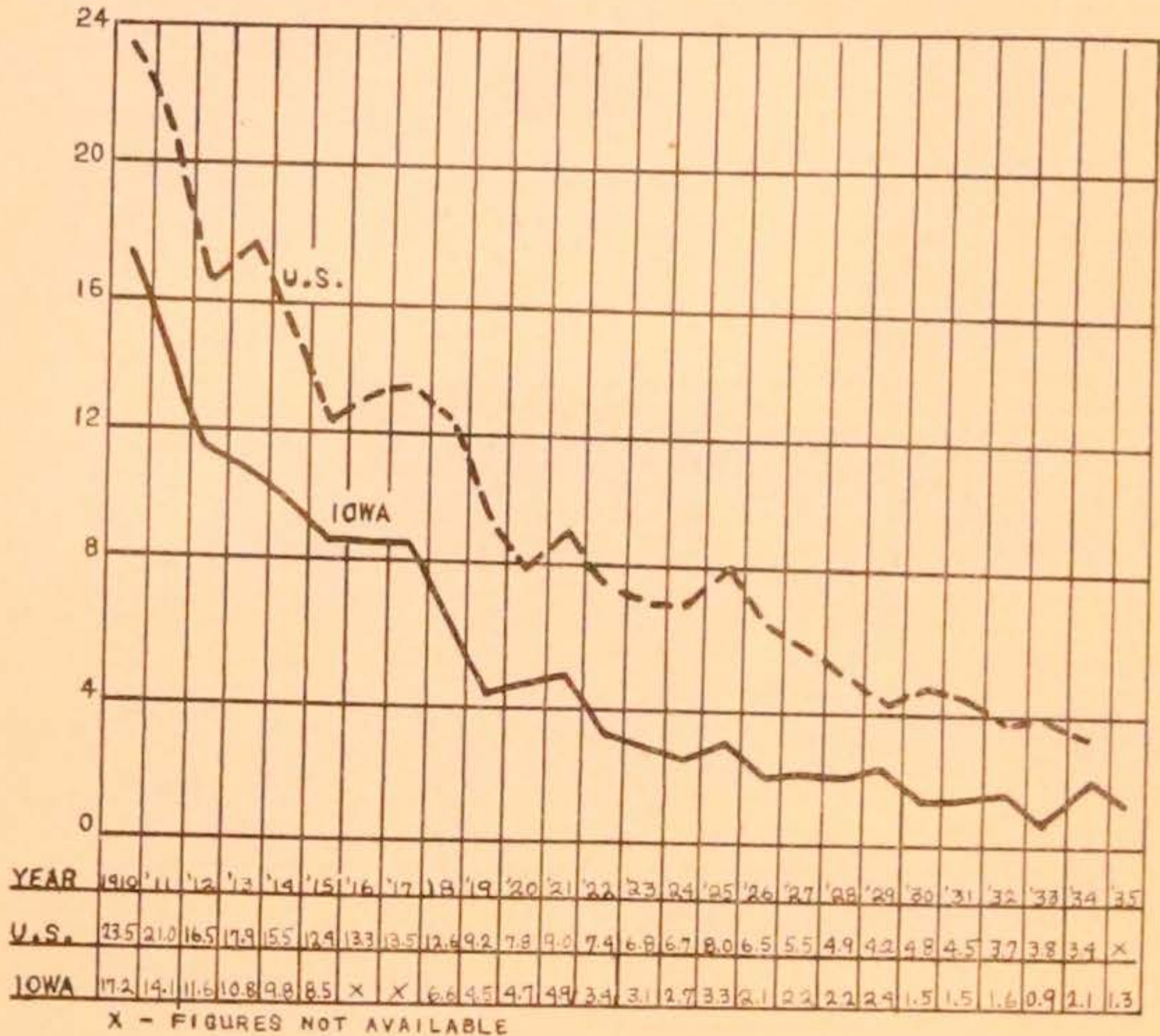
NUMBER OF DEATHS—TYPHOID AND PARATYPHOID FEVER WITH
RATES (PER 100,000 POPULATION) BY CITIES OVER
10,000 POPULATION—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	1	9.2				
Boone.....			8	67.3	1	8.4
Burlington.....			1	3.7	1	3.7
Cedar Rapids.....			1	1.7		
Clinton.....			1	3.8		
Council Bluffs.....	1	2.3			2	4.6
Davenport.....						
Des Moines.....	3	2.1	9	6.2	7	4.8
Dubuque.....						
Fort Dodge.....	1	4.5			2	9.0
Fort Madison.....						
Iowa City.....	2	12.5	1	6.3	1	6.3
Keokuk.....			1	6.6		
Marshalltown.....			1	5.6	1	5.6
Mason City.....			3	12.6		
Muscatine.....					1	5.9
Newton.....	1	8.1				
Oskaloosa.....						
Ottumwa.....					1	3.5
Sioux City.....			2	2.5	2	2.5
Waterloo.....			1	2.1	3	6.3
Urban.....	9	1.1	29	4.0	22	3.9

TYPHOID FEVER

DEATH RATES—U. S. AND IOWA

1910-1935

Death Rate
Per 100,000
Population

NUMBER OF DEATHS—SMALLPOX, WITH RATES (PER 100,000 POPULATION) BY COUNTIES AND BY CITIES OVER
10,000 POPULATION—1933-1934-1935

During the year 1933, not a death from smallpox was reported in Iowa.

There was one (1) death in 1934 and one (1) in 1935.

The death in 1934 was reported from Marion county and the death rate was 3.9 per 100,000 population. The rate for Iowa, 1934, was .04.

Greene county with a rate of 6.1 per 100,000 reported the only death in Iowa for 1935. The smallpox death rate for the State being .04.

No deaths were reported from any of the cities over 10,000 population during the period 1933-1934-1935.

NUMBER OF DEATHS—MEASLES, WITH RATES (PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair						
Adams						
Allamakee						
Appanoose					5	20.1
Audubon						
Benton	1	4.4	1	4.4		
Black Hawk					1	4.3
Boone					1	5.8
Bremer						
Buchanan						
Buena Vista			1	5.3		
Butler			1	5.7	1	5.7
Calhoun					1	5.7
Carroll			4	17.8	7	31.1
Cass						
Cedar						
Cerro Gordo						
Cherokee						
Chickasaw			3	20.5		
Clarke						
Clay						
Clayton					2	8.1
Clinton						
Crawford			2	9.5	1	4.7
Dallas	1	3.9				
Davis					2	17.9
Decatur						
Delaware	1	5.5				
Des Moines						
Dickinson			1	9.0	1	9.0
Dubuque					3	15.3
Emmet					1	7.8
Fayette			1	3.4	1	3.4
Floyd					1	5.1
Franklin			1	6.1		
Fremont			1	6.5	1	6.5
Greene						
Grundy			1	7.1		
Guthrie			1	5.8	1	5.8
Hamilton			2	9.4	2	9.4
Hancock			1	6.8	1	6.8
Hardin						
Harrison			1	4.0	1	4.0
Henry	1	5.7			2	11.3
Howard			2	15.3	1	7.6
Humboldt						
Ida						
Iowa						
Jackson					5	27.1
Jasper					1	4.7
Jefferson						
Johnson						
Jones					1	5.2
Keokuk					3	15.7
Kossuth			1	3.9		

NUMBER OF DEATHS—MEASLES, WITH RATES (PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee					1	8.2
Linn					1	3.8
Louisa	1	8.6			1	8.6
Lucas					1	6.6
Lyon					2	13.1
Madison			1	7.0	2	14.0
Mahaska	1	6.4				
Marion						
Marshall						
Mills			1	6.3	1	6.3
Mitchell					1	7.1
Monona					1	5.4
Monroe			1	6.7	2	13.3
Montgomery			2	11.9		
Muscatine					2	16.0
O'Brien			1	5.4	1	5.4
Osceola			1	9.8		
Page			1	3.8		
Palo Alto						
Plymouth			2	8.2		
Pocahontas			1	6.4		
Polk					2	6.5
Pottawattamie			5	17.8		
Poweshiek					1	5.3
Ringgold	1	8.4				
Sac			1	5.6	2	11.3
Scott						
Shelby			1	5.8	1	5.8
Sioux			1	3.7		
Story			1	4.7	1	4.7
Tama			2	9.1		
Taylor			1	6.7		
Union						
Van Buren						
Wapello			1	8.3	1	8.3
Warren					3	16.9
Washington			1	5.0	2	10.0
Wayne						
Webster						
Winnebago					3	22.8
Winneshiek						
Woodbury					3	13.2
Worth					1	9.0
Wright					1	4.9
Rural	7	0.4	50	2.8	84	4.8
Urban	2	0.3	23	3.1	62	8.5
State	9	0.4	73	2.9	146	5.9

NUMBER OF DEATHS—MEASLES, WITH RATES (PER 100,000 POPULATION) BY CITIES OVER 10,000 POPULATION—1933-1934-1935

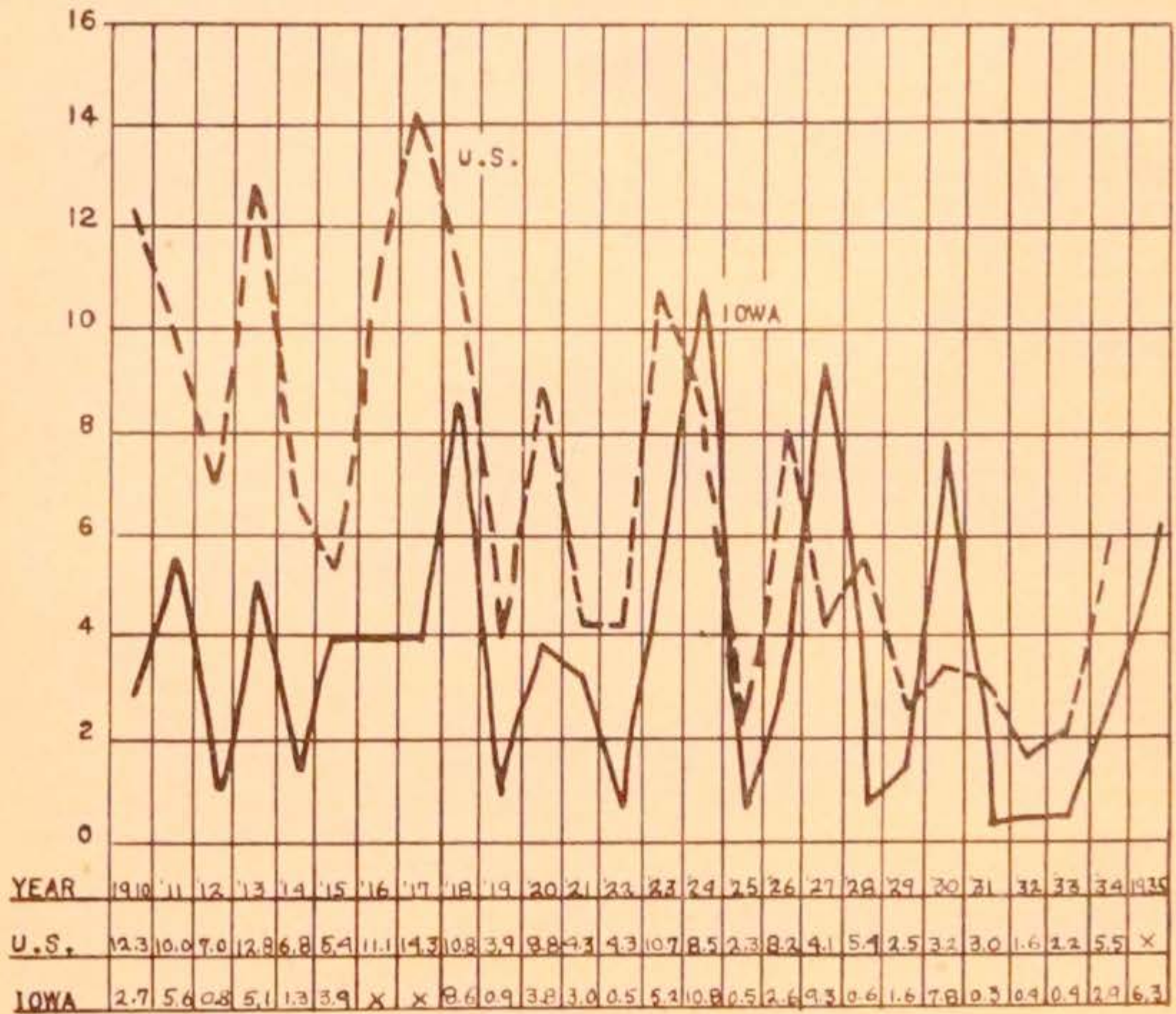
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....					1	9.2
Boone.....						
Burlington.....					2	7.4
Cedar Rapids.....			1	1.7	4	7.0
Clinton.....	1	3.8	3	11.5	1	3.8
Council Bluffs.....	1	2.3	7	16.2		
Davenport.....			1	1.6	3	4.9
Des Moines.....			1	0.7	12	8.3
Dubuque.....					5	11.9
Fort Dodge.....					4	17.9
Fort Madison.....					2	14.2
Iowa City.....			1	6.3	2	12.5
Keokuk.....					2	13.2
Marshalltown.....			4	22.6	3	16.9
Mason City.....					7	29.3
Muscatine.....					3	17.8
Newton.....						
Oskaloosa.....						
Ottumwa.....					6	21.8
Sioux City.....			4	5.0	3	3.7
Waterloo.....			1	2.1	2	4.2
Urban.....	2	0.3	23	3.1	62	8.5

MEASLES

DEATH RATES—U. S. AND IOWA

1910-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER DEATHS—SCARLET FEVER, WITH RATES (PER 100,000
POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair						
Adams						
Allamakee	1	6.1	7	17.2	1	6.1
Appanoose	1	4.0				
Archibald						
Ashtabula						
Black Hawk					2	8.5
Bloom	1	2.8			1	5.2
Bonham						
Bureau						
Butler			1	5.7		
Calhoun				5.7		
Cass			1	4.4	2	11.2
Cedar			1	5.8		
Cerro						
Cherokee	2	5.2				
Chickasaw						
Clarke						
Clay					1	6.0
Clayton			2	12.2	1	4.1
Clinton						
Crawford			1	4.7	2	14.2
Dallas	1	2.8	1	5.9		
Davis	2	17.8	2	17.8		
Decatur	1	6.7			1	6.7
Delaware	1	5.9			1	5.9
Des Moines						
Dickinson					1	8.0
Delaware						
Emmet						
Essex						
Franklin	1	6.3	1	6.3		
Fremont					2	12.0
Greene					1	6.1
Grundy						
Harrison					1	5.2
Hamilton			2	14.2	1	4.7
Hardy						
Hardin						
Harrison			1	4.0		
Henry						
Howard						
Humboldt					2	16.2
Iowa			2	16.2		
Jackson			1	5.4		
Jasper						
Jefferson						
Johnson						
Jones	2	10.4			1	5.2
Keokuk					1	5.2
Keosauqua	1	5.9			2	11.8

NUMBER DEATHS—SCARLET FEVER, WITH RATES (PER 100,000
POPULATION) BY COUNTIES—1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee						
Linn	2	7.5				
Louisa			1	8.6		
Lucas	1	6.6	3	19.8		
Lyon						
Madison	1	7.0	1	7.0	1	7.0
Mahaska						
Marion					1	3.9
Marshall						
Mills						
Mitchell						
Monona	1	5.4			1	5.4
Monroe	5	33.3	1	6.7		
Montgomery	1	6.0	1	6.0		
Muscatine			1	8.0		
O'Brien					1	5.4
Osceola	2	19.6	2	19.6		
Page			1	3.8		
Palo Alto	1	6.5				
Plymouth			1	4.1		
Pocahontas						
Polk						
Pottawattamie			1	3.6		
Poweshiek						
Ringgold	1	8.4				
Sac	1	5.6			6	33.9
Scott					1	6.0
Shelby	1	5.8			1	5.8
Sioux						
Story					1	4.7
Tama	1	4.5	1	4.5		
Taylor	2	13.5	1	6.7		
Union	1	5.7	1	5.7	3	17.1
Van Buren						
Wapello						
Warren	1	5.6	2	11.3	1	5.6
Washington						
Wayne			3	21.8	1	7.3
Webster						
Winnebago						
Winneshiek						
Woodbury						
Worth						
Wright			2	9.9	1	4.9
Rural	35	2.0	44	2.5	46	2.6
Urban	10	1.4	17	2.3	22	3.0
State	45	1.8	61	2.5	68	2.7

NUMBER DEATHS—SCARLET FEVER, WITH RATES (PER 100,000
POPULATION) BY CITIES OVER 10,000 POPULATION—
1933-1934-1935

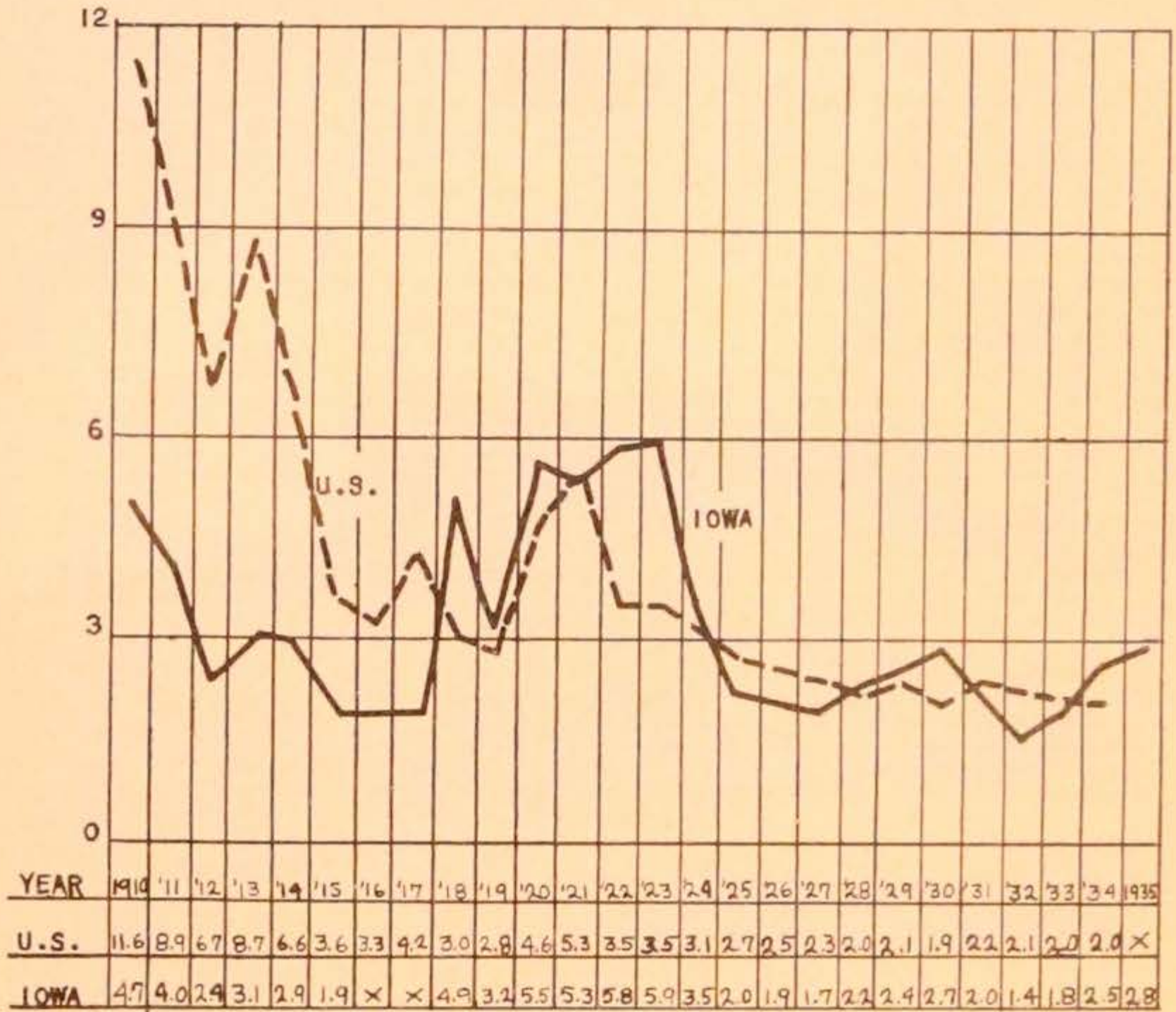
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....						
Boone.....						
Burlington.....					1	3.7
Cedar Rapids.....			1	1.7	2	3.5
Clinton.....	2	7.7				
Council Bluffs.....	1	2.3	3	6.9	2	4.6
Davenport.....	1	1.6				
Des Moines.....	4	2.8	6	4.1	3	2.1
Dubuque.....					4	9.5
Fort Dodge.....			3	13.5		
Fort Madison.....			1	7.1		
Iowa City.....	2	12.5	1	6.3		
Keokuk.....						
Marshalltown.....			1	5.6		
Mason City.....					2	8.4
Muscatine.....						
Newton.....						
Oskaloosa.....			1	9.8	1	9.8
Ottumwa.....					2	6.9
Sioux City.....					5	6.2
Waterloo.....						
Urban.....	10	1.4	17	2.3	22	3.0

SCARLET FEVER

DEATH RATES—U. S. AND IOWA

1910-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS—WHOOPING COUGH, WITH RATES (PER
100,000 POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair						
Adams						
Allamakee	1	6.1	4	24.5		
Appanoose					1	4.0
Audubon						
Benton						
Black Hawk	1	4.3				
Boone	2	11.5				
Bremer			2	11.7		
Buchanan	1	5.1				
Buena Vista			2	10.7		
Butler	1	5.7	2	11.4	1	5.7
Calhoun			1	5.7		
Carroll	1	4.4	1	4.4		
Cass			1	5.2		
Cedar			1	6.0		
Cerro Gordo	1	6.6			1	6.6
Cherokee	1	5.3	1	5.3		
Chickasaw	1	6.8	1	6.8		
Clarke						
Clay					1	6.2
Clayton						
Clinton	1	5.4	1	5.4		
Crawford			2	9.5	1	4.7
Dallas			1	3.9		
Davis			1	9.0		
Decatur						
Delaware	1	5.5	5	27.6		
Des Moines						
Dickinson	2	18.0			1	9.0
Dubuque			3	15.3	1	5.1
Emmet					1	7.8
Fayette						
Floyd			1	5.1		
Franklin	1	6.1				
Fremont			1	6.5	1	6.5
Greene						
Grundy						
Guthrie	1	5.8	2	11.0		
Hamilton					1	4.7
Hancock					1	6.8
Hardin			1	4.4		
Harrison	1	4.0	5	20.0		
Henry						
Howard	1	7.6				
Humboldt						
Ia	1	7.6				
Ida			1	8.3		
Iowa			1	5.8		
Jackson			1	5.4		
Jasper	2	9.3				
Jefferson			1	6.2		
Johnson						
Jones						
Keokuk					2	10.4
Kossuth	3	11.8			2	7.8

NUMBER OF DEATHS—WHOOPING COUGH, WITH RATES (PER
100,000 POPULATION) BY COUNTIES—1933-1934-1935—Continued

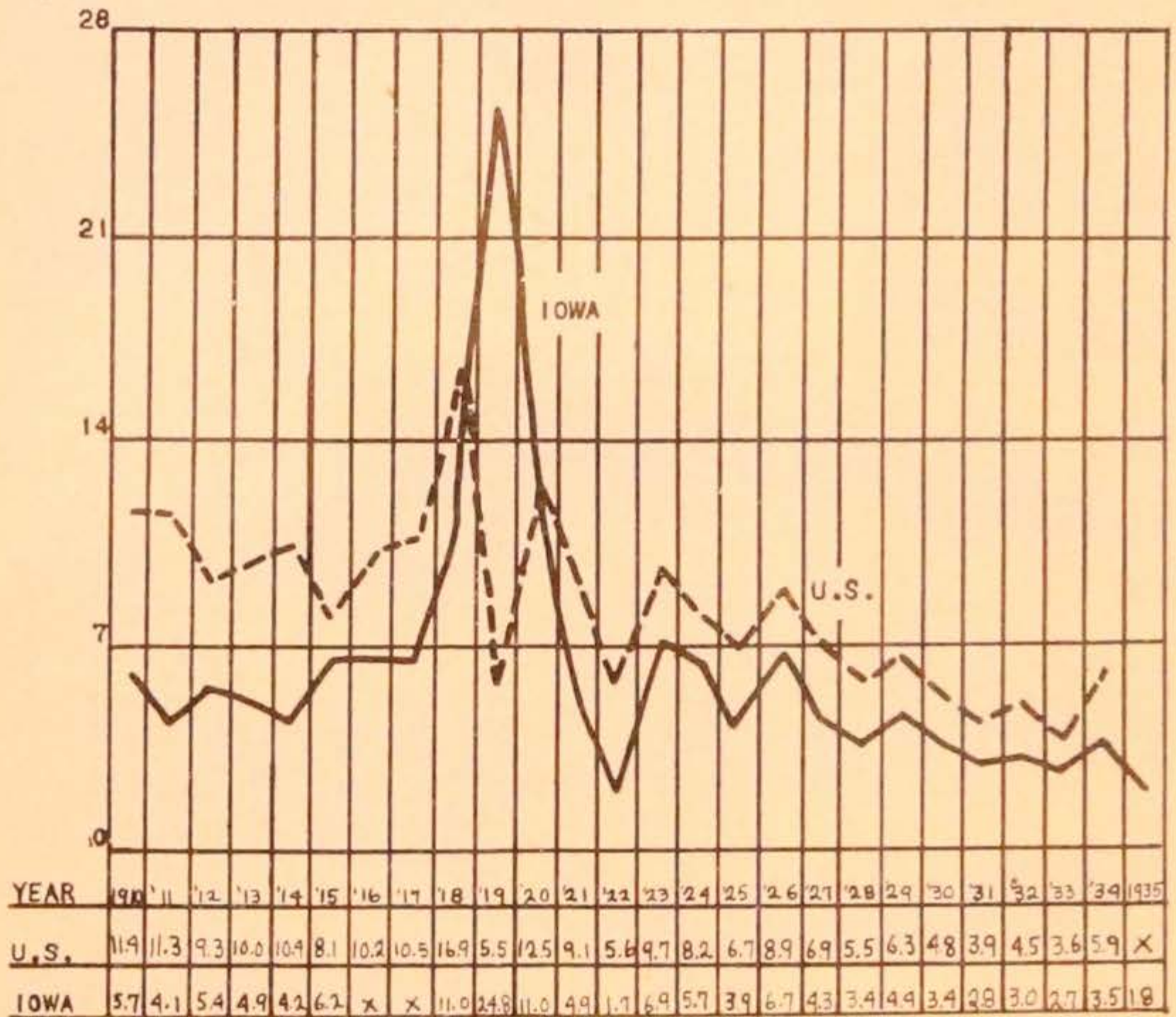
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee						
Linn	1	3.8				
Louisa	1	8.6	1	8.6		
Lucas						
Lyon			1	6.5		
Madison						
Mahaska						
Marion						
Marshall						
Mills			1	6.3		
Mitchell						
Monona						
Monroe	1	6.7				
Montgomery			1	6.0	1	6.0
Muscatine			1	8.0		
O'Brien	2	10.9			1	5.4
Osceola			1	9.8		
Page			2	7.6		
Palo Alto	1	6.5	1	6.5	3	19.5
Plymouth			5	20.6	2	8.2
Pocahontas						
Polk			1	6.3		
Pottawattamie						
Poweshiek						
Ringgold			1	8.4		
Sac						
Scott						
Shelby	1	5.8	1	5.8		
Sioux	4	14.9				
Story	1	4.7				
Tama						
Taylor			1	6.7		
Union						
Van Buren	1	7.9	2	15.9		
Wapello						
Warren	1	5.6			1	5.6
Washington			1	5.0	2	10.1
Wayne						
Webster						
Winnebago						
Winneshiek	1	4.6	1	4.6		
Woodbury			1	4.4	1	4.4
Worth					2	17.9
Wright	1	4.9	1	4.9	1	4.9
Rural	40	2.2	67	3.8	29	1.7
Urban	26	3.6	21	2.9	15	2.1
State	66	3.0	88	3.5	44	1.8

NUMBER OF DEATHS—WHOOPING COUGH, WITH RATES (PER
100,000 POPULATION) BY CITIES OVER 10,000
POPULATION—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames						
Boone	1	8.4				
Burlington	3	11.0	1	3.7	1	3.7
Cedar Rapids	3	5.2	1	1.7	2	3.5
Clinton	4	15.4			1	3.8
Council Bluffs	3	6.9	3	6.9	1	2.3
Davenport	2	3.3	1	1.6		
Des Moines	7	4.8	2	1.4		
Dubuque			2	4.8	2	4.8
Fort Dodge			1	4.5	1	4.5
Fort Madison			1	7.1		
Iowa City	1	6.3				
Keokuk			1	6.6		
Marshalltown					3	16.9
Mason City			2	8.4		
Muscatine						
Newton			1	8.1		
Oskaloosa	1	9.8				
Ottumwa					1	3.5
Sioux City	1	1.2	1	1.2	3	3.7
Waterloo			4	8.4		
Urban	26	3.6	21	2.9	15	2.1

WHOOPING COUGH
DEATH RATES—U. S. AND IOWA
1910-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS—DIPHtheria, WITH RATES (PER 100,000
POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair					1	7.2
Adams						
Allamakee						
Appanoose						
Audubon	2	16.3				
Benton						
Black Hawk					1	4.3
Boone	1	5.8				
Bremer						
Buchanan	1	5.1				
Buena Vista						
Butler						
Calhoun						
Carroll	2	8.9				
Cass	2	10.3	1	5.2		
Cedar						
Cerro Gordo						
Cherokee					1	5.3
Chickasaw						
Clarke	1	9.6				
Clay						
Clayton					4	16.3
Clinton						
Crawford	1	4.7			1	4.7
Dallas	1	3.9				
Davis			1	9.0		
Decatur	2	13.4				
Delaware	1	5.5				
Des Moines						
Dickinson					2	18.0
Dubuque			1	5.1		
Emmet					1	7.8
Fayette	1	3.4	1	3.4		
Floyd						
Franklin						
Fremont						
Greene						
Grundy						
Guthrie						
Hamilton						
Hancock					3	20.3
Hardin					1	4.4
Harrison	1	4.0				
Henry	1	5.7				
Howard						
Humboldt						
Ida						
Iowa						
Jackson						
Jasper	1	4.7				
Jefferson						
Johnson						
Jones						
Keokuk						
Kossuth						

NUMBER OF DEATHS—DIPHTHERIA, WITH RATES (PER 100,000
POPULATION) BY COUNTIES—1933-1934-1935—Continued

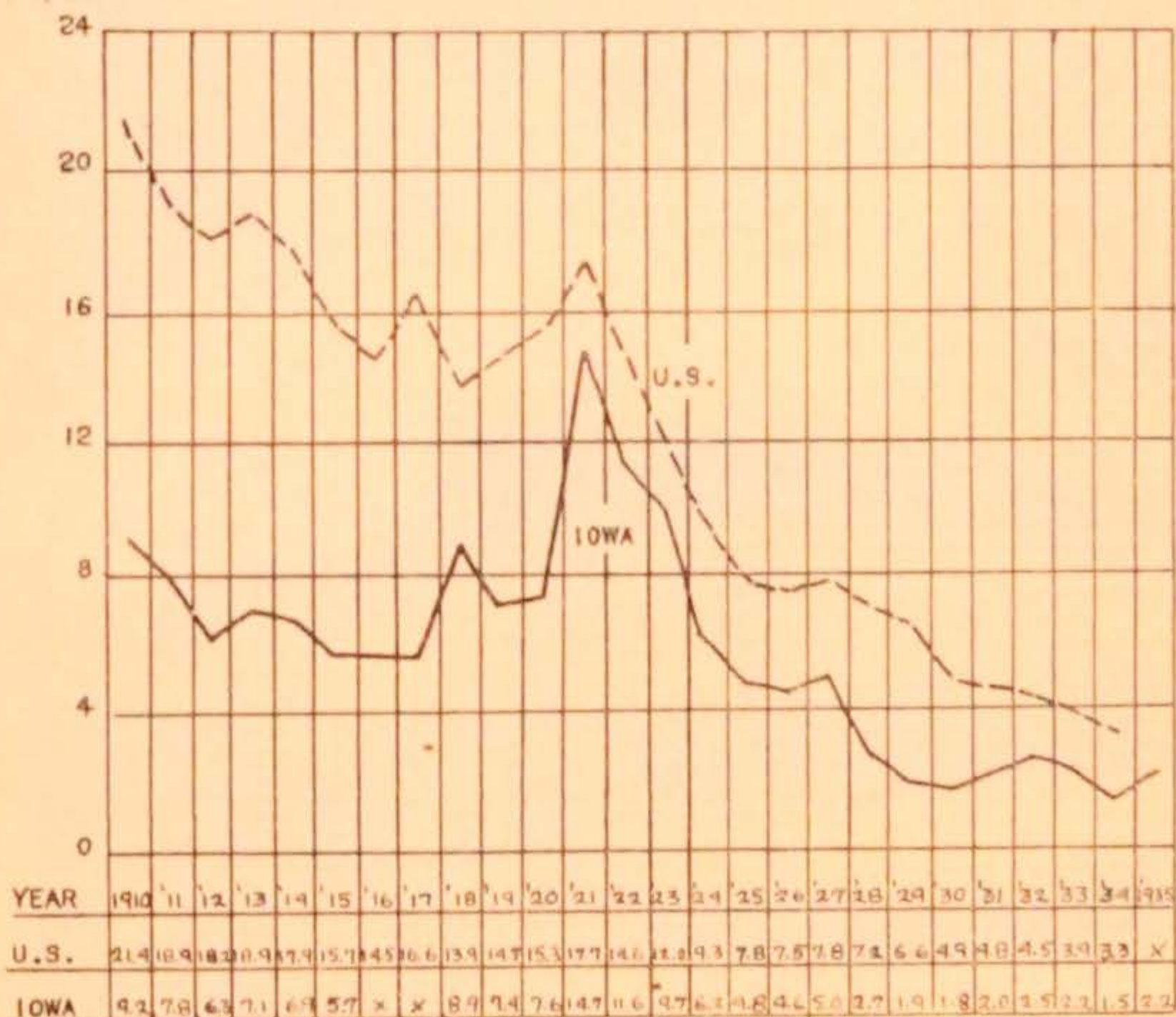
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee						
Linn						
Louisa						
Lucas			1	6.6	1	6.6
Lyon						
Madison						
Mahaska						
Marion	1	3.0				
Marshall						
Mills	1	6.3			1	6.3
Mitchell						
Monona	2	5.4			1	5.4
Monroe						
Montgomery					1	6.0
Muscatine					1	8.0
O'Brien						
Osceola					3	29.5
Page	1	3.8			1	3.8
Palo Alto						
Plymouth						
Pocahontas						
Polk						
Pottawattamie			1	3.6	1	3.6
Poweshiek			1	5.3		
Ringgold	1	8.4				
Sac	1	5.6			1	5.6
Scott					1	6.0
Shelby			2	11.6		
Sioux	1	3.7			1	3.7
Story						
Tama						
Taylor						
Union					1	5.7
Van Buren					1	7.9
Wapello						
Warren						
Washington						
Wayne						
Wehster						
Winnebago					1	7.6
Winneshek			1	4.6		
Woodbury						
Worth						
Wright						
Rural	25	1.4	10	0.6	31	1.7
Urban	30	4.1	28	3.8	25	3.4
State	55	2.2	38	1.5	56	2.2

NUMBER OF DEATHS—DIPHTHERIA, WITH RATES (PER 100,000
POPULATION) BY CITIES OVER 10,000 POPULATION—
1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames						
Boone						
Burlington	1	2.7			1	3.7
Cedar Rapids			4	7.0	1	1.7
Clinton						
Council Bluffs	8	18.5	6	13.9	1	2.3
Davenport	1	1.6			1	1.6
Des Moines	8	5.5	7	4.8	8	5.5
Dubuque			1	2.4		
Fort Dodge	1	4.5				
Fort Madison			1	7.1		
Iowa City						
Keokuk	1	6.6			1	6.6
Marshalltown			1	5.6	2	11.2
Mason City			1	4.2	1	4.2
Muscatine			1	5.9	1	5.9
Newton						
Oskaloosa	1	9.8				
Ottumwa	1	3.5	1	3.5	2	6.9
Sioux City	5	6.2	4	5.0	2	2.5
Waterloo	1	2.1	1	2.1	4	8.4
Urban	30	4.1	28	5.8	29	3.4

DIPHTHERIA
DEATH RATES—U. S. AND IOWA
1910-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS—INFLUENZA, WITH RATES (PER 100,000
POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair	5	36.0	4	28.8		
Adams	5	47.9			5	47.9
Allamakee	12	73.5	5	29.4	4	24.5
Appanoose	6	24.1	7	28.2	4	16.1
Audubon	5	40.7	3	24.5		
Benton	4	17.5	3	13.2	6	26.3
Black Hawk	12	51.3	11	46.9	7	29.9
Boone	7	40.3	3	17.2	5	28.8
Bremer	4	23.4	3	17.5	4	23.4
Buchanan	6	30.7	8	39.9	4	20.5
Buena Vista	10	53.4	9	47.9	2	10.7
Butler	9	51.1	5	28.5	3	17.0
Calhoun	10	56.8	6	34.1	2	11.4
Carroll	16	71.1	15	66.7	12	53.3
Cass	11	56.7	6	30.9	10	51.5
Cedar	2	11.9	4	24.0	2	11.9
Cerro Gordo	4	26.3	3	19.7	1	6.6
Cherokee	9	47.6	4	21.2	3	15.9
Chickasaw	7	47.8			2	13.7
Clarke	11	105.9			3	25.9
Clay	4	24.7	2	12.3	3	18.5
Clayton	8	32.6	2	8.1	12	48.9
Clinton	2	10.8	2	10.8		
Crawford	10	47.4	7	33.2	4	19.0
Dallas	7	27.3	7	27.3	3	11.7
Davis	2	17.9	1	9.0	4	35.9
Decatur	11	73.8	4	26.8	3	20.1
Delaware	3	16.6	3	16.6	3	16.6
Des Moines	4	35.1	3	26.3	1	8.8
Dickinson	3	27.0	4	36.0	1	9.0
Dubuque	1	5.1	1	5.1	2	10.2
Emmet	5	38.8			3	23.3
Fayette	6	20.6	2	6.9	6	20.6
Floyd	9	45.9	2	10.2	2	10.2
Franklin	4	24.2	1	6.1	4	24.2
Fremont	7	45.2	1	6.5	6	38.7
Greene	5	30.3	3	18.2	8	48.5
Grundy	3	21.2	4	28.3	5	35.4
Guthrie	11	63.5	8	46.2	1	5.8
Hamilton	3	14.2	1	4.7	8	37.7
Hancock	7	47.3	2	13.5	4	27.0
Hardin	5	21.8	3	13.1	5	21.8
Harrison	12	48.0	7	28.6	8	32.0
Henry	9	51.0	3	17.0	4	22.7
Howard	11	84.1	3	22.9	7	53.5
Humboldt	4	30.3	3	22.7	2	15.2
Ida	4	33.3	1	8.3	3	25.0
Iowa	3	17.3	3	17.3	4	23.1
Jackson	8	43.3	6	32.5	6	32.5
Jasper	14	65.4	5	23.4	5	23.4
Jefferson	10	61.6	9	55.4	3	18.5
Johnson	3	20.1	1	6.7	2	13.4
Jones	7	36.3	4	20.7	2	10.4
Keokuk	7	36.6	8	41.8	2	10.4
Kossuth	12	47.1	3	11.8	3	11.8

NUMBER OF DEATHS—INFLUENZA, WITH RATES (PER 100,000
POPULATION) BY COUNTIES—1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee.....	8	65.6			1	8.2
Linn.....	6	22.6	1	3.8	2	7.5
Louisa.....	9	77.8	3	25.9	5	43.2
Lucas.....	1	6.6	2	13.2	4	26.5
Lyon.....	7	45.8	1	6.5	2	13.1
Madison.....	4	27.9	2	14.0	2	14.0
Mahaska.....	8	51.3	4	25.6		
Marion.....	17	65.6	8	30.9	2	7.7
Marshall.....	15	92.6	5	30.9	4	24.7
Mills.....	2	12.6			4	25.2
Mitchell.....	3	21.3	7	49.6	6	42.6
Monona.....	5	27.2	5	27.2	3	16.3
Monroe.....	7	46.6	2	13.3	2	13.3
Montgomery.....	9	53.7	4	23.9	7	41.8
Muscatine.....	3	24.0	1	8.0	2	16.0
O'Brien.....	9	48.9	3	16.3	7	38.0
Osceola.....	3	29.5	1	9.8	3	29.5
Page.....	8	30.5	16	61.1	12	45.8
Palo Alto.....	11	71.4	3	19.5	12	77.9
Plymouth.....	8	32.9	5	20.6	7	28.8
Pocahontas.....	8	51.0	1	6.4	1	6.4
Polk.....	4	13.0	1	3.3	1	3.3
Pottawattamie.....	5	17.8	4	14.2	4	14.2
Poweshiek.....	7	37.4	4	21.4	4	21.4
Ringgold.....	4	33.4	1	8.4	2	16.7
Sac.....	7	39.5	2	11.3	3	16.9
Scott.....	1	6.0	3	18.0	1	6.0
Shelby.....	5	28.9	6	34.7	2	11.6
Sioux.....	10	37.2	2	7.4	4	14.9
Story.....	3	9.5	3	14.2	2	9.5
Tama.....	5	22.7	6	27.3	3	13.6
Taylor.....	5	33.6	2	13.5	1	6.7
Union.....	3	17.1	4	22.9	6	34.3
Van Buren.....	5	39.7	4	31.7	4	31.7
Wapello.....	3	25.0	3	25.0	3	25.0
Warren.....	4	22.6	4	22.6	1	5.6
Washington.....	7	35.3	5	25.2	8	40.4
Wayne.....	2	14.5	3	21.8	7	50.8
Webster.....	2	10.8			2	10.8
Winnebago.....	13	98.9	1	7.6	4	30.4
Winneshiek.....	7	32.4	1	4.6		
Woodbury.....	9	39.5	2	8.8	7	30.7
Worth.....	3	26.9			2	17.9
Wright.....	4	19.8	1	4.9		
Rural.....	647	36.9	354	20.2	377	21.5
Urban.....	223	30.5	102	14.0	162	22.2
State.....	870	35.1	456	18.3	539	21.7

NUMBER OF DEATHS—INFLUENZA, WITH RATES (PER 100,000
POPULATION) BY CITIES OVER 10,000 POPULATION—
1933-1934-1935

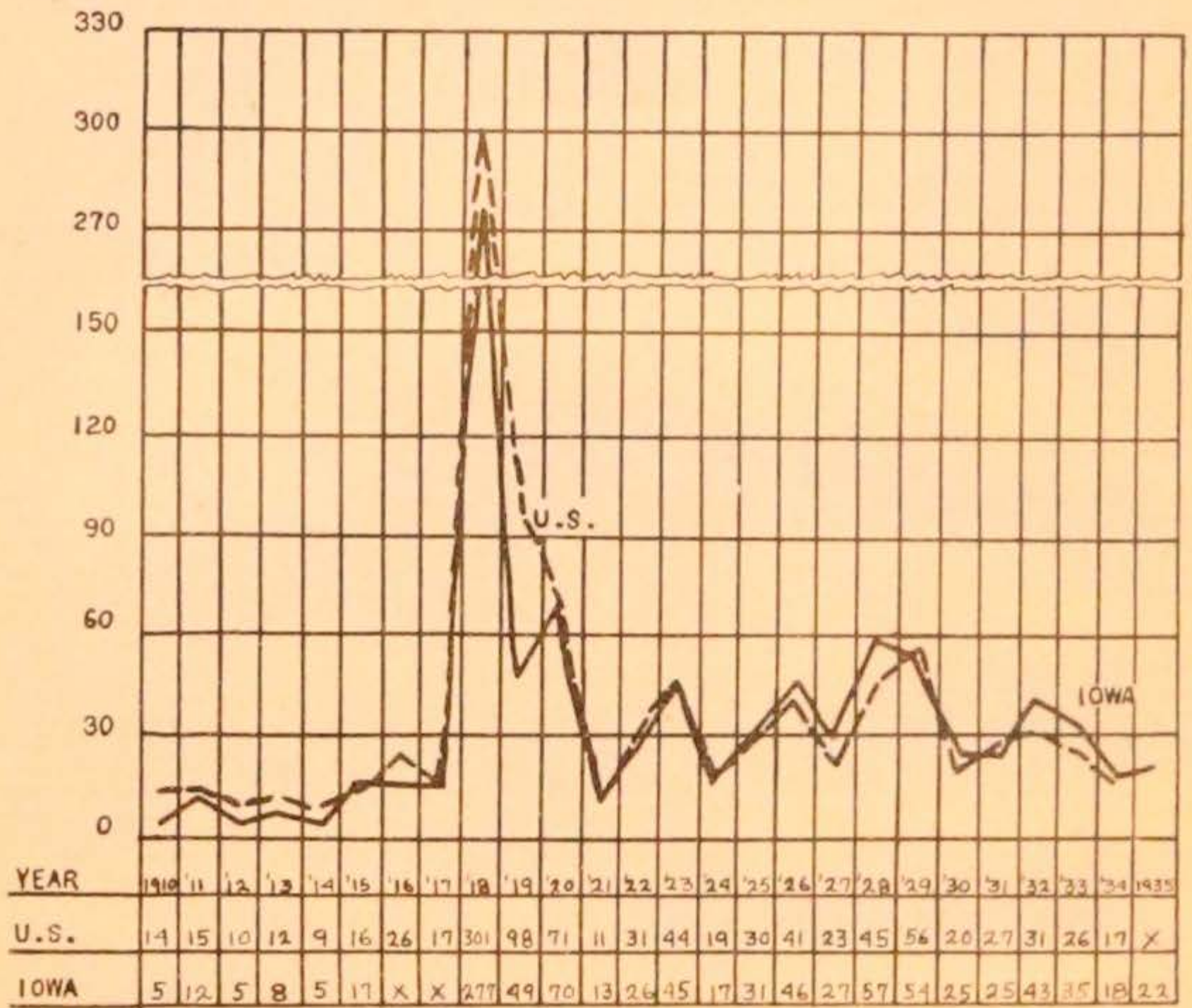
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	4	36.7	1	9.2	1	9.2
Boone.....	5	42.1	2	16.8	2	16.8
Burlington.....	8	29.4	4	14.7	9	33.1
Cedar Rapids.....	14	24.4	7	12.2	17	29.7
Clinton.....	12	46.2	2	7.7	1	3.8
Council Bluffs.....	26	60.2	8	18.5	9	20.8
Davenport.....	11	18.0	6	9.8	12	19.6
Des Moines.....	25	17.2	17	11.7	20	13.8
Dubuque.....	6	14.3			11	26.1
Fort Dodge.....	2	9.0	2	9.0	5	22.4
Fort Madison.....	3	21.3			3	21.3
Iowa City.....	7	43.8	4	25.0	4	25.0
Keokuk.....	7	46.1	5	32.9	4	26.3
Marshalltown.....	6	33.9	6	33.9	1	5.6
Mason City.....	5	20.9	2	8.4	3	12.6
Muscatine.....	14	82.8	12	71.0	10	59.2
Newton.....	1	8.1	4	32.3	5	40.3
Oskaloosa.....	8	78.4	4	39.2	4	39.2
Ottumwa.....	12	41.5	7	24.2	8	27.7
Sioux City.....	36	44.7	7	8.7	27	33.5
Waterloo.....	11	23.0	2	4.2	6	12.5
Urban.....	223	30.5	102	14.0	162	22.2

INFLUENZA

DEATH RATES—U. S. AND IOWA

1910-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS—PNEUMONIA (ALL FORMS) WITH RATES
(PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair	4	28.8	5	36.0	7	50.4
Adams	5	48.0	6	57.6	3	28.7
Allamakee	9	54.9	11	67.1	14	85.7
Appanoose	15	60.0	30	120.0	27	108.7
Audubon	5	40.5	2	16.3	4	32.6
Benton	15	65.6	17	74.8	15	65.6
Black Hawk	14	60.2	6	25.8	11	47.0
Boone	13	75.4	15	87.0	10	57.5
Bremer	8	46.4	11	63.8	12	70.2
Buchanan	9	45.9	13	66.3	16	81.8
Buena Vista	4	21.2	11	58.3	15	80.2
Butler	7	39.9	5	28.5	12	68.1
Calhoun	13	74.1	9	51.1	9	51.1
Carroll	32	142.2	30	132.0	32	142.2
Cass	8	41.3	9	46.8	16	82.5
Cedar	5	30.0	16	96.0	14	83.5
Cerro Gordo	3	19.8	7	46.2	5	32.9
Cherokee	24	127.2	23	121.9	45	238.1
Chickasaw	5	34.0	10	68.0	12	82.0
Clarke	6	57.6	10	96.4	5	48.2
Clay	6	37.2	8	49.6	13	80.2
Clayton	14	57.4	11	45.1	19	77.4
Clinton	7	37.8	10	54.0	12	64.9
Crawford	15	71.1	21	98.7	15	71.1
Dallas	22	85.8	20	78.0	21	82.0
Davis	5	45.0	2	18.0	17	152.5
Decatur	11	73.7	10	67.0	23	154.3
Delaware	15	82.5	9	49.7	18	99.3
Des Moines	3	26.4	4	35.2	7	61.4
Dickinson	6	54.0	6	54.0	5	45.0
Dubuque	2	10.2	7	35.7	14	71.4
Emmet	4	31.2	6	46.8	11	85.3
Fayette	25	85.0	20	68.0	16	54.9
Floyd	14	71.4	15	76.5	7	35.7
Franklin	3	18.3	8	48.8	7	42.4
Fremont	7	45.5	6	30.0	5	32.3
Greene	8	48.5	14	85.4	8	48.5
Grundy	6	42.6	5	35.5	5	35.4
Guthrie	13	75.4	11	63.8	24	138.5
Hamilton	17	79.9	6	28.2	14	66.0
Hancock	8	54.4	2	13.6	11	74.3
Hardin	13	57.2	10	48.6	20	87.2
Harrison	10	40.0	12	48.0	14	56.0
Henry	23	131.1	9	51.3	19	107.6
Howard	5	37.7	4	30.4	10	76.4
Humboldt	5	38.0	4	30.4	7	53.0
Ida	6	49.8	6	49.8	7	58.3
Iowa	11	63.8	16	92.8	14	80.8
Jackson	12	64.8	18	94.2	16	86.8
Jasper	7	32.9	11	51.7	16	74.8
Jefferson	10	61.6	16	109.8	5	30.8
Johnson	4	26.8	9	60.3	11	73.8
Jones	8	41.6	10	52.0	13	67.4
Keokuk	7	36.4	7	36.4	10	52.2
Kossuth	15	58.5	14	54.6	23	90.2

NUMBER OF DEATHS—PNEUMONIA (ALL FORMS) WITH RATES
 (PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935—Continued

