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VITAL STATISTICS

AN INTRODUCTION TO THE SCIENCE OF DEMOGRAPHY

BY

GEORGE CHANDLER WHIPPLE

*Late Gordon McKay Professor of Sanitary Engineering
in Harvard University*

SECOND EDITION

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DEDICATED TO
THE STUDENTS OF VITAL STATISTICS
IN THE SCHOOL OF PUBLIC HEALTH
OF HARVARD UNIVERSITY
AND THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
1918-1922

PREFACE TO SECOND EDITION

Since the first edition of Vital Statistics was published a new census of the United States has been taken. New data are therefore available. The tables of population have been revised to include the data for 1920 and new tables have been added. Interest in the subject of the estimation of future population of cities has led to a new chapter on this subject, which includes diagrams showing population growth in different parts of the United States. Emphasis is placed on the use of semi-log plotting paper for predicting future population, — a subject which should prove of special interest to business men, city planners, and municipal engineers, as well as to health officers. The international list of the causes of death has been revised in accordance with changes made by the Congress which met at Paris Oct. 11-14, 1920.

No attempt has been made to amplify the questions and exercises at the end of each chapter. They were originally intended to be merely suggestive. Each instructor will obtain the best results by making up problems for his own classes based on local data. It will be noticed that Massachusetts statistics have been largely used throughout the book. This is because the book was prepared originally for use at Harvard University and the Massachusetts Institute of Technology, and the inclusion of data from other states would have made the book too large. It may not be out of place to call attention once more to the fact that this is an elementary book.

The author takes this occasion to express his gratification that the subject of vital statistics is rapidly accelerating in interest. The fact that the first edition of this book has

already been translated into the Japanese language and that Italian and Spanish translations are being made is proof that health officers the world over are more than ever appreciating the importance of the science of demography.

In making the changes in this second edition the author wishes to acknowledge the assistance of his secretary, Miss Mabel A. Spear, and of Mr. Dana E. Kepner, Assistant in Sanitary Engineering, Harvard Engineering School.

THE AUTHOR.

CAMBRIDGE, MASS.
November, 1922

PREFACE

This book is written for students who are preparing themselves to be public health officials and for public health officials who are willing to be students. It makes no claim to be an exhaustive treatise or a compendium of facts; it is merely a guide to the study of vital statistics, an introduction to the great world-wide science of demography — a science yet in the magmatic stage, not yet crystallized. The Great War is bound to develop this science, because hereafter all the nations of the earth must know each other better, and this knowledge, in order to be usable, must be condensed into statistical forms.

Specifically the book tells what statistics are and what they are not; it shows how to express vital facts by figures, how to tabulate them and how to display them by diagrams; it shows how to compute birth-rates and death-rates and how to analyze a death-rate; it shows how to adjust and standardize death-rates and how to make life tables; it emphasizes the need of using vital statistics with truth, with imagination and with power.

For the convenience of school instruction, exercises and questions to incite further study are given in each chapter. Many subjects worthy of special study, however, are not even mentioned, loose ends have been left in every chapter, illustrations have been chosen as they came conveniently to hand, and the general arrangement has been informal as to its subject matter. The object in all this has been to stimulate the reader to critically analyze all vital statistics as they appear before him from day to day. Although the illustrations have been gathered in a haphazard way, an attempt has been made to set forth the elementary principles of the statistical method in a simple and orderly fashion.

The author wishes to confess that he is not an authority on vital statistics, much less an authority on demography; he is merely a student of the science. He has taken the student's privilege of quoting freely from many writers to whom he wishes to render acknowledgments and thanks. In particular he desires to express his obligations and personal regards to Dr. William H. Davis, Chief Statistician for Vital Statistics, United States Bureau of the Census, who has read the entire proof of this book and given the benefit of his careful criticism.

Just a personal word to the health officers of America. A new day is dawning for you. The care of the public health is becoming a distinct profession. The medical profession alone is not able to cope with it. The young men and women who are to be the executive health officers in the next generation are recognizing the need of special training, based on the principles of preventive medicine, hygiene and sanitation. Schools of public health are coming into existence and receiving warm-hearted support. The health administration of the future will be in the hands of full-time officials, who are adequately paid and protected in their tenure of office, but who in return for these advantages must be adequately trained for their work. The ability to use vital statistics in public health work is an important part of this training. Many of you have been in office for a long time, you have forgotten most of your arithmetic — not to mention algebra. You can see the new era coming and you dread the new methods founded on accurate statistical studies of accident, disease and death. There is no need of this fear. You can use statistics as well as any one, but you must study. This book has been prepared with your difficulties in mind.