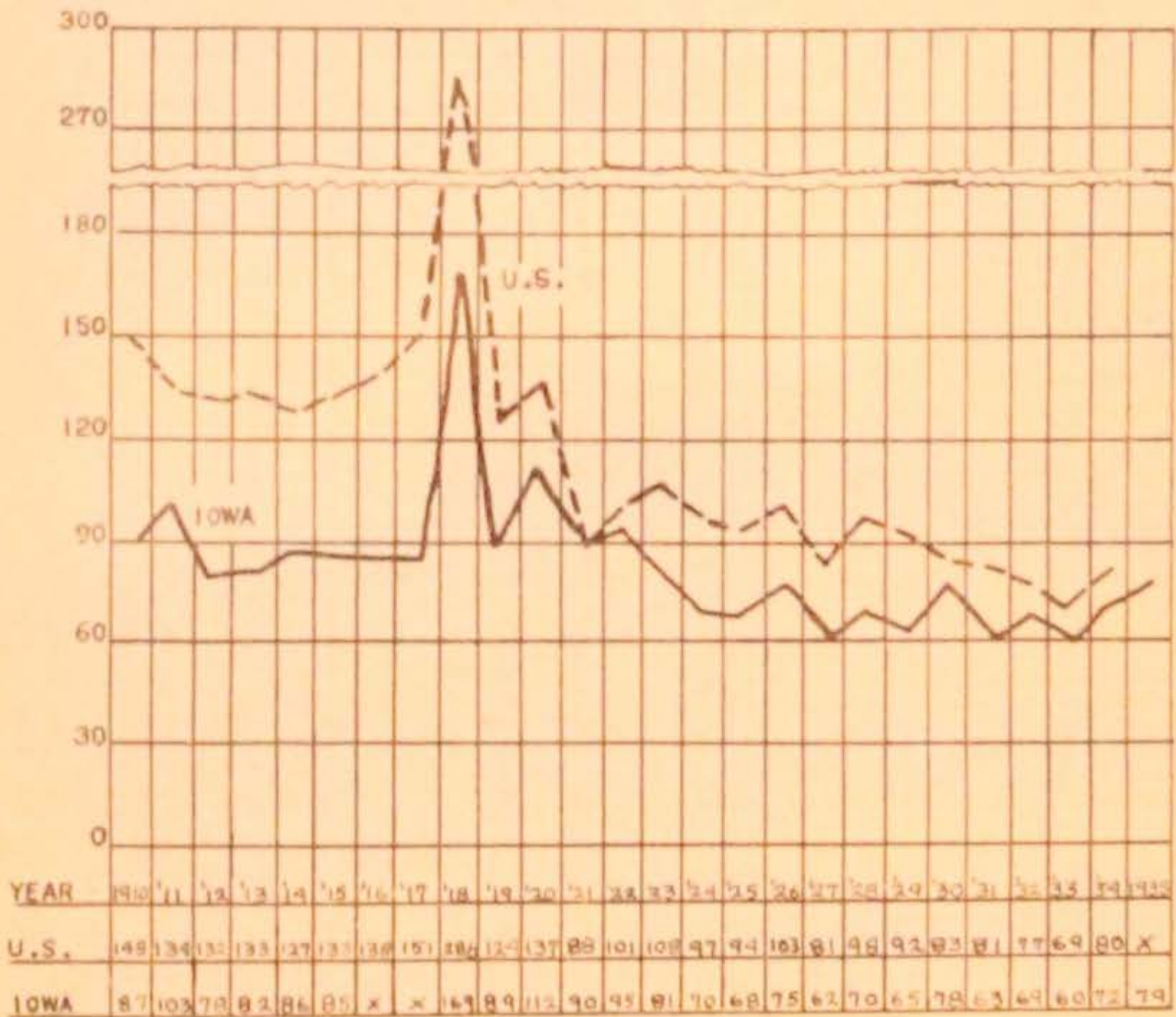
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee	12	96.4	5	41.0	13	106.6
Linn	17	64.5	12	45.6	9	34.0
Louisa	4	34.4	4	34.4	7	60.5
Lucas	7	46.2	4	26.4	9	59.5
Lyon	4	26.0	10	65.0	12	78.5
Madison	13	91.0	20	140.0	11	76.8
Mahaska	4	25.7	5	32.0	8	51.3
Marion	19	74.1	21	81.9	16	61.8
Marshall	8	49.4	9	55.8	8	49.4
Mills	11	69.3	16	100.8	9	56.6
Mitchell	5	35.5	9	63.9	6	42.6
Monona	6	32.4	21	113.4	16	87.0
Monroe	9	60.3	13	87.1	19	126.6
Montgomery	6	36.0	15	90.0	12	71.6
Muscatine	2	16.0	4	32.0	5	40.0
O'Brien	7	37.8	8	43.2	15	81.5
Osceola	3	29.4	4	39.2	8	78.6
Page	26	98.8	21	79.8	20	76.3
Palo Alto	3	19.5	12	78.0	3	19.5
Plymouth	11	45.1	9	36.9	16	65.8
Pocahontas	4	25.6	5	32.0	7	44.6
Polk	13	42.9	15	49.5	11	35.8
Pottawattamie	11	39.6	16	57.6	15	53.4
Poweshiek	14	74.2	15	80.1	15	80.1
Ringgold	8	67.2	8	67.2	12	100.3
Sac	7	39.2	15	84.0	8	45.2
Scott	11	66.0	10	60.0	8	48.0
Shelby	4	23.2	7	40.6	13	75.1
Sioux	13	48.1	18	66.6	17	63.2
Story	16	75.2	14	65.8	13	61.6
Tama	11	75.2	19	89.3	15	68.2
Taylor	7	47.1	9	60.3	7	47.1
Union	11	62.7	4	22.8	16	91.4
Van Buren	3	23.7	5	39.5	14	111.1
Wapello	2	16.6	7	58.1	9	75.0
Warren	7	39.2	8	45.2	2	11.3
Washington	8	40.0	10	50.0	21	105.9
Wayne	11	80.3	6	43.8	13	94.3
Webster	11	59.4	4	21.6	6	32.3
Winnebago	4	30.4	3	22.8	9	68.5
Winneshiek	11	50.6	10	46.0	9	41.6
Woodbury	9	39.6	17	74.8	8	35.1
Worth	9	81.0	7	62.7	7	62.7
Wright	4	19.6	6	29.4	5	24.7
Rural	937	53.5	1,053	60.2	1,223	69.8
Urban	545	74.5	734	100.4	741	101.4
State	1,482	59.7	1,787	72.0	1,964	79.1

NUMBER OF DEATHS—PNEUMONIA (ALL FORMS) WITH RATES
(PER 100,000 POPULATION) BY CITIES OVER 10,000
POPULATION—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	3	27.5	6	55.0	4	36.7
Boone.....	5	42.6	17	143.0	13	169.4
Burlington.....	17	62.5	19	69.9	25	91.9
Cedar Rapids.....	33	57.9	45	78.5	45	78.5
Clinton.....	23	88.5	24	92.3	36	138.5
Council Bluffs.....	30	69.0	45	104.2	44	101.9
Davenport.....	63	102.9	62	101.3	69	112.7
Des Moines.....	125	86.2	150	103.2	134	92.2
Dubuque.....	35	83.1	38	90.3	50	118.8
Fort Dodge.....	12	53.8	21	94.2	31	139.0
Fort Madison.....	7	49.6	17	120.6	10	70.9
Iowa City.....	55	343.7	56	350.0	61	381.3
Keokuk.....	5	32.9	23	151.3	18	118.4
Marshalltown.....	11	62.1	23	129.9	22	124.3
Mason City.....	12	50.6	21	87.9	16	66.9
Muscatine.....	7	41.4	8	47.3	20	118.3
Newton.....	5	40.3	7	56.5	5	40.3
Oskaloosa.....	5	49.1	6	58.8	13	127.5
Ottumwa.....	9	31.2	22	76.1	19	65.7
Sioux City.....	73	90.7	88	109.3	75	93.2
Waterloo.....	10	20.9	36	75.2	31	64.7
Urban.....	545	74.5	734	100.4	741	101.4

PNEUMONIA
DEATH RATES—U. S. AND IOWA
1910-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS—TUBERCULOSIS (ALL FORMS) WITH RATES
(PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair	2	14.4	5	36.0	1	7.2
Adams	2	19.2	1	9.6		
Allamakee	3	18.4	5	30.6	4	24.5
Appanoose	4	16.1	8	32.2	8	32.2
Audubon	2	16.3	2	16.3		
Benton	1	4.4	7	30.6	4	17.5
Black Hawk	1	4.3	5	21.4	2	8.5
Boone	6	34.5	8	46.0	7	40.3
Bremer	1	5.8	2	11.7		
Buchanan	13	66.5	3	15.3	15	76.7
Buena Vista	4	21.4	4	21.4	3	16.0
Butler	4	22.7	5	28.4	1	5.7
Calhoun	6	34.1	1	5.7	4	22.7
Carroll	3	13.3	3	13.3	3	13.3
Cass	4	20.6	2	10.3	3	15.5
Cedar	3	17.9	4	23.9	3	17.9
Cerro Gordo	1	6.6	2	13.2	1	6.6
Cherokee	12	63.5	19	100.5	19	100.5
Chickasaw	3	20.5	2	13.7		
Clarke	1	9.6	4	38.5	5	48.2
Clay	1	6.2	1	6.2	1	6.2
Clayton	6	24.4	3	12.2	3	12.2
Clinton	1	5.4	1	5.4		
Crawford	7	33.2	2	9.5	3	14.2
Dallas	3	11.7	3	11.7	1	3.9
Davis	1	9.0	1	9.0	5	41.8
Decatur	3	20.1	3	20.1	7	47.0
Delaware	1	5.5	4	22.1	2	11.0
Des Moines	1	8.8			1	8.8
Dickinson	1	9.0	1	9.0	2	18.0
Dubuque	1	5.1	1	5.1	1	5.1
Emmet	2	15.5	2	15.5	3	23.3
Fayette	5	17.2	5	17.2	11	37.7
Floyd	3	15.3	3	15.3	3	15.3
Franklin	1	6.1	3	18.2	3	18.2
Fremont	3	19.4			7	45.2
Greene	1	6.1	2	12.1	4	24.2
Grundy	1	7.1	1	7.1		
Guthrie	3	17.3				
Hamilton	3	14.2	4	18.9	3	14.2
Hancock	1	6.8	3	20.3		
Hardin	3	13.1	3	13.1	3	13.1
Harrison	2	8.0	4	16.0	3	12.0
Henry	14	79.3	19	107.6	17	96.3
Howard	6	38.2	2	15.3	1	7.6
Humboldt	4	30.3	1	7.6	1	7.6
Ida	2	16.7	1	8.3		
Iowa	1	5.8	5	28.8	8	46.2
Jackson	5	27.1	2	10.8	2	10.8
Jasper	2	9.3	2	9.3	2	9.3
Jefferson	2	12.3	3	18.5	3	18.5
Johnson	50	335.6	48	323.1	41	275.2
Jones	8	41.5	1	5.2	2	10.4
Keokuk	2	10.4	1	5.2	2	10.4
Kossuth	2	7.8	4	19.7	2	7.8

NUMBER OF DEATHS—TUBERCULOSIS (ALL FORMS) WITH RATES
 (PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935—Continued

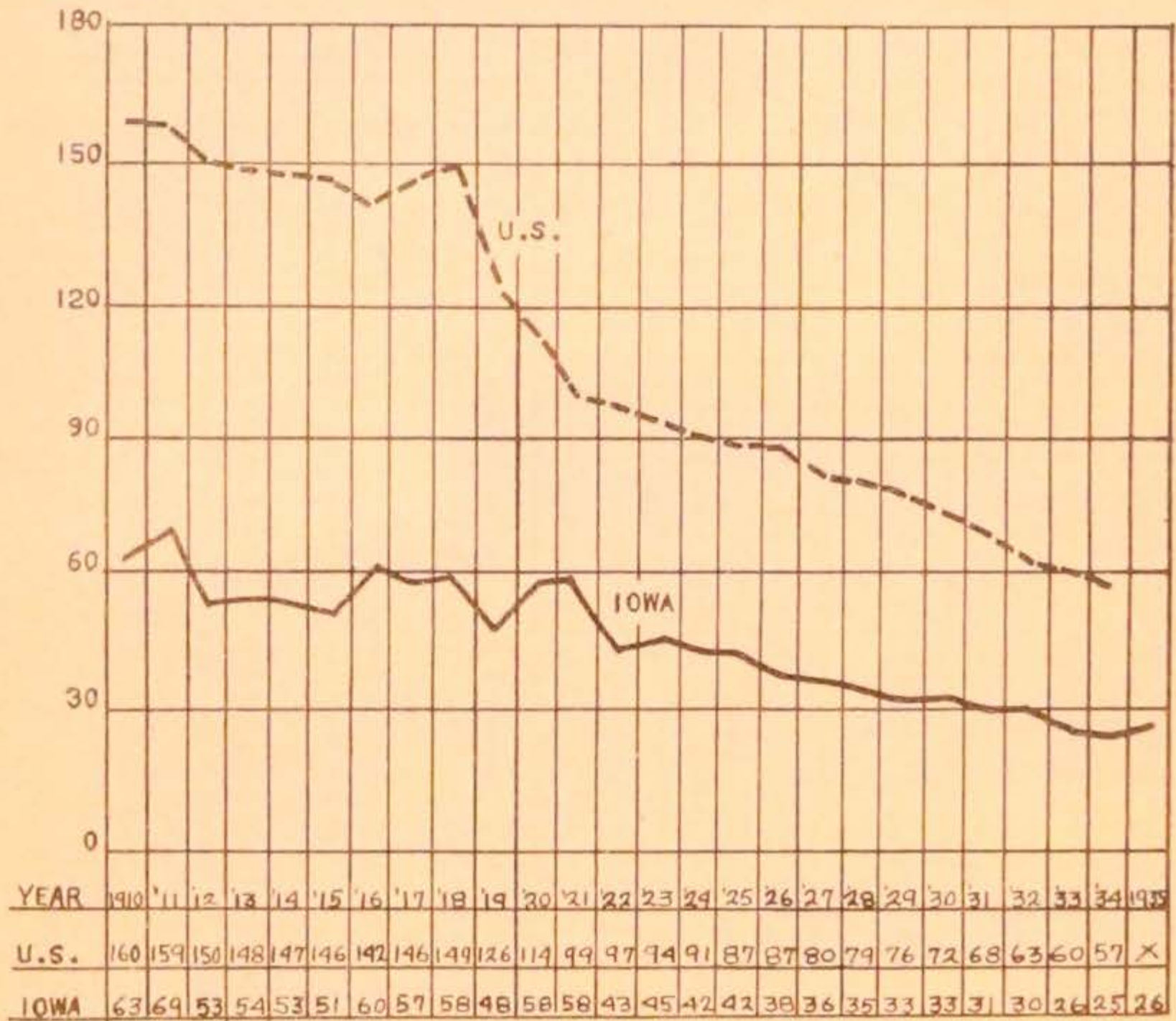
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee	1	8.2	1	8.2		
Linn	1	3.8	6	22.6	4	15.1
Louisa	1	8.6	3	23.9	3	25.9
Lucas	4	26.5	2	13.2	2	13.2
Lyon	2	13.1	3	19.6		
Madison	1	7.0	3	20.9	2	14.0
Mahaska	2	12.8	2	12.8	2	12.8
Marion	6	23.2	7	27.0	8	30.9
Marshall	1	6.2	1	6.2		
Mills	11	69.2	9	56.6	7	44.0
Mitchell	2	14.2	2	14.2	3	21.3
Monona	3	16.3	1	5.4	1	5.4
Monroe	4	26.6	1	6.7	2	13.3
Montgomery	2	11.9	3	17.9	1	6.0
Muscatine	1	8.0	2	16.0	2	16.0
O'Brien	2	10.9	1	5.4	1	5.4
Osceola	1	9.8	3	29.5	1	9.8
Page	16	61.1	17	64.9	17	64.9
Palo Alto	1	6.5				
Plymouth	8	32.9	5	20.6	5	20.6
Pocahontas	1	6.4	1	6.4		
Polk	1	3.3	6	19.5	3	9.8
Pottawattamie	2	7.1	3	10.7	1	3.6
Poweshiek	1	5.3			2	10.7
Ringgold	5	41.8	2	16.7	1	8.4
Sac	1	5.6				
Scott	6	35.9	3	18.0	1	6.0
Shelby	3	17.3	2	11.6	3	17.3
Sioux	1	3.7	3	11.2	3	11.2
Story	2	9.5	6	28.4	5	23.7
Tama	13	59.1	3	13.6	7	31.8
Taylor	2	13.5	2	13.5	4	26.9
Union	3	17.1	2	11.4	2	11.4
Van Buren	1	7.9	4	31.7	3	23.8
Wapello	20	166.7	15	125.0	27	225.0
Warren	2	11.3	3	16.9	5	28.2
Washington	3	15.1	1	5.0	4	20.2
Wayne	1	7.3	2	14.5	4	29.0
Webster	2	10.8	2	10.8	4	21.5
Winnebago	2	15.2	1	7.6	2	15.2
Winneshiek	9	41.6	3	13.9	8	37.0
Woodbury	5	21.9	4	17.5	4	17.5
Worth	1	9.0	2	17.9	3	26.9
Wright	3	14.8	2	9.9	6	29.6
Rural	387	22.1	377	21.5	398	22.4
Urban	267	36.5	243	33.2	263	36.0
State	654	29.3	620	24.9	656	26.4

NUMBER OF DEATHS—TUBERCULOSIS (ALL FORMS) WITH RATES
(PER 100,000 POPULATION) BY CITIES OVER
10,000 POPULATION—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	3	27.5			1	9.2
Boone.....	1	8.4	1	8.4	4	33.7
Burlington.....	12	44.1	9	33.1	7	25.7
Cedar Rapids.....	18	31.4	17	29.7	10	17.5
Clinton.....	8	30.8	8	30.8	7	26.9
Council Bluffs.....	8	18.5	11	25.5	15	34.7
Davenport.....	29	47.4	32	52.3	30	49.0
Des Moines.....	57	39.2	57	39.2	61	42.0
Dubuque.....	33	78.4	24	57.0	19	45.1
Fort Dodge.....	11	49.3	6	26.9	9	40.4
Fort Madison.....	3	21.3	2	14.2	5	35.5
Iowa City.....	22	137.5	26	162.5	19	118.8
Keokuk.....	8	52.6	8	52.6	4	26.3
Marshalltown.....	6	33.9	1	5.6	9	50.8
Mason City.....	4	16.7	4	16.7	13	54.4
Muscatine.....	6	35.5	4	23.7	4	23.7
Newton.....	2	16.1	2	16.1	1	8.1
Oskaloosa.....	3	29.4	1	9.8	3	29.4
Ottumwa.....	5	17.3	5	17.3	9	31.1
Sioux City.....	20	24.8	19	23.6	26	32.3
Waterloo.....	8	16.7	6	12.5	7	14.6
Urban.....	267	36.5	243	33.2	263	36.0

TUBERCULOSIS
DEATH RATES—U. S. AND IOWA
1910-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS—CANCER (ALL FORMS), WITH RATES (PER
100,000 POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair.....	17	122.4	13	93.6	12	86.4
Adams.....	5	47.9	9	86.2	8	76.7
Allamakee.....	18	119.2	32	196.0	27	165.4
Appanoose.....	23	92.6	30	120.4	22	88.6
Audubon.....	11	89.6	12	97.9	13	106.0
Benton.....	28	122.6	27	118.2	30	131.3
Black Hawk.....	19	81.2	28	119.7	18	76.9
Boone.....	16	92.1	9	51.8	13	74.8
Bremer.....	32	187.1	22	128.7	21	122.8
Buchanan.....	24	122.6	21	107.4	26	133.0
Buena Vista.....	13	69.5	21	112.3	26	139.0
Butler.....	27	153.3	17	96.5	24	136.2
Calhoun.....	24	136.3	19	107.9	20	113.6
Carroll.....	26	115.5	22	97.8	29	128.9
Cass.....	22	113.3	34	175.3	31	159.8
Cedar.....	19	113.4	17	101.4	22	131.3
Cerro Gordo.....	13	85.5	14	92.1	12	78.9
Cherokee.....	32	169.3	21	111.1	29	153.4
Chickasaw.....	23	157.1	19	139.8	20	136.6
Clarke.....	18	173.3	9	86.7	12	115.6
Clay.....	21	129.7	7	43.2	22	125.8
Clayton.....	28	114.8	38	158.7	35	142.5
Clinton.....	26	140.5	13	70.3	17	91.9
Crawford.....	21	99.5	16	75.8	29	137.4
Dallas.....	29	113.3	22	85.9	30	117.2
Dayle.....	12	107.6	15	134.5	15	134.5
Decatur.....	15	100.6	7	47.0	21	140.9
Delaware.....	22	121.4	15	82.8	20	110.4
Des Moines.....	7	61.2	14	122.8	5	43.9
Dickinson.....	10	90.1	14	126.1	15	135.1
Dubuque.....	16	81.6	12	61.2	12	61.2
Emmet.....	24	186.0	15	116.3	9	69.8
Fayette.....	31	106.4	40	137.2	30	102.9
Floyd.....	28	142.9	29	148.0	17	86.7
Franklin.....	15	90.9	23	129.4	23	129.4
Fremont.....	14	90.5	20	129.0	19	122.6
Greene.....	12	72.7	11	66.7	15	90.9
Grundy.....	10	70.8	13	92.0	12	84.9
Guthrie.....	18	103.9	21	121.2	28	161.6
Hamilton.....	30	141.5	29	136.8	26	122.6
Hancock.....	11	87.8	12	81.1	13	87.8
Hardin.....	24	104.6	33	143.8	23	100.2
Harrison.....	23	92.0	24	96.0	20	80.0
Henry.....	21	118.9	31	175.5	22	124.6
Howard.....	12	91.7	25	101.1	23	175.8
Humboldt.....	16	98.5	12	96.9	17	128.8
Ida.....	5	41.7	12	100.9	10	83.3
Iowa.....	13	75.0	19	109.6	23	122.7
Jackson.....	26	149.7	24	122.9	26	146.7
Jasper.....	24	112.1	17	79.4	22	102.8
Jefferson.....	19	117.0	10	61.6	17	104.7
Johnson.....	17	114.1	7	47.0	14	94.6
Jones.....	30	100.6	24	176.2	40	297.2
Keokuk.....	21	109.7	19	90.2	15	78.3
Kossuth.....	29	107.0	30	137.6	27	105.9

NUMBER OF DEATHS—CANCER (ALL FORMS), WITH RATES (PER
100,000 POPULATION) BY COUNTIES—1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee.....	16	131.1	4	32.8	16	131.1
Linn.....	29	109.4	33	124.5	29	109.4
Louisa.....	9	77.8	5	43.2	19	164.1
Lucas.....	24	158.8	20	132.3	29	191.9
Lyon.....	18	117.7	14	91.5	9	58.9
Madison.....	22	153.5	10	69.8	20	139.6
Mahaska.....	8	51.3	17	108.9	9	57.7
Marion.....	25	96.5	27	104.2	43	166.0
Marshall.....	22	135.8	14	86.4	14	86.4
Mills.....	9	56.6	14	88.1	5	50.3
Mitchell.....	28	198.6	11	78.0	19	134.8
Monona.....	24	130.4	19	103.3	28	152.2
Monroe.....	20	133.2	18	119.9	13	86.6
Montgomery.....	21	125.4	24	143.3	21	125.4
Muscataine.....	13	104.0	18	144.0	10	80.0
O'Brien.....	16	86.9	21	114.1	19	103.2
Osceola.....	6	58.9	14	137.5	14	137.5
Page.....	28	106.9	27	103.1	20	76.3
Palo Alto.....	15	97.4	13	84.4	15	97.4
Plymouth.....	28	115.2	34	139.9	30	123.5
Pocahontas.....	9	57.3	12	76.4	7	44.6
Polk.....	15	48.9	27	87.9	29	94.5
Pottawattamie.....	19	67.6	17	60.5	17	60.5
Poweshiek.....	20	106.8	20	106.8	31	165.5
Ringgold.....	9	75.2	19	158.8	12	100.3
Sac.....	23	129.9	23	129.9	24	135.6
Scott.....	18	107.8	20	119.8	9	53.9
Shelby.....	20	115.6	13	75.1	11	63.6
Sioux.....	20	74.3	23	85.5	35	130.1
Story.....	19	90.0	28	132.7	21	99.5
Tama.....	21	95.5	16	72.7	28	127.3
Taylor.....	26	175.0	17	114.4	15	100.9
Union.....	22	125.7	25	142.9	22	125.7
Van Buren.....	17	134.9	13	103.2	15	119.0
Wapello.....	18	150.0	15	125.0	16	133.3
Warren.....	18	101.7	15	84.7	28	158.2
Washington.....	23	116.0	25	126.1	23	116.0
Wayne.....	18	120.6	23	166.8	12	87.0
Webster.....	17	91.4	17	91.4	19	102.2
Winnebago.....	16	121.7	12	91.3	13	98.9
Winneshiek.....	28	129.4	19	87.8	19	87.8
Woodbury.....	17	74.6	13	57.0	13	57.0
Worth.....	9	80.6	11	98.5	11	98.5
Wright.....	29	143.5	20	98.9	20	98.9
Rural.....	1,908	108.1	1,879	107.3	1,962	112.1
Urban.....	1,127	154.2	1,242	169.9	1,270	173.7
State.....	3,035	122.3	3,121	125.6	3,232	130.2

NUMBER OF DEATHS—CANCER (ALL FORMS), WITH RATES (PER
100,000 POPULATION) BY CITIES OVER 10,000
POPULATION—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	7	64.2	14	128.4	20	183.5
Boone.....	19	159.9	25	210.3	23	193.5
Burlington.....	50	183.8	47	172.8	52	191.2
Cedar Rapids.....	81	141.4	93	162.3	71	123.9
Clinton.....	49	188.5	40	153.8	49	188.5
Council Bluffs.....	56	129.6	64	148.1	65	150.5
Davenport.....	88	143.8	95	155.2	100	163.4
Des Moines.....	190	130.8	220	151.4	220	151.4
Dubuque.....	65	154.4	81	192.4	103	244.7
Fort Dodge.....	32	143.5	33	148.0	36	161.4
Fort Madison.....	13	92.2	18	127.7	19	134.8
Iowa City.....	116	725.0	119	743.8	135	843.8
Keokuk.....	29	190.8	25	164.5	32	210.5
Marshalltown.....	29	163.8	25	141.2	33	186.4
Mason City.....	24	100.4	29	121.3	23	96.2
Muscatine.....	32	189.3	48	284.0	73	432.0
Newton.....	7	56.5	15	121.0	12	96.8
Oskaloosa.....	20	196.1	18	176.5	17	166.7
Ottumwa.....	46	159.2	38	131.5	35	121.1
Sioux City.....	125	155.3	131	162.7	102	126.7
Waterloo.....	49	102.3	64	133.6	50	104.4
Urban.....	1,127	154.2	1,242	169.9	1,270	173.7

CANCER

DEATH RATES—U. S. AND IOWA

1910-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS—DISEASES OF THE HEART, WITH RATES
(PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair.....	18	136.8	25	180.0	29	208.8
Adams.....	15	143.8	29	277.9	20	191.6
Allamakee.....	45	275.5	43	263.3	39	238.9
Appanoose.....	55	220.0	70	280.0	47	189.2
Audubon.....	17	138.5	24	195.5	22	179.4
Benton.....	47	205.8	49	214.6	60	262.6
Black Hawk.....	50	213.8	45	192.4	53	226.5
Boone.....	36	207.2	37	213.0	35	201.3
Bremer.....	44	257.2	49	286.4	38	222.2
Buchanan.....	68	347.8	55	280.5	64	327.4
Buena Vista.....	23	122.9	29	154.7	36	192.5
Butler.....	42	238.5	37	210.1	38	215.7
Calhoun.....	32	181.8	41	232.9	41	232.9
Carroll.....	47	208.8	45	199.8	44	195.4
Cass.....	47	212.4	65	335.2	46	237.1
Cedar.....	28	167.2	36	214.9	30	179.0
Cerro Gordo.....	23	151.4	25	164.6	30	197.4
Cherokee.....	42	222.2	53	280.5	48	254.0
Chickasaw.....	32	218.5	35	239.0	34	232.3
Clarke.....	24	231.1	27	259.9	24	231.1
Clay.....	37	228.5	36	222.3	30	185.2
Clayton.....	48	195.4	52	211.8	46	187.3
Clinton.....	34	183.8	39	210.8	44	237.8
Crawford.....	39	184.7	25	118.3	33	156.4
Dallas.....	49	191.4	56	218.7	61	238.3
Davis.....	30	269.2	38	340.9	31	278.0
Decatur.....	31	208.0	37	248.2	27	181.2
Delaware.....	35	193.1	41	226.2	41	226.2
Des Moines.....	25	219.4	23	200.8	21	184.2
Dickinson.....	25	203.9	26	205.8	32	288.3
Dubuque.....	26	132.6	32	163.3	31	158.2
Emmet.....	21	162.9	27	209.5	19	147.3
Fayette.....	52	178.3	71	243.5	64	219.6
Floyd.....	33	168.4	46	234.7	61	311.2
Franklin.....	29	175.9	32	194.1	22	133.3
Fremont.....	46	296.9	25	161.5	32	206.5
Greene.....	36	218.3	25	151.7	20	121.2
Grundy.....	31	219.4	18	127.5	27	191.0
Guthrie.....	37	213.7	40	231.9	54	311.7
Hamilton.....	36	169.8	38	179.2	39	184.0
Hancock.....	20	135.1	24	162.3	16	108.1
Hardin.....	44	191.9	46	196.2	47	204.8
Harrison.....	51	204.0	35	140.0	45	180.0
Henry.....	55	254.9	58	328.8	62	351.1
Howard.....	30	229.3	34	259.7	25	191.1
Humboldt.....	17	128.8	21	159.2	29	219.7
Ida.....	20	166.6	22	183.2	24	200.0
Iowa.....	25	144.3	36	207.8	31	178.9
Jackson.....	41	221.8	49	275.1	53	286.8
Jasper.....	32	149.5	36	168.3	38	177.6
Jefferson.....	34	209.5	36	221.8	45	277.1
Johnson.....	22	147.6	32	214.7	35	234.9
Jones.....	42	218.4	40	207.3	36	186.5
Keokuk.....	42	219.3	42	219.3	40	208.9
Kossuth.....	42	164.6	38	148.9	31	121.6

NUMBER OF DEATHS—DISEASES OF THE HEART, WITH RATES
 (PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935—Continued

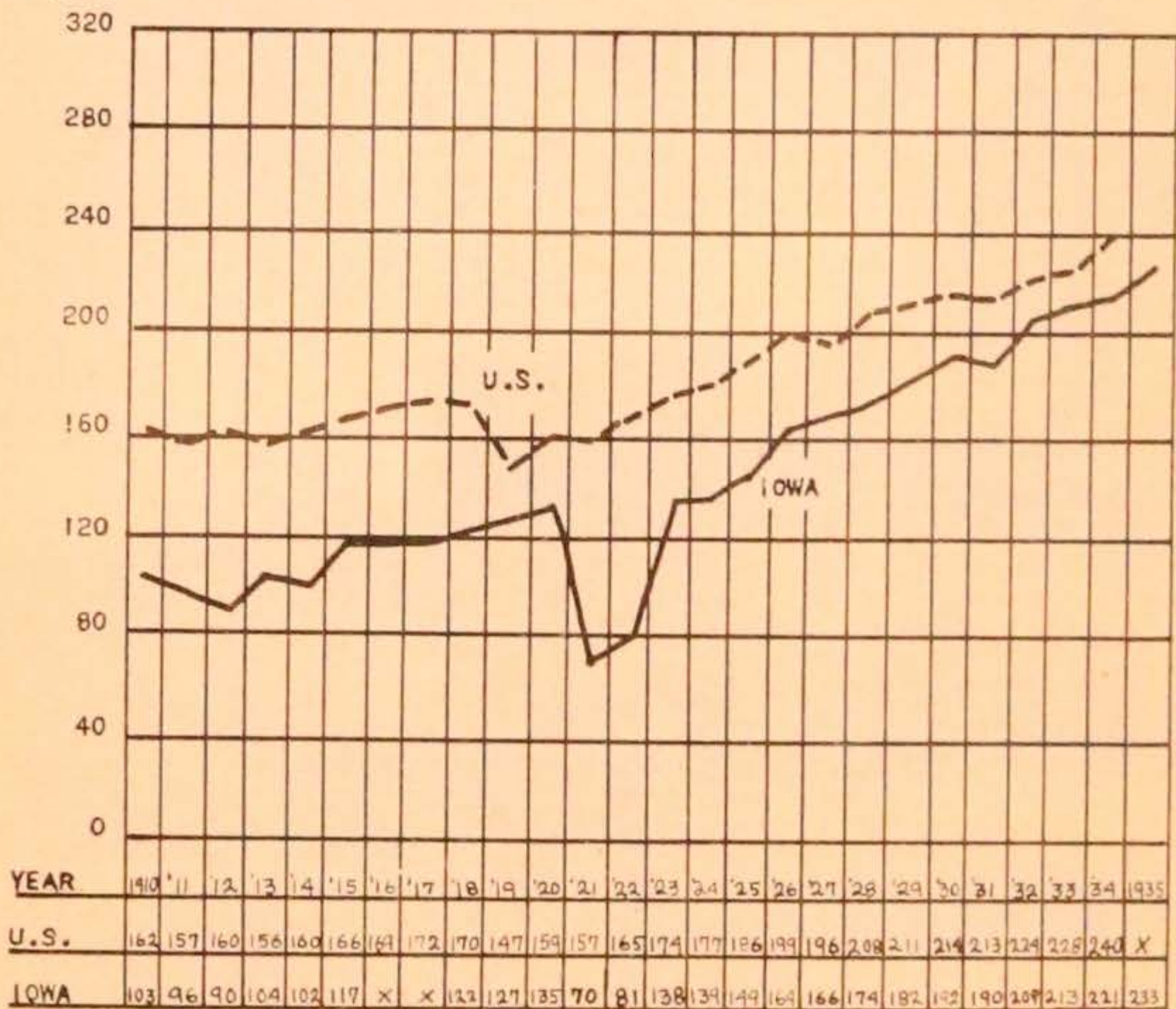
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee.....	27	221.3	35	286.9	35	286.9
Linn.....	60	226.5	83	298.1	83	313.2
Louisa.....	22	189.9	18	155.4	20	172.8
Lucas.....	46	304.3	32	205.0	35	231.6
Lyon.....	34	222.2	29	130.7	22	156.4
Madison.....	34	257.2	49	279.2	34	237.2
Mahaska.....	30	192.2	31	198.6	29	199.9
Marion.....	49	189.2	51	197.9	48	185.2
Marshall.....	28	172.9	30	185.2	22	135.8
Mills.....	29	182.4	36	226.4	32	201.2
Mitchell.....	37	292.4	23	141.8	22	166.1
Monona.....	32	173.8	25	179.2	26	141.2
Monroe.....	22	213.2	21	141.0	29	196.2
Montgomery.....	50	228.5	53	216.5	48	286.5
Muscatine.....	30	240.9	39	312.9	37	286.9
O'Brien.....	25	196.9	24	139.3	23	179.2
Oceola.....	18	176.8	21	206.2	22	225.9
Page.....	48	183.2	39	199.8	47	179.4
Palo Alto.....	29	129.9	25	162.4	21	136.4
Plymouth.....	49	201.6	66	272.2	47	172.8
Pocahontas.....	22	149.2	22	149.2	24	152.9
Polk.....	51	166.3	28	91.2	46	149.8
Pottawattamie.....	27	96.2	69	213.6	24	192.2
Poweshiek.....	41	218.8	47	259.9	39	169.2
Ringgold.....	29	242.5	29	242.5	25	298.9
Sac.....	44	248.4	27	152.4	36	299.4
Scott.....	47	281.5	42	251.5	36	213.6
Shelby.....	28	219.7	32	199.8	27	156.1
Sioux.....	46	179.9	27	127.5	41	122.4
Story.....	42	196.9	44	298.4	28	274.9
Tama.....	48	218.9	43	195.2	22	145.2
Taylor.....	21	208.6	24	228.7	28	188.4
Union.....	45	292.8	27	211.4	47	269.6
Van Buren.....	34	269.7	24	289.7	26	285.6
Wapello.....	27	224.9	37	268.2	29	241.7
Warren.....	49	225.8	34	195.9	48	271.2
Washington.....	45	231.9	28	141.1	49	301.6
Wayne.....	27	156.8	29	217.7	26	188.6
Webster.....	22	172.1	24	129.1	26	129.8
Winneshago.....	21	129.8	15	114.1	22	296.2
Winneshiek.....	45	296.9	50	221.2	39	272.8
Woodbury.....	28	166.7	32	144.8	45	197.4
Worth.....	31	277.8	24	215.1	12	116.4
Wright.....	45	212.6	48	257.2	37	185.6
Rural.....	3,548	202.6	3,967	209.4	3,613	207.6
Urban.....	1,722	226.9	1,842	224.9	2,125	254.8
State.....	5,270	212.7	5,809	221.4	5,738	225.2

NUMBER OF DEATHS—DISEASES OF THE HEART, WITH RATES
(PER 100,000 POPULATION) BY CITIES OVER 10,000
POPULATION—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	9	82.6	17	156.0	24	220.2
Boone.....	26	218.7	37	311.3	38	319.7
Burlington.....	68	250.0	90	330.9	99	364.0
Cedar Rapids.....	136	237.3	156	272.3	157	274.0
Clinton.....	61	234.6	65	250.0	80	307.7
Council Bluffs.....	108	250.0	91	210.6	123	284.7
Davenport.....	130	212.4	162	264.7	205	335.0
Des Moines.....	301	207.2	322	221.6	430	295.9
Dubuque.....	125	206.9	143	339.7	129	306.4
Fort Dodge.....	47	210.8	58	260.1	45	201.8
Fort Madison.....	42	207.9	28	198.6	48	340.4
Iowa City.....	80	500.0	87	543.8	95	593.8
Keokuk.....	51	348.7	51	335.5	43	282.9
Marshalltown.....	68	384.2	42	237.3	65	367.2
Mason City.....	59	246.9	62	259.4	64	267.8
Muscatine.....	45	266.3	49	289.9	60	355.0
Newton.....	26	209.7	16	129.0	30	241.9
Oskaloosa.....	26	254.8	34	333.3	37	362.7
Ottumwa.....	69	238.8	63	218.0	92	318.3
Sioux City.....	167	207.5	173	214.9	191	237.3
Waterloo.....	86	179.5	96	200.4	100	208.8
Urban.....	1,732	296.9	1,842	251.9	2,155	294.8

DISEASES OF THE HEART
DEATH RATES—U. S. AND IOWA
1910-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS—AUTOMOBILE ACCIDENTS, WITH RATES
(PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair	3	21.6	2	14.4		
Adams	3	28.8	1	9.6	2	19.2
Allamakee	3	18.3	6	26.6	6	36.6
Appanoose	2	8.0	5	20.0	11	44.0
Audubon	1	8.1	2	16.2	4	32.4
Benton	3	13.2	8	35.2	4	17.6
Black Hawk	5	21.5	5	21.5	4	17.2
Boone	1	5.8	3	17.4	3	17.4
Bremer	12	69.6	5	29.0	9	52.2
Buchanan	3	15.3	1	5.1	4	20.4
Buena Vista	6	31.8	5	26.5	8	47.4
Butler	2	11.4	3	17.1	1	5.7
Calhoun	4	22.8	2	11.4	3	17.9
Carroll	6	26.4	10	44.0	14	61.6
Cass	7	36.4	3	15.6	3	15.6
Cedar	1	6.0	1	6.0	3	18.0
Cerro Gordo	2	13.2	3	19.8	3	19.8
Cherokee	2	10.6	4	21.2	2	10.6
Chickasaw	1	6.8	3	20.4		
Clarke	2	19.2	6	57.6	3	28.8
Clay	5	31.0	2	12.4	6	37.2
Clayton	4	16.4	1	4.4		
Clinton	1	5.4	5	27.0	1	5.4
Crawford	5	23.5	4	18.8	2	9.4
Dallas	6	23.4	5	19.5	4	14.6
Davis	2	18.0			3	27.0
Decatur	3	20.1	4	26.8	6	40.2
Delaware	2	11.0	3	16.5	3	16.5
Des Moines	1	8.8	1	8.8	1	8.8
Dickinson	1	9.0	3	27.0	2	18.0
Dubuque	2	10.2	4	20.4		
Emmet	2	15.6	2	15.6	3	23.4
Fayette	6	20.4	3	10.2	7	23.8
Floyd	3	15.1	2	10.2	2	10.2
Franklin	3	18.3	1	6.1	1	6.1
Fremont	6	39.0	4	26.0	3	19.5
Greene	1	6.1	3	18.3	1	6.1
Grundy	2	14.2	2	14.2	2	14.2
Guthrie	1	5.8	1	5.8	3	17.4
Hamilton	4	18.8	5	23.5	6	28.2
Hancock	3	20.4	2	13.6	1	6.8
Hardin	9	39.6	1	4.4	7	30.8
Harrison	4	16.0	3	12.0	2	8.0
Henry	3	17.1	2	11.4	2	11.4
Howard	4	30.4	7	53.2	1	7.6
Humboldt	2	15.2	2	15.2	1	7.6
Ida	5	41.5	5	41.5	2	16.6
Iowa	3	17.4	5	29.0	5	29.0
Jackson			2	10.8	2	10.8
Jasper	2	9.4	6	28.2	4	18.8
Jefferson	3	18.6	4	24.8	3	18.6
Johnson	2	13.4	1	6.7	2	13.4
Jones	2	10.4	5	26.0	5	26.0
Keokuk	1	5.2	3	15.6	1	5.2
Kossuth	3	11.7	7	27.3	12	46.8

NUMBER OF DEATHS—AUTOMOBILE ACCIDENTS, WITH RATES
 (PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee	1	8.2	3	24.6	2	16.4
Linn	6	22.8	2	7.6	2	7.6
Louisa			2	17.2		
Lucas	3	19.8	3	19.8	4	26.4
Lyon	2	13.0	2	13.0	3	19.5
Madison	1	7.0	2	14.0	8	56.0
Mahaska	3	19.2	3	19.2	1	6.4
Marion	2	7.8	5	19.5	6	23.4
Marshall	3	18.6	5	31.0	3	18.6
Mills			1	6.3	3	18.9
Mitchell	2	14.2	1	7.2	2	14.2
Monona	4	21.6	4	21.6	6	32.4
Monroe	2	13.4	5	33.5	8	53.6
Montgomery	2	12.0	2	12.0	8	48.0
Muscatine	3	24.0	5	40.0	2	16.0
O'Brien	4	21.6	3	16.2	2	10.8
Osceola					8	88.2
Page	5	19.0	5	19.0	4	15.2
Palo Alto	1	6.5	2	13.0	1	6.5
Plymouth	7	28.7	7	28.7	7	28.7
Pocahontas	2	12.8	1	6.4	5	26.0
Polk	9	29.7	5	16.5	6	19.8
Pottawattamie	3	10.8	5	18.0	2	7.2
Poweshiek	4	21.2	2	10.6	3	15.9
Ringgold	1	8.4			1	8.4
Sac	5	28.0	3	16.8	6	33.6
Scott	2	12.0	4	24.0	5	30.0
Shelby	1	5.8	1	5.8	4	23.2
Sioux	3	11.1	2	7.4	3	11.1
Story	7	32.9	2	9.4	4	18.4
Tama	5	22.5	5	22.5	2	9.0
Taylor	1	6.7	1	6.7	1	6.7
Union	10	57.0	5	28.5	4	22.8
Van Buren	1	7.9	1	7.9		
Wapello	2	16.6	2	16.6	2	16.6
Warren	3	16.8	4	22.4	7	39.2
Washington	6	30.0	5	25.0	3	15.0
Wayne	1	7.3	2	14.6		
Webster					2	10.8
Winnebago	2	15.2	2	15.2	1	7.6
Winneshiek	2	9.2	5	23.0	1	4.6
Woodbury	2	8.8	1	4.4	2	8.8
Worth			5	45.0	1	9.0
Wright			3	14.7	4	19.6
Rural	289	16.6	316	18.0	342	19.5
Urban	225	30.8	215	29.5	218	29.8
State	514	20.7	531	21.4	560	22.5

NUMBER OF DEATHS—AUTOMOBILE ACCIDENTS, WITH RATES
(PER 100,000 POPULATION) BY CITIES OVER 10,000
POPULATION—1933-1934-1935

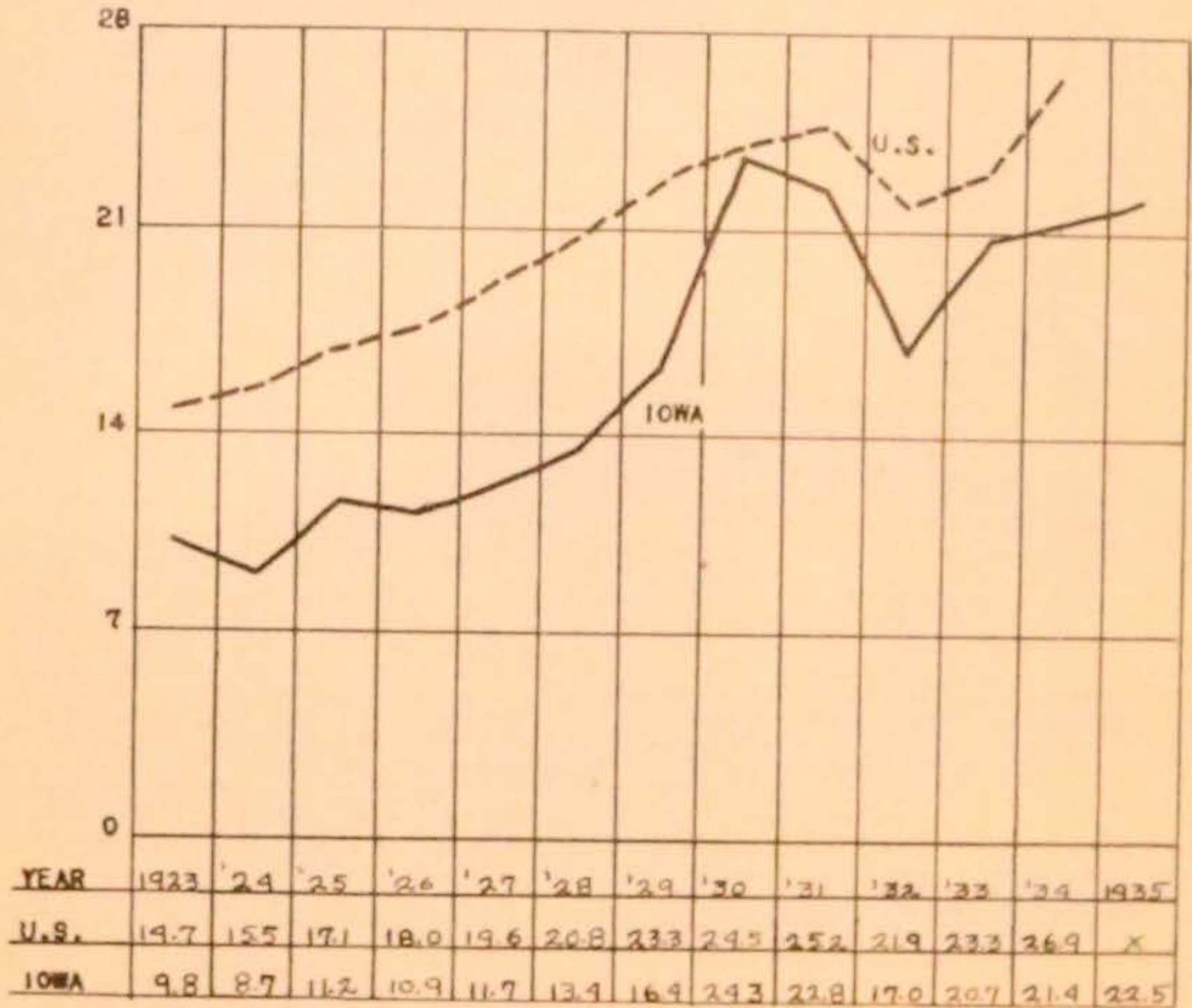
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	3	27.6	2	18.4	1	9.2
Boone.....	3	25.2	2	16.8	5	42.0
Burlington.....	9	33.3	4	14.8	5	18.5
Cedar Rapids.....	18	30.6	22	37.4	18	30.6
Clinton.....	4	15.2	6	22.8	7	26.6
Council Bluffs.....	12	27.6	17	39.1	15	34.5
Davenport.....	17	27.2	16	25.6	12	19.2
Des Moines.....	43	30.1	44	30.8	53	37.1
Dubuque.....	10	24.0	12	28.8	7	16.8
Fort Dodge.....	8	36.0	11	49.5	18	81.0
Fort Madison.....	3	21.3	1	7.1	2	14.2
Iowa City.....	10	61.0	6	37.8	8	50.4
Keokuk.....	6	39.6	2	13.2	6	39.6
Marshalltown.....	4	22.4	4	22.4	4	22.4
Mason City.....	11	46.2	9	37.8	7	29.4
Muscatine.....	2	11.8	1	5.9	5	29.5
Newton.....	3	24.3	4	32.4	4	32.4
Oskaloosa.....	3	29.4	4	39.2		
Ottumwa.....	7	24.5	11	38.5	16	56.0
Sioux City.....	24	40.8	30	50.0	17	29.4
Waterloo.....	15	31.5	7	14.7	8	16.8
Urban.....	225	30.8	215	29.5	218	29.8

AUTOMOBILE ACCIDENTS

U. S. AND IOWA

1923-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS—ACCIDENTS (ALL FORMS), WITH RATES
(PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair.....	9	64.8	7	50.4	3	21.6
Adams.....	7	67.2	8	76.8	6	57.5
Allamakee.....	15	91.5	16	97.6	17	104.1
Appanoose.....	7	28.0	16	64.0	36	145.0
Audubon.....	5	40.5	7	56.7	6	48.9
Benton.....	16	70.4	21	92.4	19	83.1
Black Hawk.....	15	64.5	11	47.3	16	68.4
Boone.....	11	63.8	12	69.6	9	51.8
Bremer.....	18	104.4	20	116.0	17	99.4
Buchanan.....	9	45.9	8	40.8	19	97.2
Buena Vista.....	15	79.5	18	95.4	12	64.2
Butler.....	9	51.3	11	62.7	5	28.4
Calhoun.....	8	45.6	10	57.0	12	68.2
Carroll.....	16	70.4	26	114.4	29	128.9
Cass.....	19	98.8	17	88.4	9	46.4
Cedar.....	7	42.0	12	72.0	8	47.7
Cerro Gordo.....	6	39.6	9	59.4	5	32.9
Cherokee.....	13	68.9	14	74.2	16	84.7
Chickasaw.....	5	34.0	7	47.6	7	47.8
Clarke.....	7	67.2	18	173.4	9	86.7
Clay.....	11	68.2	6	37.2	12	74.1
Clayton.....	16	65.6	15	61.5	17	69.2
Clinton.....	6	32.4	16	86.4	8	43.2
Crawford.....	8	37.6	17	79.9	13	61.6
Dallas.....	17	66.3	23	50.7	18	70.3
Davis.....	4	36.0	7	63.0	9	80.7
Decatur.....	8	53.6	16	107.2	17	114.1
Delaware.....	8	44.0	13	71.5	9	49.7
Des Moines.....	8	70.4	6	52.8	3	26.3
Dickinson.....	19	171.0	21	189.0	8	72.1
Dubuque.....	9	45.9	14	71.4	7	35.7
Emmet.....	9	69.8	10	78.0	9	69.8
Fayette.....	24	81.6	18	61.2	23	78.9
Floyd.....	7	35.7	15	76.5	9	45.9
Franklin.....	8	48.8	14	85.4	12	72.7
Fremont.....	13	84.5	16	104.0	9	58.1
Greene.....	4	24.4	17	42.7	6	36.4
Grundy.....	9	63.9	6	42.6	4	28.3
Guthrie.....	6	34.8	7	40.6	10	57.7
Hamilton.....	15	70.5	17	79.9	24	113.2
Hancock.....	8	54.4	8	54.4	6	40.5
Hardin.....	22	96.8	18	79.2	17	74.1
Harrison.....	12	48.0	10	40.0	11	44.0
Henry.....	15	82.5	14	79.8	11	62.3
Howard.....	15	114.0	17	129.2	5	38.2
Humboldt.....	6	45.6	8	60.8	9	68.2
Iaia.....	13	107.9	12	99.6	5	41.7
Iowa.....	12	69.6	19	110.2	9	51.9
Jackson.....	8	43.2	11	59.4	10	54.1
Jasper.....	6	28.2	14	65.8	10	46.7
Jefferson.....	13	80.0	17	105.4	13	80.0
Johnson.....	15	100.5	8	53.6	4	26.8
Jones.....	18	93.6	15	78.0	21	108.8
Keokuk.....	13	67.6	15	78.0	7	36.6
Kossuth.....	16	62.7	15	58.5	16	62.7

NUMBER OF DEATHS—ACCIDENTS (ALL FORMS), WITH RATES
(PER 100,000 POPULATION) BY COUNTIES—1933-1934-1935—Continued

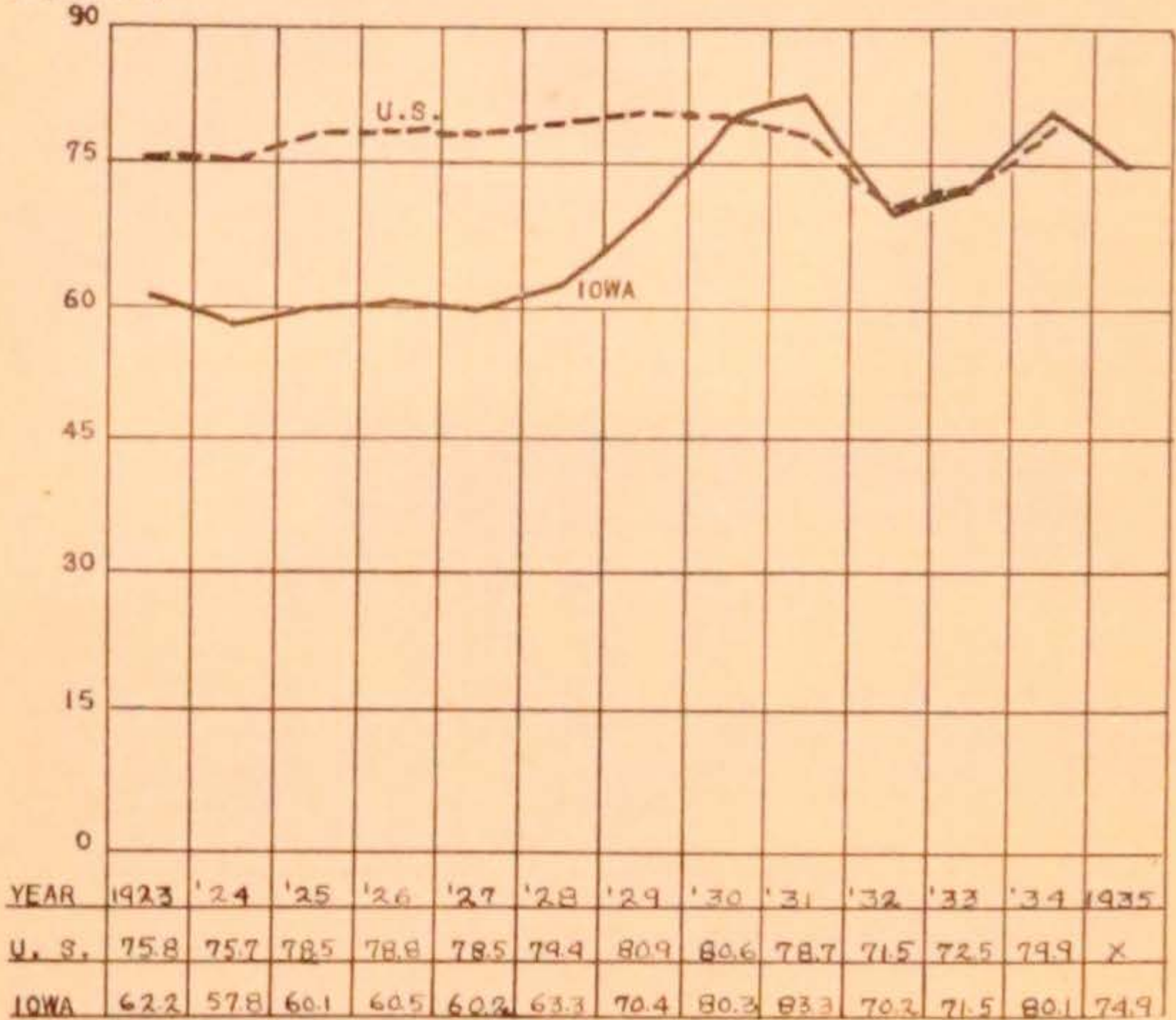
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee.....	9	73.8	13	106.6	11	90.2
Linn.....	23	87.4	13	49.4	10	37.7
Louisa.....	10	86.0	5	43.0	2	17.3
Lucas.....	6	39.6	12	79.2	13	86.0
Lyon.....	6	39.0	13	84.5	8	52.3
Madison.....	7	49.0	11	77.0	10	69.8
Mahaska.....	7	44.8	6	38.4	3	19.2
Marion.....	16	62.4	19	74.1	15	57.9
Marshall.....	10	62.0	10	62.0	6	37.0
Mills.....	6	37.8	10	63.0	8	50.3
Mitchell.....	11	78.1	12	85.2	6	42.6
Monona.....	11	59.4	7	37.8	10	54.3
Monroe.....	10	67.0	14	93.8	12	79.9
Montgomery.....	7	42.0	11	65.7	11	65.7
Muscatine.....	16	128.0	13	104.0	10	80.0
O'Brien.....	13	70.2	7	37.8	12	65.2
Osceola.....	4	39.2	4	39.2	16	157.1
Page.....	20	76.0	28	106.4	17	64.0
Palo Alto.....	11	71.5	9	58.5	8	52.0
Plymouth.....	15	61.5	17	69.7	26	107.0
Pocahontas.....	6	38.4	12	76.8	13	82.8
Polk.....	28	92.4	17	56.1	13	42.3
Pottawattamie.....	19	68.4	18	64.8	8	28.5
Poweshiek.....	17	90.1	16	84.8	5	26.7
Ringgold.....	5	41.8	6	50.4	5	41.8
Sac.....	12	67.2	8	44.8	13	73.4
Scott.....	8	48.0	13	77.8	13	77.8
Shelby.....	6	34.8	6	34.8	11	63.6
Sioux.....	10	37.0	17	63.2	17	63.2
Story.....	16	75.2	13	61.1	12	56.9
Tama.....	8	36.4	15	67.2	8	36.4
Taylor.....	8	53.6	7	46.9	6	40.4
Union.....	23	131.1	28	159.6	9	51.4
Van Buren.....	6	47.6	10	79.0	3	23.8
Wapello.....	10	83.0	11	91.3	7	58.3
Warren.....	10	56.0	14	78.4	16	90.4
Washington.....	18	90.0	14	70.0	10	50.4
Wayne.....	6	43.8	8	58.4	9	65.3
Webster.....	8	43.0	4	21.5	8	43.0
Winnebago.....	4	30.4	12	91.2	6	45.7
Winneshiek.....	8	36.8	15	69.0	13	60.1
Woodbury.....	12	52.8	14	61.6	9	39.5
Worth.....	5	44.8	11	99.0	5	44.8
Wright.....	9	44.5	13	63.7	18	89.0
Rural.....	1,098	62.7	1,279	73.0	1,092	62.4
Urban.....	677	92.6	711	97.3	773	105.7
State.....	1,775	71.5	1,990	80.1	1,865	75.1

NUMBER OF DEATHS—ACCIDENTS (ALL FORMS), WITH RATES
(PER 100,000 POPULATION) BY CITIES OVER 10,000
POPULATION—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	6	55.0	9	82.6	6	55.0
Boone.....	16	134.6	8	67.3	8	67.3
Burlington.....	29	106.6	31	114.0	36	132.4
Cedar Rapids.....	51	89.0	54	94.2	57	99.5
Clinton.....	20	76.9	23	88.5	40	153.8
Council Bluffs.....	40	92.6	45	104.2	48	111.1
Davenport.....	58	94.8	42	68.6	50	81.7
Des Moines.....	112	77.1	125	86.0	148	101.9
Dubuque.....	29	68.9	44	104.5	49	116.4
Fort Dodge.....	26	116.6	42	188.3	31	139.0
Fort Madison.....	15	106.4	11	78.0	13	92.2
Iowa City.....	38	237.5	34	212.5	33	206.3
Keokuk.....	21	138.2	19	125.0	20	131.6
Marshalltown.....	16	90.4	14	79.1	17	96.0
Mason City.....	20	83.7	30	125.5	23	96.2
Muscatine.....	17	100.6	17	100.6	15	88.8
Newton.....	9	72.6	7	56.5	11	88.7
Oskaloosa.....	10	98.0	12	117.6	9	88.2
Ottumwa.....	25	86.5	29	100.3	35	121.1
Sioux City.....	82	101.9	82	101.9	79	98.1
Waterloo.....	37	77.2	33	68.9	45	93.9
Urban.....	677	92.6	711	97.3	773	105.7

EXTERNAL VIOLENCE
DEATH RATES—U. S. AND IOWA
1923-1935

Death Rate
Per 100,000
Population



X - FIGURES NOT AVAILABLE

REPORT OF "REGISTER YOUR BABY" CAMPAIGN
STATE OF IOWA

The "Register Your Baby" Campaign in Iowa was inaugurated October 10, 1934, when Mr. Angus A. Acree representing the Federal Emergency Relief Administration, the Department of Commerce, Bureau of the Census, Washington, D. C., and Mr. R. L. McLaren, Director of the Division of Vital Statistics, State Department of Health, obtained an appropriation of thirty-two hundred dollars (\$3,200.00), later increased to thirty-seven hundred and one dollars (\$3,701.00) from the Iowa Emergency Relief Administration, and the Polk County Emergency Relief Commission.

APPROVAL

The project was assigned as S-F2-1103, and approved by George J. Keller, Chief Engineer for the Iowa Emergency Relief Administration and by E. H. Mulock, State Administrator for the FERA. Doctor Walter L. Bierring, State Commissioner of Public Health and Special Agent for the Department of Commerce, Bureau of the Census, also approved the project and Doctor Bierring was named Director of the Project and Mr. R. L. McLaren, Director of the Division of Vital Statistics, State Department of Health, was appointed project supervisor.

1. Purpose served by the project:

The purpose of the "Register Your Baby" Campaign was threefold

- (a) To test the efficiency of birth registration in Iowa
- (b) To provide employment
- (c) To instill in the parents of Iowa a birth registration consciousness

2. The groups sponsoring the project were:

- (a) Federal Emergency Relief Administration
- (b) The Department of Commerce, Bureau of the Census, Washington, D. C.
- (c) The Iowa Emergency Relief Administration
- (d) The Polk County Emergency Relief Administration
- (e) The Iowa State Department of Health

3. Name of Director of Project:

- (a) Dr. Walter L. Bierring, State Health Commissioner, and Special Agent, Department of Commerce, Bureau of the Census, Washington, D. C.

- (b) Robert L. McLaren, Director of the Division of Vital Statistics, State Department of Health, appointed Project Supervisor
- 4. Data obtained:
 - (a) Efficiency of birth registration in the State of Iowa for a period of thirteen months—September, 1933 to September, 1934, inclusive
- 5. Sources of Data:
 - (a) An information card was mailed to each family in Iowa. Approximately 650,000 cards were mailed to the families by the Department of Commerce, Bureau of the Census, Washington, D. C.
- 6. Geographic Area covered:
 - (a) State of Iowa
- 7. Persons investigated in Survey:
 - (a) Local Registrars
 - (b) Physicians
 - (c) Licensed Embalmers
- 8. Copies of questionnaires used:
 - (a) Local Registrars' Reports
 - (b) Physicians' Reports
 - (c) Licensed Embalmers' Reports
- 9. Number of copies of the questionnaires used:
 - (a) Local Registrars—840
 - (b) Physicians—3,200
 - (c) Licensed Embalmers—1,850
- 10. Cost divided, such as supervisory, salaries, supplies, etc.:
 - (a) Salaries—\$3,247.00
 - (b) Travel and subsistence—\$256.00
 - (c) Supplies, etc.—\$198.00
- 11. Types of personnel employed and their respective numbers:
 - (a) Publicity Director (1)
 - (b) Office Supervisor (1)
 - (c) Field Agents (9)
 - (d) Stenographers (2)
 - (e) Clerks (23)

12. Time employed:

- (a) Publicity Director worked 10 M W
- (b) Office Supervisors worked 13½ M W
- (c) Field Agents worked 6 M W
- (d) Stenographers worked 460 Hours Total
- (e) Clerks worked 1,600 Hours Total

Note—The stenographers and clerks worked staggered days—could not work less than 6 hours nor more than 8 hours per day. Number of hours per week were assigned according to number of dependents in family.

The stenographers and clerks were furnished from Polk County Relief rolls.

13. Provisions, if any, for tabulation and publication:

- (a) The State Department of Health will hold results of Campaign for its own use.
- (b) Copies of reports and results have been furnished Dr. T. F. Murphy, Chief Statistician for Vital Statistics, Department of Commerce, Bureau of the Census, Washington, D. C., who will no doubt publish the results of the "Register Your Baby" Campaign which is being conducted in approximately thirty (30) states of the United States.

14. Results of Campaign:

A total of 26,303 cards were received for check or approximately 67 per cent of cards for the births on file for 1933 (basis for computation) were returned. To date this is a very good sample compared with other states conducting the "Register Your Baby" Campaign.

Of these 26,303 cards, it was necessary to eliminate 3,010 cards on account of duplicates and cards for months not included in the campaign. After the 3,010 cards were eliminated a balance of 23,293 cards were used in the check. The number of births not found for the cards amounted to 1,656 thereby giving Iowa a deficiency rating of 7.11 per cent or a rate of 92.89 per cent efficient. A rating of 90 per cent is required for admission or remaining in the U. S. Registration Area.

REPORT "REGISTER YOUR BABY" CAMPAIGN
STATE OF IOWA

Co. No.	Lot Number 1				Lot Number 2				Lot Number 3				Grand Total				Co. No.
	1933 Total Found	1933 Not Found	1934 Total Found	1934 Not Found	1933 Total Found	1933 Not Found	1934 Total Found	1934 Not Found	1933 Total Found	1933 Not Found	1934 Total Found	1934 Not Found	1933-1934 Total Found	1933-1934 Not Found	Per Cent Deficiency	Per Cent Efficiency	
1 Adair	11		62		12		39	2	4	1	29		148	3	2.03	97.97	
2 Adams	7		59	6	11	1	17	4	3	1	15	4	92	16	17.39	82.61	
3 Allamakee	9		65		12	1	56	7	3		22	2	166	10	6.02	93.98	
4 Appanoose	26	3	109	5	19	2	82	4	9		41	4	286	18	6.29	93.71	
5 Audubon	12	2	45	1	9		28	2	4		17		115	5	4.35	95.65	
6 Benton	14		79	6	12	1	59		4		33	3	201	10	4.98	95.02	
7 Black Hawk	46	4	162	12	64	5	268	18	16	2	89	2	645	43	6.67	93.33	
8 Boone	10		51	7	24	1	101	4	9	2	53	1	248	15	6.05	93.95	
9 Bremer	18		63	15	11	1	59	5	4		35	2	190	23	12.11	87.89	
10 Buchanan	13	3	80	3	11		49	3	6		25	1	184	10	5.43	94.57	
11 Buena Vista	14	2	77	4	16	2	51	2	6	1	27	1	191	12	6.28	93.72	
12 Butler	24	3	70	10	7	1	41	5	4		29	5	175	24	13.71	86.29	
13 Calhoun	8		60	13	11	1	59	7	5	1	22	3	165	25	15.20	84.80	
14 Carroll	32	4	120	10	22	4	78	4	12	4	67	5	331	31	9.37	90.63	
15 Cass	8	1	85	5	10	2	60	3	6	1	35		204	12	5.88	94.12	
16 Cedar	12		42		6		30	6	3		19		112	6	5.36	94.64	
17 Cerro Gordo	33	1	128	21	28		163	4	11		73	2	436	28	6.42	93.58	
18 Cherokee	21	2	90	2	13		81	2	6		96	1	231	7	2.95	97.05	
19 Chickasaw	91		63	10	7	1	34	5	6	1	15	3	216	20	9.26	90.74	
20 Clarke	6		30	1	2		28		2		22		90	1	1.10	98.90	
21 Clay	9		62		12		43	1	6		29		161	1	0.62	99.38	
22 Clayton	19	1	91	7	8	1	62	4	12	4	33	4	225	21	9.33	90.67	
23 Clinton	35	4	161	19	23	1	109	12	5	2	70	6	400	44	11.00	89.00	
24 Crawford	19	3	97	15	12	2	73	10	11	2	37	9	249	41	16.47	83.53	
25 Dallas	16	3	73	8	15	3	57	8	4		27	3	192	24	12.50	87.50	
26 Davis	10		48	3	8		36	3	1		19	8	122	14	11.48	88.52	
27 Decatur	13		52	4	7	1	30	1	5		24	1	131	7	5.34	94.66	
28 Delaware	16	1	98	3	5		41	4	5		33	1	198	9	4.55	95.45	
29 Des Moines	31	1	116	7	43	4	132	10	16	1	65	4	403	27	6.69	93.31	
30 Dickinson	11		63	1	7		29	1	3		16		117	2	1.71	98.29	

31	Dubuque	60	3	243	17	46	2	269	12	20	4	70	7	648	52	8.02	91.08	31
32	Emmet	12	---	56	11	11	---	50	1	6	---	17	---	151	2	1.32	98.68	32
33	Fayette	29	4	116	10	15	2	74	12	6	1	40	2	280	31	11.07	88.93	33
34	Floyd	13	---	51	---	13	---	55	4	8	1	27	1	167	8	4.79	95.21	34
35	Franklin	7	1	60	3	13	---	43	1	6	---	26	2	155	7	4.52	95.48	35
36	Fremont	9	---	51	2	16	---	31	---	1	---	16	1	124	3	2.42	97.58	36
37	Greene	14	---	37	---	12	---	41	7	4	---	21	1	129	8	6.20	93.80	37
38	Grundy	14	---	45	---	8	---	31	2	1	1	10	---	169	3	2.75	97.25	38
39	Guthrie	14	1	59	6	14	1	69	9	10	---	16	3	182	20	10.99	89.01	39
40	Hamilton	15	2	102	6	11	1	51	3	8	2	22	---	219	14	6.39	93.61	40
41	Hancock	12	1	54	4	7	---	25	4	5	---	24	5	137	14	10.22	89.78	41
42	Hardin	24	1	51	4	8	1	65	6	10	---	35	---	223	12	5.38	94.62	42
43	Harrison	23	2	94	8	20	3	83	11	4	1	26	2	150	27	10.80	89.20	43
44	Henry	12	1	53	2	13	2	28	---	7	---	26	4	129	9	6.47	93.53	44
45	Howard	10	---	62	3	7	---	32	3	2	1	21	4	134	11	8.21	91.79	45
46	Humboldt	12	3	46	6	7	1	30	4	2	---	18	1	115	15	13.04	86.96	46
47	Ida	5	---	29	1	4	1	17	---	6	1	32	1	93	4	4.30	95.70	47
48	Iowa	16	---	55	2	11	---	45	4	4	---	20	2	153	8	5.23	94.77	48
49	Jackson	18	---	71	2	16	3	68	4	5	---	35	---	213	5	2.35	97.65	49
50	Jasper	22	1	74	5	28	2	106	11	11	---	49	2	290	21	7.24	92.76	50
51	Jefferson	14	2	70	5	5	---	26	1	3	---	15	2	142	10	7.04	92.96	51
52	Johnson	34	---	184	4	28	---	146	5	14	1	72	6	478	16	3.35	96.65	52
53	Jones	21	2	63	3	4	---	50	2	7	---	28	3	173	10	5.78	94.22	53
54	Keokuk	21	4	55	13	11	1	43	12	---	---	26	10	156	40	25.64	74.36	54
55	Kossuth	17	---	104	10	11	2	65	5	13	2	27	3	297	22	8.24	91.76	55
56	Lee	23	2	106	7	10	3	64	9	25	5	100	5	334	31	9.28	90.72	56
57	Linn	52	4	276	9	36	2	164	10	17	5	95	3	640	33	5.16	94.84	57
58	Louisa	8	---	45	14	7	---	44	12	2	---	92	4	128	30	23.44	76.56	58
59	Lucas	14	1	57	1	15	4	35	3	10	2	18	1	149	12	8.05	91.95	59
60	Lyon	16	---	61	9	14	4	43	11	6	3	21	3	161	30	18.63	81.37	60
61	Madison	6	---	54	4	11	1	47	4	5	---	26	2	149	11	7.38	92.62	61
62	Mahaska	22	---	82	7	17	2	65	8	4	1	42	3	232	21	9.05	90.95	62
63	Marion	23	1	86	5	17	2	62	12	3	---	37	1	228	21	9.21	90.79	63
64	Marshall	37	2	125	9	29	---	128	3	11	---	71	6	401	20	4.99	95.01	64
65	Mills	16	1	76	6	7	---	40	2	2	---	15	---	156	9	5.77	94.23	65
66	Mitchell	16	---	51	2	18	4	58	3	2	---	19	1	164	10	6.09	93.91	66
67	Monona	34	3	101	8	8	---	50	4	6	2	37	8	236	25	10.59	89.41	67
68	Monroe	14	2	81	1	4	---	24	1	2	---	20	2	145	6	4.14	95.86	68
69	Montgomery	22	3	62	---	11	---	36	2	7	1	14	---	162	6	3.70	96.30	69
70	Muscatine	28	---	106	9	11	---	78	3	7	1	26	2	256	15	5.86	94.14	70

REPORT "REGISTER YOUR BABY" CAMPAIGN—Continued

Co. No.	Lot Number 1			Lot Number 2			Lot Number 3			Grand Total			Per Cent Efficiency	Co. No.	
	1933 Total Found	1934 Not Found	1934 Total Found	1933 Total Found	1934 Not Found	1934 Total Found	1933 Total Found	1934 Not Found	1934 Total Found	1933-1934 Total Found	1933-1934 Not Found	Per Cent De-ficiency			
71	16		66	10		48	3		34	3	173	8	4.62	71	95.38
72	12		52	5		34	4		16		121	11	8.94	72	91.06
73	17		83	17		72	2		26		222	8	3.60	73	96.40
74	22		55	14		41	8		23	2	162	16	9.88	74	90.12
75	22		84	15		57	1		58	7	247	17	6.88	75	93.12
76	11		52	9		52	8		27	5	154	24	15.58	76	84.42
77	104		419	83		386	23		188	6	1,229	53	4.34	77	95.66
78	52		205	38		202	10		100	7	612	29	4.74	78	95.26
79	14		55	20		72	2		27	6	193	16	8.29	79	91.71
80	9		52	4		30	3		24	2	120	8	6.67	80	93.33
81	13		46	11		48	1		24	2	143	7	4.89	81	95.11
82	27		167	42		168	5		64	3	483	24	4.97	82	95.03
83	25		106	13		62	12		27	7	241	36	14.94	83	85.06
84	26		136	19		87	7		59	4	341	23	6.74	84	93.26
85	23		114	12		68	3		57	4	288	13	4.51	85	95.49
86	8		60	6		39	6		23		142	9	6.34	86	93.66
87	12		46	19		40	5		24	4	144	14	9.72	87	90.28
88	18		63	5		30	2		21		142	6	4.23	88	95.77
89	10		44	9		23	4		15	2	101	11	10.89	89	89.11
90	22		112	20		129	5		56		360	9	2.50	90	97.50
91	8		58	12		54	8		28	1	165	15	9.09	91	90.91
92	11		61	14		53	5		31	1	176	10	5.68	92	94.32
93	15		52	6		22			17	1	115	1	0.87	93	99.13
94	44		125	25		93	8		62	9	357	37	10.36	94	89.64
95	12		33	13		50	2		24	1	135	7	5.19	95	94.81
96	20		99	14		76	5		42	2	259	11	4.25	96	95.75
97	37		155	88		376	25		214	15	904	62	6.86	97	93.14
98	5		27	6		35	2		21		95	7	7.37	98	92.63

59 Wright.....	19	50	2	11	1	38	27	178	3	1.69	98.31	06
Total.....	2,019	8,506	547	1,550	121	6,927	3,679	273	1,656	7.11	92.89	

Total Cards Received from Washington

Lot No. 1—11,400 Cards
 Lot No. 2—9,500 Cards
 Lot No. 3—5,403 Cards

Total...26,303 Cards
 Test period—September 1933-September 1934, inclusive.

Test Cards.....31,233
 Duplicates and throwouts for months and years other than test period.....3,010

Total.....36,303
 Submitted by John E. Waller, Office Supervisor.
 Approved by R. L. McLaren, Director Division of Vital Statistics and Project Supervisor.
 Date approved: January 31, 1935.

NUMBER OF BIRTHS WITH BIRTH RATES (PER 1,000 POPULATION)
BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair.....	246	17.7	261	18.8	232	16.7
Adams.....	166	15.9	147	14.1	159	15.2
Allamakee.....	283	17.3	280	17.1	297	18.2
Appanoose.....	427	17.2	448	18.0	395	15.9
Audubon.....	182	14.8	206	16.8	188	15.3
Benton.....	341	14.9	359	15.7	337	14.7
Black Hawk.....	307	13.1	273	11.7	267	11.4
Boone.....	192	11.0	190	10.9	170	9.8
Bremer.....	268	15.7	320	18.7	301	17.6
Buchanan.....	270	13.8	339	17.3	335	17.1
Buena Vista.....	256	13.7	289	15.5	307	16.4
Butler.....	225	12.8	245	13.9	226	12.8
Calhoun.....	249	14.1	314	17.8	272	15.5
Carroll.....	497	22.1	573	25.5	571	25.4
Cass.....	313	16.1	350	18.0	278	14.3
Cedar.....	196	11.7	173	10.3	163	9.7
Cerro Gordo.....	201	13.2	233	15.3	197	13.0
Cherokee.....	297	15.7	340	18.0	285	15.1
Chickasaw.....	249	17.0	219	15.0	235	16.1
Clarke.....	189	18.2	229	22.1	198	19.1
Clay.....	270	16.7	296	18.3	314	19.1
Clayton.....	385	15.7	406	16.5	350	14.3
Clinton.....	189	10.2	194	10.5	167	9.0
Crawford.....	316	15.0	328	16.0	296	14.0
Dallas.....	335	13.1	344	13.4	330	12.9
Davis.....	176	15.8	186	16.7	145	13.0
Decatur.....	260	17.4	254	17.0	273	18.3
Delaware.....	320	17.7	334	18.4	307	16.9
Des Moines.....	68	6.0	75	6.6	66	5.8
Dickinson.....	193	17.4	204	18.4	179	16.1
Dubuque.....	249	12.7	275	14.0	229	16.8
Emmet.....	241	18.7	257	19.9	263	20.4
Fayette.....	434	14.9	491	16.8	465	16.0
Floyd.....	246	12.6	284	14.5	289	14.7
Franklin.....	259	15.7	280	17.0	265	16.1
Fremont.....	200	16.8	261	16.8	233	15.0
Greene.....	224	13.6	229	13.9	231	14.0
Grundy.....	188	13.3	164	11.6	143	10.1
Guthrie.....	269	15.5	300	17.3	272	15.7
Hamilton.....	312	14.7	368	17.4	352	16.6
Hancock.....	218	14.7	233	15.7	184	12.4
Hardin.....	318	13.9	343	14.9	322	14.0
Harrison.....	428	17.1	442	17.7	342	13.7
Henry.....	236	13.4	231	13.1	231	13.1
Howard.....	241	18.4	261	20.0	258	19.7
Humboldt.....	186	14.1	191	14.5	194	14.7
Ida.....	175	14.6	183	15.2	174	14.5
Iowa.....	248	14.3	255	14.7	229	13.2
Jackson.....	322	17.4	352	19.0	308	16.7
Jasper.....	270	12.6	275	12.9	236	11.0
Jefferson.....	237	14.6	253	15.6	196	12.1
Johnson.....	172	11.5	173	11.6	174	11.7
Jones.....	321	16.6	294	15.2	281	14.6
Keokuk.....	226	11.8	221	11.5	201	10.5
Kossuth.....	483	18.9	523	20.5	562	22.0

NUMBER OF BIRTHS WITH BIRTH RATES (PER 1,000 POPULATION)
BY COUNTIES—1933-1934-1935—Continued

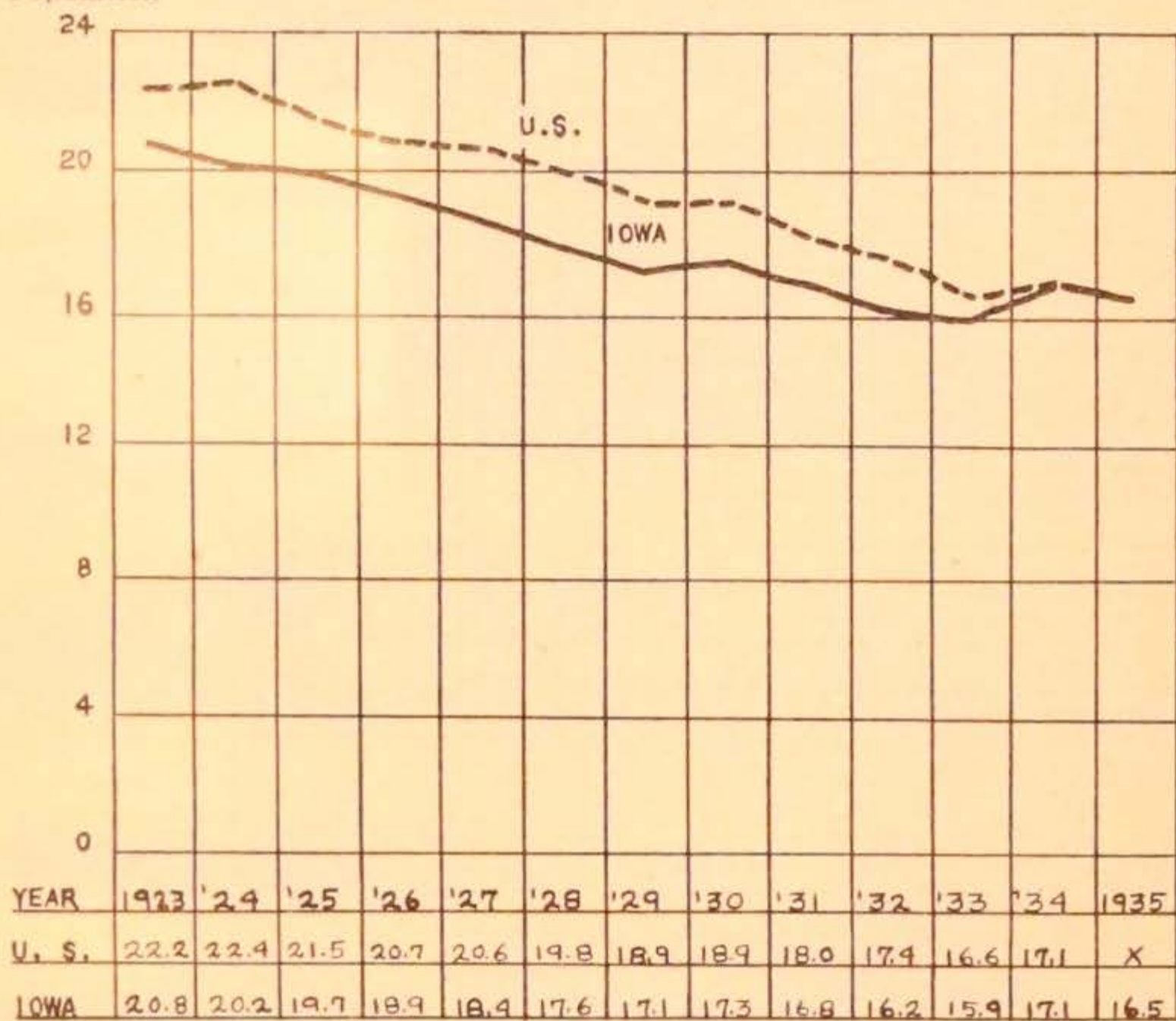
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee.....	123	10.1	138	11.3	157	12.9
Linn.....	229	8.6	232	8.8	209	7.9
Louisna.....	154	13.3	168	14.5	146	12.6
Lucas.....	264	17.5	259	17.1	245	16.2
Lyon.....	249	16.3	269	17.0	263	17.2
Madison.....	235	16.4	237	16.5	219	15.3
Mahaska.....	257	16.5	211	13.5	188	12.0
Marion.....	386	14.9	353	13.6	345	13.3
Marshall.....	169	10.4	201	12.4	180	11.1
Mills.....	218	13.7	261	16.4	249	15.7
Mitchell.....	239	17.0	243	17.2	178	12.6
Monona.....	329	17.9	341	18.5	305	16.6
Monroe.....	287	19.1	279	18.6	254	16.9
Montgomery.....	293	17.5	257	15.3	221	13.2
Muscatine.....	168	13.4	140	11.2	116	9.3
O'Brien.....	358	19.4	314	17.1	340	18.5
Osceola.....	188	18.5	201	19.7	175	17.2
Page.....	376	14.4	411	15.7	402	15.3
Palo Alto.....	321	20.8	335	21.8	333	21.6
Plymouth.....	427	17.6	436	17.9	463	19.1
Pocahontas.....	245	15.6	252	16.1	253	16.1
Polk.....	230	7.5	242	7.9	240	7.8
Pottawattamie.....	352	12.5	339	12.1	279	9.9
Poweshiek.....	281	15.0	343	18.3	402	21.5
Ringgold.....	219	18.3	235	19.6	201	16.8
Sac.....	243	13.7	260	14.7	230	13.0
Scott.....	168	10.1	138	8.3	116	6.9
Shelby.....	283	16.4	333	19.2	285	16.5
Sioux.....	522	19.4	591	22.0	600	22.3
Story.....	337	16.0	277	13.1	263	12.5
Tama.....	311	14.1	298	13.5	297	13.5
Taylor.....	194	13.1	213	14.3	209	14.1
Union.....	268	15.3	291	16.6	261	14.9
Van Buren.....	191	15.2	181	14.4	184	14.6
Wapello.....	172	14.3	142	11.8	144	12.0
Warren.....	302	17.1	295	16.7	258	14.6
Washington.....	328	16.5	331	16.7	308	15.5
Wayne.....	228	16.5	202	14.7	216	15.7
Webster.....	233	12.5	202	10.9	176	9.5
Winnebago.....	279	21.2	318	24.2	297	22.6
Winneshiek.....	360	16.6	421	19.5	348	16.1
Woodbury.....	275	12.1	372	16.3	287	12.6
Worth.....	167	15.0	181	16.2	121	10.8
Wright.....	304	15.0	314	15.5	299	14.8
Rural.....	26,391	15.1	27,606	15.8	25,736	14.7
Urban.....	13,184	18.0	14,857	20.3	15,285	20.9
State.....	39,575	15.9	42,463	17.1	41,021	16.5

NUMBER OF BIRTHS WITH BIRTH RATES (PER 1,000 POPULATION)
BY CITIES OVER 10,000 POPULATION—STATE
OF IOWA—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	185	17.0	164	15.0	179	16.4
Boone.....	234	19.7	253	21.3	246	20.7
Burlington.....	404	14.9	484	17.8	483	17.8
Cedar Rapids.....	785	13.7	953	16.6	948	16.5
Clinton.....	418	16.1	459	17.7	514	19.8
Council Bluffs.....	804	18.6	878	20.3	792	18.3
Davenport.....	807	13.2	843	13.8	968	15.8
Des Moines.....	2,693	18.5	2,876	19.8	2,890	19.9
Dubuque.....	612	14.5	741	17.6	685	16.3
Fort Dodge.....	434	19.5	466	20.9	569	25.5
Fort Madison.....	210	14.9	259	18.4	190	13.5
Iowa City.....	1,055	65.9	1,270	79.4	1,445	90.3
Keokuk.....	302	19.9	353	23.2	348	22.9
Marshalltown.....	315	17.8	444	25.1	421	23.8
Mason City.....	507	21.2	614	25.7	582	24.4
Muscatine.....	304	18.0	326	19.3	372	22.0
Newton.....	209	16.9	249	20.1	268	21.6
Oskaloosa.....	164	16.1	201	19.7	215	21.1
Ottumwa.....	588	20.3	689	23.8	643	22.2
Sioux City.....	1,551	19.3	1,639	20.4	1,699	21.1
Waterloo.....	603	12.6	696	14.5	828	17.3
Urban.....	13,184	18.0	14,857	20.3	15,285	20.9

BIRTH RATES
U. S. AND IOWA
1923-1935

Rate Per 1,000
Population



X - FIGURES NOT AVAILABLE

NUMBER OF DEATHS (UNDER ONE YEAR) WITH RATES (PER
1,000 LIVE BIRTHS) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair.....	13	52.8	12	46.0	9	38.8
Adams.....	6	39.3	6	40.8	10	62.9
Allamakee.....	17	60.1	15	53.6	12	40.4
Appanoose.....	27	63.2	22	49.1	28	70.9
Audubon.....	3	16.5	10	48.5	8	42.6
Benton.....	9	28.4	9	25.1	13	38.6
Black Hawk.....	8	26.1	14	51.2	10	27.5
Boone.....	8	41.7	11	57.9	6	35.3
Bremer.....	9	33.6	24	75.0	17	56.5
Buchanan.....	7	25.0	8	23.6	14	41.8
Buena Vista.....	17	66.4	6	20.8	16	52.1
Butler.....	11	48.9	8	32.7	10	44.2
Calhoun.....	15	60.2	11	35.0	8	29.4
Carroll.....	36	72.4	43	75.0	35	61.3
Cass.....	14	44.7	13	37.1	14	50.4
Cedar.....	6	30.6	8	46.2	4	24.0
Cerro Gordo.....	6	29.9	7	30.0	10	50.8
Cherokee.....	13	43.8	14	41.2	10	35.1
Chickasaw.....	6	24.1	17	77.6	11	46.8
Clarke.....	10	53.9	9	39.3	10	50.5
Clay.....	11	40.7	15	50.7	18	57.3
Clayton.....	15	39.0	20	49.2	17	48.6
Clinton.....	16	84.7	11	56.7	7	41.9
Crawford.....	14	44.3	18	53.2	12	49.5
Dallas.....	14	41.8	17	49.4	17	51.5
Davis.....	8	45.5	9	48.4	6	41.4
Decatur.....	15	57.7	13	51.2	6	22.0
Delaware.....	14	43.8	15	44.9	16	52.1
Des Moines.....	2	29.4	1	13.3	5	75.8
Dickinson.....	5	25.9	11	53.9	7	39.1
Dubuque.....	10	40.2	12	43.6	15	65.5
Emmet.....	9	37.3	11	42.8	13	49.4
Fayette.....	27	63.2	23	46.8	24	51.6
Floyd.....	13	52.8	16	56.3	14	48.4
Franklin.....	11	42.5	14	50.0	12	45.2
Fremont.....	11	42.3	10	38.3	10	42.9
Greene.....	4	17.9	10	43.7	7	30.3
Grundy.....	9	47.9	4	24.4	6	42.0
Guthrie.....	16	59.5	19	63.5	17	62.5
Hamilton.....	19	60.9	20	54.3	20	50.8
Hancock.....	11	50.5	7	30.0	16	87.0
Hardin.....	13	40.9	8	23.3	18	55.9
Harrison.....	27	63.1	21	47.5	21	61.4
Henry.....	8	33.9	8	34.6	10	43.3
Howard.....	16	66.4	19	72.8	6	23.3
Humboldt.....	6	22.3	3	15.7	8	41.2
Ida.....	6	34.3	7	38.3	8	46.0
Iowa.....	5	20.2	8	31.4	7	30.6
Jackson.....	23	71.4	15	42.6	21	68.2
Jasper.....	16	59.3	15	54.5	14	59.3
Jefferson.....	10	42.2	13	51.4	5	25.5
Johnson.....	5	29.1	3	17.5	4	23.0
Jones.....	11	34.3	16	54.4	12	42.7
Keokuk.....	11	48.7	13	58.8	11	54.7
Kossuth.....	27	55.9	19	36.3	24	42.7

NUMBER OF DEATHS (UNDER ONE YEAR) WITH RATES (PER 1,000 LIVE BIRTHS) BY COUNTIES—1933-1934-1935—Continued

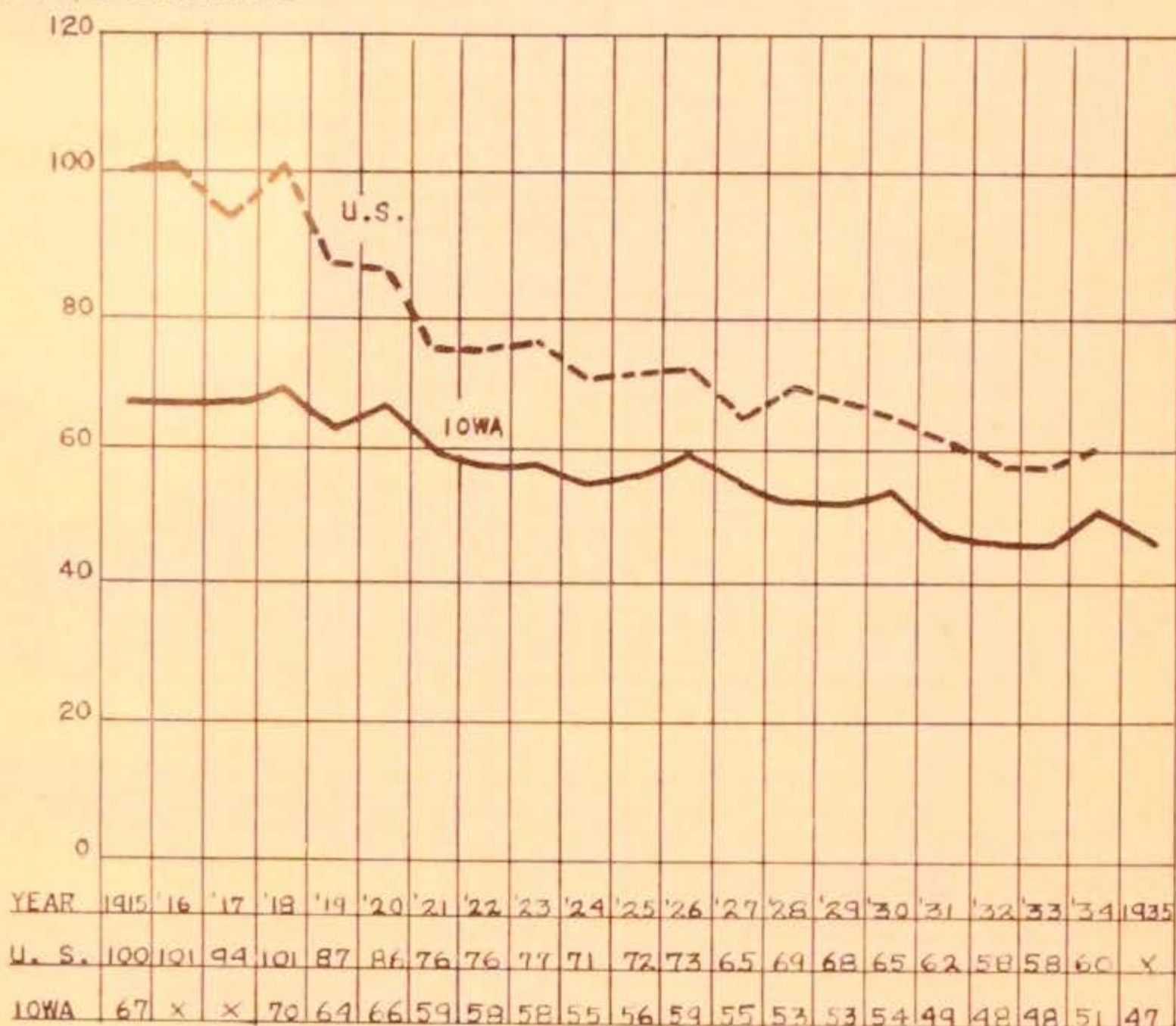
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee.....	8	65.0	6	43.5	8	51.0
Linn.....	9	39.3	11	47.4	9	43.1
Louisa.....	9	58.4	13	77.4	9	61.6
Lucas.....	14	53.0	12	46.3	7	28.6
Lyon.....	8	32.1	17	65.4	10	38.0
Madison.....	10	42.6	12	50.6	6	27.4
Mahaska.....	9	35.0	11	52.1	8	42.6
Marion.....	6	15.5	16	45.3	13	37.7
Marshall.....	14	82.8	4	19.9	3	16.7
Mills.....	10	45.9	17	65.1	9	36.1
Mitchell.....	12	50.2	8	32.9	10	56.2
Monona.....	16	48.6	23	67.4	11	36.1
Monroe.....	17	59.2	18	64.5	14	55.1
Montgomery.....	7	23.9	12	46.7	11	49.8
Muscatine.....	7	41.7	3	21.4	2	17.2
O'Brien.....	25	69.8	22	70.1	15	44.1
Osceola.....	6	31.9	9	44.8	13	74.3
Page.....	15	39.9	24	58.4	16	39.8
Palo Alto.....	18	56.1	12	35.8	14	42.0
Plymouth.....	16	37.5	31	71.1	30	64.8
Pocahontas.....	9	36.7	13	51.6	11	43.5
Polk.....	8	34.8	9	37.2	8	33.3
Pottawattamie.....	14	39.8	15	44.2	8	28.7
Poweshiek.....	15	53.4	15	43.7	10	24.9
Ringgold.....	8	36.5	11	46.8	9	44.8
Sac.....	10	41.2	14	53.8	10	43.5
Scott.....	3	17.9	5	36.2	6	51.7
Shelby.....	10	35.3	15	45.0	8	28.1
Sioux.....	15	28.7	23	38.9	20	33.3
Story.....	9	26.7	8	28.9	6	22.8
Tama.....	15	48.2	16	53.7	7	23.6
Taylor.....	4	20.6	10	46.9	15	71.8
Union.....	12	44.8	14	48.1	10	38.3
Van Buren.....	6	31.4	12	66.3	9	48.9
Wapello.....	4	23.3	9	63.4	3	20.8
Warren.....	11	36.4	16	54.2	8	31.0
Washington.....	15	45.7	7	21.1	13	42.2
Wayne.....	16	70.2	10	49.5	7	32.4
Webster.....	6	25.8	5	24.8	11	62.5
Winnebago.....	11	39.4	18	56.6	14	47.1
Winneshiek.....	17	47.2	20	47.5	10	28.7
Woodbury.....	9	32.7	18	48.4	14	48.8
Worth.....	5	29.9	8	44.2	5	41.3
Wright.....	7	23.0	10	31.8	7	23.4
Rural.....	1,154	43.7	1,293	46.8	1,136	44.1
Urban.....	757	57.4	856	57.6	794	51.9
State.....	1,911	48.3	2,149	50.6	1,930	47.0

NUMBER OF DEATHS (UNDER ONE YEAR) WITH RATES (PER
1,000 LIVE BIRTHS) BY CITIES OVER 10,000
POPULATION—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	5	27.0	8	48.8	8	44.7
Boone.....	13	55.6	15	59.3	13	52.8
Burlington.....	16	39.6	18	37.2	26	53.8
Cedar Rapids.....	44	50.1	49	51.4	49	51.7
Clinton.....	33	78.9	35	76.3	36	70.0
Council Bluffs.....	60	74.6	59	67.2	61	77.0
Davenport.....	61	75.6	45	53.4	33	34.1
Des Moines.....	121	44.9	149	51.8	136	43.6
Dubuque.....	32	52.3	45	60.7	36	52.6
Fort Dodge.....	19	43.8	47	100.9	47	82.6
Fort Madison.....	19	90.5	7	27.0	7	36.8
Iowa City.....	44	41.7	52	40.9	67	46.4
Keokuk.....	22	72.8	26	73.7	13	37.4
Marshalltown.....	20	63.5	37	83.3	21	50.0
Mason City.....	34	67.1	42	68.4	26	44.7
Muscatine.....	13	42.8	27	82.8	20	53.8
Newton.....	12	57.4	10	40.2	14	52.2
Oskaloosa.....	7	42.7	13	64.7	11	51.2
Ottumwa.....	30	51.0	30	43.5	38	59.1
Sioux City.....	121	78.0	107	65.3	111	65.3
Waterloo.....	31	51.4	35	50.3	31	37.4
Urban.....	757	57.4	856	57.6	794	51.9

INFANT MORTALITY
DEATH RATES—U. S. AND IOWA
1915-1935

Death Rate of
Infants Under
One Year of Age
Per 1,000 Live Births

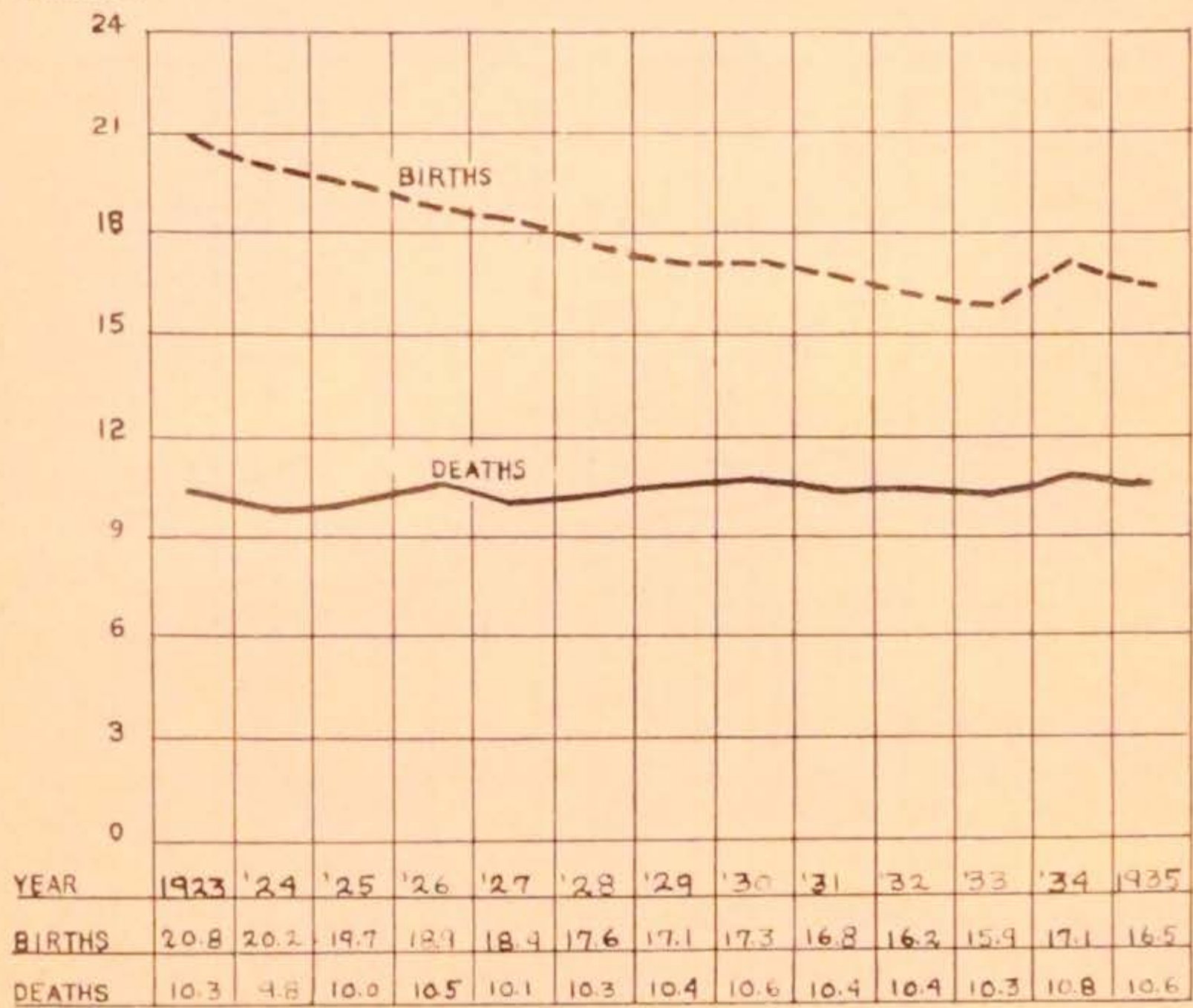


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GENERAL DEATH AND BIRTH RATES

IOWA

1923-1935

Rates Per 1,000
Population

REPORT CHECK OF DEATHS UNDER ONE YEAR AGAINST BIRTH
CERTIFICATES
STATE OF IOWA, YEAR 1934

Co. No.		Total Deaths Under One Year of Age	Births Occurring Outside State	Birth Certificates Found	Birth Certificates Not Found	Per Cent Efficiency	Per Cent Deficiency	Co. No.
1	Adair	12		12		100.0		1
2	Adams	6	1	4	1	80.0	20.0	2
3	Allamakee	15		14	1	93.3	6.7	3
4	Appanoose	22		21	1	95.5	4.5	4
5	Audubon	10		9	1	90.0	10.0	5
6	Benton	9		9		100.0		6
7	Black Hawk	48		43	5	89.6	10.4	7
8	Boone	23		21	2	91.3	8.7	8
9	Bremer	24		23	1	95.8	4.2	9
10	Buchanan	8		8		100.0		10
11	Buena Vista	6		6		100.0		11
12	Butler	8		8		100.0		12
13	Calhoun	11		10	1	90.9	9.1	13
14	Carroll	42		39	3	92.9	7.1	14
15	Cass	12	1	11		100.0		15
16	Cedar	8		8		100.0		16
17	Cerro Gordo	49		46	3	93.9	6.1	17
18	Cherokee	14		14		100.0		18
19	Chickasaw	17		17		100.0		19
20	Clarke	9		8	1	88.9	11.1	20
21	Clay	15		15		100.0		21
22	Clayton	20		18	2	90.0	10.0	22
23	Clinton	46	2	39	5	88.6	11.4	23
24	Crawford	18		15	3	83.3	16.7	24
25	Dallas	16		13	3	81.3	18.7	25
26	Davis	9		9		100.0		26
27	Decatur	13	1	12		100.0		27
28	Delaware	15		15		100.0		28
29	Des Moines	19	2	15	2	88.2	11.8	29
30	Dickinson	10		10		100.0		30
31	Dubuque	57		53	4	92.9	7.1	31
32	Emmet	11		11		100.0		32
33	Fayette	23		18	5	78.3	21.7	33
34	Floyd	15		13	2	86.7	13.3	34
35	Franklin	13	1	12		100.0		35
36	Fremont	10	2	7	1	87.5	12.5	36
37	Greene	9		9		100.0		37
38	Grundy	4		3	1	75.0	25.0	38
39	Guthrie	19		19		100.0		39
40	Hamilton	17		15	2	88.2	11.8	40
41	Hancock	7		7		100.0		41
42	Hardin	9		9		100.0		42
43	Harrison	23		20	3	86.9	13.1	43
44	Henry	7		7		100.0		44
45	Howard	17		16	1	94.1	5.9	45
46	Humboldt	4		4		100.0		46
47	Ida	7		7		100.0		47
48	Iowa	8		7	1	87.5	12.5	48
49	Jackson	15		14	1	93.3	6.7	49
50	Jasper	24		24		100.0		50
51	Jefferson	12		11	1	91.7	8.3	51
52	Johnson	55	1	52	2	96.3	3.7	52
53	Jones	16		13	3	81.3	18.7	53
54	Keokuk	11		10	1	90.9	9.1	54
55	Kossuth	20		18	2	90.0	10.0	55

REPORT CHECK OF DEATHS UNDER ONE YEAR AGAINST BIRTH CERTIFICATES—Continued

Co. No.		Total Deaths Under One Year of Age	Births Occurring Outside State	Birth Certificates Found	Birth Certificates Not Found	Per Cent Efficiency	Per Cent Deficiency	Co. No.
56	Lee	39		37	2	94.9	5.1	56
57	Linn	59	1	55	3	94.8	5.2	57
58	Louisa	13		12	1	92.3	7.7	58
59	Lucas	12		12		100.0		59
60	Lyon	17	2	15		100.0		60
61	Madison	12		11	1	91.7	8.3	61
62	Mahaska	24		23	1	95.8	4.2	62
63	Marion	16		16		100.0		63
64	Marshall	41		38	3	92.7	7.3	64
65	Mills	17	1	14	2	87.5	12.5	65
66	Mitchell	8		7	1	87.5	12.5	66
67	Monona	21		18	3	85.7	14.3	67
68	Monroe	16		16		100.0		68
69	Montgomery	12	1	11		100.0		69
70	Muscatine	30	2	28		100.0		70
71	O'Brien	21		19	2	90.5	9.5	71
72	Osceola	9		9		100.0		72
73	Page	24	2	22		100.0		73
74	Palo Alto	12		11	1	91.7	8.3	74
75	Plymouth	31		28	3	90.3	9.7	75
76	Pocahontas	12		10	2	83.3	16.7	76
77	Polk	157		153	4	97.5	2.5	77
78	Pottawattamie	73	2	68	3	95.8	4.2	78
79	Poweshiek	15		14	1	93.3	6.7	79
80	Ringgold	10		10		100.0		80
81	Sac	14		14		100.0		81
82	Scott	50	2	47	1	97.9	2.1	82
83	Shelby	15		13	2	86.7	13.3	83
84	Sioux	22		22		100.0		84
85	Story	16		15	1	93.8	6.2	85
86	Tama	16		15	1	93.8	6.2	86
87	Taylor	10		9	1	90.0	10.0	87
88	Union	14		13	1	92.9	7.1	88
89	Van Buren	12		12		100.0		89
90	Wapello	38		37	1	97.4	2.6	90
91	Warren	16		16		100.0		91
92	Washington	7	1	6		100.0		92
93	Wayne	10		9	1	90.0	10.0	93
94	Webster	51	2	49		100.0		94
95	Winnebago	18		17	1	94.4	5.6	95
96	Winnebleshiek	20		20		100.0		96
97	Woodbury	124	7	112	5	95.7	4.3	97
98	Worth	8		6	2	75.0	25.0	98
99	Wright	10		9	1	90.0	10.0	99
	Total	2,119	34	1,969	116	94.4	5.6	

34 out of state births not included in efficiency rating.