GEORGE CHANDLER WHIPPLE

CAMBRIDGE, MASS.
January, 1919.

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APPENDIX I

REFERENCES

To study demography, or even vital statistics, seriously one must have at hand several of the standard textbooks on the statistical method, and certain of the more recent federal, state and municipal reports. One must also have access to files of certain periodicals. The following is a list of some of the more important of these references. It is far from being complete, and is intended merely to pave the way for further searches in the library.

A complete list of references to books and articles on the many phases of the subject would be overwhelming. The most recent writings on vital statistics are not necessarily the best for the beginner to study, as some of the soundest and most logical monographs were written many years ago. Of course, the most recent data are the most interesting — but that is another matter.

Many references to particular articles will be found scattered through the footnotes of this book and printed in connection with the Exercises and Questions.

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U. S. BUREAU OF THE CENSUS. *Mortality Statistics.* Annually since 1900.

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APPENDIX II

THE MODEL STATE LAW FOR MORBIDITY REPORTS

ADOPTED BY THE ELEVENTH ANNUAL CONFERENCE OF STATE AND TERRITORIAL HEALTH AUTHORITIES WITH THE UNITED STATES PUBLIC HEALTH SERVICE, MINNEAPOLIS, JUNE 16, 1913.

A Bill To provide for the notification of the occurrence and prevalence of certain diseases.

Be it enacted by the Senate and General Assembly of the State of ———:

SECTION 1. It shall be, and is hereby, made the duty of the State department of health (or commissioner or board of health) to keep currently informed of the occurrence, geographic distribution, and prevalence of the preventable diseases throughout the State, and for this purpose there shall be established in the State department of health a bureau (or division) of sanitary reports which shall, under the direction of the State commissioner of health (State health officer or secretary of the State board of health), be in charge of an assistant commissioner of health who shall receive an annual salary of ——— dollars and the necessary expenses incurred in the performance of his duties. The State department of health shall provide such clerical and other assistance as may be necessary for the establishment and maintenance of said bureau.

SEC. 2. The following-named diseases and disabilities are hereby made notifiable and the occurrence of cases shall be reported as herein provided:

GROUP I. — INFECTIOUS DISEASES

Actinomycosis.	Dengue.
Anthrax.	Diphtheria.
Chicken-pox.	Dysentery:
Cholera. Asiatic (also cholera nostras when Asiatic cholera is present or its importation threatened).	(a) Amebic.
	(b) Bacillary.
Continued fever lasting seven days.	Favus.
	German measles.

GROUP I. — INFECTIOUS DISEASES — Continued

Glanders.
 Hookworm disease.
 Leprosy.
 Malaria.
 Measles.
 Meningitis:
 (a) Epidemic cerebrospinal.
 (b) Tuberculous.
 Mumps.
 Ophthalmia neonatorum (conjunctivitis of new born infants).
 Paragonimiasis (endemic hemoptysis).
 Paratyphoid fever.
 Plague.
 Pneumonia.
 Poliomyelitis (acute infectious).
 Rabies.
 Rocky Mountain spotted, or tick, fever.
 Scarlet fever.
 Septic sore throat.
 Smallpox.
 Tetanus.
 Trachoma.
 Trichinosis.
 Tuberculosis (all forms, the organ or part affected in each case to be specified).
 Typhoid fever.

Typhus fever.
 Whooping cough.
 Yellow fever.

GROUP II. — OCCUPATIONAL DISEASES AND INJURIES.

Arsenic poisoning.
 Brass poisoning.
 Carbon monoxide poisoning.
 Lead poisoning.
 Mercury poisoning.
 Natural gas poisoning.
 Phosphorous poisoning.
 Wood alcohol poisoning.
 Naphtha poisoning.
 Bisulphide of carbon poisoning.
 Dinitrobenzine poisoning.
 Caisson disease (compressed-air illness).
 Any other disease or disability contracted as a result of the nature of the person's employment.

GROUP III. — VENEREAL DISEASES

Gonococcus infection.
 Syphilis.

GROUP IV. — DISEASES OF UNKNOWN ORIGIN.

Pellagra.
 Cancer.

Provided, That the State department of health (or board of health) may from time to time, in its discretion, declare additional diseases notifiable and subject to the provisions of this act.