Data taken from "Infant Mortality Study"

State Planning Board Projects No. 1038.

Date approved: March 28, 1935.

Submitted by J. B. Tlusty, Project Supervisor, State Planning Board Project No. 1038.

Approved by R. L. McLaren, Director Division of Vital Statistics, State Department of Health.

NUMBER OF DEATHS—PUERPERAL DISEASES, WITH RATES (PER
1,000 LIVE BIRTHS) BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair	1	4.1	1	3.8	1	4.3
Adams	1	6.0				
Allamakee			3	10.7		
Appanoose			2	5.1	2	5.1
Audubon	1	5.5	1	4.9		
Benton			3	8.4	1	3.0
Black Hawk	1	3.3			4	15.0
Boone					1	5.9
Bremer			4	12.5		
Buchanan	1	3.7	1	3.0	2	6.0
Buena Vista	3	11.7			1	3.3
Butler			1	4.1		
Calhoun	3	12.0			1	3.7
Carroll	4	8.0	2	3.5	2	3.5
Cass	2	6.4	2	5.7	2	7.2
Cedar						
Cerro Gordo	1	5.0				
Cherokee					1	3.5
Chickasaw	1	4.0	2	9.1	2	8.5
Clarke	1	5.3				
Clay	1	3.7			2	6.4
Clayton	2	5.2	1	2.5	2	5.7
Clinton	2	10.6				
Crawford	3	9.5	1	3.0	1	3.4
Dallas			2	5.8	3	9.1
Davis	1	5.7	1	5.4	1	6.9
Decatur	1	3.8			3	11.0
Delaware	3	9.4				
Des Moines						
Dickinson	2	10.4	2	9.8	3	16.8
Dubuque						
Emmet	1	4.1	2	7.8	1	3.8
Fayette	4	9.2			1	2.2
Floyd			1	3.5	6	20.8
Franklin	1	3.9	1	3.6	2	7.5
Fremont			2	7.7	1	4.3
Greene						
Grundy						
Guthrie						
Hamilton	4	14.9	3	10.0	2	7.4
	2	6.4	1	2.7	3	8.5
Hancock	2	9.2	2	8.6	1	5.4
Hardin	3	9.4	1	2.9	3	9.3
Harrison			2	4.5		
Henry			2	8.7	4	17.3
Howard	3	12.4	2	7.7		
Humboldt			1	5.2		
Ila	1	5.7	1	5.5	2	11.5
Iowa						
Jackson	1	3.1	2	5.7	2	6.5
Jasper			2	7.3		
Jefferson	1	4.2	3	11.8		
Johnson					2	11.5
Jones			2	6.8		
Keokuk						
Kossuth	1	2.1	1	1.9	1	1.8

NUMBER OF DEATHS—PUERPERAL DISEASES, WITH RATES (PER
1,000 LIVE BIRTHS) BY COUNTIES—1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee.....						
Linn.....	1	4.4			1	4.8
Louisa.....	1	6.5				
Lucas.....			2	7.7		
Lyon.....					2	7.6
Madison.....			1	4.2	1	4.6
Mahaska.....						
Marion.....					1	2.9
Marshall.....						
Mills.....						
Mitchell.....	1	4.2			1	5.6
Monona.....	1	3.0	1	2.9	1	3.3
Monroe.....			2	7.2	1	3.9
Montgomery.....	1	3.4	2	7.8	1	4.5
Muscatine.....					1	8.6
O'Brien.....	5	14.0	1	3.2		
Osceola.....			1	5.0		
Page.....	4	10.6	3	7.3	2	5.0
Palo Alto.....			2	5.9	1	3.0
Plymouth.....	1	2.3	3	6.0	3	6.5
Pocahontas.....	1	4.1	1	4.0		
Polk.....	2	8.7	3	12.4	2	8.3
Pottawattamie.....	1	2.8	1	2.9		
Poweshiek.....	1	3.6	2	6.8	1	2.5
Ringgold.....						
Sac.....	2	8.2			1	4.3
Scott.....						
Shelby.....	1	3.5	1	3.0		
Sioux.....	3	5.7	3	5.1	1	1.7
Story.....	1	3.0			1	3.8
Tama.....	1	3.2	1	3.4		
Taylor.....			1	4.7		
Union.....	3	11.2	1	3.4	3	11.5
Van Buren.....						
Wapello.....	1	5.8				
Warren.....			1	3.4	1	3.0
Washington.....			2	6.0	1	3.2
Wayne.....	1	4.4	1	5.0		
Webster.....					1	5.7
Winnebago.....	1	3.6	1	3.1	1	3.4
Winneshiek.....	4	11.1	1	2.4	2	5.7
Woodbury.....					1	3.3
Worth.....						
Wright.....	2	6.6				
Rural.....	99	3.8	98	3.5	98	3.8
Urban.....	111	8.4	118	7.9	116	7.6
State.....	210	5.3	216	5.1	214	5.2

NUMBER OF DEATHS—PUERPERAL DISEASES, WITH RATES (PER
1,000 LIVE BIRTHS) BY CITIES OVER 10,000
POPULATION—1933-1934-1935

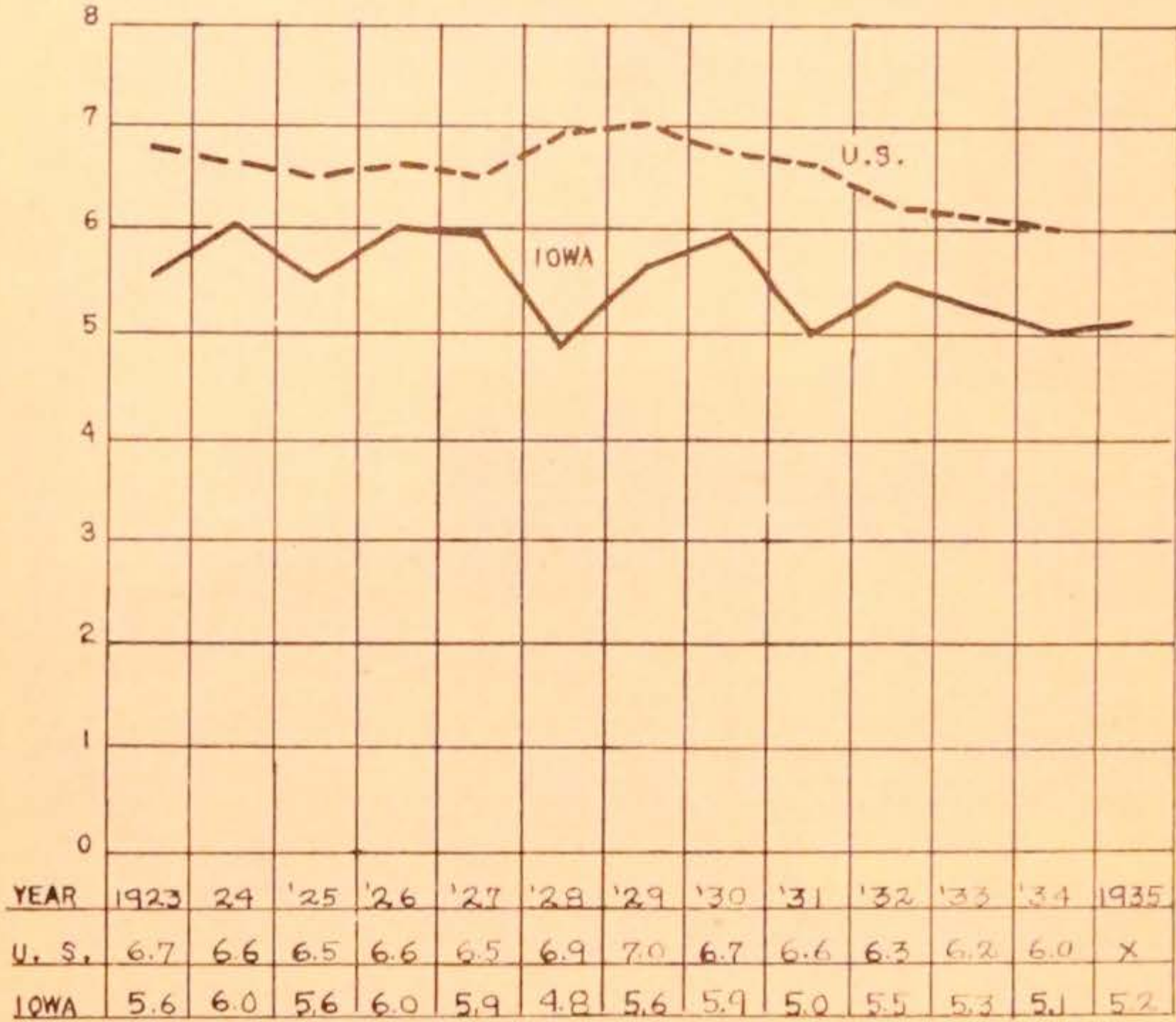
Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....					1	5.6
Boone.....	4	17.0	1	4.0	2	8.1
Burlington.....	4	9.9	1	2.1	5	10.3
Cedar Rapids.....	5	6.4	6	6.2	2	2.1
Clinton.....	3	7.2	5	10.9	3	5.8
Council Bluffs.....	9	11.2	12	13.7	5	6.3
Davenport.....	3	3.7	3	3.6	5	5.2
Des Moines.....	21	7.8	27	9.3	19	6.6
Dubuque.....	9	14.7	12	16.2	3	4.4
Fort Dodge.....	4	9.2	3	6.4	9	15.8
Fort Madison.....	4	19.0	2	7.7	1	5.3
Iowa City.....	7	6.6	3	2.4	13	9.0
Keokuk.....	6	19.9	2	5.7	2	5.7
Marshalltown.....	1	3.2	4	9.0	3	7.1
Mason City.....	8	15.8	2	3.3	4	6.9
Muscatine.....	3	9.9	3	9.3	4	10.8
Newton.....	1	4.8	2	8.0	5	18.7
Oskaloosa.....			1	5.0	2	9.3
Ottumwa.....	4	6.8	11	16.0	6	9.3
Sioux City.....	13	8.4	11	6.7	18	10.6
Waterloo.....	2	3.3	7	10.1	4	4.8
Urban.....	111	8.4	118	7.9	116	7.6

MATERNAL DEATHS

U. S. AND IOWA

1923-1935

Rate Per 1,000
Live Births



X - FIGURES NOT AVAILABLE

BIRTHS, BY MONTHS—1933
(Exclusive of Stillbirths)

Area and Sex	All Births	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Iowa.....	39,575	3,639	3,237	3,543	3,183	3,343	3,247	3,505	3,406	3,152	3,023	3,050	3,229
Cities of 10,000 or more.....	13,184	1,180	1,046	1,187	1,022	1,092	1,084	1,232	1,139	1,070	1,023	1,009	1,100
Cities of 2,500 to 10,000.....	5,440	531	416	475	424	452	493	455	469	422	434	439	433
Rural.....	20,951	1,948	1,775	1,881	1,737	1,799	1,670	1,816	1,801	1,660	1,566	1,602	1,696

BIRTHS, BY SEX AND COLOR, AND BY PARENT NATIVITY OF WHITE—1933
(Exclusive of Stillbirths)

Area and Sex	All Births	White						Colored						
		Total	Both Parents		Mixed Parentage		Total	Negro	Indian	Chinese	Japa- nese	Other Races		
			Native	For- eign	Un- known	Native and Foreign							Native and Un- known	Foreign and Un- known
Iowa.....	39,575	39,373	36,126	656	6	1,877	697	11	181	2	2	17	9	8
Male.....	20,443	20,341	18,628	353	4	988	363	5	91	1	1	9	1	8
Female.....	19,132	19,032	17,498	303	2	889	334	6	90	1	1	8	7	8
Cities of 10,000 or more.....	13,184	13,023	11,673	274	3	584	481	8	148	—	2	6	—	—
Male.....	6,801	6,718	6,002	145	1	311	256	3	76	—	1	5	—	—
Female.....	6,383	6,305	5,671	129	2	273	225	5	72	—	1	11	—	—
Cities of 2,500 to 10,000.....	5,440	5,419	5,068	58	—	226	66	1	16	1	—	4	—	—
Male.....	2,838	2,830	2,662	31	—	103	34	—	5	1	—	2	—	—
Female.....	2,602	2,589	2,406	27	—	123	32	1	11	—	—	2	—	—
Rural.....	20,951	20,931	19,385	324	3	1,067	150	2	17	1	—	2	—	—
Male.....	10,804	10,793	9,964	177	3	574	73	2	10	—	—	1	—	—
Female.....	10,147	10,138	9,421	147	—	493	77	—	7	1	—	1	—	—

BIRTHS, BY AGE OF PARENTS—1933
(Exclusive of Stillbirths)

Area, and Age of Mother	All Births	Age of Father										Not Stated
		10 to 14 Years	15 to 19 Years	20 to 24 Years	25 to 29 Years	30 to 34 Years	35 to 39 Years	40 to 44 Years	45 to 49 Years	50 to 54 Years	55 Years and Over	
Iowa.....	39,575		461	6,695	10,525	8,761	6,248	3,712	1,566	544	212	851
10 to 14 years.....	23		1	5								17
15 to 19 years.....	3,865	374	2,192	729	185	58	13	4		1	6	303
20 to 24 years.....	11,258	76	3,954	4,903	1,444	420	131	47		15	9	259
25 to 29 years.....	10,545	4	469	4,259	3,901	1,257	366	111		40	27	111
30 to 34 years.....	7,221	1	39	543	2,813	2,512	887	282		74	29	41
35 to 39 years.....	4,570		10	47	354	1,823	1,543	520		171	73	29
40 to 44 years.....	1,636				18	147	731	533		199	58	9
45 to 49 years.....	139				1	5	19	63		41	9	
50 to 54 years.....	3				1	1	1					
Not stated.....	255	5	26	42	44	25	21	6		3	1	82

BIRTHS, WITH THE NUMBER OF CHILD IN ORDER OF BIRTH, BY
COLOR, AND FOR WHITE BY NATIVITY OF MOTHER—1933
(Exclusive of Stillbirths)

Area and Number of Child	All Births	White			Colored
		Total	Mother Native	Mother Foreign-Born	
Iowa.....	39,575	39,373	38,152	1,207	202
First child.....	12,775	12,711	12,405	243	64
Second child.....	9,104	9,065	8,855	208	39
Third child.....	5,901	5,868	5,679	187	33
Fourth child.....	3,928	3,912	3,768	143	16
Fifth child.....	2,586	2,569	2,463	105	17
Sixth child.....	1,747	1,737	1,652	85	10
Seventh child.....	1,263	1,255	1,172	82	8
Eighth child.....	865	858	808	50	7
Ninth child.....	528	523	482	40	5
Tenth child.....	346	344	327	16	2
Eleventh child.....	235	234	213	21	1
Twelfth child.....	120	120	108	12	-----
Thirteenth child.....	59	59	55	4	-----
Fourteenth child.....	28	28	24	4	-----
Fifteenth child.....	12	12	11	1	-----
Sixteenth child.....	8	8	7	1	-----
Seventeenth child.....	2	2	2	-----	-----
Twentieth child.....	1	1	1	-----	-----
Not stated.....	67	67	60	5	-----

BIRTHS BY COLOR, AND AGE OF MOTHER, AND FOR WHITE BY
NATIVITY OF MOTHER—1933
(Exclusive of Stillbirths)

Area, and Age of Mother	All Births	White			Colored
		Total	Mother Native	Mother Foreign-Born	
Iowa.....	39,575	39,373	38,152	1,207	202
Male.....	20,443	20,341	19,674	658	102
Female.....	19,132	19,032	18,478	549	100
10 to 14 years.....	23	23	21	1	1
15 to 19 years.....	3,865	3,820	3,792	27	45
20 to 24 years.....	11,258	11,193	10,993	198	65
25 to 29 years.....	10,545	10,501	10,192	306	44
30 to 34 years.....	7,221	7,190	6,900	289	31
35 to 39 years.....	4,570	4,562	4,324	237	8
40 to 44 years.....	1,696	1,690	1,569	119	6
45 to 49 years.....	139	139	118	21	-----
50 to 54 years.....	3	3	2	1	-----
Not stated.....	255	253	241	8	2

LEGITIMATE, ILLEGITIMATE AND RATIO OF ILLEGITIMATE
BIRTHS TO 1,000 TOTAL BIRTHS—1933

Area	All Births	White			Colored
		Total	Mother Native	Mother Foreign-Born	
Legitimate Births					
Iowa.....	38,823	38,644	37,431	1,200	179
Cities of 10,000 or more.....	12,658	12,518	12,062	451	140
Cities of 2,500 to 10,000.....	5,366	5,346	5,213	131	20
Rural.....	20,799	20,780	20,156	618	19
Illegitimate Births					
Iowa.....	752	729	721	7	23
Cities of 10,000 or more.....	536	505	498	6	21
Cities of 2,500 to 10,000.....	74	73	73	—	1
Rural.....	152	151	150	1	1
Ratio of Illegitimate Births to 1,000 Total Births					
Iowa.....	19.0	18.5	15.9	5.8	113.9
Cities of 10,000 or more.....	39.9	38.8	29.6	13.1	130.4
Cities of 2,500 to 10,000.....	13.6	13.5	13.8	—	47.6
Rural.....	7.3	7.2	7.4	1.6	50.0

CASES OF PLURAL BIRTHS AND PLURAL STILLBIRTHS, BY SEX
AND COLOR—1933

Area and Sex	Plural Births		
	Total	White	Colored
Cases of Twins			
Iowa:			
2 males.....	171	171	—
Both living.....	156	158	—
1 living.....	8	8	—
Both stillborn.....	5	5	—
1 male, 1 female.....	161	158	3
Both living.....	150	147	3
1 living.....	5	5	—
} M	3	3	—
} F	3	3	—
Both stillborn.....	8	8	—
2 females.....	151	151	—
Both living.....	140	140	—
1 living.....	9	9	—
Both stillborn.....	2	2	—
Cases of triplets—			
3 males.....	1	1	—
2 living.....	1	1	—
2 males, 1 female.....	2	2	—
All living.....	1	1	—
2 living..... 1 M, 1 F.....	1	1	—

DEATHS FROM IMPORTANT CAUSES, BY CERTAIN SUBDIVISIONS OF THE FIRST YEAR OF LIFE—1933
(Exclusive of Stillbirths)

Area and Cause of Deaths	Deaths at Age of													Total deaths under 1 year of age						
	Under 1 day	1 day	2 days	3 to 6 days	1 week	2 weeks	3 weeks	Under 1 month	1 month	2 months	3 months	4 months	5 months		6 months	7 months	8 months	9 months	10 months	11 months
Town, all causes.....	641	133	97	162	118	69	58	1,278	118	110	81	62	51	45	56	36	35	27	32	1,911
Measles (7).....	2							1	1									1		2
Scarlet fever (8).....	3				1			1	1									1		3
Whooping-cough (9).....	43					1		2	6	8	9	2	1	5	4	2	2	1	1	43
Diphtheria (10).....	5			2	4	4	5	15	20	9	6	5	7	4	4	8	5	2	7	92
Influenza (11).....	3																			3
Dysentery (12).....	18				2		1	3	9	1	1		1	1	3					18
Erysipelae (15).....	3									1					1	1				3
Epidemic cerebrospinal meningitis (18).....	6			1				1	1	1					1	1		2		6
Tuberculosis of the respiratory system (23).....	4												1		1			1		4
Tuberculosis of the meninges, etc. (24).....	3																			3
Other forms of tuberculosis (25-33).....	21	3	1	2	1		1	9	2	2	5	1	1		1				1	21
Syphilis (34).....	7	1	1		2			4		2										7
Convulsions (36).....	6														2					6
Bronchitis (106).....	160		2	6	11	9	10	38	18	20	14	15	12	10	8	9	7	5	4	160
Bronchopneumonia (107).....	53	2	1	2		3	2	11	6	8	6	3	4	3	4	2	3	1	2	53
Lobar and unspecified pneumonia (108, 109).....	5			1				1	1	1										5
Diseases of the stomach (117, 118).....	80			1	4	3	1	10	6	15	9	8	5	7	6	4	3	4	3	80
Diarrhea and enteritis (119).....	21							2	2		1	5	1	2	1	1	3	2	1	21
Intestinal obstruction (132 b).....	227	76	21	28	18	10	12	182	12	10	5	2	6	2	1	1	1	3	2	227
Congenital malformations (157).....	82	13	8	19	10	3	8	69	6	3	2		1					1		82
Congenital debility, icterus, sclerema (158, 161 b, c).....	608	398	61	42	40	17	9	593	4	3	4	1		2		1				608
Premature birth (159).....	205	111	25	34	8	2	1	203	2											205
Injury at birth (160).....	77	29	11	12	5	6	3	75	2											77
Other diseases of early infancy (161a, d).....	33				2	5		8	3	4	4	2	2	1	1			1	6	33
External causes (172-198, 201-214).....	21	5	1	2	2			16	2										1	21
Unknown or ill-defined diseases (199, 200).....	123	4	3	7	11	6	2	35	14	18	11	14	6	6	2	2	6	3	3	123

DEATHS BY SEX AND CERTAIN SUBDIVISIONS OF THE FIRST
YEAR OF LIFE—URBAN AND RURAL SECTIONS
OF THE STATE—1933

Age and Sex	Iowa		
	Cities of 10,000 or more	Cities of 2,500 to 10,000	Rural
Under 1 year.....	757	310	844
Male.....	446	175	507
Female.....	311	135	337
Under 1 day.....	266	102	273
Male.....	158	59	164
Female.....	108	43	109
1 day.....	57	26	50
Male.....	32	19	27
Female.....	25	7	23
2 days.....	27	24	46
Male.....	17	10	29
Female.....	10	14	17
3 to 6 days.....	49	23	90
Male.....	25	10	56
Female.....	24	13	34
1 week.....	44	19	55
Male.....	20	11	30
Female.....	24	8	25
2 weeks.....	25	8	36
Male.....	16	5	25
Female.....	9	3	11
3 weeks but under 1 month.....	23	11	24
Male.....	16	9	14
Female.....	7	2	10
Under 1 month.....	491	213	574
Male.....	284	123	345
Female.....	207	90	229
1 month.....	50	16	52
Male.....	29	9	32
Female.....	21	7	20
2 months.....	37	15	58
Male.....	23	8	40
Female.....	14	7	18
3 months.....	37	12	32
Male.....	23	7	19
Female.....	14	5	13
4 months.....	26	11	25
Male.....	17	8	15
Female.....	9	3	10
5 months.....	14	8	29
Male.....	8	5	18
Female.....	6	3	11
6 months.....	20	7	18
Male.....	10	3	7
Female.....	10	4	11
7 months.....	20	8	8
Male.....	11	5	5
Female.....	9	3	3
8 months.....	17	6	13
Male.....	13	1	7
Female.....	4	5	6
9 months.....	20	3	12
Male.....	12	2	6
Female.....	8	1	6
10 months.....	11	5	11
Male.....	5	2	7
Female.....	6	3	4
11 months.....	14	6	12
Male.....	11	2	6
Female.....	3	4	6

NUMBER OF STILLBIRTHS WITH RATES (PER 100 LIVE BIRTHS)
BY COUNTIES—1933-1934-1935
(Exclusive of Cities)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair	7	2.8	5	1.9	6	2.6
Adams	3	1.8	3	2.0	4	2.5
Allamakee	6	2.1	8	2.9	5	1.7
Appanoose	12	2.8	16	3.6	12	3.0
Audubon	4	2.2	9	4.4	7	3.7
Benton	11	3.2	9	2.5	12	3.6
Black Hawk	12	3.9	7	2.6	5	1.9
Boone	3	1.6	3	1.6	4	2.4
Bremer	3	1.1	3	0.9	9	3.0
Buchanan	8	3.0	7	2.1	6	1.8
Buena Vista	7	2.7	6	2.1	9	2.9
Butler	5	2.2	4	1.6	5	2.2
Calhoun	15	6.0	9	2.9	8	2.9
Carroll	15	3.0	16	2.8	15	2.6
Cass	12	3.8	5	1.4	11	4.0
Cedar	7	3.6	6	3.5	5	3.1
Cerro Gordo	3	1.5	6	2.6	8	4.1
Cherokee	14	4.7	7	2.1	9	3.2
Chickasaw	8	3.2	2	0.9	10	4.3
Clarke	3	1.6	5	2.2	1	0.5
Clay	7	2.6	8	2.7	9	2.9
Clayton	11	2.9	6	1.5	15	4.3
Clinton	2	1.1	4	2.1	2	1.2
Crawford	8	2.5	9	2.7	10	3.4
Dallas	4	1.2	13	3.8	12	3.6
Davis	7	4.0	6	3.2	2	1.4
Decatur	9	3.5	9	3.5	12	4.4
Delaware	7	2.2	12	3.6	8	2.6
Des Moines	9	(1)			1	1.5
Dickinson	5	2.6	6	2.9	5	2.8
Dubuque	7	2.8	7	2.5	6	2.6
Emmet	8	3.3	7	2.7	5	1.9
Fayette	8	1.8	7	1.4	13	2.8
Floyd	10	4.1	9	3.2	8	2.8
Franklin	8	3.1	9	3.2	7	2.6
Fremont	9	3.5	4	1.5	10	4.3
Greene	6	2.7	6	2.6		
Grundy	2	1.1	2	1.2	3	2.1
Guthrie	6	2.2	12	4.0	5	1.8
Hamilton	12	3.8	15	4.1	5	1.4
Hancock	9	4.1	10	4.3	3	1.6
Hardin	4	1.3	6	1.7	6	1.9
Harrison	15	3.5	15	3.4	14	4.1
Henry	4	1.7	3	1.3	8	3.5
Howard	6	2.5	5	1.9	8	3.1
Humboldt	2	1.1	6	3.1	1	0.5
Ida	2	1.1	5	2.7	5	2.9
Iowa	6	2.4	3	1.2	4	1.7
Jackson	7	2.2	6	1.7	13	4.2
Jasper	3	1.1	11	4.0	2	0.8
Jefferson	16	6.8	8	3.2	10	5.1
Johnson	5	2.9	7	4.0	5	2.9
Jones	8	2.5	10	3.4	8	2.8
Keokuk	4	1.8	4	1.8	5	2.5
Kossuth	8	1.7	10	1.9	15	2.7

NUMBER OF STILLBIRTHS WITH RATES (PER 100 LIVE BIRTHS)
 BY COUNTIES—1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee	8	6.5	2	1.4	2	1.3
Linn	4	1.7	9	3.9	1	0.5
Louisa	4	2.6	2	1.2	6	4.1
Lucas	8	3.0	19	7.3	7	2.9
Lyon			8	3.1	5	1.9
Madison	5	2.1	10	4.2	2	0.9
Mahaska	6	2.3	3	1.4	6	3.2
Marion	5	1.3	11	3.1	7	2.0
Marshall	4	2.4	4	2.0	4	2.2
Mills	6	2.8	4	1.5	6	2.4
Mitchell	7	2.9	8	2.3	6	3.4
Monona	10	3.0	5	1.5	10	3.3
Monroe	4	1.4	8	2.9	6	2.4
Montgomery	3	1.0	8	3.1	4	1.8
Muscatine	3	1.8	1	0.7	1	0.9
O'Brien	8	2.2	9	2.9	8	2.4
Osceola	7	3.7	3	1.5	5	2.9
Page	10	4.3	11	2.7	10	2.5
Palo Alto	2	0.6	3	0.9	9	2.7
Plymouth	10	2.3	6	1.4	12	2.6
Pocahontas	2	0.8	4	1.6	5	2.0
Polk	10	4.3	10	4.1	2	0.8
Pottawattamie	8	2.3	5	1.5	5	1.8
Poweshiek	4	1.4	4	1.2	4	1.0
Ringgold	6	2.7	4	1.7	3	1.5
Sac	8	3.3	5	1.9	8	3.5
Scott	2	1.2	3	2.2	3	2.6
Shelby	3	1.1	5	1.5	2	0.7
Sioux	18	3.4	12	2.0	16	2.7
Story	3	0.9	3	1.1	5	1.9
Tama	9	2.9	5	1.7	3	1.0
Taylor	5	2.6	4	1.9	6	2.9
Union	9	3.4	9	3.1	10	3.8
Van Buren	8	4.2	3	1.7	2	1.1
Wapello	5	2.9	7	4.9	4	2.8
Warren	2	0.7	4	1.4	5	1.9
Washington	6	1.8	6	1.8	5	1.6
Wayne	6	2.6	5	2.5	7	3.2
Webster	3	1.3	3	1.5	2	1.1
Winnebago	7	2.5	5	1.6	6	2.0
Winneshiek	12	3.3	3	0.7	12	3.4
Woodbury	6	2.2	6	1.6	5	1.7
Worth	3	1.8	6	3.3	4	3.3
Wright	14	4.6	6	1.9	8	2.7
Rural	674	2.6	657	2.4	645	2.5
Urban	447	3.4	485	3.3	465	3.0
State	1,121	2.8	1,142	2.7	1,110	2.7

(1) Less than 100 births.

NUMBER OF STILLBIRTHS WITH RATES (PER 100 LIVE BIRTHS)
BY CITIES OVER 10,000 POPULATION—1933-1934-1935

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Ames.....	2	1.1	3	1.8	6	3.4
Boone.....	5	2.1	4	1.6	4	1.6
Burlington.....	16	4.0	17	3.5	13	2.7
Cedar Rapids.....	18	2.3	23	2.4	28	3.0
Clinton.....	14	3.3	21	4.6	19	3.7
Council Bluffs.....	28	3.5	30	3.4	19	2.4
Davenport.....	20	2.5	20	2.4	13	1.3
Des Moines.....	84	3.1	89	3.1	89	3.1
Dubuque.....	28	4.6	20	2.7	22	3.2
Fort Dodge.....	8	1.8	18	3.9	22	3.9
Fort Madison.....	10	4.8	9	3.5	9	4.7
Iowa City.....	49	4.6	55	4.3	52	3.6
Keokuk.....	13	4.3	13	3.7	11	3.2
Marshalltown.....	11	3.5	16	3.6	19	4.5
Mason City.....	31	6.1	17	2.8	15	2.6
Muscatine.....	14	4.6	20	6.1	10	2.7
Newton.....	9	4.3	7	2.8	6	2.2
Oskaloosa.....	6	3.7	10	5.0	3	1.4
Ottumwa.....	15	2.6	10	1.5	18	2.8
Sioux City.....	48	3.1	58	3.5	53	3.1
Waterloo.....	18	3.0	25	3.6	34	4.1
Urban.....	447	3.4	485	3.3	465	3.0

STILLBIRTHS, BY MONTHS—1933

Area	All Still- births	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Iowa.....	1,121	119	104	107	98	89	83	99	76	75	94	82	95
Cities of 10,000 or more.....	447	39	38	42	48	36	29	34	31	34	44	34	38
Cities of 2,500 to 10,000.....	169	24	11	21	14	13	14	15	13	9	10	12	13
Rural.....	505	56	55	44	36	40	40	50	32	32	40	36	44

STILLBIRTHS, BY COLOR, AND PARENT NATIVITY OF WHITE—1933

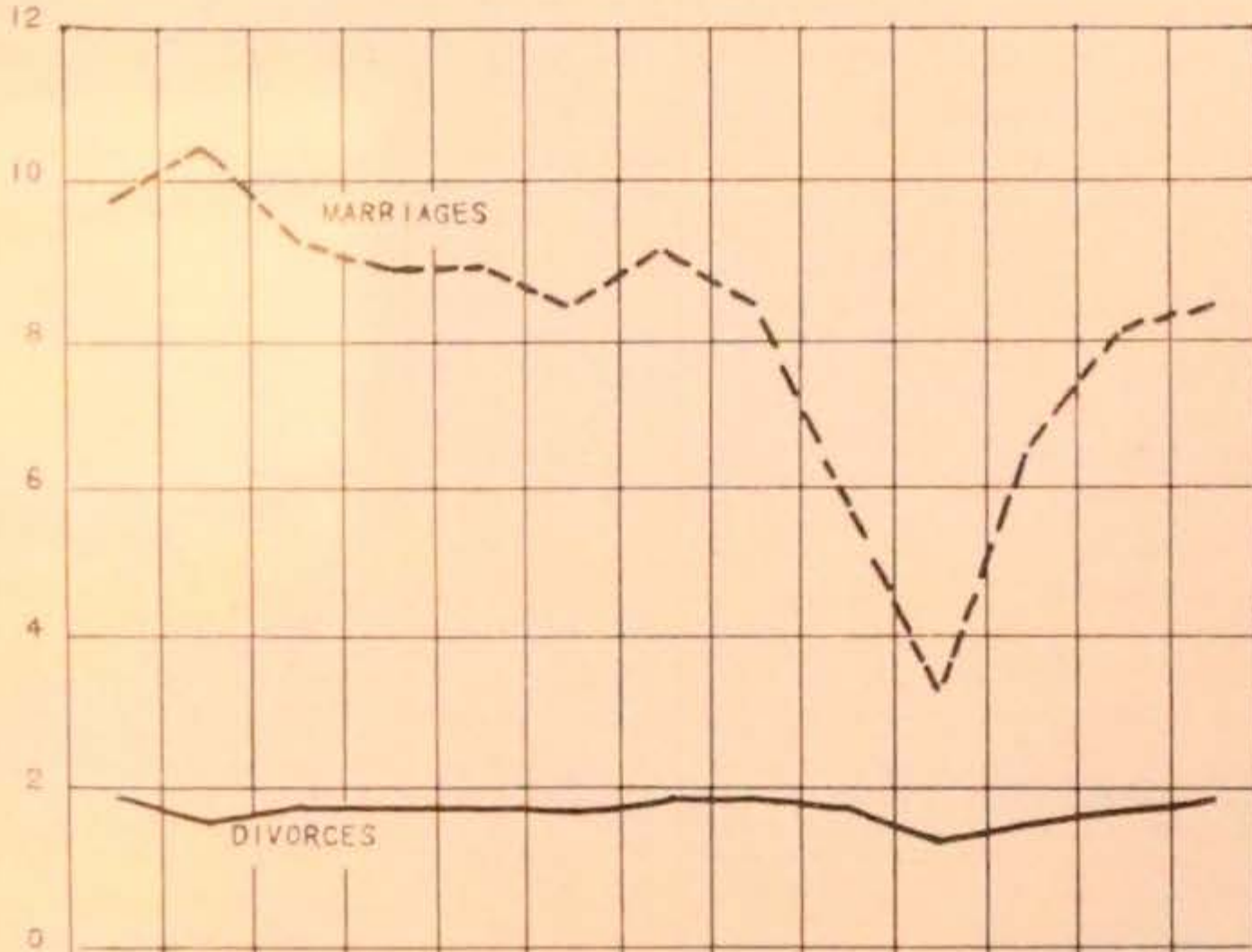
Area	All Still- births	White						Colored									
		Total		Both Parents—		Mixed Parentage		Total		Negro		Chl- nese		Japa- nese		Other Races	
		Native	For- eign	Un- known	Native and Foreign	Native and Un- known	Foreign and Un- known	Native	Negro	Indian	Chl- nese	Japa- nese	Other Races				
Iowa.....	1,121	986	29	3	52	41	1	9	7				2				
Cities of 10,000 or more.....	440	386	11	2	20	20	1	7	6				1				
Cities of 2,500 to 10,000.....	168	148	6		6	8		1	1								
Rural.....	504	452	12	1	26	13		1					1				

MARRIAGE AND DIVORCE RATES

IOWA

1923-1935

Rate Per 1,000
Population



YEAR	1923	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	1935
MARRIAGES	9.7	10.3	9.1	8.7	8.7	8.4	8.9	8.4	5.7	3.2	6.4	8.1	8.4
DIVORCES	1.8	1.6	1.7	1.7	1.7	1.7	1.8	1.8	1.7	1.4	1.5	1.7	1.8

NUMBER OF MARRIAGES WITH RATES (PER 1,000 POPULATION) BY
COUNTIES—1933-1934-1935
(Cities Included)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair.....	78	5.6	69	4.9	70	5.0
Adams.....	48	4.6	52	4.9	55	5.3
Allamakee.....	160	9.8	256	15.7	286	17.5
Appanoose.....	137	5.5	188	7.6	178	7.2
Audubon.....	44	3.6	59	4.8	62	5.1
Benton.....	113	4.9	173	7.6	149	6.5
Black Hawk.....	449	6.3	586	8.3	636	8.9
Boone.....	171	5.8	170	5.8	223	7.6
Bremer.....	117	6.8	154	8.9	158	9.2
Buchanan.....	142	7.3	176	9.0	195	10.0
Buena Vista.....	75	4.0	92	4.9	109	5.8
Butler.....	84	4.8	103	5.8	109	6.2
Calhoun.....	99	5.6	107	6.1	85	4.8
Carroll.....	165	7.4	176	7.8	194	8.6
Cass.....	114	5.9	157	8.1	151	7.8
Cedar.....	64	3.8	87	5.2	83	5.0
Cerro Gordo.....	352	8.9	445	11.4	491	12.6
Cherokee.....	88	4.6	112	5.9	106	5.6
Chickasaw.....	422	28.8	484	33.1	656	44.8
Clarke.....	76	7.3	95	9.1	82	7.9
Clay.....	127	7.8	165	10.2	181	11.2
Clayton.....	137	5.6	168	6.8	185	7.5
Clinton.....	276	6.2	348	7.8	345	7.8
Crawford.....	120	5.7	130	6.2	147	7.0
Dallas.....	183	7.2	238	9.3	209	8.2
Davis.....	66	5.9	69	6.2	79	7.1
Decatur.....	67	4.5	89	5.9	81	5.4
Delaware.....	122	6.7	137	7.6	153	8.4
Des Moines.....	165	4.3	226	6.1	239	6.2
Dickinson.....	94	8.4	126	11.3	110	9.9
Dubuque.....	383	6.2	483	7.8	560	9.1
Emmet.....	121	9.4	147	11.4	180	14.0
Fayette.....	162	5.6	167	5.7	198	6.8
Floyd.....	122	6.2	157	7.9	161	8.2
Franklin.....	83	5.0	111	6.7	112	6.8
Fremont.....	133	8.6	172	11.1	153	9.9
Greene.....	115	6.9	134	8.1	133	8.1
Grundy.....	69	4.9	78	5.5	81	5.7
Guthrie.....	87	5.0	109	6.3	108	6.2
Hamilton.....	142	6.7	183	8.6	150	7.1
Hancock.....	95	6.4	110	7.4	117	7.9
Hardin.....	136	5.9	142	6.2	153	6.7
Harrison.....	169	6.8	187	7.5	188	7.5
Henry.....	174	9.8	94	5.3	105	5.9
Howard.....	125	9.6	180	13.8	209	16.0
Humboldt.....	70	5.3	86	6.5	75	5.7
Ida.....	50	4.2	44	3.7	60	5.0
Iowa.....	89	5.1	100	5.8	111	6.4
Jackson.....	100	5.4	111	6.0	124	6.7
Jasper.....	199	5.9	233	6.9	220	6.5
Jefferson.....	98	6.0	104	6.4	122	7.5
Johnson.....	199	6.4	318	10.3	294	9.5
Jones.....	115	5.9	155	8.0	120	6.2
Keokuk.....	83	4.3	86	4.5	129	6.7
Kossuth.....	139	5.4	226	8.9	256	10.0

NUMBER OF MARRIAGES WITH RATES (PER 1,000 POPULATION) BY
 COUNTIES—1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee	285	6.8	368	8.9	297	7.2
Linn	562	6.7	695	8.3	728	8.7
Louisa	52	4.5	61	5.3	46	4.0
Lucas	98	6.5	128	8.5	105	6.9
Lyon	76	4.9	125	8.2	116	7.0
Madison	81	5.7	85	5.9	75	5.2
Mahaska	173	6.7	178	6.9	167	6.5
Marion	130	5.0	153	5.9	151	5.8
Marshall	232	6.8	284	8.4	287	8.5
Mills	206	12.9	299	18.8	259	16.3
Mitchell	121	8.6	150	10.6	202	14.3
Monona	126	6.9	126	6.9	136	7.4
Monroe	86	5.7	114	7.6	98	6.5
Montgomery	98	5.9	128	7.6	141	8.4
Muscatine	177	6.0	246	8.4	234	8.0
O'Brien	66	3.6	96	5.2	119	6.5
Osceola	69	6.8	84	8.2	87	8.5
Page	157	5.9	189	7.2	244	9.3
Palo Alto	97	6.3	115	7.5	135	8.8
Plymouth	168	6.9	235	9.7	192	7.9
Pocahontas	87	5.5	93	5.9	101	6.4
Polk	1,384	7.9	1,786	10.2	1,742	9.9
Pottawattamie	483	6.8	709	9.9	669	9.4
Poweshiek	88	4.7	100	5.3	92	4.9
Ringgold	85	7.1	51	4.3	43	3.6
Sac	69	3.9	106	5.9	121	6.8
Scott	426	5.5	600	7.7	725	9.3
Shelby	78	4.5	84	4.8	101	5.8
Sioux	123	4.6	183	6.8	200	7.4
Story	205	6.4	240	7.6	257	8.0
Tama	106	4.8	116	5.2	119	5.4
Taylor	61	4.1	65	4.4	58	3.9
Union	122	6.9	153	8.7	144	8.2
Van Buren	35	2.8	36	2.9	40	3.2
Wapello	200	6.3	338	8.3	341	8.3
Warren	116	6.6	192	10.8	193	10.9
Washington	103	5.2	100	5.0	93	4.7
Wayne	70	5.1	59	4.3	53	3.8
Webster	270	6.6	360	8.6	396	9.7
Winnebago	95	7.2	97	7.4	143	10.9
Winneshiek	166	7.7	295	13.6	390	18.0
Woodbury	563	5.4	779	7.6	665	6.4
Worth	225	20.2	374	33.5	412	36.9
Wright	125	6.2	111	5.5	125	6.2
State	16,018	6.4	20,240	8.1	20,968	8.4

NUMBER OF DIVORCES WITH RATES (PER 1,000 POPULATION) BY
COUNTIES—1933-1934-1935
(Cities Included)

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Adair.....	11	.8	10	1.2	7	.5
Adams.....	5	.5	10	1.0	6	.6
Allamakee.....	11	.8	10	.6	10	.6
Appanoose.....	30	1.2	40	1.6	31	1.2
Audubon.....	9	.7	5	.4	5	.4
Benton.....	28	1.2	32	1.4	20	.9
Black Hawk.....	132	2.1	189	2.7	198	2.8
Boone.....	54	1.8	51	1.7	43	1.5
Bremer.....	12	.7	15	.9	7	.4
Buchanan.....	16	.8	20	1.0	15	.8
Buena Vista.....	19	1.0	17	.9	16	.9
Butler.....	10	.6	7	.4	19	1.1
Calhoun.....	16	.9	17	1.0	17	1.0
Carroll.....	13	.6	10	.4	14	.6
Cass.....	18	.9	22	1.1	27	1.4
Cedar.....	12	.7	17	1.0	11	.7
Cerro Gordo.....	111	2.8	119	3.1	101	3.3
Cherokee.....	11	.6	12	.6	26	1.4
Chickasaw.....	3	.2	5	.3	6	.4
Clarke.....	12	1.2	15	1.4	22	2.1
Clay.....	21	1.3	27	1.7	19	1.2
Clayton.....	11	.4	26	1.1	29	1.2
Clinton.....	60	1.3	72	1.6	76	1.7
Crawford.....	14	.7	19	.9	11	.5
Dallas.....	32	1.3	35	2.2	31	1.2
Davis.....	11	.9	10	.9	15	1.3
Decatur.....	9	.6	14	.9	17	1.1
Delaware.....	12	.7	12	.7	21	1.2
Des Moines.....	48	1.2	70	1.8	56	1.5
Dickinson.....	21	1.9	24	2.2	24	2.2
Dubuque.....	55	.9	43	.7	65	1.1
Emmet.....	15	1.2	21	1.6	23	1.8
Fayette.....	26	.9	29	1.0	26	.9
Floyd.....	17	.9	30	1.5	24	1.2
Franklin.....	12	.7	15	.9	16	1.0
Fremont.....	19	1.2	12	.8	16	1.0
Greene.....	15	.9	28	1.7	23	1.4
Grundy.....	10	.7	2	.1	3	.2
Guthrie.....	16	.9	16	.9	13	.8
Hamilton.....	21	.9	28	1.3	20	.9
Hancock.....	7	.5	9	.6	13	.9
Hardin.....	19	.8	20	.9	30	1.3
Harrison.....	29	1.2	26	1.0	27	1.1
Henry.....	8	.5	20	1.1	24	1.4
Howard.....	4	.3	8	.6	7	.5
Humboldt.....	9	.7	7	.5	14	1.0
Ida.....	10	.8	8	.7	9	.7
Iowa.....	8	.5	10	.6	4	.2
Jackson.....	15	.8	17	.9	23	1.2
Jasper.....	33	.9	53	1.6	42	1.2
Jefferson.....	22	1.4	16	1.0	25	1.5
Johnson.....	53	1.7	46	1.5	59	1.9
Jones.....	29	1.0	22	1.1	33	1.7
Keokuk.....	21	1.1	16	.8	27	1.4
Kossuth.....	18	.7	18	.7	9	.4

NUMBER OF DIVORCES WITH RATES (PER 1,000 POPULATION) BY
 COUNTIES—1933-1934-1935—Continued

Area	Years					
	1933		1934		1935	
	Number	Rate	Number	Rate	Number	Rate
Lee	67	1.6	98	2.4	92	2.2
Linn	224	2.7	241	2.9	294	3.5
Louisa	13	1.1	14	1.2	15	1.3
Lucas	24	1.6	26	1.7	15	1.0
Lyon	1	.1	3	.2	5	.3
Madison	12	.8	11	.8	14	1.0
Mahaska	36	1.3	56	2.2	33	1.3
Marion	19	.7	21	.8	18	.7
Marshall	76	2.2	70	2.1	87	2.6
Mills	22	1.4	24	1.5	17	1.1
Mitchell	9	.6	8	.6	9	.6
Monona	19	1.0	22	1.2	31	1.7
Monroe	10	.7	13	.9	21	1.4
Montgomery	18	1.1	21	1.3	20	1.2
Muscatine	95	3.2	11	.4	108	3.7
O'Brien	10	.5	8	.4	14	.8
Osceola	3	.3	11	1.1	5	.5
Page	44	1.7	46	1.8	34	1.3
Palo Alto	5	.3	18	1.2	16	1.0
Plymouth	12	.5	8	.3	9	.4
Pocahontas	9	.6	12	.8	8	.5
Polk	640	3.6	841	4.8	796	4.5
Pottawattamie	148	2.0	151	2.1	203	2.8
Poweshiek	20	1.1	11	.6	20	1.1
Ringgold	9	.8	13	1.1	12	1.0
Sac	17	.9	20	1.1	22	1.2
Scott	248	3.2	289	3.7	265	3.4
Shelby	10	.6	14	.8	14	.8
Sioux	3	.1	6	.2	5	.2
Story	5	.2	31	1.1	40	1.3
Tama	13	.6	21	.9	23	1.0
Taylor	11	.8	8	.5	13	.9
Union	24	1.4	28	1.6	26	1.5
Van Buren	12	.9	19	1.5	13	1.0
Wapello	119	2.9	141	3.4	150	3.7
Warren	10	.6	9	.5	6	.3
Washington	10	.5	11	.6	20	1.0
Wayne	11	.8	15	1.1	11	.8
Webster	50	1.2	66	1.6	63	1.5
Winnebago	8	.6	7	.5	6	.5
Winneshiek	6	.3	4	.2	12	.6
Woodbury	260	2.5	330	3.2	272	2.6
Worth	3	.3	8	.7	7	.6
Wright	12	.6	28	1.4	23	1.1
State	3,656	1.5	4,334	1.7	4,392	1.8

DIVISION OF COMMUNICABLE DISEASES AND EPIDEMIOLOGY

CARL F. JORDAN, M. D., C. P. H., Director

SCOPE OF REPORT

Consideration is given in this report to activities relative to various communicable or preventable diseases for the period July 1, 1934 to July 1, 1936. The report includes a list of field visits in the interest of communicable diseases, a summary of epidemiological investigations of outbreaks of epidemic disease and of steps taken toward their control or prevention. There are presented also, tables and charts or diagrams pertaining to reported prevalence of and recorded deaths from some of the communicable or infectious diseases for the twenty-eight year period 1908-1935. These charts are based in part upon careful study of previous biennial reports of the Iowa State Department of Health from which figures regarding reported sickness (morbidity) and deaths (mortality) were obtained. The report closes with a table dealing with the number of cases of different communicable diseases reported monthly for the years 1934 and 1935.

BACILLARY DYSENTERY AND DIARRHEAL DISORDERS

Each year in Iowa, many deaths occur in young children and among elderly or aged persons as the result of bacillary dysentery and of diarrhea and enteritis, or what is commonly known as "summer complaint." The following table (Table 1) shows the number of deaths from these causes recorded in Iowa for the five-year period 1930-1934:

TABLE 1
DEATHS DUE TO BACILLARY DYSENTERY AND TO DIARRHEA
AND ENTERITIS IN IOWA

Year	(1) Bacillary Dysentery	(2) Diarrhea and Enteritis Under and over 2 yrs.	Total Deaths (1) and (2)
1930	3	331	334
1931	6	337	343
1932	1	214	215
1933	3	246	249
1934	44	297	341

In August of 1934, investigation was made of an outbreak of diarrhea and enteritis in Plymouth county. The opinion that this outbreak was due to a germ (*Bacillus dysenteriae*) which causes

baillary dysentery, was confirmed by positive laboratory report. In March, 1935, investigation was made of cases of intestinal infection in Lucas county, with evidence pointing to baillary dysentery as the specific cause of the disorder.

During the autumn months of 1934, through a questionnaire study in cooperation with 109 attending physicians, information was obtained relative to 123 of the 341 deaths from dysentery and from diarrhea and enteritis which occurred in Iowa in 1934. The fatalities concerned 54 counties in all parts of the state, were equally divided among males and females and were confined largely to children under two years of age and to persons 70 years of age and older. Symptoms and signs of illness were those of severe diarrhea, with fever, rapid loss of weight and exhaustion. The intestinal discharges in most cases contained blood and mucus.

Study of epidemics of summer diarrhea or so-called "summer complaint" and of factors associated with fatal cases of diarrhea and enteritis in those under and over two years of age, indicates that many of these deaths are due to baillary dysentery. It is desirable that more specimens of the bodily (fecal) discharges be sent to laboratories so as to lead to discovery of the causative germ in severe cases of diarrhea. The spread of infection in dysentery and diarrhea is similar to that of typhoid fever. Danger to human health from these causes is lessened by effective methods of fly control and excreta disposal, by careful attention to home hygiene and by safe milk and water supplies.

BRUCELLOSIS (UNDULANT FEVER) IN IOWA

Brucellosis is an infectious disease caused by germs of the brucella group and communicable to man from infected animals. In Iowa, the animals chiefly concerned are cows and hogs, in which the disease is called infectious or contagious abortion. The condition in cows is commonly known as Bang's disease; brucellosis in man is the same as undulant (Malta) fever.

L. R. Woodward, M. D., of Mason City, was the first physician to recognize and report a case of brucellosis in man or undulant fever, in Iowa. This was in December, 1926. A blood specimen from Dr. Woodward's patient was tested in the State Hygienic Laboratories at Iowa City, under the direction of A. V. Hardy, M. D. The agglutination test for this disease was thereafter carried out routinely by Dr. Hardy and his associates, on all blood specimens from fever patients. As a result of the report of the first case in

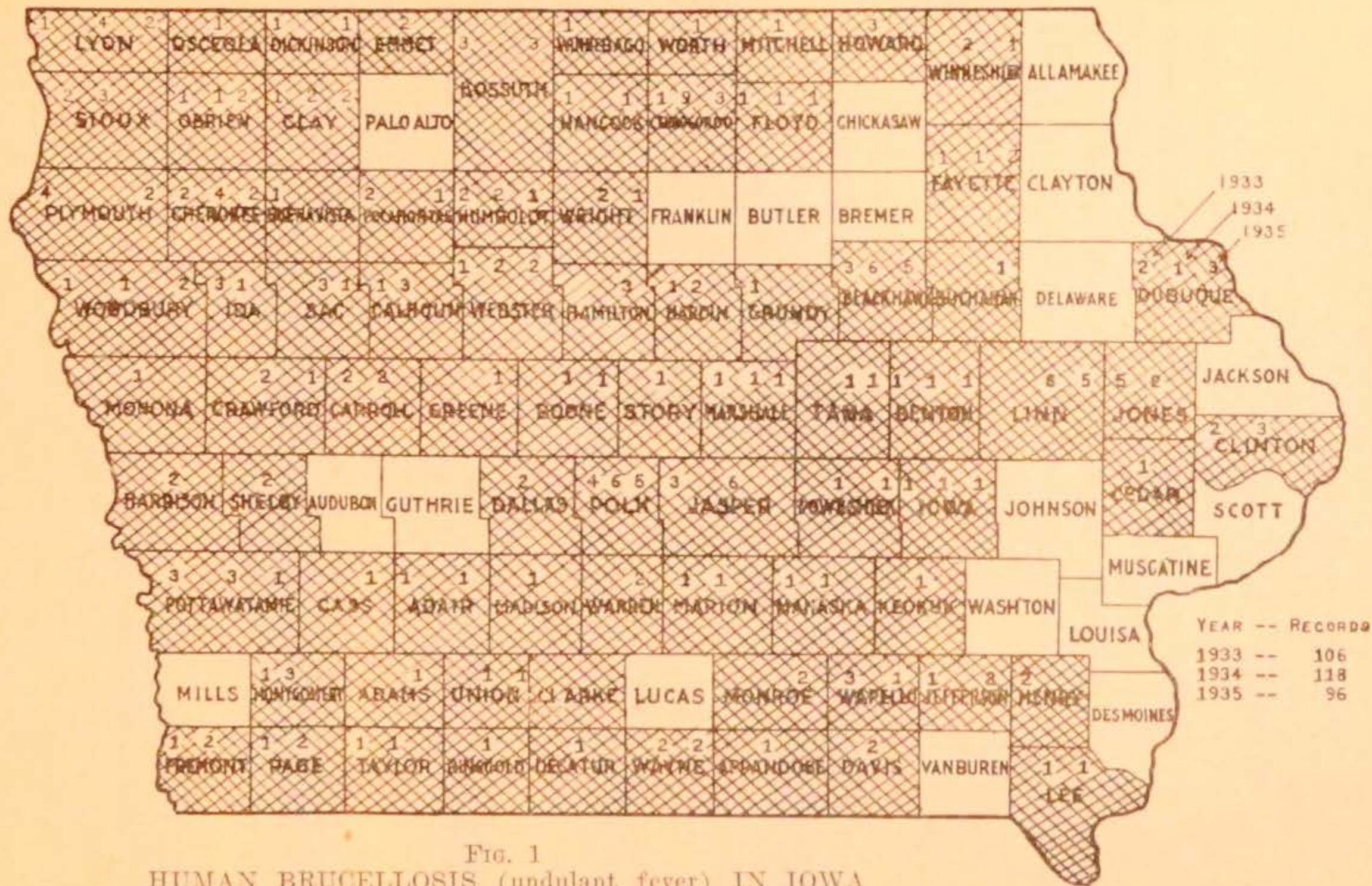


FIG. 1
HUMAN BRUCELLOSIS (undulant fever) IN IOWA
Distribution of Cases—1933-1934-1935

1926, 41 cases were reported in Iowa the following year, 118 cases in 1928, and an increasing number in the years which have since intervened. In 1929, Walter L. Bierring, M. D., reported on the symptoms, diagnosis and treatment of human brucellosis (undulant fever), after a thorough study of 150 cases of the disease which had been under observation in Iowa up to that time.

Prevalence of Brucellosis in Man (Undulant Fever) in Iowa

This disease has been recognized in Iowa for a period of nearly a decade. During these years, one or more cases have been reported from all counties in the state. The accompanying map (Fig. 1) indicates the 79 counties from which the disease was reported during the three-year period 1933-1935, together with the number of cases for each of these years.

The bar diagram (Fig. 2) shows the total number of positive blood tests reported from the State Hygienic Laboratories at Iowa City during each of the 10 years from 1926-1935. The grand total of these laboratory reports (including some duplicate reports or repeat specimens), is 2,254. The stippled bars represent brucellosis cases officially reported to the state department of health and for which detailed case records are available; these reports total 1,063.

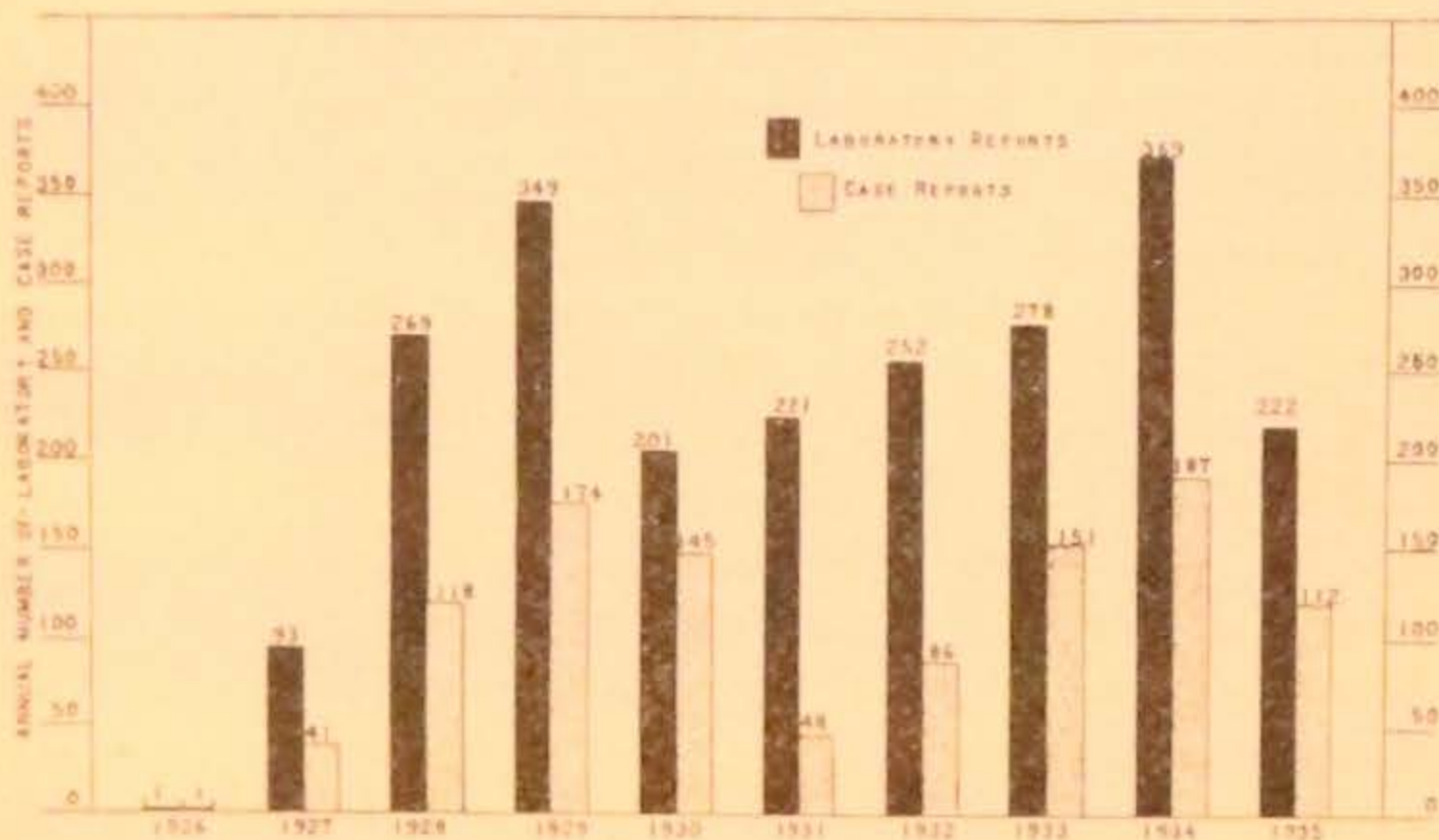


FIG. 2
UNDULANT FEVER IN IOWA (1926-1935)

Transmission of the Brucella Germ

How the disease is taken

How is brucellosis acquired by people who live on the farm or whose home is in the city? Individuals may acquire the disease (1) as the result of direct contact with infected animals or (2) following the use of raw dairy products from infected dairy cows. If the disease is due to contact with infected animals or their tissues, the germ usually gains entrance to the human body through the skin.

Persons who live on farms are more subject to brucellosis than those who live in cities. On farms, the disease affects more farmers than farm wives. This doubtless is due to the fact that men on the farm come in contact with hogs and cows to a much greater extent than do farm women. Farmers have direct contact with animals during loading or unloading for market. They hold struggling animals at different times, for example when "ringing" pigs. The handling of infected cows or sows and of the young at time of birth, represent hazardous types of contact. Cuts, abrasions and friction (as in holding a struggling animal), favor entrance of the germ through the skin and into the human body. Spread of infection by a patient to other members of the household is not known to occur.

Urban residents, with the noted exception of packing house workers, have little or no occasion to come in contact with infected animals. Human brucellosis, acquired in city or town is due, as a rule, to the use of milk, cream and butter which lack certain safeguards, chief of which is pasteurization.

Relation of Occupation of Disease Spread

Three hundred and nineteen cases of brucellosis hominis (undulant fever) which were reported to the Iowa State Department of Health during the three-year period 1933-1935, have been arranged according to occupation of the patients and according to residence in rural or urban areas. The result and the figures are shown in the accompanying bar diagram (See Fig. 3).

In urban districts, cases of brucellosis occur quite frequently in packing house workers. In these persons the disease is probably not related to dairy products, since 65 per cent of a group of 247 employees in a certain packing plant, used pasteurized milk, 9 per cent used both raw and pasteurized products, 7 used no milk and only 19 per cent used raw milk. Eating of inadequately cooked meat is not a significant factor in transmitting the germ, because only 14, or 6 per cent of 244 such workers gave a history of eating raw or rare cooked meat. It is apparent, therefore, that in the case of packing house employees, direct contact with infected animals or with surfaces contaminated by purulent (pus) discharges, is a chief means of spread of infection from animal to man.

Measures Aimed at Prevention

The control of brucellosis in man is dependent upon measures to prevent the transmission of the disease through dairy products

BRUCELLOSIS (Undulant fever) IN IOWA

Showing Distribution of 319 Cases Reported During 1933-1935
Arranged According to Urban and Rural Residence and Occupation

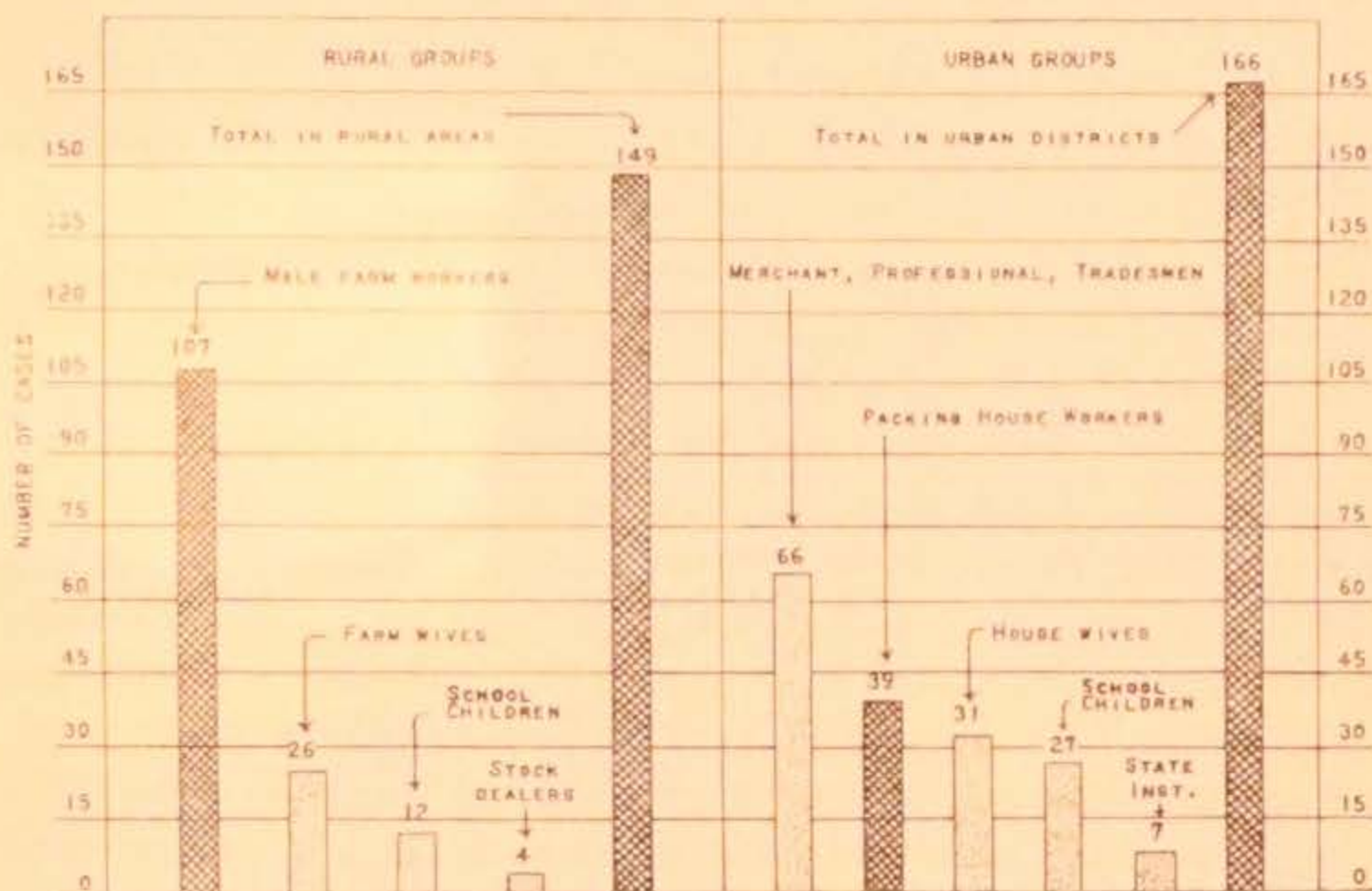


FIG. 3

and to lessen the hazards of exposure through contact with infected animals or their environment. The importance of infected hogs as a chief factor to account for undue prevalence of human brucellosis in Iowa as compared with other states, has been emphasized by Hardy and associates.

A. Avoiding Milk-Borne Disease

1. Eradicating Brucellosis or Bang's Disease in Cows

During the past two years, the U. S. Bureau of Animal Industry and Iowa State Department of Agriculture have arranged for the testing of cows for evidence of Bang's disease or infectious (contagious) abortion. Federal funds have been available to indemnify the owner for animals which react to the agglutination test. During 1935, in Iowa, cattle numbering 127,061 were tested. Reactors numbered 22,246, or 17 per cent. During the first six months of 1936, the number of cattle tested was 71,272; of these, 9,817 or 14 per cent proved to be reactors.

2. Pasteurization of Dairy Products

Brucellosis involving man and due to raw dairy products from infected animals, is preventable by pasteurization. Brucella germs

which cause brucellosis, are destroyed when milk is heated to 143.5 degrees (Fahrenheit) and held at that temperature for thirty minutes; this is an essential part of the standard pasteurizing process.

B. Avoiding Contact-Borne Disease

1. Eradicating brucellosis or abortion disease in hogs and cows

It is obvious that the testing of animals with removal of reactors is a chief means of lessening the danger of exposure through direct contact with the disease germs. The Iowa State Department of Health works together with the U. S. Bureau of Animal Industry and Iowa State Department of Agriculture. In this way, animals concerned in human cases of brucellosis are tested and reactors removed from herds. Unless animals are tested, potential sources of infection may give rise, over a period of time, to further cases of brucellosis in the same household. This actually has happened in several families in Iowa. Removal of reactors likewise prevents further spread of disease among animals and therefore constitutes good economics. Wise procedure is for farmers and dairymen to consult with the attending veterinarian regarding the control of brucellosis in animals.

2. Vaccination

Inoculation with an approved brucella vaccine, with the purpose of increasing resistance to infection, should be seriously considered by farm workers and others who come in frequent contact with live stock.

3. Limiting the chances for exposure

The danger of brucellosis may be reduced greatly by avoiding as much as possible, all forms of direct contact with animals which may be infected. The wearing of heavy gloves or suitable rubber gloves if contact is unavoidable, should aid in protecting the skin against exposure.

Through continued carrying out of measures similar to those above outlined, the prevalence of brucellosis in urban and rural areas as affecting man and animals, should decrease noticeably from year to year.

DIPHTHERIA

The havoc caused by diphtheria in the past is evident in the record of reported illness and fatality from this cause. The following table (Table 2) shows the number of cases of diphtheria

reported in Iowa and the number of deaths, for the 28 year period 1908-1935 inclusive:

TABLE 2
DIPHTHERIA IN IOWA—1908-1935

Year	Number of Reported Cases	Number of Deaths	Year	Number of Reported Cases	Number of Deaths
			Totals For'd	13,248	2,212
1908	1,364	219	1922	2,273	282
1909	963	62	1923	1,507	233
1910	419	205	1924	863	151
1911	802	176	1925	1,036	117
1912	1,060	119	1926	865	111
1913	878	162	1927	1,015	121
1914	1,032	159	1928	581	67
1915	669	131	1929	397	47
1916	470	35	1930	412	44
1917	645	17	1931	509	41
1918	879	211	1932	657	63
1919	997	177	1933	563	53
1920	1,017	184	1934	415	40
1921	2,053	355	1935	599	55
Grand Totals—1908-1935				24,940	3,637

The accompanying charts (Figs. 4 and 5) present the same information graphically, in the form of bar diagrams.

In 1935, epidemiological investigations of diphtheria were made in Jewell (Story county), in a rural area near Rockwell City (Calhoun county) and in McGregor, Marquette and vicinity (Allamakee county).

Diphtheria Morbidity and Mortality in Iowa, in Relation to Immunization

Have any deaths from diphtheria resulted in Iowa in recent years among persons who have received active immunization against this disease at some time in the past?

Early in 1936, a study was conducted in cooperation with physicians of the state to obtain definite information regarding the above questions. The study was based on the 2,743 cases of diphtheria reported to the Iowa State Department of Health for the five-year period 1931-1935 and upon the 252 deaths for the same period and due to diphtheria. Results are summarized as follows:

Among a total of 260 records of reported cases of diphtheria, only 19, or 7.3 per cent, gave a history of previous immunization. Of these immunizations, 18 were with toxin-antitoxin and one with

DIPHTHERIA CASES IN IOWA—1908-1935
NUMBER OF CASES

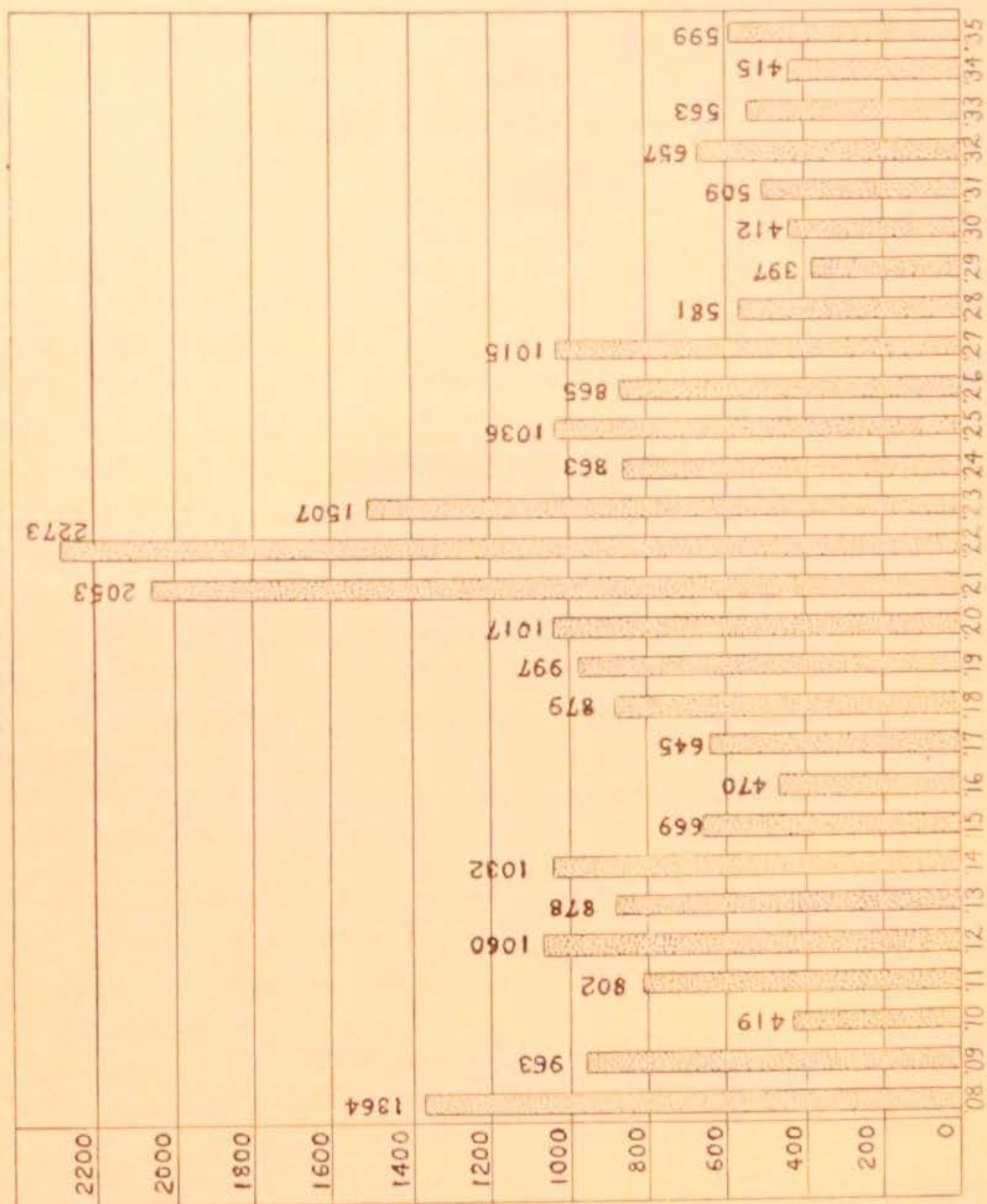


FIG. 4

liquid toxoid. Among 163 records of deaths from diphtheria, completed and returned by attending physicians, only 5, or 3.0 per cent gave a history of active immunization in the years preceding fatal illness. Four of the immunizations were with toxin-anti-toxin and one with alum precipitated toxoid.

These results indicate that with surprisingly few exceptions, illness or death from diphtheria in Iowa for the period 1931-1935 affected only those individuals who had not during the months or

DIPHTHERIA DEATHS IN IOWA—1908-1935
NUMBER OF DEATHS

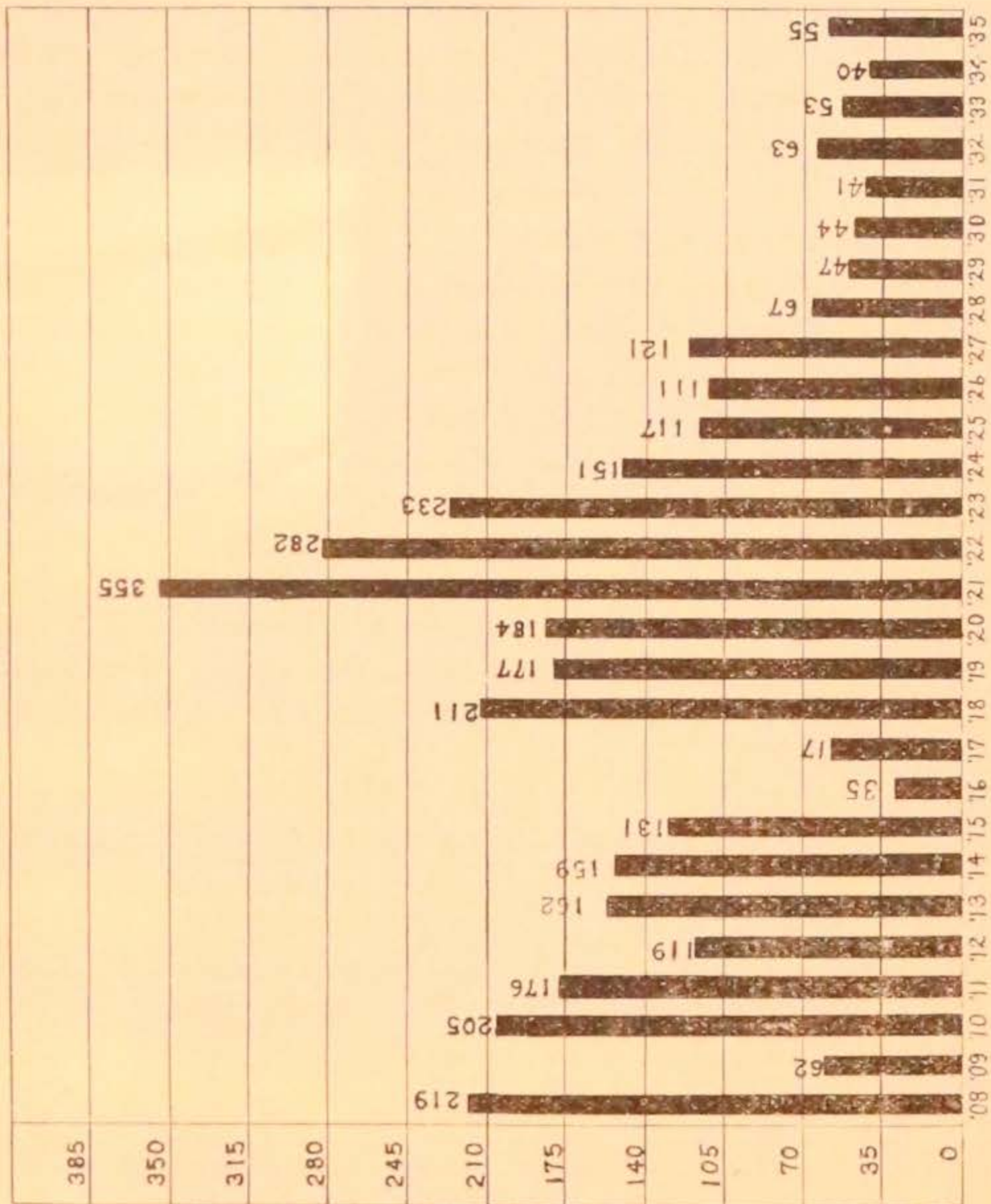


FIG. 5

years prior to illness received the benefit of diphtheria preventive treatment.

Diphtheria Immunization Projects

As a direct result of the remarkable advances and discoveries of modern medicine, diphtheria has for over a decade been a readily preventable disease. No child need die of diphtheria. The Iowa State Department of Health has in recent years exerted every effort in the campaign to eradicate diphtheria. These efforts have

included distribution, without cost, of a large amount of the diphtheria preventive agent, cooperation with various sponsoring agencies in the conduct of diphtheria immunization projects and an educational program urging parents to protect children early in life against the ravages of diphtheria.

MEASLES

Prevalence and Importance

The years 1934 and 1935 witnessed another widespread epidemic of the severe form of measles, often called common or red measles. More than twice as many cases of measles were reported to the state department of health than in any previous major outbreak of the disease. Reported cases of measles totaled 8,977 in 1934 and 21,432 in 1935. There were 67 fatalities due to measles in 1934 and 151 deaths in 1935. In view of the many deaths caused by this disease and its complications, measles must be regarded as one of the major infectious or communicable diseases.

The following table (Table 3) shows the number of reported cases of measles and deaths from this cause covering the 28-year period 1908-1935.

TABLE 3
MEASLES IN IOWA—1908-1935

Year	Number of Reported Cases	Number of Deaths	Year	Number of Reported Cases	Number of Deaths
1908	5,565	41	1922	14,611	937
1909	2,769	17	1923	119	13
1910	*	60	1924	2,687	111
1911	*	126	1925	3,701	262
1912	*	18	1926	247	10
1913	*	117	1927	4,495	63
1914	*	30	1928	10,604	225
1915	78	91	1929	895	14
1916	706	49	1930	2,154	39
1917	659	0	1931	9,894	199
1918	1,314	203	1932	904	5
1919	167	22	1933	156	3
1920	1,387	91	1934	894	5
1921	1,966	72	1935	8,977	67
				21,432	151
Grand Totals—1908-1935				81,770	2,104

*No record in earlier biennial reports.

The accompanying bar diagrams (Figs. 6 and 7) present the same information in pictorial form. It will be noted that measles has a cyclic tendency, widespread incidence or prevalence occurring, on the average, every three years.

MEASLES CASES IN IOWA—1908-1935
NUMBER OF CASES

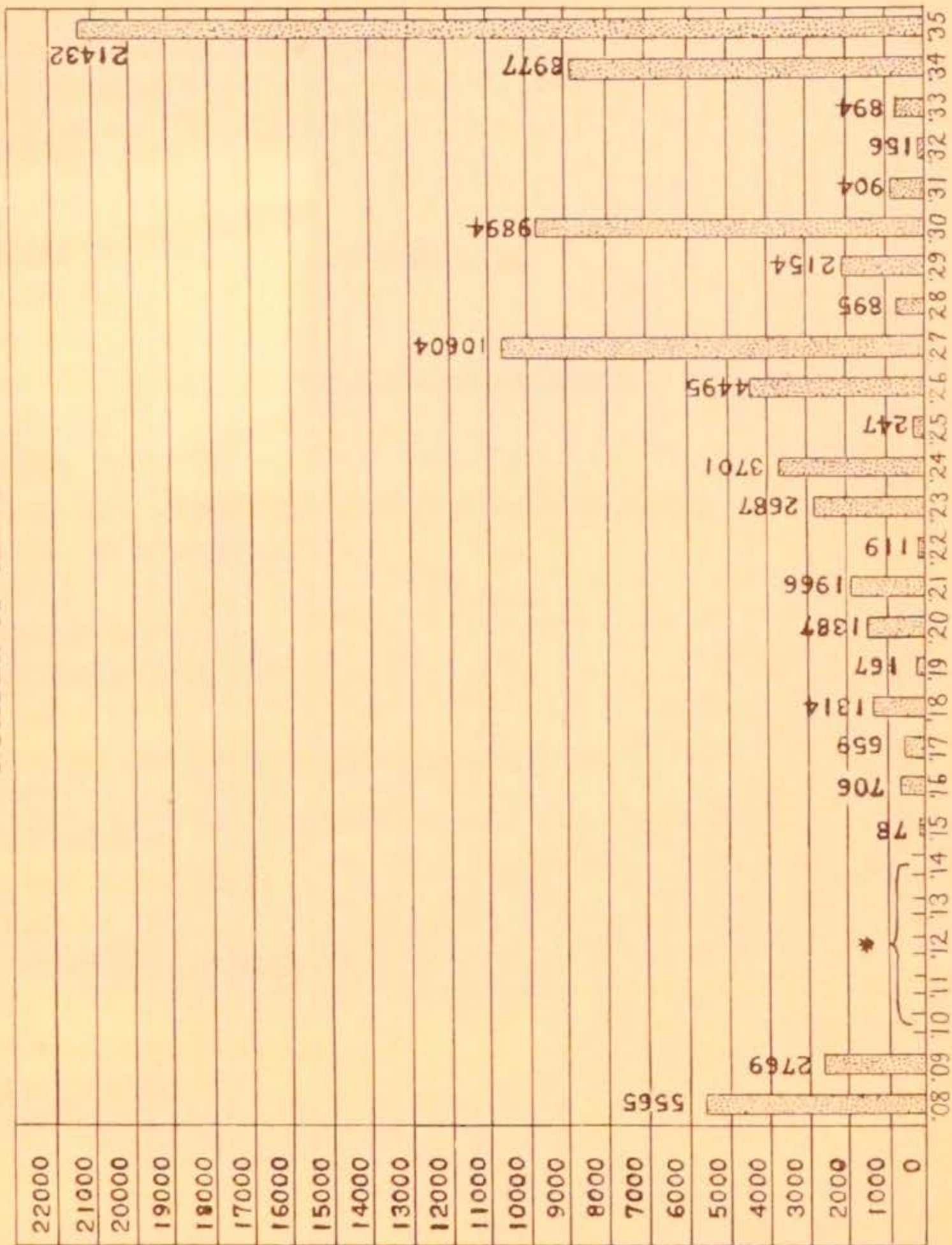


Fig. 6

Convalescent Measles Serum

It has been demonstrated in recent years that convalescent measles serum is of value as a control measure against measles and in preventing serious complications from this disease. Convalescent serum is human immune serum, prepared from the blood of patients who have recovered from an attack of measles. The serum is sub-

MEASLES DEATHS IN IOWA—1908-1935
NUMBER OF DEATHS

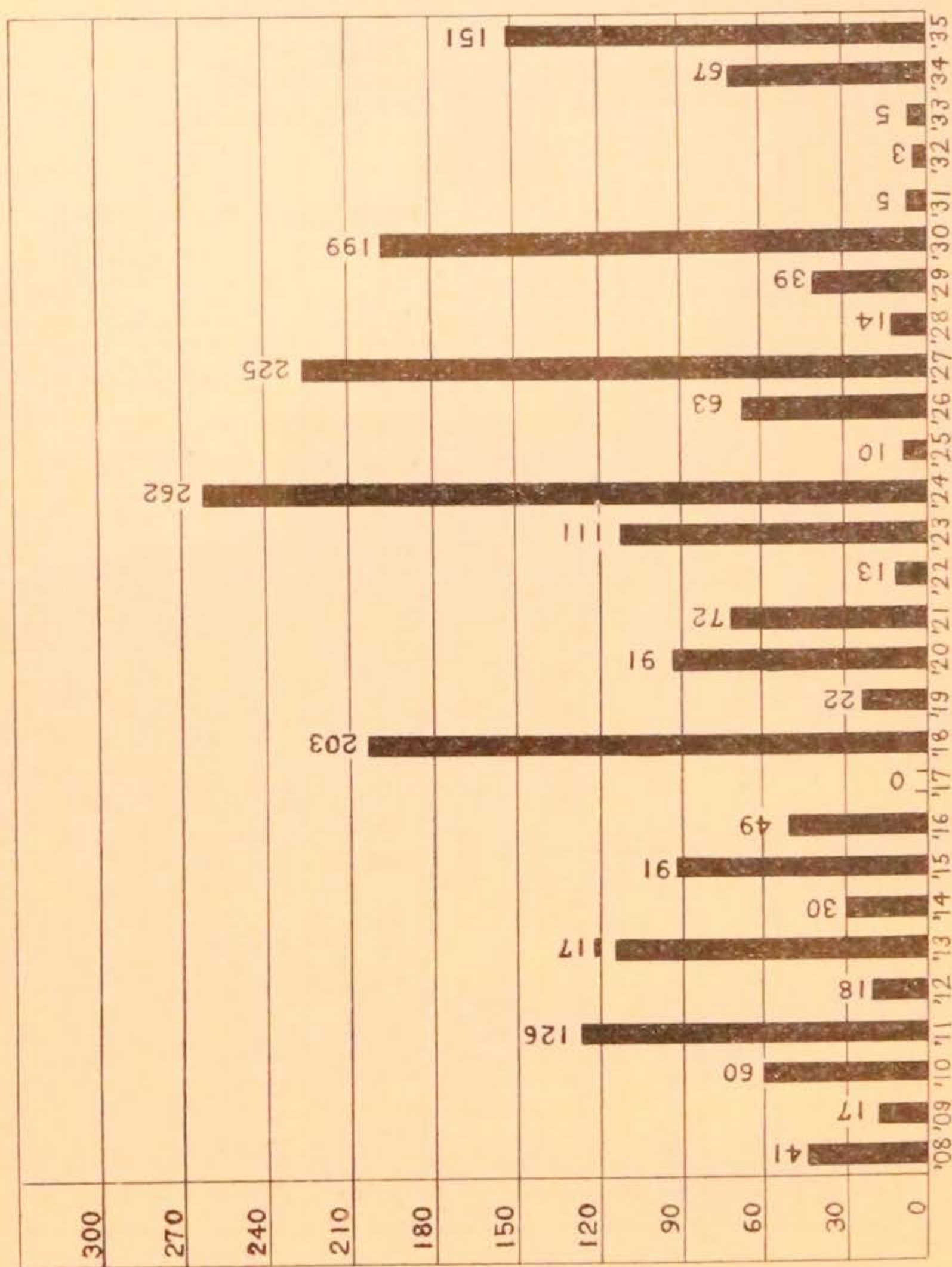


FIG. 7

jected to rigid tests requiring a period of two weeks, before it is ready for use. Convalescent measles serum will prevent measles if administered to a susceptible child who is already in a weakened condition and who has within several days been exposed to the disease. The serum is also used to modify the attack of

measles or cause illness to appear in mild form. With measles in modified or light form, a child acquires permanent immunity and at the same time, escapes the possibility of severe complications such as bronchopneumonia, middle ear disease and meningitis.

Early in 1935, the state department of health cooperated with the Samuel Deutsch Serum Center, Michael Reese Hospital, Chicago, in arrangements for the collection, preparation and distribution of measles convalescent serum. On several occasions blood was obtained in Waterloo, Iowa Falls and Des Moines, from persons convalescent from measles. Each donor was paid the sum of \$5.00 for contributing a small amount (about 8 ounces) of blood.

By extending facilities for the preparation of convalescent measles serum and by making universally known the fact that measles can be prevented or (preferably) modified, it will be possible to decrease the number of complications and fatalities attributable to measles.

MENINGOCOCCIC MENINGITIS

The term meningococcic meningitis refers to the epidemic form of the disease, also known as epidemic meningitis or cerebrospinal meningitis. The disease is caused by a distinct kind of germ called the meningococcus. The following table (Table 4) presents figures for reported cases of meningococcic meningitis and deaths from this cause for the 28-year period 1908-1935:

TABLE 4
MENINGOCOCCIC MENINGITIS IN IOWA
Recorded Cases and Deaths, 1908-1935

Year	Number of Reported Cases	Number of Deaths	Year	Number of Reported Cases	Number of Deaths
1908	121	5	1922	23	*
1909	15	3	1923	12	18
1910	12	107	1924	15	4
1911	13	104	1925	15	2
1912	20	68	1926	29	17
1913	50	54	1927	35	21
1914	19	31	1928	46	28
1915	18	28	1929	70	44
1916	14	4	1930	106	82
1917	46	10	1931	73	65
1918	51	88	1932	35	23
1919	31	38	1933	66	35
1920	27	*	1934	55	31
1921	40	*	1935	95	52
Grand Totals—1908-1935				1,102	962

*No record in earlier biennial reports.

The accompanying charts (Figs. 8 and 9) are line diagrams containing the same information as Table 4, in graphic form.

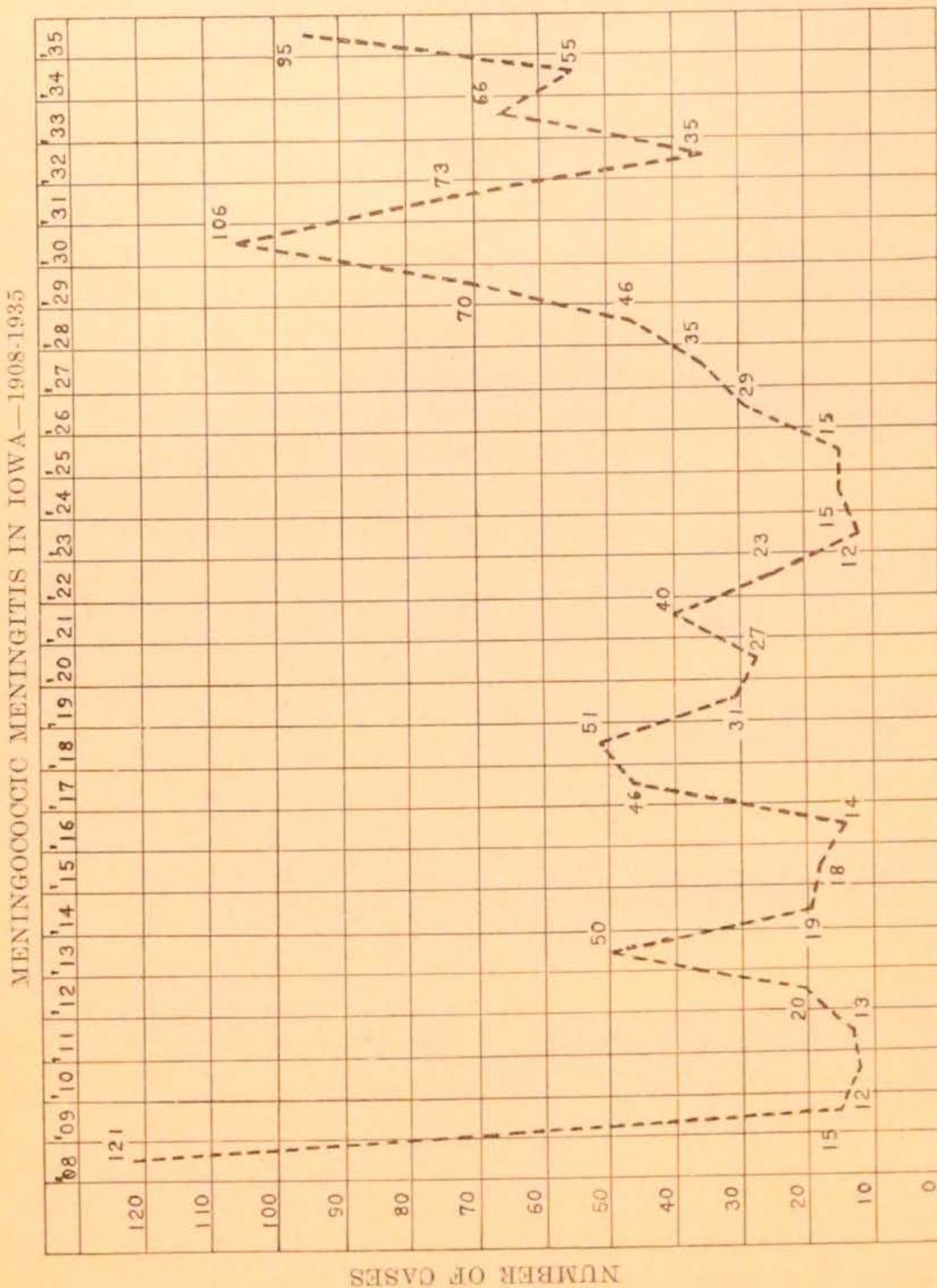
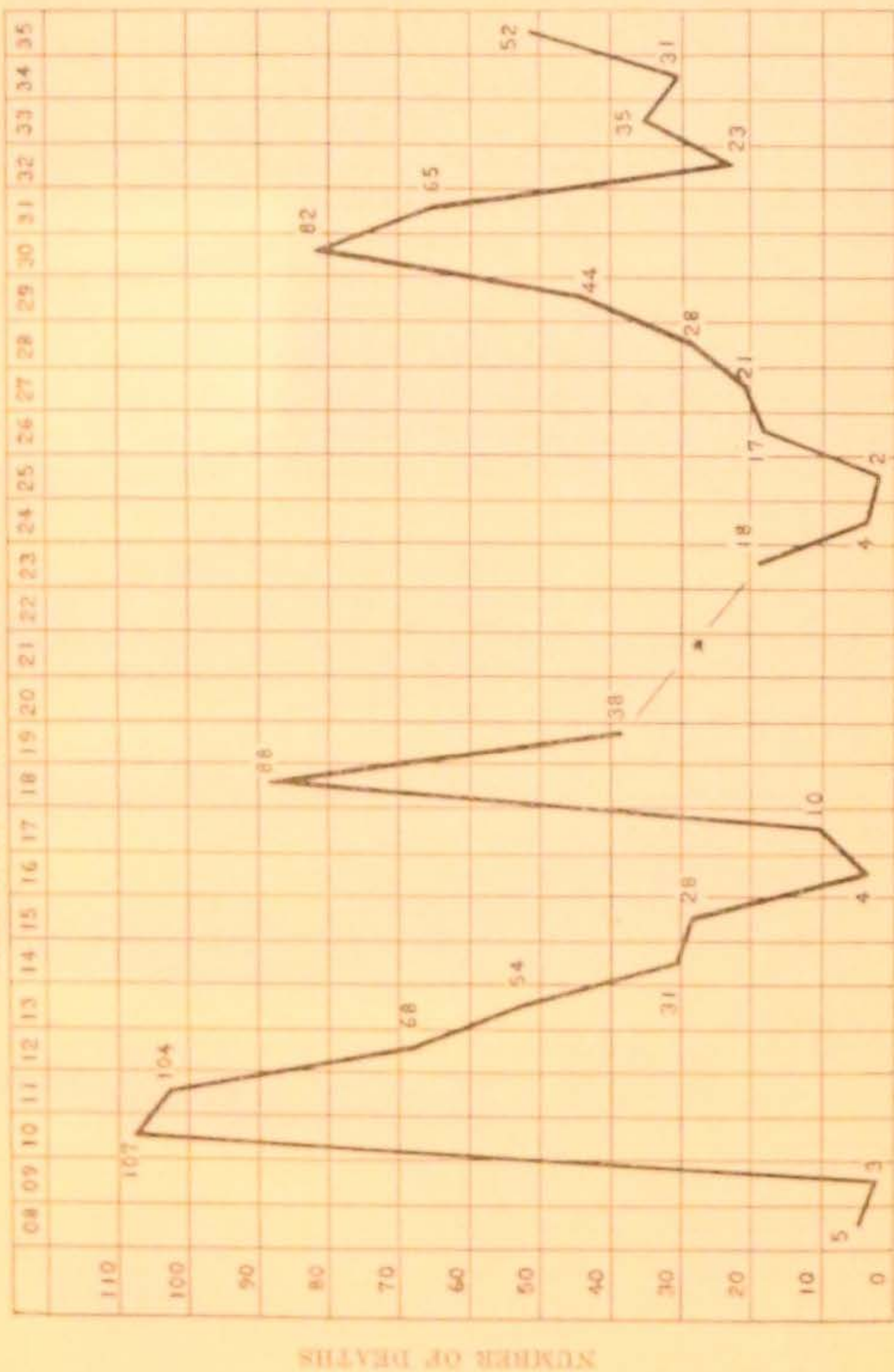


FIG. 8

MEININGITIS DEATHS IN IOWA—1908-1915



*No record.

FIG. 9

MENINGOCOCCIC MENINGITIS DEATHS IN IOWA—1908-1935

Investigation of an outbreak of meningococcic meningitis was made in Valley Junction, population 4,280 (Polk county) in February, 1936. The disease is usually of sporadic character, giving rise to a single case here and there in a given community. However, in one family, that of a miner, two children died of this disease during a period of several months and a third child in the same home, recovered from an attack but was left stone deaf.

Meningococcic meningitis, unless promptly recognized and adequately treated is attended by high mortality. Fortunately, significant advances are being made in the control of this disease. With the use of antitoxin, it is possible to destroy the meningococcus germ and to lower the mortality rate. There is likewise hope that an effective method will soon be developed for preventing this severe infectious disease.

MOTTLED ENAMEL OF TEETH

During the biennial period, the search for endemic areas of mottled enamel of the teeth in relation to the presence of fluorine in the water of certain deep wells in the state, was continued. This work has been conducted in cooperation with the United States Public Health Service and attending dentists in the communities concerned.

Fifteen counties and 23 towns in which endemic areas of mottled enamel have been found, are as follows:

County	Town(s)
Boone	*Ogden
Bremer	*Waverly
Calhoun	Manson
Dallas	Redfield
Greene	Rippey
Grundy	Conrad
Guthrie	Stuart
Hamilton	*Stratford, Webster City
Polk	Ankeny
Pottawattamie	Oakland
Poweshiek	*Brooklyn
Scott	*Eldridge
Story	Huxley, Maxwell, *Nevada
Tama	Dysart, Garwin, Gladbrook
Webster	Dayton, Duncombe, Gowrie, Lehigh

*Very mild type.

At Ankeny, the town from which mottled enamel of teeth was first reported in Iowa, practically 100 per cent of the children born and reared in that community and who have used the water

from the municipal well, show mottled enamel of moderately severe or severe type.