Sec. 3. Each and every physician practicing in the State of ——— who treats or examines any person suffering from or afflicted with, or suspected to be suffering from or afflicted with, any one of the notifiable diseases shall immediately report such case of notifiable disease in writing to the local health authority having jurisdiction. Said report shall

be forwarded either by mail or by special messenger and shall give the following information:

1. The date when the report is made.
2. The name of the disease or suspected disease.
3. The name, age, sex, color, occupation, address, and school attended or place of employment of patient.
4. Number of adults and children in the household.
5. Source or probable source of infection or the origin or probable origin of the disease.
6. Name and address of the reporting physician.

Provided, That if the disease is, or is suspected to be, smallpox the report shall, in addition, show whether the disease is of the mild or virulent type and whether the patient has ever been successively vaccinated, and, if the patient has been successfully vaccinated, the number of times and dates or approximate dates of such vaccination; and if the disease is, or is suspected to be, cholera, diphtheria, plague, scarlet fever, smallpox, or yellow fever, the physician shall, in addition to the written report, give immediate notice of the case to the local health authority in the most expeditious manner available; and if the disease is, or is suspected to be, typhoid fever, scarlet fever, diphtheria or septic sore throat the report shall also show whether the patient has been, or any member of the household in which the patient resides is, engaged or employed in the handling of milk for sale or preliminary to sale: *And provided further*, That in the reports of cases of the venereal diseases the name and address of the patient need not be given.

Sec. 4. The requirements of the preceding section shall be applicable to physicians attending patients ill with any of the notifiable diseases in hospitals, asylums, or other institutions, public or private: *Provided*, That the superintendent or other person in charge of any such hospital, asylum, or other institution in which the sick are cared for may, with the written consent of the local health officer (or board of health) having jurisdiction, report in the place of the attending physician or physicians the cases of notifiable diseases and disabilities occurring in or admitted to said hospital, asylum, or other institution in the same manner as that prescribed by physicians.

Sec. 5. Whenever a person is known, or is suspected, to be afflicted with a notifiable disease, or whenever the eyes of an infant under two weeks of age become reddened, inflamed, or swollen, or contain an unnatural discharge, and no physician is in attendance, an immediate report of the existence of the case shall be made to the local health officer

by the midwife, nurse, attendant, or other person in charge of the patient.

SEC. 6. Teachers or other persons employed in, or in charge of, public or private schools, including Sunday Schools, shall report immediately to the local health officer each and every known or suspected case of a notifiable disease in persons attending or employed in their respective schools.

SEC. 7. The written reports of cases of the notifiable disease required by this act of physicians shall be made upon blanks supplied for the purpose, through the local health authorities, by the State department of health. These blanks shall conform to that adopted and approved by the State and Territorial health authorities in conference with the United States Public Health Service.

SEC. 8. Local health officers or boards of health shall within seven days after the receipt by them of reports of cases of the notifiable diseases forward by mail to the State department of health the original written reports made by physicians, after first having transcribed the information given in the respective reports in a book or other form of record for the permanent files of the local health office. On each report thus forwarded the local health officer shall state whether the case to which the report pertains was visited or otherwise investigated by a representative of the local health office and whether measures were taken to prevent the spread of the disease or the occurrence of additional cases.

SEC. 9. Local health officers or boards of health shall, in addition to the provisions of section 8, report to the State department of health in such manner and at such times as the State department of health may require by regulation the number of new cases of each of the notifiable diseases reported to said local health officers or boards of health.

SEC. 10. Whenever there occurs within the jurisdiction of a local health officer or board of health an epidemic of a notifiable disease, the local health officer or board of health shall, within 30 days after the epidemic shall have subsided, make a report to the State department of health of the number of cases occurring in the epidemic, the number of cases terminating fatally, the origin of the epidemic, and the means by which the disease was spread: *Provided*, That whenever the State department of health has taken charge of the control and suppression or undertaken the investigation of the epidemic, the local health authority having jurisdiction need not make the report otherwise required.

SEC. 11. No person shall be appointed to the position of local health

officer in any city, town, or county until after the qualifications of said person have been approved by the State department of health.

SEC. 12. In localities in which there are no local health officers or boards of health, and in localities in which, although there are health officers or boards of health, adequate provision has not, in the opinion of the State department of health, been made for the proper notification, investigation, and control of notifiable disease, and in localities in which the local health authorities fail to carry out the provisions of this act, the State department of health shall appoint properly qualified sanitary officers to act as local health officers and to prevent the spread of disease in and from such localities and to enforce the provisions of this act: *Provided*, That salaries and other expenses incurred under the provisions of this section shall be paid by the local authorities.