POLIOMYELITIS

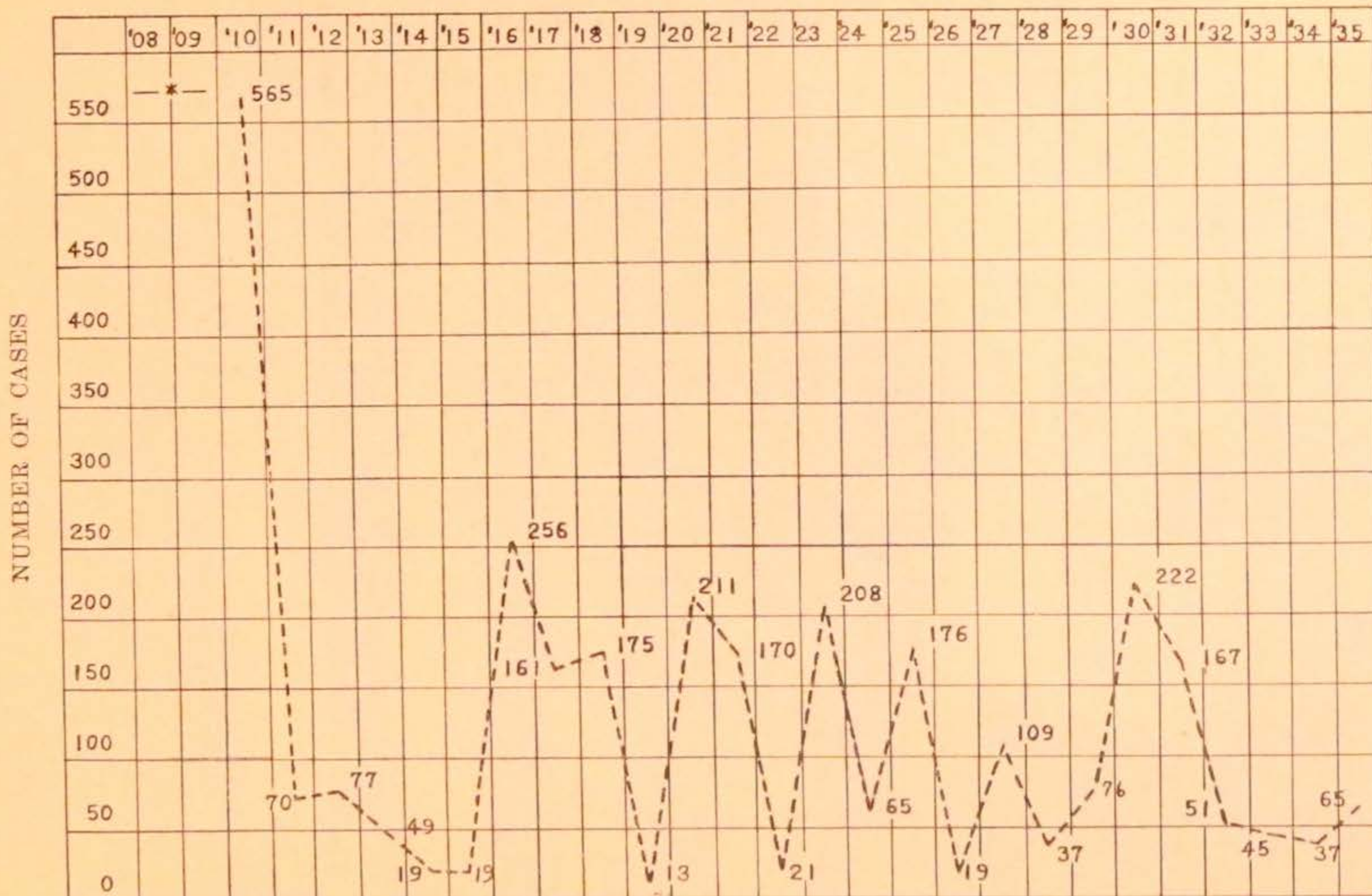
Abnormal prevalence of poliomyelitis or infantile paralysis has not been experienced in Iowa since 1930 and 1931. Severe epidemics of this disease have occurred in Iowa from time to time in past years, notably in 1910, 1920 and 1921, as indicated in the following table listing reported cases and deaths for the 26-year period 1910-1935:

TABLE 5
POLIOMYELITIS IN IOWA—1910-1935

Year	Number of Reported Cases	Number of Deaths	Year	Number of Reported Cases	Number of Deaths
			Car. For'd	1,661	626
1910	565	146	1923	208	7
1911	70	40	1924	65	12
1912	77	38	1925	176	39
1913	49	28	1926	19	12
1914	19	16	1927	109	28
1915	19	17	1928	37	16
1916	256	28	1929	76	22
1917	16	32	1930	222	32
1918	175	16	1931	167	28
1919	13	1	1932	51	17
1920	211	112	1933	45	15
1921	170	131	1934	37	7
1922	21	21	1935	65	6
Grand Totals—1910-1935				2,938	867

The following line diagrams (Figs. 10 and 11) give the same information in graphic form.

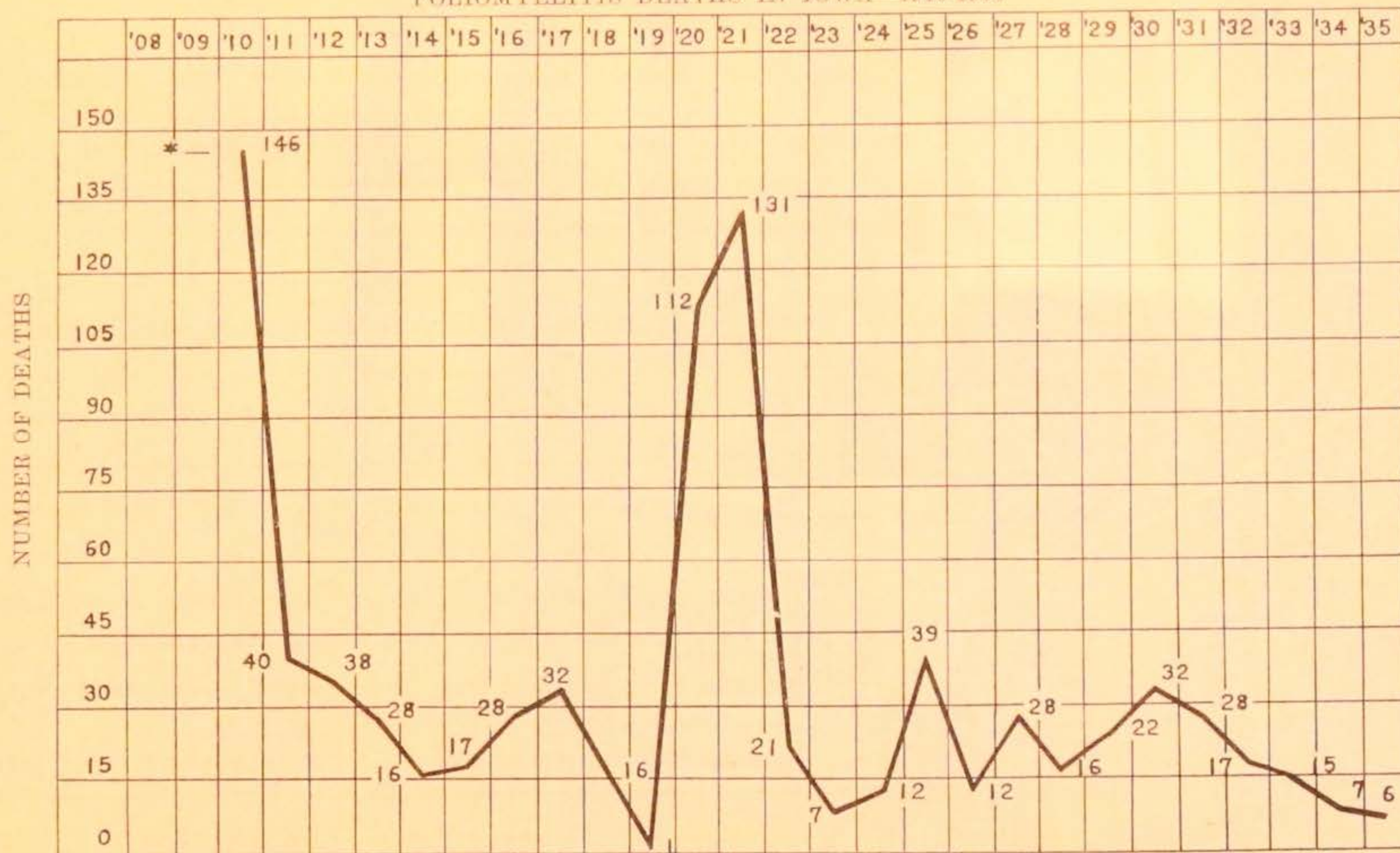
POLIOMYELITIS CASES IN IOWA—1910-1935



*No record.

FIG. 10

POLIOMYELITIS DEATHS IN IOWA—1910-1935



*No record of reports.

FIG. 11

ROCKY MOUNTAIN SPOTTED FEVER

The first case of Rocky Mountain spotted fever in Iowa was reported officially as a case of this disease in 1933. Five cases were reported in 1934 and six in 1935. No cases were reported for the first six months of 1936. The distribution of reported cases of Rocky Mountain spotted fever according to counties, is shown in the accompanying map (Fig. 12).

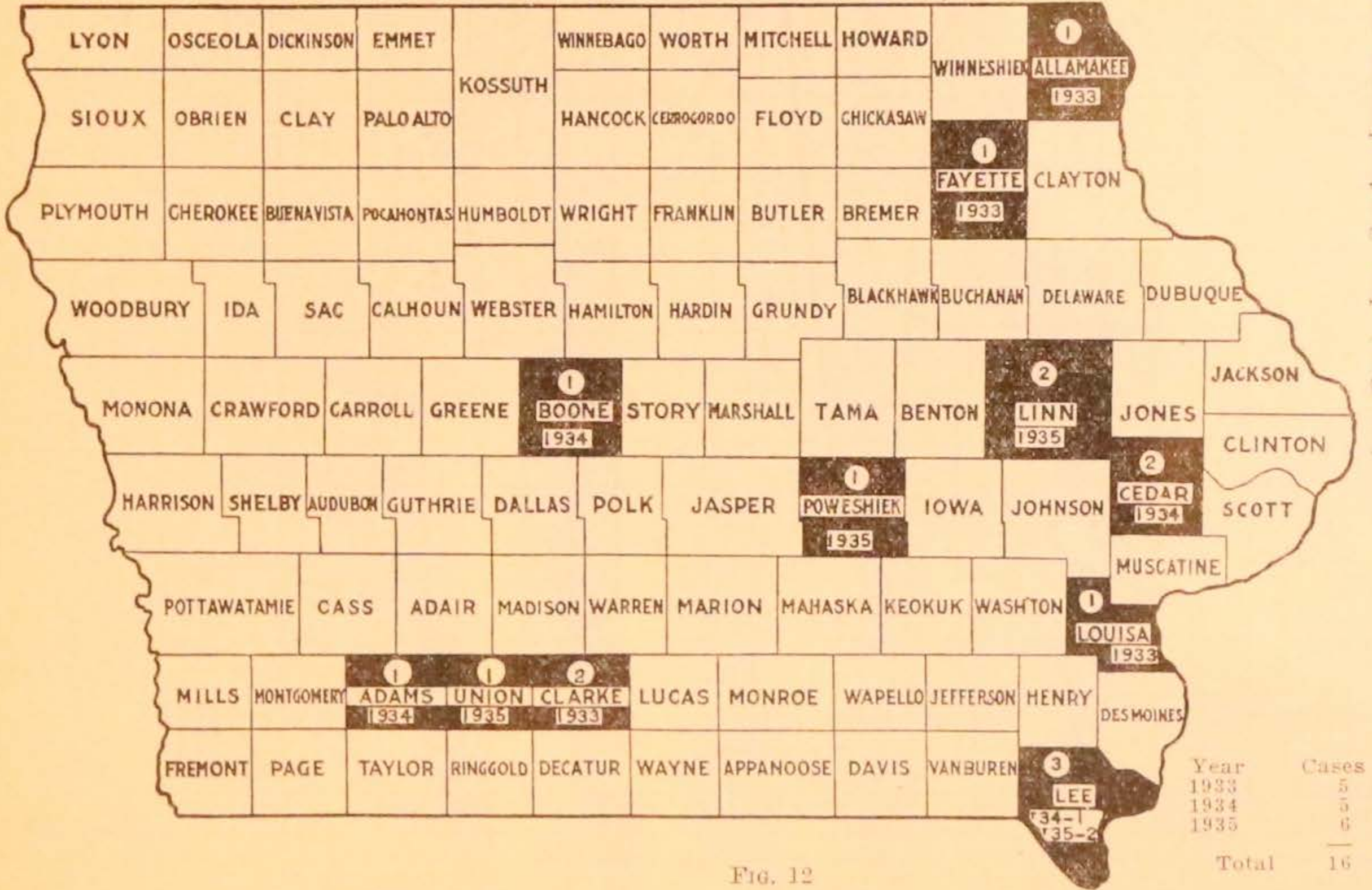


Fig. 12

Year	Cases
1933	5
1934	5
1935	6
Total	16

SCARLET FEVER

This disease was unduly prevalent during the biennial period, with 2,637 reported cases in 1934 and 3,771 cases in 1935. In 1934, deaths from scarlet fever numbered 64, increased in 1935 to 70.

Table 6 and the accompanying charts (Figs. 13 and 14) show reported cases of scarlet fever and deaths from this cause for the 28-year period 1908-1935.

TABLE 6
SCARLET FEVER IN IOWA—1908-1935

Year	Number of Reported Cases	Number of Deaths	Year	Number of Reported Cases	Number of Deaths
1908	1,929	65	Car. For'd	23,387	1,054
1909	1,317	41	1922	2,874	141
1910	426	106	1923	3,708	132
1911	1,262	90	1924	1,892	76
1912	805	55	1925	1,561	46
1913	963	71	1926	2,124	40
1914	1,088	67	1927	2,318	45
1915	897	44	1928	2,898	42
1916	1,583	31	1929	4,315	56
1917	1,611	29	1930	2,836	62
1918	2,783	115	1931	2,983	47
1919	1,661	78	1932	1,835	33
1920	2,827	132	1933	1,990	45
1921	4,335	130	1934	2,637	64
			1935	3,771	70
Grand Totals—1908-1935				61,129	1,953

Convalescent Scarlet Fever Serum

Beginning in December, 1935, and during the first half of 1936, arrangements were carried out for the collection of blood for convalescent scarlet fever serum. Donors were persons who within four months had recovered from an attack of scarlet fever. Bleeding clinics were conducted at different times in Boone, Council Bluffs, Davenport, Des Moines and at the Fort Des Moines Army Post.

Convalescent scarlet fever serum was distributed to physicians to prevent the disease in persons who had been exposed and for treatment of severe or moderately severe cases of scarlet fever. Many of the physicians who used convalescent scarlet fever serum, reported that patients obtained prompt relief from symptoms. The serum when given early in the course of scarlet fever lessens greatly the danger of complications such as middle ear disease, mastoiditis and nephritis or kidney trouble (Bright's disease).

SCARLET FEVER CASES IN IOWA—1908-1935

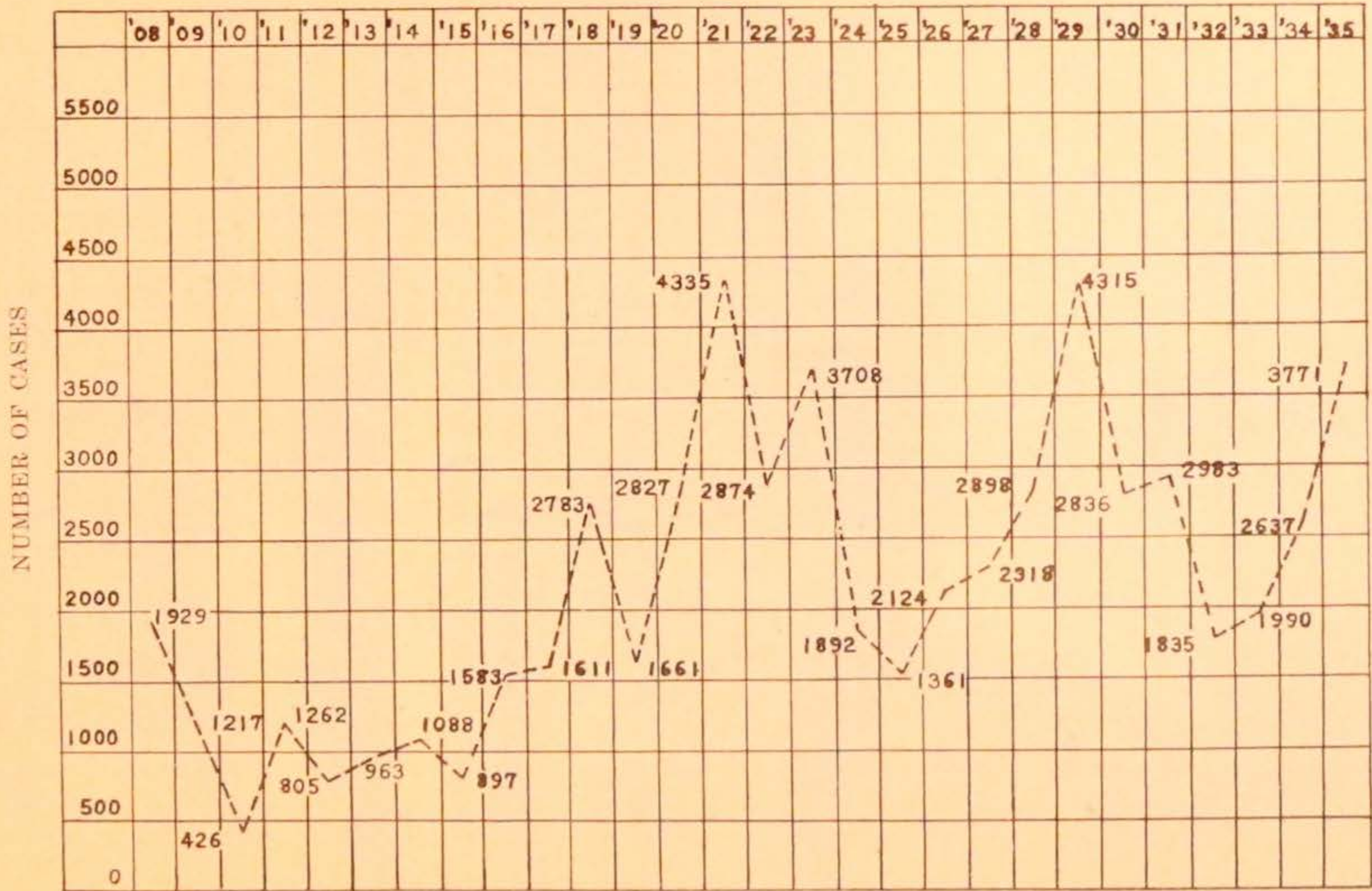


FIG. 13

SCARLET FEVER DEATHS IN IOWA—1908-1935

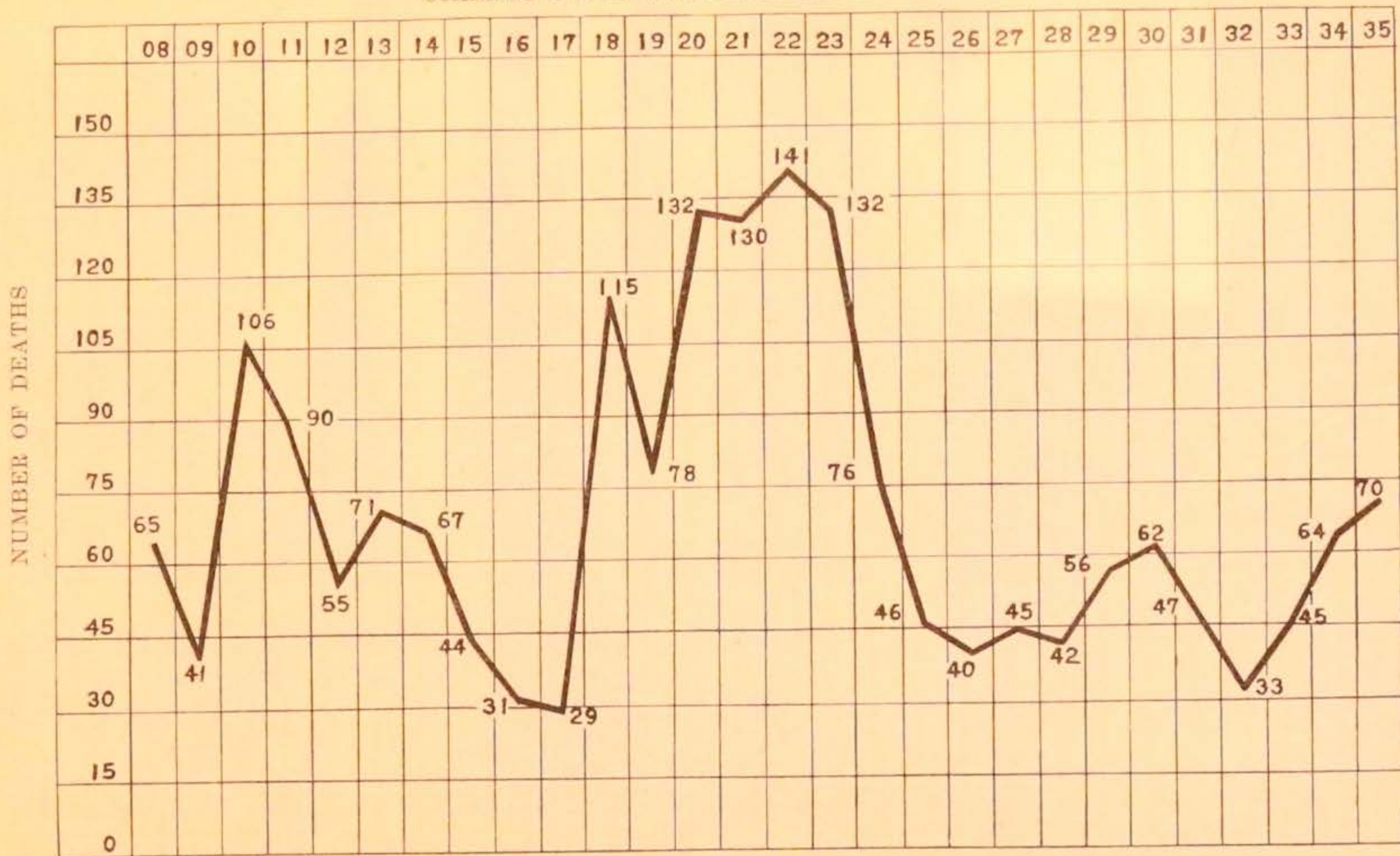


FIG. 14

SMALLPOX

The accompanying chart (Fig. 15) covering the 28-year period 1908-1935, shows that smallpox has in past years been one of the most prevalent communicable diseases in Iowa.

SMALLPOX CASES IN IOWA—1908-1935

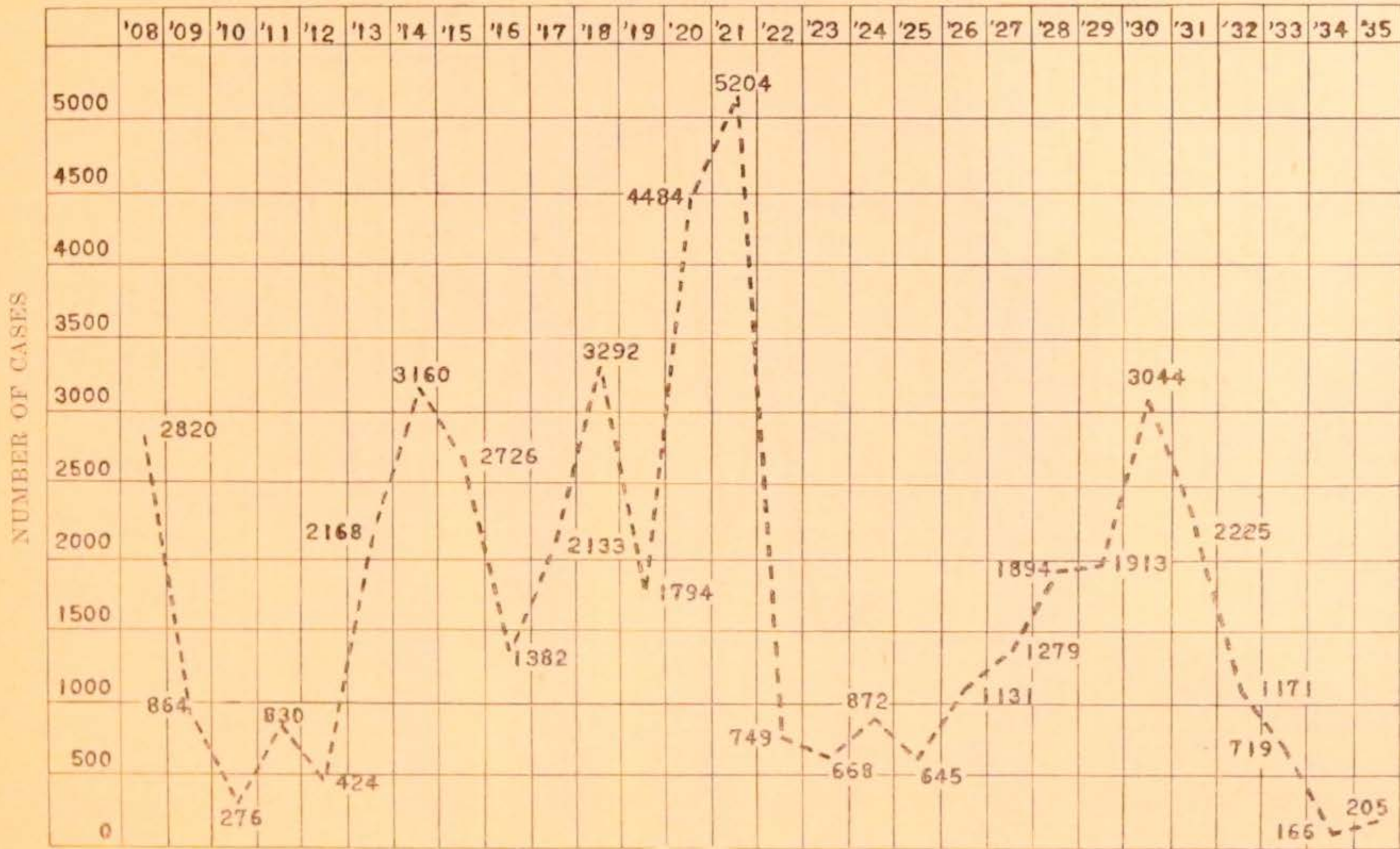


Fig. 15

Deaths from smallpox in Iowa for the same 28-year period are indicated in the line diagram (Fig. 16).

SMALLPOX DEATHS IN IOWA—1908-1935

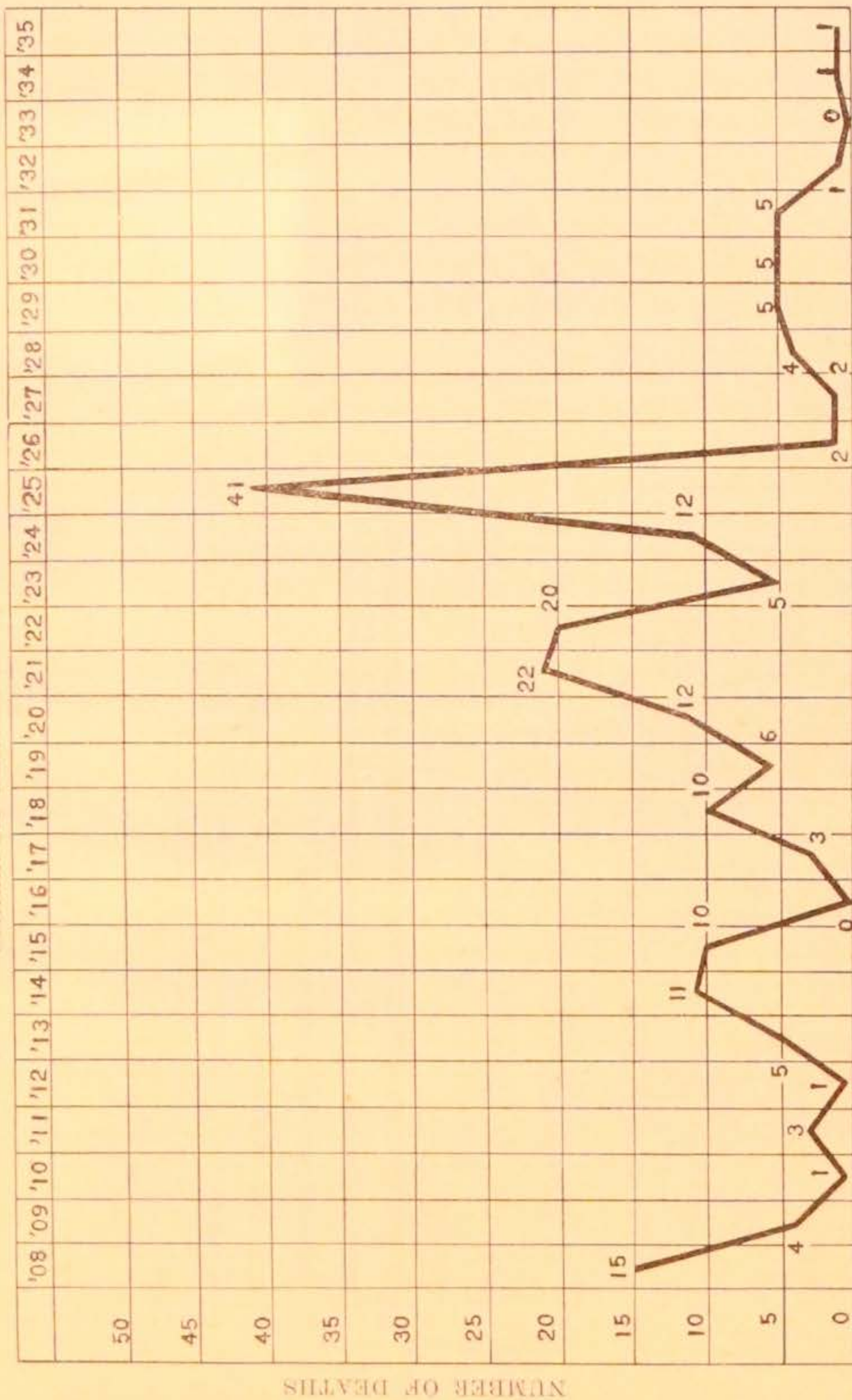


FIG 16

SYPHILIS AND GONORRHEA

Syphilis and gonorrhea, often classed as venereal diseases, are among the most prevalent of the infectious diseases communicable from person to person. If death records were to tell a more complete story, syphilis would definitely be classed among the chief causes of mortality. Syphilis and gonorrhea present a health problem of enormous proportions.

That the great majority of reported cases of syphilis affect males and females in the early decades of mature life, is made clear by the following bar diagram (Fig. 17). This chart represents a study of 1,456 cases of syphilis reported in Iowa for the year 1935.

PHYSICIANS' REPORTS OF SYPHILIS IN IOWA, 1935
SHOWING DISTRIBUTION OF 1,456 CASES BY AGE AND SEX

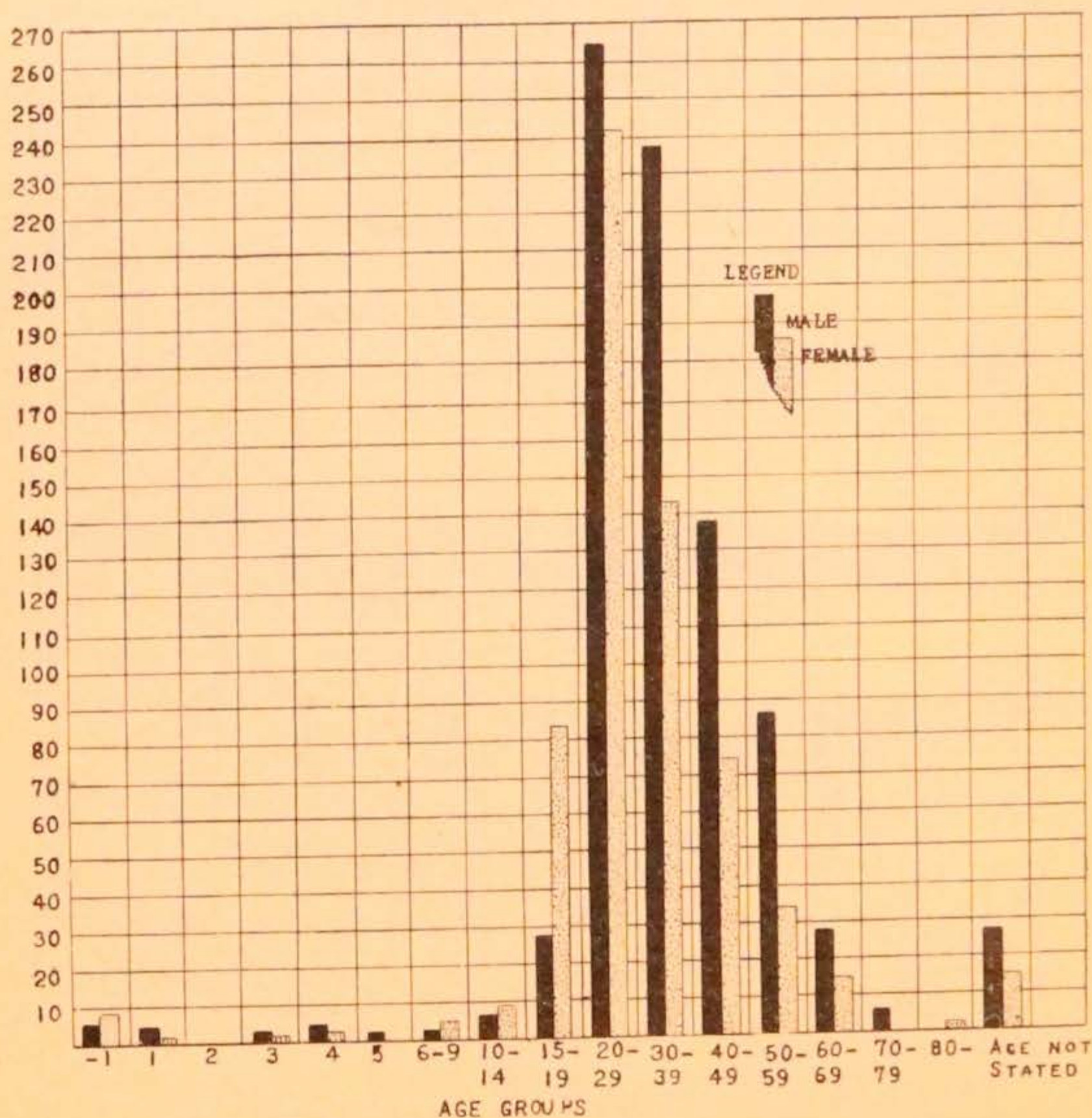


FIG. 17

The program for the prevention and control of syphilis and gonorrhea in Iowa centers attention upon the need for the following: (1) More complete reporting of cases; (2) distribution in adequate amount by the state department of health, of the necessary medicinal agents for use in cases of syphilis reported in the early stage; (3) investigation of early cases as to source of infection; (4) control of known sources of infection; (5) discovery of new cases through the Wassermann test; (6) adequate facilities for treating the indigent, and (7) education of the public and particularly of young people regarding means of control and prevention.

TUBERCULOSIS

Deaths from tuberculosis in Iowa have decreased steadily in number since 1925, with the exception of the year 1935. This is apparent from the following chart or bar diagram, which shows the annual number of deaths due to tuberculosis for the 28-year period 1908-1935.

The extent to which tuberculous infection is transmitted from patient to person is naturally dependent upon such factors as early recognition of the disease, education of patients and their cooperation in the exercise of precautionary measures. Education of the public is also necessary. With the active interest and cooperation of physicians and the various organizations enlisted in the struggle against tuberculosis, there is every hope that further reduction in morbidity and mortality from this disease will be brought about in the years to come.

TUBERCULOSIS CASES AND DEATHS IN IOWA FOR THE 28-YEAR PERIOD 1908-1935

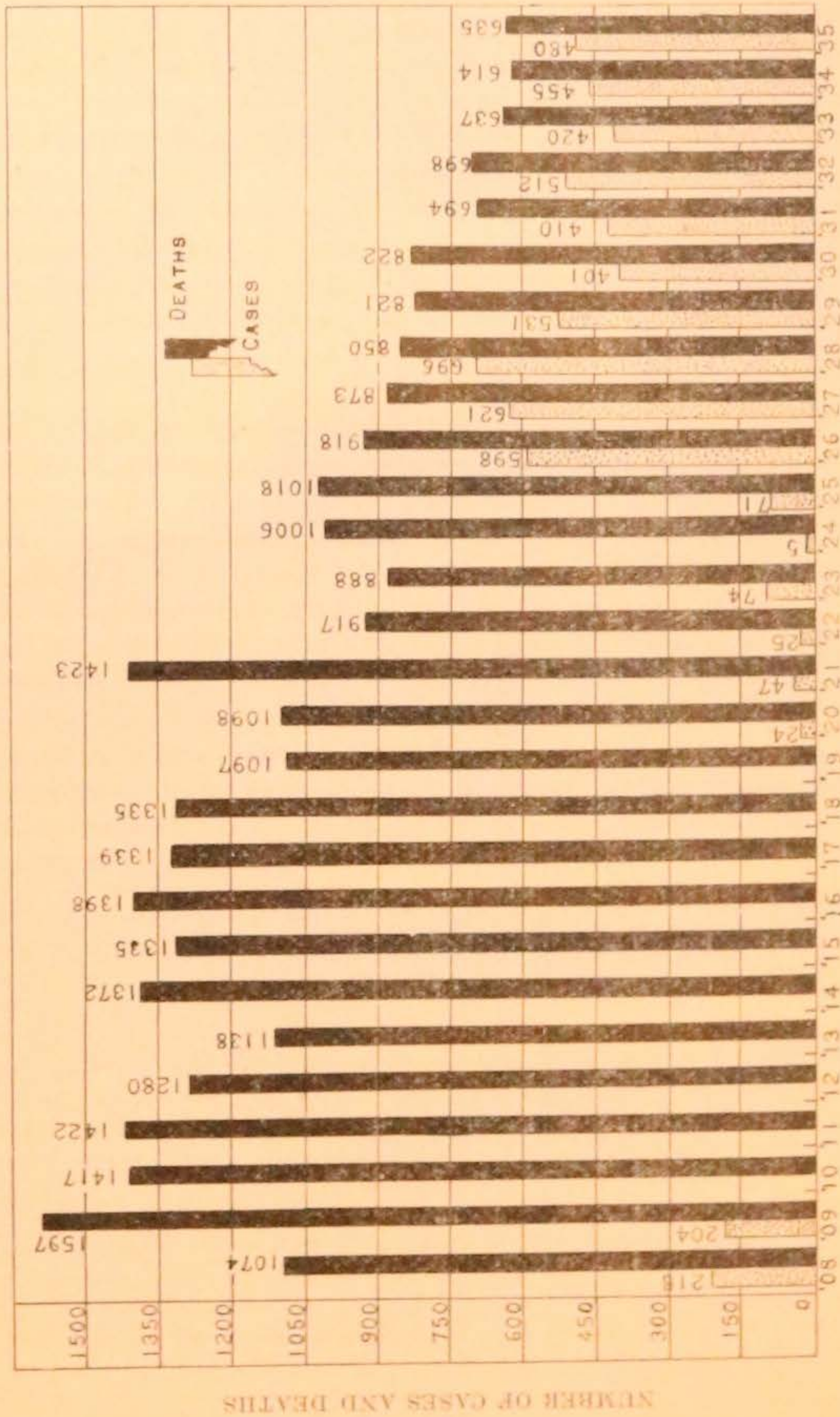


FIG. 18

TYPHOID FEVER

The following bar diagrams (Figs. 19 and 20) show the number of cases and deaths from typhoid fever in Iowa for the period 1908-1935.

TYPHOID FEVER CASES IN IOWA—1908-1935

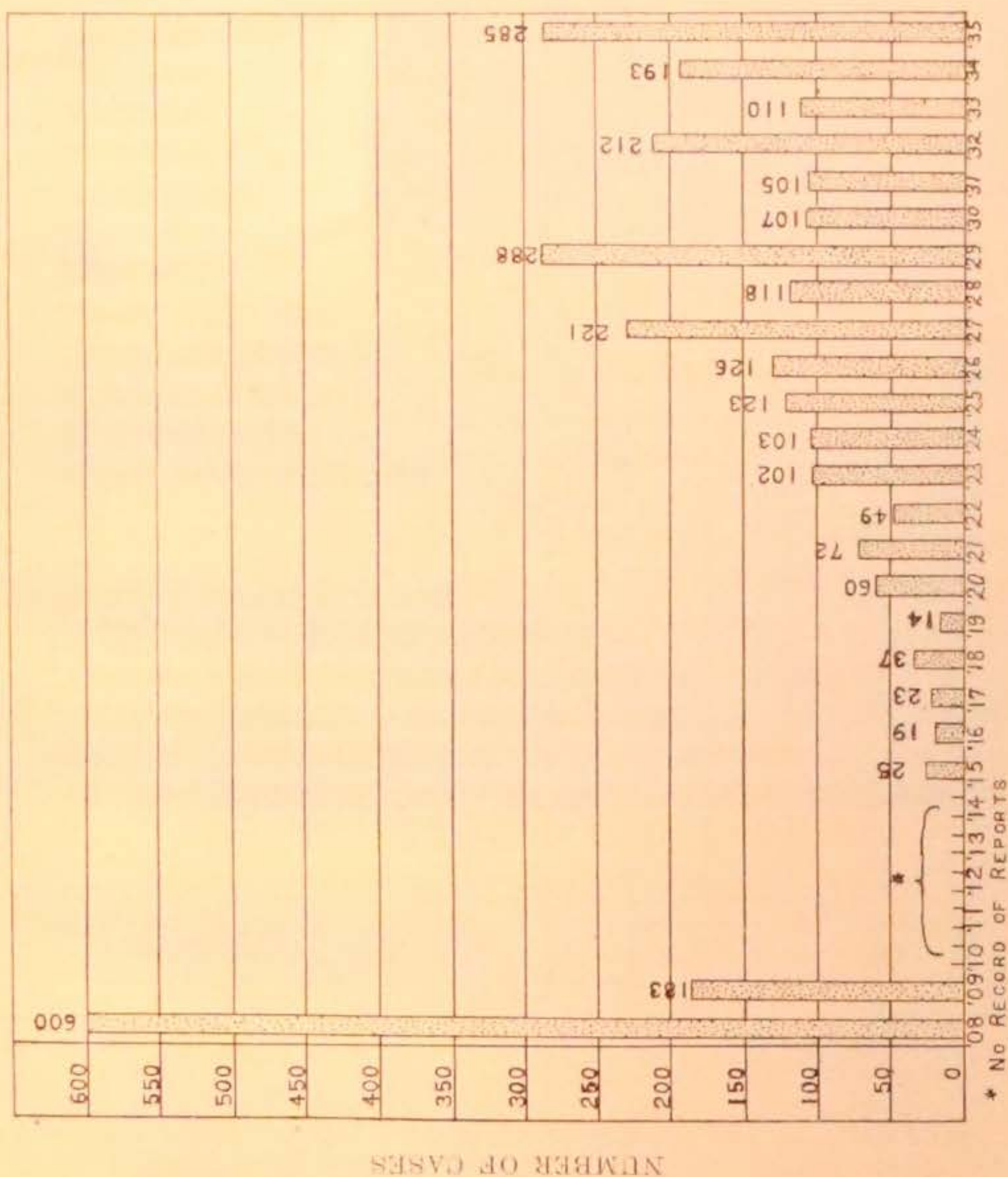


FIG. 19

Between July and December of 1934, milk-borne epidemics of typhoid fever were investigated at Waterloo (Black Hawk county), Boone (Boone county), and Fontanelle (Adair county). Raw milk supplies were concerned in all of these outbreaks.

TYPHOID FEVER DEATHS IN IOWA—1910-1935

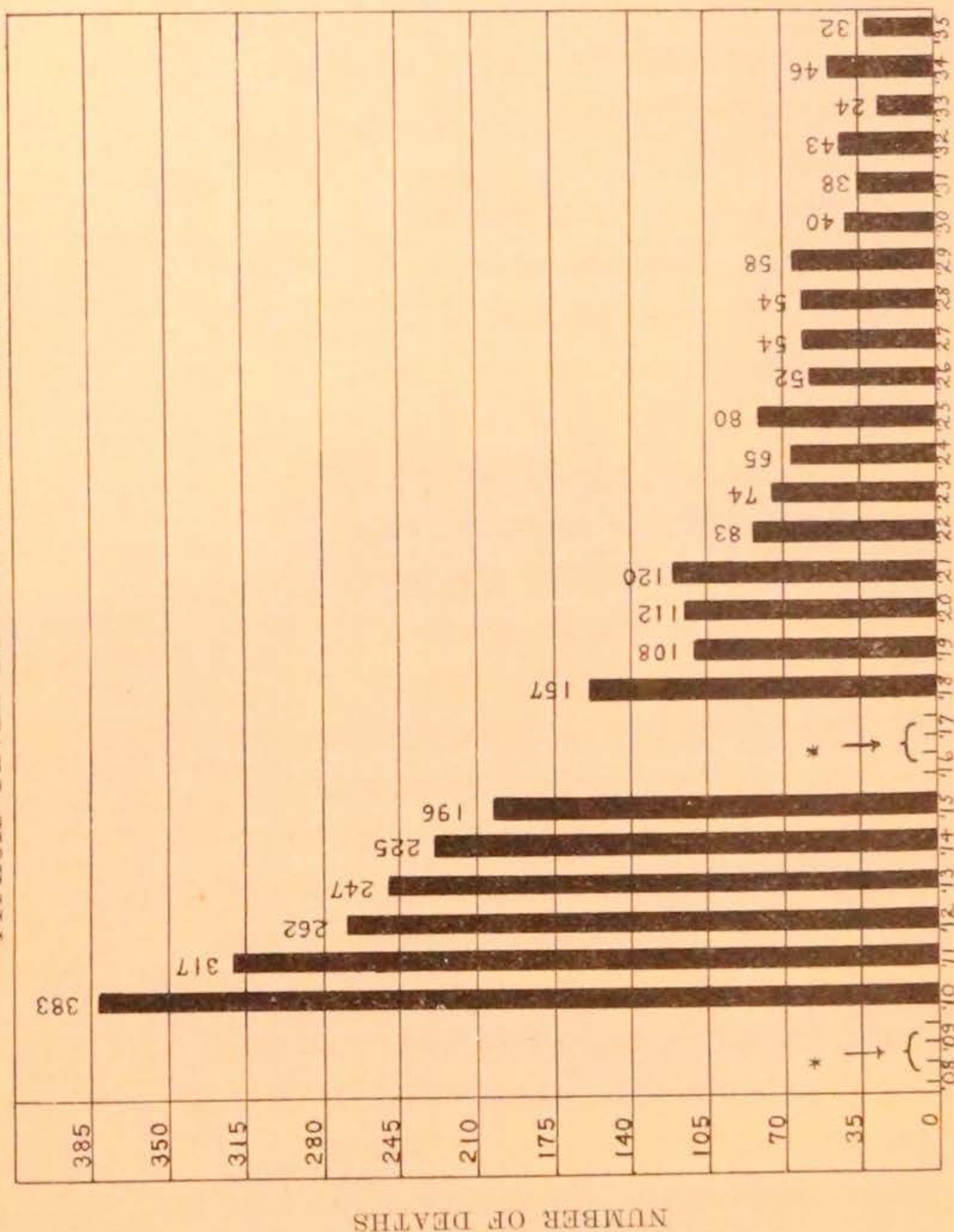


FIG. 20

Twenty-two persons suffered from typhoid fever in the Waterloo outbreak. A typhoid carrier was discovered at the dairy farm concerned. Evidence indicated that flies played an important part in causing contamination of the milk supply. In the largest and most serious outbreak, that at Boone, there were 67 cases and 9 deaths. One of the dairymen in connection with the milk supply which was incriminated, gave a history of having had typhoid fever

in the past. Although suspected of being a typhoid carrier, this fact was not demonstrated by repeated laboratory examination. Six patients took part in the outbreak at Fontanelle. A typhoid carrier was suspected but not confirmed by positive laboratory reports.

A water-borne outbreak of typhoid fever occurred at the Polk County farm in November and December of 1935. There were 38 cases, three of which terminated fatally.

Through epidemiological investigation of typhoid cases in cooperation with attending physicians and local health officers, 18 typhoid carriers were discovered and placed under supervision in the two-year period 1934-1935.

WHOOPING COUGH

Reported cases of whooping cough and annual deaths for the period 1908-1935 are shown in the accompanying diagrams (Figs. 21 and 22).

Among precautionary measures to be considered by parents in order to protect their children against whooping cough are the following: (1) a child with what seems to be an ordinary cold should be kept away from others and a physician consulted to determine the true nature of illness; (2) if whooping cough develops in a community, little children should be kept at home so as to escape the dangers of exposure; (3) whooping cough vaccine of approved type is of probable value in preventing or lessening the severity of the disease; the vaccine is usually given during the first year of life.

Until parents appreciate how dangerous a "cold" may be to little children, whooping cough will continue as a major factor in causing fatal illness among infants.

WHOOPING COUGH CASES IN IOWA—1908-1935

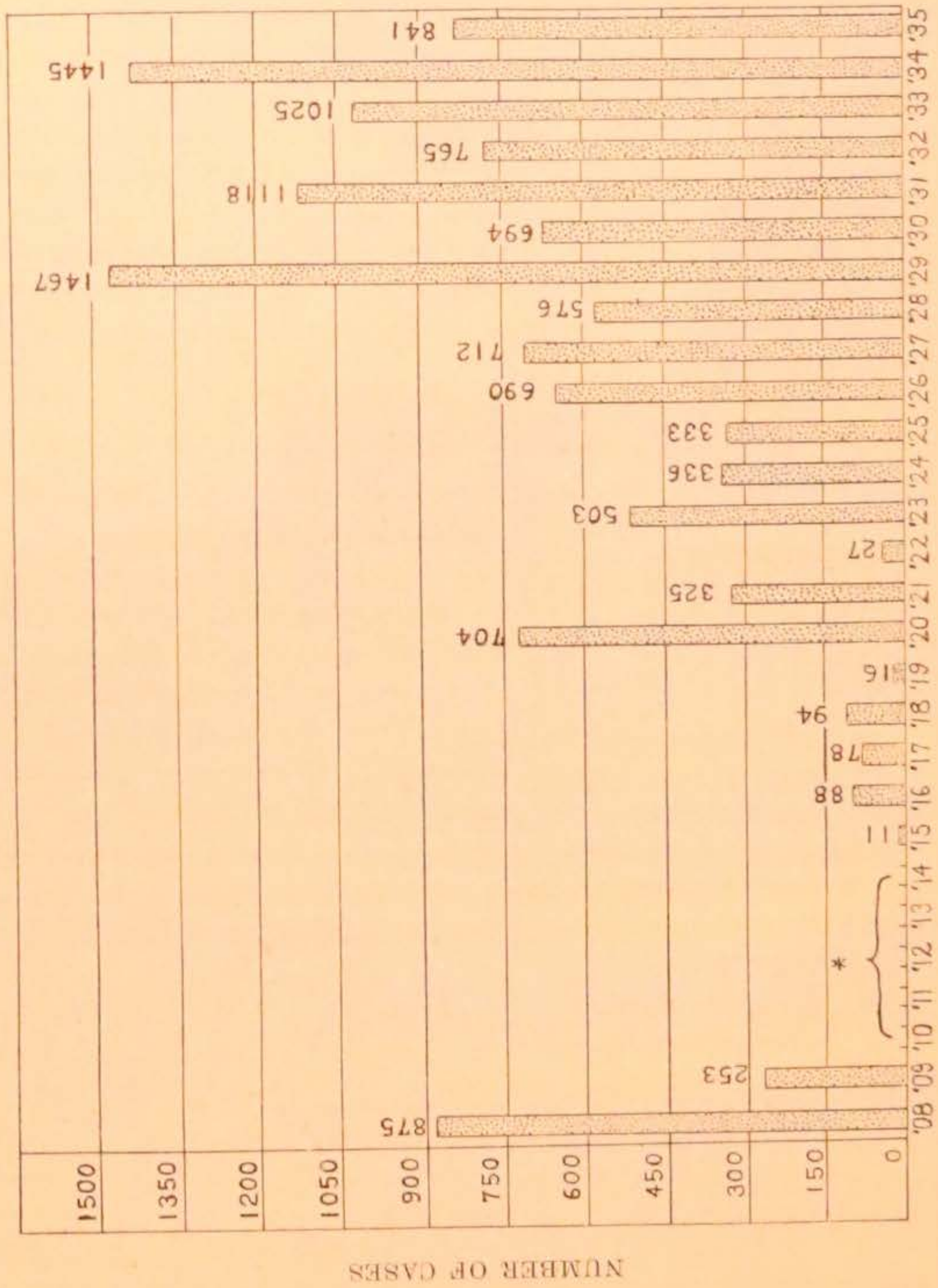


FIG. 21

*No record.

WHOOPING COUGH DEATHS IN IOWA—1908-1935

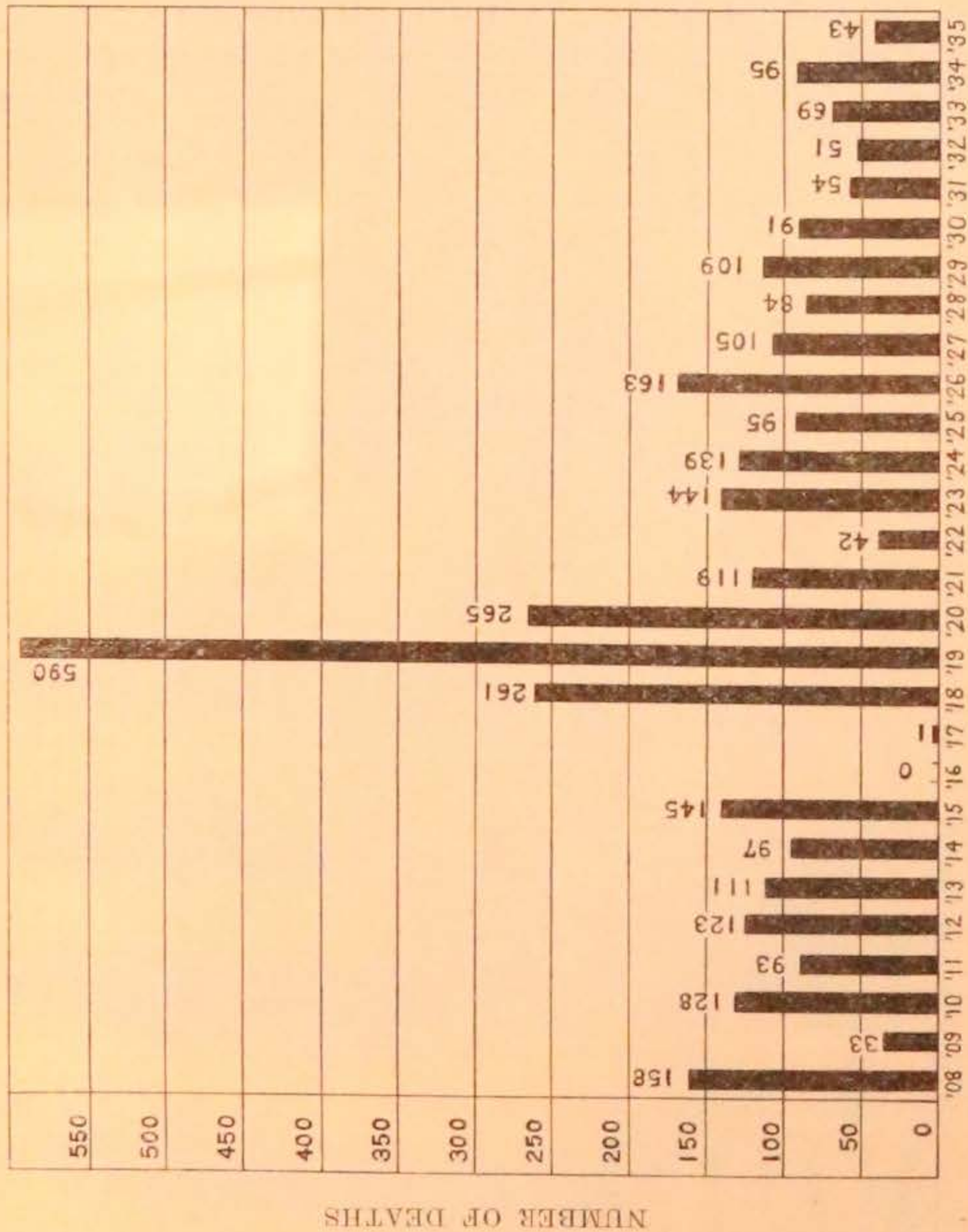


Fig. 22

EPIDEMIOLOGICAL INVESTIGATIONS FOR THE PERIOD JULY 1, 1934 TO JULY 1, 1936, WERE AS FOLLOWS:

Bacillary dysentery (3), Brucellosis (Undulant fever) (2), Carrier survey (1), chickenpox (3), obtaining convalescent serum (measles, scarlet fever, Rocky Mountain spotted fever) (16), diphtheria (4), flood situation (1), gastro enteritis (1), german measles (1), impetigo (1), lead and paint poisoning (2), malaria (1), measles (1), Meningococcic meningitis (4), mottled enamel

of teeth (10), Rocky Mountain Spotted Fever (10), scarlet fever (9), smallpox (1), typhoid fever (21), typhoid carriers (2).

The counties in which field visits and investigations were made for the period of the biennium are shown in the accompanying spot map (Fig. 23).

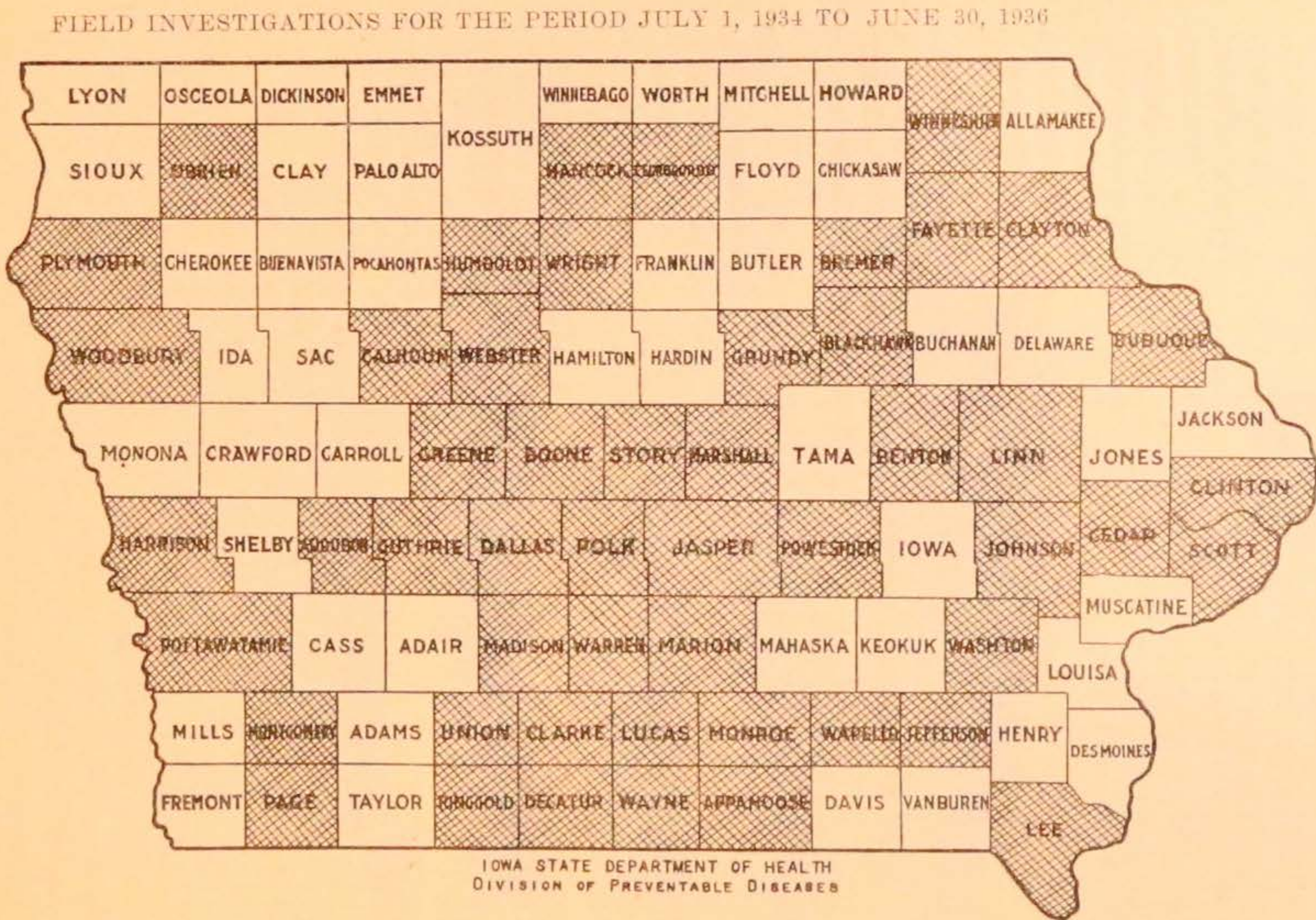


FIG. 23

OTHER ACTIVITIES OF THE DIVISION

THE SOCIAL SECURITY ACT

Paul Stephen, M. D., graduate of the University of Iowa, was appointed assistant epidemiologist, beginning July 1, 1936.

During the latter part of June, 1936, a tick survey was begun, sponsored by the state department of health, in cooperation with the state entomologist and the Rocky Mountain Spotted Fever Laboratory of the U. S. Public Health Service at Hamilton, Montana.

Plans were drawn for a small building to be erected adjacent to the main building of the department and to allow for extension of activities of the divisions of preventable diseases and public health engineering.

Additional activities included (1) a mosquito survey in Clinton county to determine species of anopheline mosquitoes responsible for a group of reported cases of malaria; (2) revision of Rules and Regulations of the Iowa State Department of Health; (3) participation in programs of the Iowa Public Health Association and other meetings; (4) preparation of articles and other literature dealing with various subjects of public health nature.

Following is a table showing the number of reported cases of various communicable diseases by months for the two-year period 1934-1935.

1934

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Diphtheria	54	82	27	39	25	34	14	13	21	69	51	36	415
Scarlet Fever	388	299	352	243	235	139	73	46	114	217	285	246	2,637
Typhoid Fever	5	5	3	0	4	5	8	68	90	72	11	14	285
Smallpox	25	22	37	26	23	3	8	1	2	6	5	8	166
Measles	219	481	884	976	1,432	679	108	33	17	102	905	3,081	8,977
Whooping Cough	143	116	222	267	184	141	98	68	57	34	51	59	1,445
Chickenpox	498	337	307	245	290	123	38	3	17	133	485	476	2,952
Dysentery (Amebic)	1	0	4	0	0	0	1	1	3	0	1	0	11
Dysentery (Bacillary)	0	0	0	0	0	0	1	0	0	0	0	0	1
Dysentery (Unspecified)	0	0	0	0	0	0	0	4	2	1	0	0	7
Epidemic Encephalitis	2	4	1	1	0	0	1	6	2	1	1	2	21
Erysipelas	12	4	6	6	3	7	2	1	3	5	6	8	63
German Measles	109	637	1,921	2,247	1,163	109	16	19	2	4	7	55	6,280
Impetigo	4	0	3	2	0	0	3	1	6	1	0	1	21
Influenza	51	49	47	31	10	0	1	2	0	3	4	66	264
Malaria	0	0	0	0	1	1	1	0	1	0	0	0	4
Meningococcic Meningitis	4	4	10	9	6	4	1	3	3	5	2	4	55
Mumps	208	228	367	313	280	94	41	24	38	60	203	342	2,198
Paratyphoid	0	0	0	0	0	0	0	1	1	0	0	0	2
Ophthalmia Neonatorum	0	0	0	0	0	0	0	0	0	0	0	0	0
Pellagra	0	0	1	0	0	0	0	0	1	0	0	0	2
Pneumonia	42	40	28	30	0	6	3	6	10	7	27	33	252
Poliomyelitis	0	2	1	0	3	1	2	7	7	7	5	2	37
Rabies	0	0	0	0	0	1	0	0	0	0	0	0	1
Rheumatic Fever	0	2	0	0	0	0	0	0	0	0	0	1	3
Rocky Mt. Spotted Fever	0	0	0	0	0	1	3	2	0	0	0	0	6
Septic Sore Throat	0	0	1	1	3	9	0	0	1	1	0	0	16
Tetanus	0	0	0	0	1	0	1	1	0	0	0	0	3
Trachoma	0	0	0	0	0	1	0	0	0	0	0	0	1
Trichinosis	1	0	5	3	0	0	0	0	0	0	2	0	11
Tuberculosis	29	23	32	24	41	30	49	73	31	66	25	18	455
Tularemia	1	0	0	0	0	0	0	0	0	2	4	1	8
Undulant Fever (Brucellosis)	7	5	22	8	7	7	6	43	26	21	18	7	177
Vincent's Infection	7	1	0	4	0	0	0	0	1	0	1	0	14
Gonorrhoea	192	145	160	131	133	161	195	199	160	173	182	151	1,982
Syphilis	142	132	131	117	70	121	111	156	113	115	105	125	1,438
Totals	2,149	2,573	4,572	4,723	3,914	1,686	845	792	709	1,105	2,386	4,735	30,190

	1935												1934-35 Total	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		Total
Diphtheria.....	46	33	40	45	40	30	25	17	68	75	88	92	590	1,014
Scarlet Fever.....	296	372	367	370	355	232	94	68	152	153	418	694	3,771	6,408
Typhoid Fever.....	8	6	15	4	6	3	7	24	27	33	43	17	194	479
Smallpox.....	6	12	9	22	21	30	26	10	3	24	10	32	205	371
Measles.....	4,580	5,640	5,509	3,393	1,688	479	68	15	7	7	23	23	21,432	50,409
Whooping Cough.....	55	47	60	78	60	82	89	59	51	85	109	66	841	2,280
Chickenpox.....	301	106	233	254	347	176	56	2	23	149	354	545	2,641	5,593
Dysentery (Amebic).....	0	0	0	0	0	0	0	0	1	0	0	0	1	12
Dysentery (Bacillary).....	0	0	0	1	0	0	0	0	0	0	0	0	1	2
Dysentery (Unspecified).....	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Epidemic Encephalitis.....	1	1	0	1	0	1	0	1	0	1	0	0	0	32
Erysipelas.....	7	5	7	8	6	8	1	4	1	5	6	5	11	32
German Measles.....	13	37	71	479	547	244	7	1	2	1	1	1	59	122
Impetigo.....	2	2	0	0	0	0	2	7	4	11	0	5	33	54
Influenza.....	337	435	69	15	105	7	3	6	11	7	12	1	1,008	1,272
Malaria.....	0	0	0	0	0	2	3	11	7	0	1	0	24	28
Meningococcal Meningitis.....	4	10	8	16	12	7	10	9	1	4	7	7	96	151
Mumps.....	602	776	689	1,381	1,050	462	110	53	66	219	443	914	6,765	8,903
Paratyphoid.....	0	0	1	0	0	0	0	1	0	0	0	0	2	4
Ophthalmia Neonatorum.....	1	1	0	0	0	0	0	1	0	0	0	0	3	3
Pellagra.....	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Pneumonia.....	64	66	25	25	21	14	3	3	3	14	19	21	278	510
Polioomyelitis.....	0	3	1	0	3	0	1	13	15	13	6	10	63	102
Rabies.....	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Rheumatic Fever.....	0	1	0	0	0	4	2	0	0	0	2	0	9	12
Rocky Mt. Spotted Fever.....	0	0	0	0	0	1	3	0	2	0	0	0	6	12
Septic Sore Throat.....	0	4	0	1	0	0	0	0	0	1	3	0	9	25
Tetanus.....	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Trachoma.....	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Trichinosis.....	10	1	0	0	0	0	0	0	0	0	0	0	11	22
Tuberculosis.....	42	32	36	33	77	52	26	62	42	48	15	15	480	935
Tularemia.....	0	0	0	0	0	0	0	0	0	1	1	0	2	10
Undulant Fever (Brucellosis).....	14	5	7	6	13	9	13	13	6	11	4	11	112	289
Vincent's Infection.....	0	0	1	2	0	0	0	0	1	0	0	0	4	18
Gonorrhea.....	172	154	140	148	162	146	175	176	227	180	149	138	1,957	3,939
Syphilis.....	148	122	121	116	143	153	110	105	135	102	102	90	1,447	2,885
Totals.....	6,708	7,960	7,409	6,398	4,646	2,142	834	659	860	1,344	1,816	2,692	43,469	73,659

DIVISION OF LABORATORIES

M. E. BARNES, M. D., Dr. P. H., Director
Report for the biennium ending June 30, 1936

The three laboratories (bacteriology, water, and serology) which comprises the State Hygienic Laboratories are located at Iowa City, and are directed by the head of the Department of Hygiene, Preventive Medicine and Bacteriology. The bacteriology laboratory receives a direct appropriation from the State, and charges no fees for routine public health bacteriological work. The water and serology laboratories are under the necessity of charging fees due to the lack of appropriations.

Throughout the biennium, there has been maintained a seven-day service in the bacteriology and water laboratories, and an expedited service in the serology laboratory.

The number of specimens received by the laboratories was 193,002. As compared with the preceding biennium (154,206) this represents an increase of 38,796 or 25.1 per cent. The record over the past five years is as follows:

SPECIMENS RECEIVED BY THE STATE HYGIENIC LABORATORIES

Biennium	Bacteriology Laboratory	Serology Laboratory	Water Laboratory	Total
1926-28	44,709	102,459	7,987	155,155
1928-30	41,306	91,752	9,278	142,336
1930-32	38,800	81,301	17,575	137,676
1932-34	53,580	81,623	19,003	154,206
1934-36	76,846	89,817	26,339	193,002

The details of the work are included in the reports and tables of the following sections:

- I. Bacteriology Laboratory, I. H. Borts, M. D., Chief.
- II. Water Laboratory, J. J. Hinman, Jr., M. S., Chief.
- III. Serology Laboratory, Miss M. P. Spanswick, M. S., Chief.
- IV. Records Division, Miss Minnie E. Hamilton, Chief.

I. BACTERIOLOGY LABORATORY

I. H. BORTS, M. D., Chief

The biennium ending June 30, 1936, was a banner period from the standpoint of examinations performed. During this period a total of 76,846 specimens were received and examined, an increase of 23,226 over the previous biennium.

Increases were noted in all types of specimens, excepting rabies, which showed a marked decrease. This decrease may be explained by adequate quarantine measures being established in the counties where a case of animal rabies is found. Wild animals appear to be our reservoir of infection. Of the fourteen positive specimens, three were skunks and two, foxes. Dogs in two instances apparently contracted their infection from skunks as indicated from the histories accompanying the specimen.

An increase of approximately 55 per cent was noted in the number of diphtheria specimens examined. There appeared to be a general scattering of cases all over the state together with several endemic areas in large towns and in CCC camps.

Starting in the fall of 1935, all blood clots received in the laboratory were cultured in special bile medium for *B. typhosus*. Forty-four cultures of *B. typhosus* were isolated from blood clots, several of which failed to show agglutinins in the blood serum. One case terminated fatally. The blood serum of this patient, over a six weeks' period, failed to show either "H" or "O" agglutinins, whereas *B. typhosus* was isolated from the blood clots on several occasions. The blood of this patient's daughter also failed to show agglutinins in the serum until well into convalescence, although *B. typhosus* was consistently isolated from the blood clots.

Undulant fever, or brucellosis, continues to be a major health problem, 547 positive specimens being reported during this biennium. Of this number 18 represent positive blood cultures, of which 11 were *Brucella suis* and 7 *Brucella bovis*. Since the last biennium we have supplied physicians with 2,010 cc. of brucellin, a toxic brucella filtrate for treating patients with undulant fever. Judging from the reports received, brucellin has markedly reduced the illness period, and is being requested in much larger quantities than formerly.

II. WATER LABORATORY DIVISION

JACK J. HINMAN, JR., M. S., Chief

The work of the Water Laboratory Division during the biennium 1934-1936 has shown a modest increase in the number of water samples examined, amounting to 788 samples, or 4.15 per cent over the number examined during the preceding biennium. If the samples of milk which were examined are considered, however, the increase is 4,254 samples or 19.55 per cent over all samples, including

milk, examined during the biennium of 1932-1934. The outstanding difference in the character of the water examination work has been the great decrease in specimens sent in by the representatives of the State Department of Health during the second year of the biennium.

During the last few months of the preceding biennium arrangements were made to carry out the mineral examination of certain municipal water supplies and of wells in connection with the State's investigations of underground water conditions. This work has been continued throughout the current biennium, although with a reduced staff during the second year. The funds for mineral examinations were furnished through the Iowa State Planning Board. The crew employed on the work has varied from one to six analysts and a compiler-technician. For the most part, the samples eligible for the expensive examination are those collected by the representatives of the Director of Public Health Engineering of the State Department of Health and those of the State Geologist. The valuable information resulting from the studies is in process of tabulation by counties and by geological horizon in the office of the State Geologist and it is hoped that the data ultimately will be presented in bulletin form. The data are also being used in the studies of the watersheds of the rivers of Iowa now being compiled by the Iowa State Planning Board.

Sanitary examinations of water and sewage have been made regularly for the following: The Public Health Engineering Division of the State Department of Health in connection with routine inspections of the water supply systems of municipalities, studies of stream pollution and the efficiency of sewage treatment and in other investigational matters; other state departments and institutions; city, county and township authorities; school boards, hospitals and camps conducted by the United States Government; and private individuals whose request has the endorsement of the local health officials. A nominal fee of one dollar is charged for each specimen of water or sewage given a routine sanitary examination, except those examined for the State Department of Health, for the University of Iowa and its University Board of Health, certain specimens examined for the Federal Government and in a few other cases where a large number of specimens are regularly submitted.

The routine sanitary examination of specimens of water by the

Water Laboratory Division includes physical, chemical and bacteriological investigations, if the specimen submitted is sufficiently large to permit. The physical examination consists of determinations of color, odor, turbidity and sediment. The chemical examination includes the estimation of ammonia nitrogen, albuminoid nitrogen, nitrite nitrogen, nitrate nitrogen and sometimes total organic nitrogen. Other chemical examinations regularly made are determinations of chlorides, alkalinity and fluorides. The last mentioned determination has proved to be valuable in connection with studies on the production of mottle enamel in the teeth of young persons acquiring their permanent dentition. The amount of fluoride in the waters of Iowa is highly variable but is often significant. When circumstances require it, particularly in connection with the work of the Division of Public Health Engineering of the State Department of Health, other tests are made, in so far as the facilities of the Water Laboratory Division permit. The bacteriological examination consists of the estimation of the numbers of bacteria growing on nutrient agar in 48 hours at 20° C., and on litmus lactose agar in 24 hours at 37° C., using the plate method. Fermentation tube tests are also made using lactose broth. Positive fermenting bacteria are given a partial confirmatory test to determine if they are members of the colon-aerogenes group of bacteria. Material from positive tubes is inoculated into lactose brilliant green peptone bile medium and if these are also positive, some of the culture is streaked onto eosine methylene blue agar plates and examined for characteristic growth of the coli type or the aerogenes type organisms.

The estimation of the coli, or *Escherichia* type bacteria and of the aerogenes, or *Aerobacter* type is considered to be the determination of greatest importance in indicating the safety of the water at the moment of sampling. The chemical results are of value in indicating older types of contamination, since the colon-aerogenes organisms, as well as the pathogenic bacteria and other living organisms tend to die out in a water supply, leaving only chemical evidence of pollution detectable. Chemical results are of less value in evaluating treated waters than they are in the examination of untreated waters—particularly of untreated waters which have not been regularly investigated at frequent intervals. Many of the sources of water examined are tested only once, or only once in several months. Evidence of intermittent pollution becomes particularly important in such cases.

Opinions are furnished on all specimens of water examined. Such opinions are based upon the assumption that the specimens submitted were collected in strict accordance with the directions given and that they were shipped sufficiently promptly to permit receipt at the laboratory in condition essentially that at the time of collection. It is known that some samples are not collected with proper care and when contamination in collection is suspected, that fact is made plain. Confidential opinions are rendered to the Director of Public Health Engineering of the State Department of Health on specimens collected by his representatives. These opinions may be modified in his office, based upon observed facts known to the inspectors and not the laboratory personnel.

The mineral analysis work conducted for the Iowa State Planning Board is quite thorough. In addition to the usual determination of calcium, magnesium, iron, bicarbonate, sulfate, chloride and nitrate ions, estimations of the alkalies as sodium, and the ammonium, manganese, nitrite, nitrate, fluoride, phosphate and borate ions are regularly made. The hardness of the waters is calculated from the values for calcium, magnesium, iron and manganese ions obtained in the regular analytical work. This is a much more accurate procedure than the use of the soap test, especially where waters high in magnesium are encountered, as in Iowa. Special studies of lead, copper, chromium and selenium in waters have been undertaken during the conduct of this mineral analysis work.

The local work of the Water Laboratory Division involves the examination of samples for the control of the University of Iowa water supply, the water supply of the Iowa Water Service Company, supplying the city of Iowa City, the water of the University of Iowa swimming pools and the University of Iowa milk supply. The results of the work are reported through the University Department of Health. This work is of great assistance in the protection of the health of the students and staff of the University of Iowa and of the patients in the University Hospitals, as well as incidentally in the protection of the citizens of Iowa City. The frequent return of students and patients from the hospitals to Iowa communities makes the service of general value in the protection of the public health of the State as well as of the University community.

The following table indicates the development of the work of the Water Laboratory Division:

SPECIMENS EXAMINED BY THE WATER LABORATORY

Biennium	Specimens Examined	Numerical Increase Over Preceding Biennium	Percentage Increase Over Preceding Biennium
1914-1916	2,488
1916-1918	3,957	1,469	59.0
1918-1920	3,999	34	0.8
1920-1922	6,364	2,373	59.4
1922-1924	6,465	101	1.5
1924-1926	7,520	1,055	16.3
1926-1928	7,987	467	6.2
1928-1930	9,278	1,291	16.1
1930-1932	17,575	8,297	89.4
1932-1934	19,003	1,428	8.1
	(or 21,755 incl. milk	3,180	14.6)
1934-1936	19,791	788	4.15
	(or 26,009 incl. milk	4,254	19.55)

Milk specimens referred to above come chiefly from the sources of the University's milk supply, although a few specimens are received from other sources. Bacterial counts and estimations of the numbers of organisms of the colon-aerogenes types are made in the Water Laboratory Division. Other types of examinations are made in the Bacteriological Division.

The following table shows the source from which water samples were received. By the term "regular water samples" is meant those samples which were sent in by the officials of municipalities, counties and townships or school districts, together with those specimens sent in by private agencies.

SAMPLES EXAMINED IN WATER LABORATORY

Biennium 1934-1936

YEAR 1934-35

	Regular water samples	Local water samples	State Board of Health water samples	Mineral water analyses	Total water samples for month	Cumulative total for fiscal year	Milk samples for month	Cumulative milk samples for year	Total samples for month	Cumulative total for year
1934—										
July.....	274	364	494	93	1,225	1,225	262	262	1,487	1,487
August.....	549	332	311	178	1,370	2,595	114	376	1,484	2,971
September.....	192	268	686	119	1,195	3,790	159	535	1,354	4,325
October.....	241	366	528	70	1,205	4,995	238	763	1,433	5,758
November.....	204	331	385	52	972	5,967	138	901	1,110	6,868
December.....	157	307	380	52	896	6,863	188	1,089	1,084	7,952
1935—										
January.....	175	317	418	38	948	7,811	226	1,315	1,174	9,126
February.....	161	296	201	53	711	8,522	206	1,521	917	10,043
March.....	226	328	165	24	743	9,265	206	1,727	949	10,992
April.....	231	324	96	20	671	9,936	428	2,155	1,099	12,091
May.....	236	330	88	22	676	10,612	553	2,708	1,229	13,320
June.....	247	368	118	36	769	11,381	216	2,924	985	14,305
	2,823	3,931	3,870	757	11,381		2,924		14,305	
Monthly average.....						948.41				1,192.08
Daily average.....						31.18				39.17

SAMPLES EXAMINED IN WATER LABORATORY

Biennium 1934-1936

YEAR 1934-35

	Regular water samples	Local water samples	State Board of Health water samples	Mineral water analyses	Total water samples for month	Cumulative total for fiscal year	Milk samples for month	Cumulative milk samples for year	Total samples for month	Cumulative total for year
1935—										
July.....	346	369	130	45	890	890	218	218	1,108	1,108
August.....	330	336	94	37	797	1,687	187	405	984	2,092
September.....	267	280	107	0	653	2,350	182	587	845	2,937
October.....	273	341	71	8	693	3,043	313	900	1,006	3,943
November.....	209	318	89	12	628	3,671	283	1,183	911	4,854
December.....	187	300	58	4	549	4,220	297	1,480	846	5,700
1936—										
January.....	162	277	126	0	565	4,785	248	1,728	813	6,513
February.....	139	281	30	8	458	5,243	407	2,135	865	7,378
March.....	215	325	54	22	616	5,859	328	2,463	944	8,322
April.....	246	324	249	26	845	6,704	272	2,735	1,117	9,439
May.....	218	445	239	12	914	7,618	268	3,003	1,182	10,621
June.....	243	434	108	7	792	8,410	291	3,294	1,083	11,704
	2,835	4,030	1,355	190	8,410		3,294		11,704	
Monthly average.....						700.83				975.33
Daily average.....						22.978				31.978
	5,658	7,961	5,225	947	19,791		6,218		26,009	
Monthly average.....						824.62				1,083.71
Daily average.....						27.074				35.58

QUALITY OF SPECIMENS OF WATER EXAMINED

The following table has been prepared to show the quality of water examined during the biennium 1934-1936 as compared with that of the water samples examined during earlier periods:

Type of Source	Per Cent of Samples Satisfactory			
	1914-1936	1930-1932	1932-1934	1934-1936
PUBLIC				
Shallow Wells	45.96	48.03	52.59	47.15
Deep Wells	69.81	72.54	68.43	59.42
Springs	42.00	46.22	46.88	34.04
Treated Waters	92.02	95.35	96.83	92.01
Swimming Pools	88.38	93.81	92.23	92.81
PRIVATE				
Shallow Wells	14.28	13.59	14.10	9.94
Deep Wells	56.61	59.76	45.74	32.46
Springs	21.08	16.67	7.41	20.00
Cisterns	23.24	22.22	11.11	10.00
Total of All Public Samples.....	61.44	58.59	61.08	60.23
Total of All Private Samples....	22.54	23.28	20.22	15.27
Total of All Samples.....	56.35	55.26	58.65	56.81
Total of Drinking Water Samples	64.07	74.15	72.30	66.63

From the above it is seen that there has been an apparent lowering in quality in practically every one of the types of water supplies listed. The procedure in evaluating the quality of the water has been essentially the same throughout this period—certainly throughout the last three bienniums. What is the reason for this apparent retrograde movement in water quality? In all probability the matter is associated with the drought conditions which have prevailed in this area during a portion of the biennium. This drought has made many persons anxious to investigate the possibility of using water supplies which have been abandoned or retained only for the use of stock or employment in emergency. Many of these sources have been neglected and are in bad condition, allowing surface drainage to enter and mix with the water normally yielded to the well. A great many new wells have been constructed to supplement the existing ones. Frequently specimens from these new sources have been collected and shipped in for examination before the contaminations carried down into the well with tools, casing and by the workmen have been removed or destroyed by the addition of germicides. The numbers of private springs and cisterns examined are too small to give an accurate picture of the conditions.

Five magazine articles of a scientific nature and one bulletin of the State Department of Health on the subject of swimming pools have appeared during the biennium under the authorship of the chief of the Water Laboratory Division.

Research work attempted has been for the most part confined to the mineral analysis of water. Additional work has been done on the Clayton yellow method for the determination of small quantities of magnesium, on the diphenylthiocarbazone method for the determination of small amounts of lead, the diphenylcarbazide method for chromium, the codeine sulfate method for the determination of selenium, the curcumin method for borates, and incidental work on the estimation of copper and zinc by the use of organic reagents. Some work has also been done on the use of sodium thiosulfate as an antichlor in specimens of swimming pool waters. A thesis on the Clayton yellow method for magnesium was produced by Mr. W. Keith Weeber, based on the investigation begun in connection with the mineral analysis work. The other material has been used for the improvement of the technique used in the laboratory work of the Division. The method for lead as developed here has been incorporated in the "Non-Standard Methods" in the 8th Edition of Standard Methods of Water Analysis, APHA and AWWA., 1936, pages 241-245.

PERSONNEL

The regular personnel of the Water Laboratory Division consists of the chief, who is also assistant professor of sanitation in the University of Iowa and chief of the inspection division of the University Department of Health, and in addition, three full-time water analysts, one of whom is also an instructor in water examination for the University. These men are all graduates with one or more degrees. Undergraduate students of the University receive instruction in water examination in a separate laboratory, distinct from the laboratories of the Water Laboratory Division, and have no contact with the specimens of water received for analysis by the Division. Stenographic assistance is provided by the Records Division.

The Water Laboratory Division is operated every day in the year, but reduced staffs are on duty on Sundays and holidays. This procedure is necessary in order to prevent spoilage of specimens received on Saturday and Sunday at the Iowa City express

offices as well as to examine cultures of bacteria and counting plates at the regular intervals established in the procedures employed.

The special staff for mineral analysis work employed by the Iowa State Planning Board has varied from one part time analyst to a group of six full-time analysts and a compiler technician. As the biennium ends, one full-time analyst is taking care of the mineral examination work. All told there have been 1,121 specimens examined since the start of the mineral analyses during the closing months of the biennium 1932-1934.

III. SEROLOGY DIVISION

MISS M. P. SPANSWICK, M. S., Chief

The period of this biennium, with no increase or change in personnel, has shown a considerable increase in the volume of specimens received and examinations performed. Besides the standard routine procedures, there have been several supplementary tests incorporated as a regular addition to reports given physicians regarding their individual specimens.

The following table gives a comparison of the work done as compared with that of the preceding biennium.

	1932-34	1934-36	Numerical Increase	Per Cent Increase
Total number of specimens received.....	81,623	89,817	8,194	10.3%
Total number of examinations made.....	148,588	163,199	14,611	9.9%
Total number of Wassermann and Kahn tests on blood serum.....	133,930	146,764	12,834	9.6%
Wassermann tests on blood serum.....	66,965	73,382	6,417	9.6%
Percent positive Wassermann.....	11.8%	11.6%		
*Wassermann tests on spinal fluids.....	3,754	4,870	1,116	29.8%
Percent positive Wassermann.....	11.0%	10.7%		
Complement Fixation tests for gonorrhoea.....	46	73	27	59.0%
Microscopic examinations for gonorrhoea.....	10,712	11,309	597	5.7%
Percent positive.....	13.2%	16.7%		
Percent doubtful.....	34.1%	38.9%		
Colloidal Gold Curves on spinal fluids.....	11	372	361	328.0%

*The Kahn test is made on spinal fluids upon request.

Some experimental work and tests on three actual cases of suspected Infectious Mononucleosis have been done. It is hoped that this phase of serological study may be enlarged and further developed in the future.

The number of smears to be stained for *Treponema pallidum* has decreased, and rightly so, because of the unsatisfactory results. Examining moist material from suspected syphilitic lesions with

the dark field is being considered, depending upon a demand for such a service by the physicians of the state. Mailing outfits and directions for taking the material and sending it to the laboratory would be furnished and made readily available as are our other regular outfits.

The requests for complement fixation tests for gonorrhoea have steadily increased. The results warrant the inclusion of the procedure in our routine service.

The marked increase in the number of requests for colloidal gold curves on spinal fluids, has come entirely from physicians in the state, the University Hospital making provision for such specimens to be examined at the Psychopathic Hospital.

From this date forward, the Kahn Presumptive test will be made routinely on every specimen, if there is enough serum after the Wassermann and standard Kahn test have been done. We feel that it is of value in checking the Wassermann and standard Kahn test; in giving the clinician added information on patients giving weak Wassermann and Kahn reactions; indicating the progress of treatment; and perhaps detecting earlier, new cases of syphilis. Notes describing the test and stating that due to its greater sensitivity, the results should be considered presumptive in character, are enclosed with reports. This will be continued until we feel that we have acquainted the physicians with the nature and purpose of the test.

In the fall of 1935, the United States Public Health Service, under the direction of Dr. R. A. Vonderlehr, Assistant Surgeon General, began a survey to evaluate serodiagnostic tests for syphilis. Fourteen large laboratories were chosen to participate in the study. The Iowa State Hygienic Laboratory, fortunately, was one of those selected. It was accepted to perform both the Wassermann and the Standard Kahn test. Specimens were sent from a central source to each of the laboratories, where they were tested and the results mailed to Dr. Vonderlehr in Washington, D. C. The results on the reports of 300 specimens for each test were tabulated and a complete report made by the committee in charge of the survey. The report showed that the Wassermann and Kahn tests as performed in this laboratory were 100 per cent specific—that is there were no false positive cases of syphilis reported. The sensitivity of both tests, however, as performed in this laboratory was somewhat less than that reported by the control laboratories. Immediate action has been taken to improve this condition and we have

made application and have been accepted to take part in another survey to be conducted by the U. S. Public Health Service during the coming year. Inasmuch as this is the first general official attempt to evaluate and standardize serodiagnostic tests for syphilis, we feel fortunate to be among those chosen for the preliminary studies. We propose to adjust our methods and technique to conform with those recommended by the U. S. Public Health Service as the most satisfactory in the laboratory diagnosis of syphilis.

IV. RECORDS DIVISION

MISS MINNIE HAMILTON, Chief

An important part of this work is the recording of specimens and reporting examinations to physicians and institutions of the state. Data contained in the report forms which accompany specimens sent in by physicians and institutions are copied into our records. These data are complete when the results of the examinations are entered. A mail report of each examination is sent. Reports by telegraph or telephone are made when requested. A list of positive cases is forwarded by mail each day to the State Department of Health, Des Moines. Records of examinations have been kept since the opening of the laboratory. It is frequently necessary to go far back into the records to look up an item. Diphtheria surveys in schools, CCC camps and various institutions have added somewhat to the work of this division. Reporting of milk counts has added materially to the work. Student Relief Employment has also increased clerical duties here.

The staff consists of a secretary, three full-time stenographers and one part-time stenographer and clerk.

TABLE 1—SPECIMENS RECEIVED FOR THE EXAMINATION OF
DIPHThERIA

	Positive	Negative	Diagnosis Reserved	Specimens Unsuitable for Ex- amination	Total
Diagnosis—					
1934-1935.....	235	1,962	15	14	2,226
1935-1936.....	409	2,102	143	62	2,716
Total.....	644	4,064	158	76	4,942
Release—					
1934-1935.....	319	776	13	19	1,127
1935-1936.....	792	1,126	95	108	2,121
Total.....	1,111	1,902	108	127	3,248
Carrier—					
1934-1935.....	42	491	11	5	549
1935-1936.....	172	497	44	26	739
Total.....	214	988	55	31	1,288
Undesignated—					
1934-1935.....	303	3,929	113	57	4,402
1935-1936.....	672	6,447	468	86	7,673
Total.....	975	10,376	581	143	12,075
Virulence—					
1934-1935.....	7	9	0	0	16
1935-1936.....	15	29	0	0	44
Total.....	22	36	0	0	60
Grand total.....	2,966	17,366	902	377	21,613

Grand total for the biennium—21,613.

TABLE 2—SPECIMENS RECEIVED FOR THE EXAMINATION OF TYPHOID FEVER

	Positive	Negative	Weak Reaction	Specimens Unsuitable for Examination	Total
Widal—					
Dry—requests					
1934-1935.....	21	164	7	8	200
1935-1936.....	16	154	2	8	160
Total.....	37	298	9	16	360
Wet—requests					
1934-1935.....	198	3,556	63	8	3,825
1935-1936.....	184	3,456	73	45	3,758
Total.....	382	7,012	136	53	7,583
Dry—routine					
1934-1935.....	1	27	0	0	28
1935-1936.....	1	15	0	0	16
Total.....	2	42	0	0	44
Wet—routine					
1934-1935.....	9	847	4	0	860
1935-1936.....	11	684	6	0	701
Total.....	20	1,531	10	0	1,561
Feces and Urine—					
1934-1935.....	190	2,773	0	18	2,981
1935-1936.....	65	1,555	0	22	1,642
Total.....	255	4,328	0	40	4,623
Blood Cultures—					
1934-1935.....	28	88	0	1	117
1935-1936.....	13	84	0	3	100
Total.....	41	172	0	4	217
Clot Cultures—routine—					
1934-1935.....	0	0	0	0	0
1935-1936.....	44	2,176	0	0	2,220
Total.....	44	2,176	0	0	2,220
Grand total.....	781	15,559	155	113	16,608

Grand total for the biennium—16,608.

TABLE 3—SPECIMENS RECEIVED FOR THE EXAMINATION OF
PARATYPHOID A AND B

	Positive	Negative	Weak Reaction	Specimens Unsuitable for Ex- amination	Total
Paratyphoid A—					
Dry—					
1934-1935.....	0	69	0	1	70
1935-1936.....	0	60	0	3	63
Total.....	0	129	0	4	133
Wet—					
1934-1935.....	0	3,010	0	4	3,014
1935-1936.....	0	2,845	1	28	2,874
Total.....	0	5,855	1	32	5,888
Paratyphoid B—					
Dry—					
1934-1935.....	0	69	0	1	70
1935-1936.....	0	60	0	3	63
Total.....	0	129	0	4	133
Wet—					
1934-1935.....	0	3,010	0	4	3,014
1935-1936.....	1	2,845	0	28	2,874
Total.....	1	5,855	0	32	5,888
Grand total.....	1	11,968	1	72	12,042

Grand total for the biennium—12,042.

TABLE 4—SPECIMENS RECEIVED FOR THE EXAMINATION OF TUBERCULOSIS

	Positive	Negative	Diagnosis Reserved	Specimens Unsuitable for Examination	Total
Sputum—					
1934-1935.....	404	3,348	2	25	3,779
1935-1936.....	300	3,083	1	15	3,399
Total.....	704	6,431	3	40	7,178
Urine—					
1934-1935.....	4	182	1	2	189
1935-1936.....	2	82	4	1	89
Total.....	6	264	5	3	278
Pleural Fluid—					
1934-1935.....	1	45	0	0	46
1935-1936.....	2	8	0	0	10
Total.....	3	53	0	0	56
Spinal Fluid—					
1934-1935.....	0	18	0	0	18
1935-1936.....	0	11	0	0	11
Total.....	0	29	0	0	29
Other—					
1934-1935.....	0	51	0	2	53
1935-1936.....	3	30	0	1	34
Total.....	3	81	0	3	87
Grand total.....	716	6,858	8	46	7,628

Grand total for the biennium—7,628.

Animal inoculations—included in the grand total—

1934-1935..... 136

1935-1936..... 83

TABLE 5—SPECIMENS RECEIVED FOR THE EXAMINATION OF RABIES

	Positive	Negative	Diagnosis Reserved	Specimens Unsuitable for Examination	Total
Dog heads—					
1934-1935.....	2	16	0	0	18
1935-1936.....	2	30	0	0	32
Total.....	4	46	0	0	50
Heads of cats, squirrels, skunks, horses, cows, foxes—					
1934-1935.....	4	10	0	1	15
1935-1936.....	6	11	0	1	18
Total.....	10	21	0	2	33
Grand total.....	14	67	0	2	83

Grand total for the biennium—83.

TABLE 6—SPECIMENS RECEIVED FOR THE EXAMINATION OF HUMAN BRUCELLOSIS OR UNDULANT FEVER

Human Specimens	Positive	Negative	Weak Reaction	Specimens Unsuitable for Examination	Total
Request—Wet—					
1934-1935.....	299	4,343	55	11	4,708
1935-1936.....	191	4,360	29	20	4,600
Total.....	490	8,703	84	31	9,308
Request—Dry—					
1934-1935.....	10	116	5	1	132
1935-1936.....	8	103	2	1	114
Total.....	18	219	7	2	246
Routine—Wet—					
1934-1935.....	7	223	2	0	232
1935-1936.....	7	228	2	0	237
Total.....	14	451	4	0	469
Routine—Dry—					
1934-1935.....	4	89	0	0	93
1935-1936.....	2	46	1	0	49
Total.....	6	135	1	0	142
Blood Cultures—					
1934-1935.....	13	113	0	10	136
1935-1936.....	6	95	0	16	117
Total.....	19	208	0	26	253
Grand total.....	547	9,716	96	59	10,418

Grand total for the biennium—10,418.

Animal Specimens	Hogs	Cattle	Total
1934-1935	58	657	715
1935-1936	0	419	419
Total	58	1,076	1,134

Grand total for human and animal specimens—11,552.

TABLE 7—SPECIMENS RECEIVED FOR THE EXAMINATION OF TULAREMIA

	Positive	Negative	Diagnosis Reserved	Specimens Unsuitable for Examination	Total
1934-1935	10	109	1	1	121
1935-1936	4	266	3	1	274
Total	14	375	4	2	395

Grand total for the biennium—395

TABLE 8—SPECIMENS RECEIVED FOR MISCELLANEOUS EXAMINATION

(Including Biological Distribution)

	Positive	Negative	Diagnosis Reserved	Specimens Unsuitable for Examination	Total
1934-1935	475	1,875	31	19	2,400
1935-1936	551	1,517	24	33	2,125
Total	1,026	3,392	55	52	4,525

Brucellin

1934-1935	1,050 cc.
1935-1936	960 cc.
Total	2,010 cc.

Milk Examinations

1934-1935	103
1935-1936	287
Total	390

Grand total for the biennium—6,925.

TABLE 9—LABORATORY OUTFITS

(a) Distributed

	Diphtheria		Tuber- culosis	Typhoid (w)	Feces and Urine	Blood Cultures	Agglut- ination	Wasser- mann	Gono- coccus	Water		Total
	Outfits	Tubes								Gen.	State	
1934-1935.....	8,089	10,345	5,817	302	1,309	259	2,691	24,300	5,869	2,925	718	62,624
1935-1936.....	9,132	11,928	5,611	87	1,543	219	2,942	21,957	6,280	2,780	204	62,683
Total.....	17,221	22,273	11,428	389	2,852	478	5,633	46,257	12,149	5,705	922	125,307

Grand total for biennium—125,307.

(b) Returned

	Diphtheria		Tuber- culosis	Typhoid (w)	Feces and Urine	Blood Cultures	Agglut- ination	Wasser- mann	Gono- coccus	Water	Total
	Outfits	Tubes									
1934-1935.....	966	2,565	195	0	102	2	78	709	36	0	4,653
1935-1936.....	811	3,173	463	0	0	2	13	657	7	0	5,126
Total.....	1,777	5,738	658	0	102	4	91	1,366	43	0	9,779

Grand total for biennium—9,779.

TABLE 10—SPECIMENS RECEIVED BY SEROLOGICAL DIVISION

	1934-35	1935-36
Blood—		
Cholest. Antig. Positive.....	3,063	2,677
Alcoholic Antig. Positive.....		
Cholest. Antig. Negative.....	30,748	31,132
Alcoholic Antig. Negative.....		
Cholest. Antig. Positive.....	205	207
Alcoholic Antig. Negative.....		
Cholest. Antig. Doubtful.....	509	432
Alcoholic Antig. Doubtful.....		
Cholest. Antig. Negative.....	600	448
Alcoholic Antig. Negative.....		
Specimens unsuitable for examination.....	1,216	1,177
Anticomplementary.....	155	82
Cholest. Antig. Doubtful.....	479	252
Alcoholic Antig. Doubtful.....		
Spinal Fluid—		
Alcoholic Antig. Positive.....	258	262
Alcoholic Antig. Negative.....	1,964	2,133
Doubtful.....	47	62
Anticomplementary.....	73	49
Specimens unsuitable for examination.....	16	6
Gonorrhea—		
Positive.....	856	1,029
Negative.....	2,829	2,051
Doubtful.....	2,066	2,251
Specimens unsuitable for examination.....	19	8
Infectious mononucleosis.....	1	2
Spirochaetes.....	5	3
Colloidal Gold Curve.....	207	165
Complement Fixation for Gonorrhea.....	25	48
Total No. Serology specimens.....	45,341	44,476
Kahn tests made on Wassermann specimens.....	36,975	36,407
Total number of examinations made.....	82,316	80,883

Grand total 1934-1936—163,199

TABLE 11—REPORT FOR 1934-35; 1935-36. WATER DIVISION

	Public						Private						Ownership Not Stated											
	Good		Bad		Doubtful		Total		Good		Bad		Doubtful		Total		Good		Bad		Doubtful		Total	
	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936	1934-1935	1935-1936
Shallow wells.....	732	509	1,241	423	278	701	372	318	600	1,527	1,105	2,632												
Deep wells.....	792	589	1,381	290	203	493	237	283	520	1,249	1,075	2,324												
Springs.....	8	8	16	10	5	15	5	11	16	23	24	47												
Treated.....	2,568	2,586	5,154	54	33	87	106	254	900	2,728	2,873	5,601												
Raw streams.....	0	0	0	2,782	878	3,660	3	0	3	2,785	878	3,663												
Lakes, etc.....	3	0	3	21	11	32	5	5	10	29	16	45												
Ice.....	0	0	0	0	0	0	0	0	0	0	0	0												
Cisterns.....	0	0	0	0	0	0	0	0	0	0	0	0												
Miscellaneous.....	62	38	120	13	1	14	1	0	1	76	59	135												
Sewage.....	0	0	0	39	148	187	2	0	2	41	148	189												
Swimming pools.....	1,307	1,261	2,568	27	26	53	73	73	146	1,407	1,360	2,767												
Total.....	5,472	5,011	10,483	3,589	1,585	5,174	804	945	1,749	9,805	7,541	17,406												
Shallow wells.....	62	49	111	451	388	839	77	90	167	590	527	1,117												
Deep wells.....	35	39	74	48	59	107	22	25	47	105	123	228												
Springs.....	2	2	4	5	7	12	4	0	4	11	9	20												
Streams, etc.....	0	1	1	4	1	5	0	0	0	4	2	6												
Ice.....	1	2	3	2	0	2	0	0	0	3	2	5												
Cisterns.....	1	0	1	3	3	6	2	1	3	6	4	10												
Miscellaneous.....	19	5	24	3	1	4	13	1	14	35	7	42												
Total.....	120	98	218	516	450	975	118	117	235	754	674	1,428												
Shallow wells.....	0	0	0	0	0	0	0	0	0	0	0	0												
Deep wells.....	1	0	1	0	0	0	0	0	0	0	0	0												
Miscellaneous.....	0	0	0	0	0	0	0	0	0	0	0	0												
Total.....	1	0	1	0	0	0	0	0	0	0	0	0												
No data given.....	2	2	4	2	2	4	0	0	0	0	0	0												
Total.....	2	2	4	2	2	4	0	0	0	0	0	0												
Total.....	5,595	5,111	10,706	4,107	2,046	6,153	922	1,063	1,985	10,624	8,220	18,844												
Iowa State Planning Board, mineral analyses.....										757	190	947												
Grand total.....																								