SEC. 13. Any physician or other person or persons who shall fail, neglect or refuse to comply with, or who shall violate any of the provisions of this act shall be guilty of a misdemeanor, and upon conviction thereof shall be sentenced to pay a fine of not less than _____ dollars nor more than _____ dollars or to imprisonment for not less than _____ days nor more than _____ days for each offense: *Provided*, That in the case of a physician his license to practice medicine within the State may be revoked in accordance with existing statutory provisions.

SEC. 14. No license to practice medicine shall be issued to any person until after the applicant shall have filed with the State licensing board a statement, signed and sworn to before a notary or other officer qualified to administer oaths, that said applicant has familiarized himself with the requirements of this act, a copy of which sworn statement shall be forwarded to the State department of health.

SEC. 15. Each and every person engaged in the practice of medicine shall display in a prominent place in his or her office a card upon which sections 2, 3, 4, 7, 13, 14, and 15 of this act have been printed with type not smaller than 10-point. A similar card shall be displayed in a prominent place in the office of each and every hospital, asylum, or other public or private institution for the treatment of the sick. These cards shall each be not less than 1 square foot in size and shall be furnished to institutions and licensed physicians without cost by the State department of health.

SEC. 16. The sum of _____ dollars is hereby appropriated from any money in the State treasury not otherwise appropriated for carrying out the provisions of this act.

SEC. 17. This act shall take effect immediately, and all acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

THE STANDARD MORBIDITY NOTIFICATION BLANK

The following model notification blank was also adopted by the conference of state and territorial health authorities with the United States Public Health Service, June 16, 1913, as the standard notification blank referred to in section 7 of the Model Law as the one to be used in the reporting of cases of the notifiable diseases. This blank is intended to be printed on a post card:

[Face of card.]

..... 191..
 (Date.)

Disease or suspected disease.....
 Patient's name....., age....., sex....., color.....
 Patient's address....., occupation.....
 School attended or place of employment.....
 Number in household: Adults....., children.....
 Probable source of infection or origin of disease.....
 If disease is smallpox, type....., number of times
 successfully vaccinated and approximate date.....
 If typhoid fever, scarlet fever, diphtheria, or septic sore throat, was patient, or is any
 member of household engaged in the production of handling of milk.....
 Address of reporting physician.....
 Signature of physician.....

[Reverse of card.]

For use of local health department.

<p>..... Was case investigated by health department? (Date)..... 191..... Was nature of disease verified?..... What measures were taken to prevent the spread or the occurrence of additional cases from same origin?..... </p>	<p>Health Department, (City)..... (State).....</p>
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HOSPITAL DISCHARGE CERTIFICATE

Suggested but with some additions by Bolduan for use in connection with hospital morbidity reports

DISCHARGE CERTIFICATE.

Name of hospital.....	Hospital admission No.....
	Sex..... Age.....
	Weight..... Height.....
How admitted — Ambulance or own application or (Tabulation No.) transfer from other hospital.	White. Hebrew. Colored. Gentile. Mongolian.
	Place of birth.....
Patient's address.....	Single or married or widowed or divorced or unknown.
..... Borough.....	Discharged to —
Date admitted.....	Home.
Date discharged.....	Other hospital.
Days in hospital..... months.....	Convalescent retreat.
..... days.....	Coroner.
(If over a year, omit the days and give only years and months.)	
Occupation — (a) Trade, profession, or particular kind of work.	
(b) General nature of the industry, business, or establishment in which employed (or employer).	
Diagnosis on admission.....	
Diagnosis at discharge.....	
Complications.....	
Method of treatment.....	
If operated upon, state nature of operation.....	
Condition at admission.....	
Condition on discharge: Cured. Improved. Unimproved.	
	Died — Autopsy.
	No autopsy.
Social service work done.....	
Social service work contemplated.....	

Signed.....

House Physician — Surgeon.

APPENDIX III

THE MODEL STATE LAW FOR THE REGISTRATION OF BIRTHS AND DEATHS

A Bill¹ To provide for the registration of all births and deaths in the State of——.

NOTE.—After the bill has been prepared for presentation to the legislature of a State, the title should be carefully revised by competent legal authority.

Be it enacted by the legislature of the State of ——

SECTION 1. That the State board of health shall have charge of the registration of births and deaths; shall prepare the necessary instructions, forms, and blanks for obtaining and preserving such records and shall procure the faithful registration of the same in each primary registration district as constituted in section 3 of this act, and in the central bureau of vital statistics at the capital of the State. The said board shall be charged with the uniform and thorough enforcement of the law throughout the State, and shall from time to time recommend any additional legislation² that may be necessary for this purpose.