Grand total for the biennial period..... 19,791
 State work included above, 1934-5..... 4,189
 State work included above, 1935-6..... 1,355

TABLE 12—BACTERIAL COUNTS ON MILK SAMPLES MADE IN WATER LABORATORY—1934-35; 1935-36

	1934-5	1935-6	Total
July.....	392	218	610
August.....	271	187	461
September.....	159	182	341
October.....	268	313	581
November.....	138	283	421
December.....	188	297	485
January.....	226	248	474
February.....	206	407	613
March.....	206	328	534
April.....	428	272	700
May.....	553	268	821
June.....	216	291	507
	3,254	3,294	6,548

Grand total for biennium 1934-6..... 6,548

TABLE 13—EXAMINATIONS MADE IN AFFILIATED LABORATORIES
July 1, 1934—June 30, 1936

Laboratory	Diph- theria	Tuber- culosis	Ty- phoid	Miscel- laneous	Undulant Fever	Total
Ames.....	7	5	0	290	0	302
Atlantic.....	62	14	3	2	2	83
Burlington.....	316	48	39	331	23	757
Cedar Rapids.....	333	62	3	1,697	18	2,113
Council Bluffs.....	403	142	1	228	42	816
Des Moines.....	2,372	86	248	354	3	3,063
Dubuque.....	2,468	45	2	3,041	0	6,456
Grinnell.....	4	0	0	0	0	4
Keokuk.....	23	18	18	104	16	179
Mason City.....	191	63	3	543	0	800
Washington.....	7	6	0	14	0	27
Ft. Dodge.....	4	0	0	0	0	4
	6,190	489	317	7,504	104	14,604

SUMMARY OF WORK OF STATE HYGIENIC LABORATORIES
FOR THE BIENNIUM

(Branch laboratories not included)

	1934- 1935	1935- 1936	Summa- tion	Total
I. Diagnostic Division				
a. Specimens received				
Diphtheria.....	8,320	13,293	21,613	
Typhoid.....	8,011	8,597	16,608	
Paratyphoid A & B.....	6,168	5,874	12,042	
Tuberculosis.....	4,085	3,543	7,628	
Rabies.....	33	50	83	
Undulant fever.....	6,016	5,536	11,552	
Tularemia.....	121	274	395	
Miscellaneous.....	3,553	3,372	6,925	
b. Outfits distributed.....	28,812	31,532	60,344	
c. Outfits returned.....	3,908	4,462	8,370	
Total.....	69,027	76,533	Summa tion	145,560
II. Serological Division				
a. Specimens received				
Blood.....	36,975	36,407	73,382	
Spinal fluid.....	2,358	2,512	4,870	
Gonorrhoea.....	5,770	5,339	11,109	
Infectious mononucleosis.....	1	2	3	
Spirochaetes.....	5	3	8	
Colloidal gold curve.....	207	165	372	
Complement fixation for gonorrhoea.....	25	48	73	
b. Outfits distributed.....	30,169	28,237	58,406	
c. Outfits returned.....	742	664	1,406	
d. Kahn tests made on Wassermanns.....	36,975	36,407	73,382	
Total.....	113,227	109,784	Summa tion	223,011
III. Water Analysis Division				
a. Water.....	10,577	8,157	18,734	
Sewage.....	41	59	100	
Ice.....	6	4	10	
b. Mineral analyses.....	757	190	947	
c. Milk counts.....	3,254	3,294	6,548	
d. Containers sent out.....	3,643	2,987	6,630	
Total.....	18,278	14,691	Summa tion	32,969
Grand total.....	200,532	201,008	Summa tion	401,540
Grand total for the biennium.....				401,540

ANNUAL AND BIENNIAL VOLUME OF WORK SINCE
ESTABLISHMENT OF LABORATORY

Year	Fiscal Period	Volume	Biennium	Volume
1	July 1, 1904-June 30, 1905	3,580	1st	8,779
2	July 1, 1905-June 30, 1906	5,199		
3	July 1, 1906-June 30, 1907	8,423	2nd	17,289
4	July 1, 1907-June 30, 1908	8,856		
5	July 1, 1908-June 30, 1909	10,437	3rd	22,961
6	July 1, 1909-June 30, 1910	12,524		
7	July 1, 1910-June 30, 1911	13,437	4th	27,078
8	July 1, 1911-June 30, 1912	13,641		
9	July 1, 1912-June 30, 1913	17,464	5th	35,432
10	July 1, 1913-June 30, 1914	17,968		
11	July 1, 1914-June 30, 1915	14,691	6th	40,486
12	July 1, 1915-June 30, 1916	25,795		
13	July 1, 1916-June 30, 1917	23,752	7th	46,880
14	July 1, 1917-June 30, 1918	29,128		
15	July 1, 1918-June 30, 1919	43,715	8th	129,705
16	July 1, 1919-June 30, 1920	85,989		
17	July 1, 1920-June 30, 1921	108,662	9th	298,978
18	July 1, 1921-June 30, 1922	190,316		
19	July 1, 1922-June 30, 1923	203,710	10th	395,467
20	July 1, 1923-June 30, 1924	191,757		
21	July 1, 1924-June 30, 1925	169,159	11th	348,008
22	July 1, 1925-June 30, 1926	178,849		
23	July 1, 1926-June 30, 1927	180,811	12th	330,759
24	July 1, 1927-June 30, 1928	149,848		
25	July 1, 1928-June 30, 1929	129,836	13th	330,547
26	July 1, 1929-June 30, 1930	200,711		
27	July 1, 1930-June 30, 1931	172,975	14th	342,175
28	July 1, 1931-June 30, 1932	169,200		
29	July 1, 1932-June 30, 1933	159,892	15th	336,966
30	July 1, 1933-June 30, 1934	177,074		
31	July 1, 1934-June 30, 1935	200,532	16th	401,540
32	July 1, 1935-June 30, 1936	201,008		

**DIVISION OF CHILD HEALTH AND HEALTH
EDUCATION**

JOSEPH H. KINNEMAN, M. D., Director

PERSONNEL

During more than three-fourths of the biennial period ending June 30, 1936, the personnel of the division comprised a director, a director of public health nursing and a stenographer-clerk. A second stenographer-clerk who worked entirely in the interest of child health and health education was paid from state funds appropriated to the health department for general administration.

Toward the close of this report reference is made to the additions to the personnel of the division made possible by the provisions for maternal and child health services under the Social Security Act.

STATE APPROPRIATION FOR THE DIVISION OF CHILD HEALTH
AND HEALTH EDUCATION

The appropriation for the division provided by the legislature was \$6,600 for the first and \$8,500 for the second year of the biennium.

MATERNAL AND CHILD HEALTH PROBLEMS

Much work has been done in the interest of safeguarding the health of mothers and children. A few facts, however, will show that further reduction of maternal and infant life-loss is possible.

An average of 251 maternal deaths per annum has occurred in Iowa during the past ten years. The maternal mortality rate in this state has been decreased only slightly since 1924. During 1934, 51 mothers in Iowa died from causes associated with pregnancy per 10,000 live births. The rate for the U. S. Registration Area for the same year was 59. The principal causes of maternal deaths in Iowa during the year 1934 were: abortion with and without sepsis, puerperal septicemia, the toxemias of pregnancy and puerperal hemorrhage. During the same year, abortion with and without sepsis (infection) and the toxemias of pregnancy accounted for 145 or 67.4 per cent of the 215 deaths from causes associated with pregnancy. Authorities hold that many of the deaths from those causes are preventable.

The prevention of deaths of mothers from causes associated with pregnancy depends upon the extent and character of the medical care and supervision which women receive before, during and after child birth.

Evidence indicates that many Iowa families do not make provision for medical care and supervision early in the course of pregnancy. However, the following data suggest that today a greater per cent of mothers in this state consult a physician earlier in pregnancy than formerly. In 1932 only one out of four mothers first received professional care and supervision prior to the fifth month of the period of waiting. During the first four months of 1936, almost one out of every three mothers who gave birth to living babies began to receive prenatal care before the fifth month of pregnancy. Approximately two out of every five mothers who gave birth to live babies in 1932 waited until term, the time of delivery, to call a physician. The same proportion of mothers failed to secure care before the birth of the baby in 1936. It is believed that failure on the part of 40 per cent of women to arrange for medical care prior to the time of delivery accounts in a large measure for the constancy of the maternal life-loss rate.

In the light of those facts, a health education program designed to teach the public the need for and value of modern obstetric services is essential.

The first part of the book is devoted to a general history of the United States from its discovery by Columbus in 1492 to the present time. It covers the early years of settlement, the struggle for independence, and the formation of the Constitution.

The second part of the book is devoted to a detailed history of the United States from 1789 to 1861. It covers the early years of the Republic, the struggle for independence, and the formation of the Constitution.

The third part of the book is devoted to a detailed history of the United States from 1861 to 1898. It covers the Civil War, Reconstruction, and the expansion of the United States to the Pacific Ocean.

The fourth part of the book is devoted to a detailed history of the United States from 1898 to the present time. It covers the Spanish-American War, the Progressive Era, and the modern history of the United States.

The fifth part of the book is devoted to a detailed history of the United States from the present time to the future. It covers the history of the United States from the present time to the future.

The sixth part of the book is devoted to a detailed history of the United States from the future to the present time. It covers the history of the United States from the future to the present time.

stimulate the community to meet these needs in such a manner that the greatest good will come to the greatest number.

ACTIVITIES OF THE DIVISION

During the biennium activities of the division included:

- A. Preparation of health education material for publication in pamphlets, bulletins, study course outlines, newspapers, house organs, etc.;
- B. Public health lectures;
- C. Radio broadcasts;
- D. Statistical studies and analyses relating to maternal, infant, tuberculosis mortality, etc.;
- E. Exhibits; and
- F. Special projects.

Participation in the program for post-graduate medical education, the promotion of whole-time public health service, the organization and conduct of preventive programs, and the distribution of literature, and silver nitrate ampules, were incidental activities of the division.

PUBLISHED MATERIAL

The division distributed only published material which has been reviewed and approved by the Iowa State Medical Society. Upon request of physicians, 3,587 sets of prenatal letters were mailed directly to the mothers or to the attending physicians who in turn gave them to mothers under their care. A total of 1,076 diet schedules were sent out in the same way. Many physicians requested other publications for patients under their care. In addition to the set of letters and diet schedules, approximately 115,000 publications were distributed during the biennium.

Publications designed to meet the needs of special groups were prepared. They include: A study course outline for the Iowa Congress of Parents and Teachers, Vol. XLVIII, No. 4, under the title, *Introducing Mr. Public Health*; and a health literature kit for the Women's Division, Iowa Farm Bureau Federation. The division cooperated with the State Department of Public Instruction and with representatives from other groups which are interested in health education for the elementary grades to secure the preparation of a manual dealing with that subject. The responsibility for publishing that manual was assumed by the Iowa State Department of Health and at the close of the biennium the copy

for same was in the hands of the printer. In order to help the educational program of the Committee on Cancer of the Iowa State Medical Society, the department agreed to publish a bulletin and two or three leaflets dealing with the subject of cancer.

Other material was prepared by the division and published during the biennium. Articles dealing with the subjects of, The Promotion of Immunization by the State Department of Health and Milestones in Public Health were published in the Journal of the Iowa State Medical Society. An article entitled, Both the Child and the School Need Attention, appeared in the house organ of the Iowa Tuberculosis Association. Excerpts from a radio talk entitled, Modernize Local Health Service were printed in the house organ of the Iowa Federation of Women's Clubs.

During each week of the biennium, the division released a feature article to those papers in Iowa having a Sunday release. Subjects were developed to stress the major activities of a modern health department, such as, safeguarding the health of mothers and children, the control and prevention of communicable diseases, environmental sanitation, vital statistics and laboratory services.

Most of the releases have been carried in the mail editions of the Des Moines Sunday Register which has a circulation in Iowa of more than 300,000. The articles also often appeared in the local editions of the Register. The Council Bluffs Nonpareil, The Davenport Democrat, The Daily Iowan, The Dubuque Telegraph Herald, and The Waterloo Courier each printed several. From time to time a few weekly papers reprinted the articles.

The division made liberal use of the radio and special meetings of professional and other groups in its educational work. Assistance was given to other divisions of the Department in the publication of special and regular bulletins.

The Department is much indebted to Dr. John H. Peck, M. D., Medical Director Iowa Tuberculosis Association, Dr. A. H. Woods, M. D., Director of Iowa State Psychopathic Hospital, and Mr. Jack J. Hinman, Jr., Chief of Water Division of the State Hygienic Laboratories, State University of Iowa, for their splendid contributions in the texts of the following bulletins respectively: "Control of Tuberculosis in Iowa," "Successful Living," and "Sanitation of Swimming Pools." These publications met with a very popular demand, and were widely distributed, many requests being received from other states.

EXHIBITS

Each year of the biennium the division prepared an exhibit for the annual meeting of the Iowa State Medical Society. Exhibit material was loaned to the Scott County Medical Society.

Each year of the biennium, the division helped to plan an exhibit for the department to be shown at the Iowa State Fair.

ACTIVITIES UNDER THE SOCIAL SECURITY ACT

The provisions for maternal and child health services under the Social Security Act were operative in Iowa only during the third and fourth quarters of the last year of the biennial period ending June 30, 1936.

The Iowa plan for maternal and child health services under the Social Security Act made possible several necessary additions to the staff of the division. Part time workers, paid from Federal grants, include: an obstetrical consultant, part time physicians and stenographic-clerical help. Full time workers, paid from Federal grants include: a pediatrician and five public health nurses.

During the 5-month period, February 1 to June 30, 1936, a total of \$26,225.26 was allocated to the division by the Children's Bureau, U. S. Department of Labor. Expenditures from Federal money during that same period amounted to \$16,342.79.

The Iowa plan for maternal and child health services emphasizes the basic objectives of child health work which briefly include:

A birthright of a sound mind in a sound body;

Such care and training from birth through adolescence as will make possible the child's highest mental and physical development; and

Such training and instruction in health habits as will enable the child to care for his own health properly and eventually to care for and train his own children.

The basic objectives of maternal health work are:

To save the lives of mothers and babies;

To prevent needless disability resulting from conditions associated with motherhood;

To teach the need for and the value of medical, nursing and dental care and supervision at all times and special care whenever indicated; and

To teach the simple fundamental principals of a healthy everyday way of living.

The first part of the book is devoted to a general history of the United States from its discovery by Columbus in 1492 to the present time. It covers the early years of settlement, the struggle for independence, the formation of the Constitution, and the development of the nation as a great power. The second part of the book is devoted to a detailed history of the United States from 1789 to the present time. It covers the early years of the Republic, the struggle for reform, the Civil War, and the Reconstruction. The third part of the book is devoted to a detailed history of the United States from 1865 to the present time. It covers the Reconstruction, the Gilded Age, the Progressive Era, and the New Deal.

The first part of the book is devoted to a general history of the United States from its discovery by Columbus in 1492 to the present time. It covers the early years of settlement, the struggle for independence, the formation of the Constitution, and the development of the nation as a great power. The second part of the book is devoted to a detailed history of the United States from 1789 to the present time. It covers the early years of the Republic, the struggle for reform, the Civil War, and the Reconstruction. The third part of the book is devoted to a detailed history of the United States from 1865 to the present time. It covers the Reconstruction, the Gilded Age, the Progressive Era, and the New Deal.

TABLE I
NUMBER OF CHILDREN RECEIVING TREATMENT, BY AGE
GROUPS AND PLACE OF RESIDENCE

Place of Residence	Age Group				Total		Grand Total
	Under 9 Months	9 to 24 Months	25 to 72 Months	Over 72 Months	Pre-school	School	
Adams.....	2	163	71	93	236	93	329
Appanoose.....	12	268	96	36	376	36	412
Dallas.....	5	235	101	86	341	86	427
Davis.....	0	55	49	26	144	26	170
Decatur.....	7	151	44	22	202	22	224
Keokuk.....	14	121	111	162	246	162	408
Louisa.....	7	90	39	27	136	27	163
Lyon.....	2	78	37	24	117	24	141
Madison.....	2	142	79	86	223	86	309
Mills.....	12	211	157	151	380	151	531
Monona.....	9	229	66	23	304	23	327
Monroe.....	4	140	73	74	217	74	291
Page.....	4	281	52	27	337	27	364
Polk.....	4	165	78	39	247	39	286
Poweshiek.....	24	269	428	926	721	926	1,647
Ringgold.....	3	191	174	137	368	137	505
Shelby.....	8	266	109	72	383	72	455
Totals.....	119	3,095	1,764	2,011	4,978	2,011	6,989

The data in Table I show that under this new approach to diphtheria prevention, the total number of children receiving treatment was 6,989. Children of preschool age account for 4,978 or 71.0 per cent of the total. An analysis of the records of diphtheria prevention programs conducted prior to June, 1936, shows that only 28.0 per cent of all the children treated fall in the age group, five years and under. It is apparent that the new approach offers a much greater possibility for reaching children in the most susceptible age group than was previously experienced.

To establish a factor of safety against outbreaks of diphtheria we believe it necessary to give protective treatments to at least 30 per cent of the preschool age group in a community. The data presented in Table II indicate that treated children comprise 30 per cent or more of all the children of preschool age in only one county among the seventeen. However, the data do indicate that this approach offers the possibility of establishing a factor of safety in practically all of the counties in a shorter period of time than five years.

At the close of the biennium the department was assisting those counties not eligible under the Iowa plan for maternal and child health services with the organization and conduct of preventive programs by providing without cost: all of the diphtheria toxoid

TABLE II
ESTIMATED NUMBER OF PRESCHOOL CHILDREN IN EACH OF 17
COUNTIES—NUMBER AND PERCENTAGE OF TREATED
CHILDREN BASED ONLY ON JUNE, 1936, PROGRAM

County	Estimated Number Preschool Age	Number Treated Children Preschool Age	Percentage Treated Children Preschool Age from Single Program
Adams.....	1,196	236	19.7
Appanoose.....	2,611	376	14.3
Dallas.....	2,606	341	13.0
Davis.....	1,097	144	12.0
Decatur.....	1,640	202	11.0
Keokuk.....	1,976	246	12.2
Louisa.....	1,407	136	9.3
Lyon.....	1,992	117	5.8
Madison.....	1,423	223	15.6
Mills.....	1,730	380	21.3
Monona.....	2,257	304	12.8
Monroe.....	1,616	217	13.3
Page.....	2,437	337	13.7
Polk.....	3,209	247	7.0
Poweshiek.....	1,806	721	39.9
Ringgold.....	1,362	368	25.9
Shelby.....	2,138	383	16.2
Totals.....	32,697	4,978	Avg. 15.2

or smallpox vaccine points; Schick testing material; literature, request and certificate of immunity forms, and record cards; a worker to help organize county-wide preventive programs; data, concerning sickness and death rates from preventable causes; and suggestions regarding effective organization and conduct practices.

Details of the plan followed in organizing and conducting county-wide diphtheria preventive programs in the 17 Iowa counties were published in an article, "A New Approach to Diphtheria Prevention," in the Journal of the Iowa State Medical Society, August, 1936.

SPECIAL MATERNITY PROJECT

The department arranged in May, 1936, to provide without cost, several services to the women residents of Washington county, including: Medical care and supervision during the period of waiting by a physician selected by the mother; instruction by public health nurses serving whole-time and making home visits to the mother during the expectant period and after delivery; nursing care at the time of delivery, only for those mothers designated by the county social welfare office and cared for in their homes; and medical examination subsequent to delivery. The number of mothers registered for these several services was 76 in June.

ACKNOWLEDGMENTS

The division wishes to acknowledge the help and cooperation of all agencies and individuals for their assistance during the biennium. The newspapers and radio stations have given space and time to the division which have helped immeasurably in carrying out a program for health education. The assistance and cooperation of such agencies as the Iowa State Medical Society and its constituent county societies, the Iowa State Dental Society, the Iowa Association of Registered Nurses, the State Department of Public Instruction, the College of Medicine, State University of Iowa, the Iowa State Fair Board, the Extension Service, Iowa State College, the Iowa Tuberculosis Association, and the several lay organizations within this state and of the U. S. Department of Labor, Children's Bureau and the many national public health agencies have been invaluable.

PUBLIC HEALTH NURSING

EDITH S. COUNTRYMAN, R. N., Director

Under the appropriations made for the Division of Child Health and Health Education, a provision is made for a director of public health nursing. Her duties are largely advisory to public health nurses and employing boards in the state, and serves in the state department of health as consultant to directors of the various divisions on programs relative to public health nursing, and reports activities of the public health nursing services as carried on in the state. The division makes provision for distribution of information on public health nursing.

To accomplish this, an approach is made through several activities; always the plan is educational, that is, to assist the local groups to determine their greatest needs and help them to bring the best solution in light of accepted public health standards.

FUNCTIONS

What are the functions of the public health nursing division in the state department of health?

I. To give consultant service to:

- (A) Directors of divisions in the state department of health re:
 - 1. Content of nurses' monthly reports and work in relation to:
 - a. Maternal and child health services.
 - b. Communicable disease control.

- c. Tuberculosis service.
- d. Venereal disease control.
- e. Special activities which are not an integral part of the continuous program of any nursing service.

II. To have information available for distribution such as:

- (A) Data on programs and policies of cooperating public health nursing agencies.
- (B) Directories of public health nurses who are in active service.
- (C) Outlined phases of public health nursing for the general public as well as for class reference of student nurses in hospitals.
- (D) Approved qualifications for boards wishing to employ public health nurses.
- (E) Reading suggestions which may be obtained through up-to-date bibliographies on public health nursing subjects.
- (F) Suggestions for the establishment of new services.
- (G) Suggestions for co-ordinating health and social problems.
- (H) Essential objectives outlined by the National Organization for Public Health Nursing.

GENERAL OBJECTIVES

The general objectives of all public health nursing services are:

1. To assist in educating individuals and families to protect their own health.
2. To assist in the adjustment of family and social conditions that affect health.
3. To assist in correlating all health and social programs for the welfare of the family and community.

The Federal Emergency Relief Administration provided the division with an assistant director, Alice J. Patee, R. N., who served from July 1, 1934 to December 1, 1935.

Beginning October 1, 1934, the Federal Emergency Relief Administration employed 13 public health nurses, who were under the supervision of the division of public health nursing. This service continued until September 1, 1935. Their duties were to assist county social workers in securing medical, nursing and other health needs for individuals and families on relief rolls. Also to assist in aiding communities and individuals in the protection of health along accepted public health standards and according to policies of the state department of health.

Under the Works Progress Administration, a number of registered nurses have been assigned to nursery schools and visiting nursing projects. A part of their supervision is obtained from this division.

The present trends in public health nursing are toward the establishment of a more generalized service, whereby a single nurse is prepared to administer to all the needs of families under her care. Experience has proved that it is more acceptable to the community and the employing boards.

Public health nurses in Iowa are employed by both official and non-official agencies. Official agencies are supported by tax funds and the non-official, or voluntary agencies, by funds from such organizations as the American Red Cross, Tuberculosis Association, life insurance and industrial establishments.

STATISTICAL REPORT OF FIELD VISITS

The director made the following visits in the interest of nursing service carried on by official and non-official agencies. Several types of nursing visits are often made within the same community.

	July 1, 1934 June 30, 1935	July 1, 1935 June 30, 1936	Total
County Nursing	12	7	19
School Nursing	25	12	37
Visiting Nursing	11	8	19
Other Industrial, WPA, College, etc.	6	5	11
Nursery Schools	24	6	30
Board Members	11	5	16
P. T. A. Women's Clubs, etc.....	14	4	18
Conferences with groups.....	9	12	21

DISTRIBUTION OF PUBLIC HEALTH NURSES

Type of Service	Full Time		Part Time
	12 months	School Year 9 months	Less than 9 months
County wide services.....	8	6	1
Part of county.....		4	
Visiting nurses	77		3
Industrial	9		
School nurses (cities and towns)...		89	10
State field nurses.....	12		
College nurses	8		
City Health Department.....	4		
Health Center only.....	4		

Public health nursing classes were conducted for senior students at Broadlawns, Lutheran and Mercy hospitals in Des Moines. Talks were given to the senior student nurses, and to two classes of medical students at the University of Iowa to acquaint them with the established practices in public health nursing. Twelve radio talks were given and a number of formal lectures were presented on

public health nursing and relative health topics to various groups in the state.

The State Department of Health and the State Department of Public Instruction adopted, March 1, 1936, compulsory requirements for nurses employed exclusively in school nursing positions. This has been deemed a step forward in the standardization of requirements for public health nursing in the state. Such nurses must give proof that they have had:

- (A) Not less than six semester hours of credit from an accredited college or university offering courses in public health nursing in addition to registration by the Iowa Board of Nurse Examiners, or
- (B) Not less than one year of successful experience within the past five years on a staff where qualified public health nursing supervision was given.

Note: (1) A nurse, meeting above qualifications and holding a certificate in public health nursing from an accredited college or university offering courses in public health nursing shall be considered to have reached the qualifications necessary for appointment to a school nursing position.

(2) It is important that the public health school nurses have adequate knowledge of school health programs and plans adaptable to Iowa conditions. Study programs and advice as to the adequacy of the qualifications may be secured directly from the State Department of Health.

In addition to the above requirements school nurses who teach hygiene and allied subjects are obliged to procure a teaching certificate from the State Board of Education. Such nurses are required to show:

- (1) Completion of a course of not less than one year in public health education, preferably with school nursing as a major, in an approved college or university offering courses in public health nursing in addition to registration by the Iowa Board of Nurse Examiners.

With the passage of the Social Security Act attention is being centered upon the public health nurse and her place in the community. Under the Act appropriations will be made to provide for increased personnel on the state staff and aid in the development of local public health nursing services.

In our educational work liberal use was made of the radio, group conferences and the departmental publications.

GROUP EDUCATION

	No.	Given Attendance
1. Classes (Students)	48	1,676
2. Public Health Nurses.....	6	268
3. Iowa State Association Registered Nurses	2	600
4. Parent-Teachers' Association, Davenport.	1	12
5. State Teachers	1	68
6. Women's Clubs	2	85
7. Visiting Nurse Association, Davenport....	1	16
8. Alumnae	1	28
9. Eye	4	185
10. Medical Students	2	200
11. Nursery School, Ames.....	12	1,225

DIVISION OF EXAMINATIONS AND LICENSES

H. W. GREFE, Director

Under the provisions of section 2186, Code, 1927, there was created a Division of Examinations and Licenses for the practice of certain professions named in section 2439, as follows:

Medicine and Surgery, Osteopathy, Osteopathy and Surgery, Chiropractic, Nursing, Dentistry, Dental Hygiene, Optometry, Podiatry, Cosmetology, Barbering, Embalming, and Pharmacy.

No person shall engage in the practice of any of the above named professions unless he shall have obtained from the State Department of Health a license for that purpose, excepting Pharmacists, who come under the exceptions of section 2539, and Nurses, who come under a separate division under a law enacted by the 46th General Assembly.

The examinations of Chiropractors and Osteopaths come under the exceptions provided for in section 2535, but the department issues the licenses to applicants whose names are certified to it by these boards.

The following boards served during the biennial period:

MEDICAL:

Aldis A. Johnson, M. D., Chairman, Council Bluffs;
Erwin Schenk, M. D., Secretary, Des Moines;
Frank M. Fuller, M. D., Keokuk.

OSTEOPATHY:

W. D. Andrews, D. O. and S., Chairman, Algona;
D. E. Hannan, D. O., Secretary, Perry;
H. B. Willard, D. O., Manchester.

CHIROPRACTIC:

N. A. Golinvaux, D. C., Chairman, Waterloo;
H. T. Opsahl, D. C., Secretary, Decorah;
R. L. Sheeler, D. C., Council Bluffs.

PODIATRY:

Stewart E. Reed, Chairman, Des Moines;
 Paul M. Hawk, Secretary, Waterloo;
 Cecil L. Moon, Marshalltown.

OPTOMETRY:

Alfred J. Meyer, Chairman, Davenport;
 V. V. Kirby, Secretary, Des Moines;
 R. C. Griffith, Harlan.

EMBALMER:

O. O. Greenlee, L. E., Chairman, Lineville;
 Al. M. Didesch, L. E., Secretary, Dubuque;
 A. L. Fleenor, L. E., Jewell.

DENTAL:

L. C. Hemsworth, D. D. S., Chairman, Waterloo;
 Hardy F. Pool, D. D. S., Secretary, Mason City;
 Frank B. Whinery, D. D. S., Iowa City;
 R. J. Lash, D. D. S., Council Bluffs;
 J. J. Foley, D. D. S., Fort Dodge.

BARBER:

L. D. Hamilton, Chairman, Sioux City;
 John E. Bales, Secretary, Cedar Rapids;
 Lee W. Skinner, Council Bluffs.

COSMETOLOGY:

Mrs. Mayme Madden, Chairman, Davenport;
 Mrs. Mable Hart, Secretary, Ames;
 Mrs. Mae Haney, Creston.

Each examining board may meet for the purpose of giving examinations at such times as the department may fix, not exceeding four in any one year. Each board makes rules and regulations for conducting examinations and issuing licenses by reciprocity for that profession, also prepares the examination questions and grades the answers thereto.

All communications relating to examinations and registration by reciprocity, together with credentials and fees, should be sent to the State Department of Health, at least fifteen days prior to date of meetings and examinations. (Section 2466.) (Exceptions, sections 2529 and 2535.)

BOARD OF MEDICAL EXAMINERS

Number of licenses issued upon examination.....	210
Number of licenses issued by reciprocity.....	61
Number of licenses issued by recognition of National Board of Medical Examiners' Certificates	13
Total number of licenses issued during biennial period.....	284

Number of Itinerants' licenses issued.....	5
Number of Physicians in good standing at end of biennial period.....	3,262

BOARD OF OSTEOPATHIC EXAMINERS

Number of licenses issued upon examination (Osteopathy).....	55
Number of licenses issued by reciprocity (Osteopathy).....	3
Number of licenses issued on examination (Osteopathy and Surgery)...	5

Total number of licenses issued during biennial period..... 63

Number of Itinerants' licenses issued.....	0
Number of Osteopaths in good standing at end of biennial period.....	591

BOARD OF CHIROPRACTIC EXAMINERS

Number of licenses issued upon examination.....	79
Number of licenses issued by reciprocity.....	5

Total number of licenses issued during biennial period..... 84

Number of Itinerants' licenses issued.....	0
Number of Chiropractors in good standing at end of biennial period....	1,510

BOARD OF PODIATRY EXAMINERS

Number of licenses issued upon examination.....	13
Number of licenses issued by reciprocity.....	0

Total number of licenses issued during biennial period..... 13

Number of Podiatrists in good standing at end of biennial period.....	76
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BOARD OF OPTOMETRY EXAMINERS

Number of licenses issued upon examination.....	16
Number of licenses issued by reciprocity.....	3

Total number of licenses issued during biennial period..... 19

Number of Itinerants' licenses issued.....	6
Number of Optometrists in good standing at end of biennial period....	464

BOARD OF EMBALMER EXAMINERS

Number of licenses issued upon examination.....	102
Number of licenses issued by reciprocity.....	22

Total number of licenses issued during biennial period..... 124

Number of Embalmers' Apprentice licenses issued during biennial period	337
Number of Embalmers in good standing at end of biennial period.....	1,724

BOARD OF DENTAL EXAMINERS

Number of licenses issued upon examination.....	70
Number of licenses issued by reciprocity.....	0

Total number of licenses issued during biennial period..... 70

Number of Dental Hygienists' licenses issued upon examination.....	4
Number of Dentists in good standing at end of biennial period.....	1,787
Number of Dental Hygienists in good standing at end of biennial period	26

DIVISION OF LAW ENFORCEMENT

HERMAN B. CARLSON, Attorney, Inspector

Under the provisions of Chapter 64, 43rd General Assembly, creating the position of health department inspector, it is the duty of the inspector to make investigations in cases where the practice acts have been violated (Title VIII, Code of Iowa, 1935); secure corroborative and legal proof in the form of oral and written evidence, and report his findings to the Commissioner of Public Health.

The following schedules set out, in classified form, investigations of law violations, attempted law violations and suspected law violations pertaining to the practice acts, many of which have been settled and disposed of without court action.

SCHEDULE "A"

Practicing without license—Medicine	38
Practicing without license—Embalming	35
Practicing without license—Dentistry	13
Practicing without license—Optometry	3
Practicing without license—Osteopathy	1
Practicing without license—Podiatry	5
Practicing without license—Chiropractic	3
Failure to designate profession—Chiropractic	19
Failure to designate profession—Optometry	12
Failure to designate profession—Osteopathy	2
Advertising unprofessionally—Optometry	8
Advertising unprofessionally—Chiropractic	3
Advertising unprofessionally—Podiatry	1
Advertising unprofessionally—Medicine	1
Practicing without Itinerant License—Chiropractic	3
Practicing without Itinerant License—Medicine	5
Practicing without Itinerant License—Osteopathy	3
Practicing without Itinerant License—Optometry	2
Abortions	4
Narcotic Violations	1
Chiropractors practicing Medicine without License.....	3
Optometrist Practicing Medicine without License.....	2
Chiropractors practicing Podiatry.....	1
Dentists advertising contrary to law.....	33
Total number of Investigations made.....	201

In addition to the above, the health department inspector has investigated a number of violations which were difficult of classification and therefore are not listed in this report.

SCHEDULE "B"

Licenses Revoked—Chiropractors	2
Licenses Revoked—Osteopaths	1
Licenses Revoked—Medical	1

Licenses Revoked—Optometrists	1
Injunctions Secured	14
Found not guilty—Practicing Dentistry without license.....	1
Injunctions Cases Dismissed.....	3
Indictments pending	1
Injunction Cases Pending.....	3
Revocation Proceedings Pending.....	1
Convictions	3

Aside from performing the necessary duties in connection with making the foregoing investigations and the follow-up of cases to final determination, the inspector has performed various other duties as follows.

Conferred with and advised the Commissioner of Public Health and the members of the several boards of examiners, on questions of law pertaining to the department and the practice acts governing the various professions. On many occasions during the biennium the inspector conferred with the assistant attorney general in charge of departmental affairs, concerning violation of the practice acts, resulting in many doubtful cases being settled out of court by using what might be termed "corrective procedure," especially in cases of those minor violations involving members of the professions.

Have prepared several legal forms for the Board of Eugenics, so as to comply with Chapter 114-c1, Code of 1935, for use of those persons desirous of making application for sterilization (either for themselves or others in whom they are interested), and in addition thereto have attended to other details of a preliminary nature in connection therewith. During the last two years the inspector has cooperated with the Iowa State Board of Eugenics in the preparation of cases for presentment to their board. Iowa has had four laws on sterilization on the statute books; the last one, passed by the 43rd General Assembly being the only one under which sterilization operations have been successfully effected. This law has been made workable and has been applied in a number of consent cases.

During this biennium the Legislature amended four practice acts, viz., Dentistry, Optometry, Nursing and Embalming, and completely revised the Osteopathic Practice Act. The dental practice act as amended now prohibits all forms of advertising other than the use of the ordinary professional card. Many dentists unknowingly violated the law following the enactment of this legislation, necessitating considerable correspondence in order to correct these situations and in general acquaint the members of this profession

with the various provisions of the law as amended. However, in due time all such cases were corrected without prosecution. The constitutionality of this bill has been attacked in the District Court of Polk County in a case entitled, "Craven vs. Bierring, et al.," in which court it was held that the bill was constitutional. This case is now on appeal in the Supreme Court of Iowa.

The Nursing Practice Act was so amended that for a time it was problematical whether this division would remain with the department of health or be operated as a separate division. The Attorney General held, in a written opinion, that it was the intention of the legislature that the amendments to the nursing practice act separate it entirely from the department of health.

The Osteopathic Practice Act was entirely repealed and a new law enacted in its stead. The underlying features of this new bill without doubt broaden, not only the authority under an osteopathic certificate, but the field of practice as well. In this connection it might well be mentioned that prior to the effectiveness of this bill, several cases to restrain osteopaths from practicing medicine and surgery had been instituted in various parts of the state, and due to the broadened features of the new bill, at the instance of the Attorney General, these cases were dismissed with prejudice.

The 46th General Assembly in enacting House File No. 167 intended to prevent the many unlicensed embalmers in this state from practicing embalming without a license, and the inspector has corrected many situations of this character, due to this legislation, without court procedure; the only exception being a case now before the Supreme Court of Iowa entitled, "State of Iowa vs. Fremont Burial Association," in which the state alleged that the officers and members of the association were practicing embalming in violation of the embalming law.

The Basic Science law, enacted by the 46th General Assembly, although not a practice act, is closely related to the various professions, and its various features are so interwoven into like features contained in the practice acts relating to the healing arts as to in reality become an integral part thereof. This bill, among other things, provides that certification by the Board of Basic Science Examiners, in the form of a certificate of proficiency in the basic sciences, is a prerequisite to eligibility to examination for license to practice the healing arts. This bill also defines the healing art and provides a penalty for the practice of same without such certificate. This provision of the bill has assisted the inspec-

tor in the enforcement of the laws pertaining to medicine, and many unlicensed practitioners have voluntarily and without prosecution discontinued their practice since the passage of this bill.

During the last few years some chiropractors have broadened their field of practice by the use of certain modalities, which the Attorney General believed was contrary to chiropractic as defined in the statutes, and during the early part of the year 1934 instituted an action in Scott County against Chas. J. Boston, a chiropractor (who advertised himself as using physiotherapy, electrotherapy, colonic irrigations and diet in his practice of chiropractic), to restrain him from practicing medicine and surgery without a license and restrict him from the use of these modalities. The lower court filed a decree in favor of the state and the case is now on appeal in the Supreme Court of Iowa.

During the biennium the inspector has had the full cooperation of the Attorney General's office and all members of the State Department of Health and with their assistance he has been enabled to accomplish much of the work contained in this report. Quackery, without a doubt, has been eliminated to a great extent in this state during the seven years this special division has been operated.

DIVISION OF NURSING

Following the enactment by the 46th General Assembly of the Nurses' Bill, known as S. F. No. 50, which bill became effective following publication on April 21, 1935, the State Department of Health was no longer required to furnish to the nursing division personnel, supplies, etc., necessary for the functioning of this division, as under the bill it was contemplated that the Nurses' fund would be adequate to pay all of the expenses incurred by the board and its secretary. Except for the duty of receiving and filing occasional reports from the secretary of the Board of Nurse Examiners, certifying lists of applicants who have passed the examinations given by the board, the bill transferred to the Board of Nurse Examiners and to the secretary of said board the duties heretofore held and discharged by the State Department of Health.

The Commissioner of Public Health cooperated with the Board of Nurse Examiners and its secretary in effecting the necessary changes under this bill and the profession of nursing is now and has been functioning as a division apart from the State Department of Health since April 21, 1935.

BARBER DIVISION

W. B. WILSON, Director

AUTHORITY AND OBJECTIVES

In 1927 the legislature placed upon the statute books of Iowa a law regulating the practice of barbering. (Chap. 124-b2.) The principal object of this act was to protect the public from insanitary barber shops and incompetent barbers, and to raise the general standards of the profession. The State Department of Health prescribed a set of sanitary rules; a copy of which is required to be displayed in a conspicuous place in each barber shop for the information and guidance of persons employed therein. These rules pertain to proper quarters, sterilization of instruments, clean linens, cleanliness of the barbers, and communicable disease of both the barber and the patron.

PERSONNEL

The personnel of the Barber Division, during the past biennium, has remained unchanged with the exception of the replacement of one board member. The members of the Board of Examiners are L. D. Hamilton, Chairman (who replaces Frank Kadell, former member); J. E. Bales, Secretary; and L. W. Skinner. The division Director is W. B. Wilson, and the field inspectors are H. W. Boyd, D. J. Hurley, and Clyde Shanks.

ACTIVITIES

The activities of the division are threefold: i. e., examination, administration, and inspection.

Quarterly Examinations of all persons making application for barber licenses, are conducted by the Board of Barber Examiners, who must pass upon the grades of all applicants. Also the Board must act upon all requests for reinstatement of delinquent licenses; and they must approve or disapprove of all barber schools wishing to be accredited by the department. The members of the Board are appointed by the governor for a term of three years; the terms of said members to be rotated in such a manner that one examiner shall retire each year.

Examinations are held on consecutive days for students eligible for an apprentice card, and for those applicants qualified either by past experience or by completion of apprenticeship, for a master barber license. Both written and practical examinations are given to all applicants of each group.

Administration of the division rests upon the Director, who is

responsible to the Commissioner of Health. His duties consist of the general supervision of all barber shop inspections, the collection of examination and renewal fees, and the custodianship of all records and correspondence. He also acts as corresponding secretary to the Board of Barber Examiners.

In the division office there is maintained a record of all licensed barbers, and of registered students and apprentices. Also a week-by-week report is kept on the location, personnel, and sanitary conditions of each barber shop in the state.

The director makes frequent trips with the field inspectors, especially in the instances where serious violations have been noted, and it has become necessary to file information against the offenders. The inspection of the conditions, and the maintenance of curriculum standards, in the four barber schools approved by the Board in this state, is also under the jurisdiction of the division director.

Inspection of all barber shops in the state is made by the three field inspectors, who visit each shop on the average of three times annually. Their objectives are not only to correct wrong conditions, and point out rule violations, but also to educate the barber in the need to abide by the regulations, not only in the primary interests of the public health, but also in the stimulation of his own business thereby.

An individual inspection blank is made out and filed by the inspector in the business office of the division, on each shop visited, designating in detail the existing conditions. A system has been devised during this biennium, whereby the inspector now has a record with him on his field trips, that corresponds to a similar file held in the office, which lists all violations in each shop existing on previous inspections. He is, therefore, better qualified than in the past, to note improved conditions, if any, and to ascertain, when necessary, what action should be recommended in individual cases.

It is the policy of the division, and in turn, of the inspection staff, to urge the cooperation of the barbers in reference to the sanitary regulations, and to avoid severe action whenever possible. Yet in the last two years, it has been necessary in several instances to have barbers arrested for constant violations of the sanitary regulations. We have, recently, in the larger cities of the state urged the passage by city councils, of city ordinances governing the sanitary conditions of local barber shops. In the cities where such ordinances are in effect, we have been able to try offenders

in the municipal court, promptly and effectively, whereas when it is necessary to file charges against violators under the state law, the offense is an indictable misdemeanor and the procedure is therefore slower and more difficult. We have, accordingly, been much more successful in dealing with violators in this biennium than we have in previous years.

The following statistics have been compiled concerning the various activities of the division:

- 6,282 Barbers licensed and in good standing in year 1934-35.
- 45 Barbers deceased during year 1934-35.
- 6,158 Barbers licensed and in good standing in year 1935-36.
- 53 Barbers deceased during year 1935-36.
- 988 Towns visited by inspectors during years 1934-36.
- 3,478 Barber shops visited by inspectors during years 1934-36.
- 7,838 Individual inspections made by inspectors during year 1934-35.
- 8,079 Individual inspections made by inspectors during year 1935-36.
- 260 Complaint notices written to violators during year 1934-35.
- 86 Final "Five Day" warning notices sent to major offenders during year 1934-35.
- 22 Shops ordered closed during year 1934-35.
- 29 Unlicensed men ordered to cease working at trade during year 1934-35.
- 5 Shop managers ordered to discharge unlicensed employees during year 1934-35.
- 231 Complaint notices written to violators during year 1935-36.
- 35 Final "Five Day" warning notices sent to major offenders during year 1935-36.
- 19 Shops ordered closed during year 1935-36.
- 13 Unlicensed men ordered to cease working at trade during year 1935-36.
- 4 Shop managers ordered to discharge unlicensed employees during year 1935-36.
- 13 Warrants for arrests of barbers on sanitary violation charges during years 1934-36.
- 11 Convictions obtained against sanitary violators in years 1934-36.
- 2 Licenses revoked by court order during years 1934-36.
- 2 Licenses suspended by court order during years 1934-36.
- 2 Licensees placed on probation by court, under threat of revocation, during years 1934-36.
- 1 Injunction placed by court order against non-licensed man, for practicing barbering, during years 1934-36.
- 92 Barber examinations given during year 1934-35.
- 61 Barber applicants licensed by examination in year 1934-35.
- 31 Barber examination failures during year 1934-35.
- 88 Apprentice examinations given during year 1934-35.
- 71 Apprentice applicants issued apprentice cards during year 1934-35.
- 17 Apprentice examination failures during year 1934-35.
- 108 Barber examinations given during year 1935-36.
- 87 Barber applicants licensed by examination in year 1935-36.
- 21 Barber examination failures during year 1935-36.
- 89 Apprentice examinations given during year 1935-36.
- 77 Apprentice applicants issued apprentice cards during year 1935-36.
- 12 Apprentice examination failures during year 1935-36.
- 91 Student registrations in four approved barber schools during year 1934-35.
- 75 Student registrations in four approved barber schools during year 1935-36.

RECEIPTS AND EXPENDITURES

This division collects its own fees, remitting them to the Department of Health, which in turn pays same to the Treasurer of the State. The expenditures of the Barber Division cannot exceed the receipts of any one year. (Sec. 2585-b18, 1935 Code of Iowa.)

The following figures will show that this division carries on one phase of public health service that is not only self-sustaining, but is returning to the Treasurer of the State a substantial amount of its receipts each year:

\$18,796.00	Receipts for fiscal year ending June 30, 1935.
15,133.00	Division expenditures for fiscal year ending June 30, 1935.
3,662.35	Balance credited to general revenue for fiscal year ending June 30, 1935.
18,812.00	Receipts for fiscal year ending June 30, 1936.
15,589.08	Division expenditures for fiscal year ending June 30, 1936.
3,222.92	Balance credited to general revenue for fiscal year ending June 30, 1936.

RECOMMENDATIONS

Based on careful observation concerning the experience with division regulations the past two years, the following amendments for future legislation are made, in regard to penalties for violations, and the licensing of barber shops.

We recommend that Section 2217 of the 1935 Code, be amended by adding the words "and barbering" after the word "cosmetology." This would then make the charges for the violation of our rules that of a non-indictable misdemeanor. With this amendment, we could have violators arraigned before the justice of the peace, and tried immediately, while our inspectors were in the community, thereby avoiding grand jury action and a return for trial at a later date.

We further recommend that the present law be amended to require that all shops secure a license and that no license would be issued to new shops until they had been inspected, and met with the approval of the State Department of Health. By this method we could prevent undesirable shops from opening in such places as living quarters, poorly ventilated rooms, or in locations without plumbing facilities, which is often the situation and has been a menace to the public health. It is our belief that shops should not be allowed to open, which do not meet our requirements, rather than that we should attempt to close them after they have already opened.

The fees for this license could be small and still reimburse our fast diminishing receipts, which are due to the smaller number of men renewing their license each year.

COSMETOLOGY DIVISION

HILDA V. GEERDES, Executive Secretary

PERSONNEL

The personnel of the Cosmetology Division during the past biennium has been changed by the replacement of two members of the Board of Examiners. Hazel Reddish's term of service expired on July 1, 1934, at which time Mrs. Mabel Hart was appointed. On July 1, 1935, the service of Mrs. Alice Graf expired, and Mrs. Mae Haney of Creston was appointed.

JULY 1, 1934 TO JUNE 30, 1935

Number of examinations held as follows:

August, 1934, Des Moines, Iowa	
November, 1934, Des Moines, Iowa	
February, 1935, Des Moines, Iowa	
April, 1935, Des Moines, Iowa	
Number of licenses issued during this period.....	764
Number working on permits pending examination date.....	150
Number of school licenses	10
Number of itinerant licenses	2
Number of renewals issued	4,399
Number of delinquent renewals issued.....	389

JULY 1, 1935 TO JUNE 30, 1936

Number of examinations held as follows:

August, 1935, Des Moines, Iowa	
December, 1935, Des Moines, Iowa	
April, 1936, Des Moines, Iowa	
Number of licenses issued during this period.....	582
Number working on permits pending examination date.....	264
Number of school licenses	12
Number of itinerant licenses	1
Number of renewals issued	4,621
Number of delinquent renewals issued.....	398
During this year two new schools were established, one at Fort Dodge, Iowa, and one at Mason City, Iowa.	
One itinerant licensee left the state	

INDEX

A

	Page
Accidents (see Mortality)	
Acknowledgments	10
Activities of	
Division of Administration	7
Division of Barbering	241-245
Division of Cosmetology	245
Division of Communicable Diseases and Epidemiology...	160-197
Division of Laboratories	198-221
Division of Law Enforcement	237-240
Division of Licensure and Registration.....	234-236
Division of Child Health and Health Education.....	221
Division of Nursing Education	240
Division of Public Health Engineering.....	14- 32
Division of Public Health Nursing.....	230-234
Division of Vital Statistics	32-159

B

Births:	
By age of parents—1933.....	146
By cities over 10,000—1933-1934-1935.....	132
By color and age of mother, 1933.....	147
By counties, 1933-1934-1935	130-131
By months, 1933	145
By number in order of birth, 1933.....	147
By sex and color, 1933.....	145
Legitimate and illegitimate, 1933.....	148
Plural, 1933	148
Board of Examiners:	
Chiropractic	4
Cosmetology	4
Dental	4
Embalmers	4
Medical	4
Nurses	4
Optometry	4
Osteopathy	4
Podiatry	4
Board of Health Members.....	3

C

Cancer (see Mortality)	
Cedar River Hearing.....	16
Community Sanitation	30- 31

	Page
D	
Des Moines River Hearing.....	16
Diphtheria	91, 92, 93, 166, 170, 210
Divorces, by counties, 1933, 1934, 1935.....	158-159
Dysentery	
Bacillary	160-161
E	
Examinations—milk specimens	219
Expenditures, departmental—biennium ending June 30, 1936, and preceding biennium	11- 13
F	
Fees collected	13
G	
Gonorrhoea	186
H	
Health education	
Activities—general	8- 10
Health units—district and county.....	9, 30, 32
Heart, diseases of (see Mortality)	
Housing Law—general supervision.....	27
I	
Incidence of Communicable Diseases	
Bacillary dysentery	160-161
Diphtheria	166-170
Epidemic meningococcus meningitis.....	173-176
Gonorrhoea, by age and sex, 1935.....	186
Measles	170-173
Poliomyelitis	177
Rocky Mountain spotted fever.....	180
Scarlet fever	181-183
Scarlet fever convalescent serum.....	181
Smallpox	184-185
Syphilis, by age and sex, 1935.....	186
Tuberculosis	187-188
Typhoid fever	189-191
Undulant fever	161-166
Whooping Cough	191-193
Influenza (see Mortality)	
Inspections	
Railroad water supplies.....	25

	Page
Sewage plant	25
State institutions	26
State parks	27
Swimming pools	26
Tourist and other camps	27

Investigations

Sanitary

Nuisances	24
Stream pollution	15-17

L

Laboratory (see specimens received, water laboratory)	
Letter of transmittal	5

M

Marriages

By counties, 1933-1934-1935	16-17
-----------------------------------	-------

Maternal and child health problems

Activities	226
Alms	223-224
Appropriations	221
Diphtheria immunization	226-229
Problems	222
Published materials of divisions	224-225
Special maternity project	229

Measles	79, 81, 176, 173
---------------	------------------

Meningitis (meningococcal)	173-176
----------------------------------	---------

Milk sanitation	29-30
-----------------------	-------

Milk specimens examined	219
-------------------------------	-----

Mortality

By cause and age, 1933	43
By cause and age, 1934	64
By cities over 10,000, 1933-1934-1935	41
By counties, 1933-1934-1935	41, 42, 43
Comparison of infant mortality with births by counties, 1933-1934-1935	139-140

Figures and rates	56-57
-------------------------	-------

From accidents (all forms)

By cities, 1933-1934-1935	121
By counties, 1933-1934-1935	119-120

From automobile accidents

By cities, 1933-1934-1935	117
By counties, 1933-1934-1935	115-116

	Page
From cancer (all forms)	
By cities, 1933-1934-1935	109
By counties, 1933-1934-1935	107-108
From diphtheria	
By cities, 1933-1934-1935	93
By counties, 1933-1934-1935	91- 92
From diseases of the heart	
By cities, 1933-1934-1935	113
By counties, 1933-1934-1935	111-112
From influenza	
By cities, 1933-1934-1935	97
By counties, 1933-1934-1935	95- 96
From measles	
By cities, 1933-1934-1935	81
By counties, 1933-1934-1935	79- 80
From pneumonia (all forms)	
By cities, 1933-1934-1935	101
By counties, 1933-1934-1935	99-100
From scarlet fever	
By cities, 1933-1934-1935	85
By counties, 1933-1934-1935	83- 84
From smallpox	
Summary, 1933-1934-1935	78
From tuberculosis (all forms)	
By cities, 1933-1934-1935	105
By counties, 1933-1934-1935	103-104
From typhoid and paratyphoid fever	
By cities, 1933-1934-1935	77
By counties, 1933-1934-1935	75- 76
From whooping cough	
By cities, 1933-1934-1935	89
By counties, 1933-1934-1935	87- 88
Infant mortality	
By cities over 10,000, 1933-1934-1935.....	136
By counties, 1933-1934-1935	134-135
From important causes, 1933.....	149
Maternal	
By cities over 10,000, 1933-1934-1935.....	143
By counties, 1933-1934-1935	141-142
Mortality and birth figures and rates, 1923-1935.....	56
Mortality statistics	
Comparison 1933 and 1934.....	58- 61
Comparison 1934 and 1935.....	63

P

	Page
Personnel, training of.....	31
Personnel, staff	3
Plumbing law	27
Pneumonia (see Mortality)	
Polioomyelitis	177
Population	
By cities over 10,000, 1933.....	38
By color	37
Public health nursing	
Distribution of public health nurses.....	233
FERA	131
Functions of	230-231
General objectives	231-232
PWA	31

R

Recommendations	
Division of Public Health Engineering.....	32
Register Your Baby Campaign.....	123-129
Reportable diseases, 1934-1935.....	196-197
Rocky Mountain spotted fever.....	180
Rural sanitation	28- 29

S

Sanitation	
Milk	29
Rural	28
Scarlet fever	83, 85, 181, 183
Sewage disposal	
Municipalities having sanitary sewage disposal.....	18
Municipalities having treated sewage.....	18
Plans and specifications.....	19
Sewers and sewage disposal plans and specifications.....	21
Smallpox	78, 184-185
Social Security Act	
Community sanitation	30
District and county health units.....	30
Epidemiology	195
Industrial hygiene	30
Maternal and child health.....	226-227
Milk sanitation	29
Rural sanitation	28

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