SEC. 2. That the secretary of the State board of health shall have general supervision over the central bureau of vital statistics, which is hereby authorized to be established by said board, and which shall be under the immediate direction of the State registrar of vital statistics, whom the State board of health shall appoint within thirty days after the taking effect of this law, and who shall be a medical practitioner of not less than five years' practice in his profession, and a competent vital statistician. The State registrar of vital statistics shall hold office for four years and until his successor has been appointed and has qualified, unless such office shall sooner become vacant by death, disqualification,

¹ Before introducing this bill in any legislature it should be carefully redrafted by a competent lawyer and submitted to the Bureau of the Census for criticism.

² The words "and shall promulgate any additional rules or regulations" may be inserted in bills prepared for States in which the State board of health has power to make rules and regulations having the effect of law.

operation of law, or other causes. Any vacancy occurring in such office shall be filled for the unexpired term by the State board of health. At least ten days before the expiration of the term of office of the State registrar of vital statistics, his successor shall be appointed by the State board of health. The State registrar of vital statistics shall receive an annual salary at the rate of ——— dollars from the date of his entering upon the discharge of the duties of his office. The State board of health shall provide for such clerical and other assistants as may be necessary for the purposes of this act, who shall serve during the pleasure of the board, and shall fix the compensation of persons thus employed within the amount appropriated therefor by the legislature. The custodian of the capitol shall provide for the bureau of vital statistics in the State capitol at ——— suitable offices, which shall be properly equipped with fireproof vault and filing cases for the permanent and safe preservation of all official records made and returned under this act.

SEC. 3. That for the purposes of this act the State shall be divided into registration districts as follows: Each city, each incorporated town, and each township¹ shall constitute a primary registration district: *Provided*, That the State board of health may combine two or more primary registration districts when necessary to facilitate registration.

SEC. 4. That within ninety days after the taking effect of this act, or as soon thereafter as possible, the State board of health shall appoint a local registrar of vital statistics for each registration district in the State.² The term of office of each local registrar so appointed shall be

¹ Or other primary political unit, as "town," "precinct," "civil district," "hundred," etc. When there are no such units available, the following substitutes for section 3 may be employed: Section 3. That for the purposes of this act the State shall be divided into registration districts as follows: Each city and each incorporated town shall constitute a primary registration district; and for that portion of each county outside of the cities and incorporated towns therein the State board of health shall define and designate the boundaries of a sufficient number of rural registration districts, which districts it may change or combine from time to time as may be necessary to insure the convenience and completeness of registration.

² This method of appointment of local registrars by the State board of health — or perhaps by the State registrar or upon his nomination — with a reasonably long term of service and subject to removal for neglect of duty, is the preferable one for efficient service. Should there be objection, however, to the creation of new offices, the section may be redrafted so that it will provide that township, village, or city clerks, or other suitable officials, shall be the local registrars. ✓

four years, and until his successor has been appointed and has qualified, unless such office shall sooner become vacant by death, disqualification, operation of law, or other causes: *Provided*, That in cities where health officers or other officials are, in the judgment of the State board of health, conducting effective registration of births and deaths under local ordinances at the time of the taking effect of this act such officials may be appointed as registrars in and for such cities, and shall be subject to the rules and regulations of the State registrar and to all of the provisions of this act. Any vacancy occurring in the office of local registrar of vital statistics shall be filled for the unexpired term by the State board of health. At least ten days before the expiration of the term of office of any such local registrar his successor shall be appointed by the State board of health.

Any local registrar who, in the judgment of the State board of health, fails or neglects to discharge efficiently the duties of his office as set forth in this act, or to make prompt and complete returns of births and deaths as required thereby, shall be forthwith removed by the State board of health, and such other penalties may be imposed as are provided under section 22 of this act.

Each local registrar shall, immediately upon his acceptance of appointment as such, appoint a deputy, whose duty it shall be to act in his stead in case of his absence or disability; and such deputy shall in writing accept such appointment and be subject to all rules and regulations governing local registrars. And when it appears necessary for the convenience of the people in any rural district the local registrar is hereby authorized, with the approval of the State registrar, to appoint one or more suitable persons to act as subregistrars, who shall be authorized to receive certificates and to issue burial or removal permits in and for such portions of the district as may be designated; and each subregistrar shall note on each certificate, over his signature, the date of filing, and shall forward all certificates to the local registrar of the district within ten days, and in all cases before the third day of the following month: *Provided*, That each subregistrar shall be subject to the supervision and control of the State registrar and may be by him removed for neglect or failure to perform his duty in accordance with the provisions of this act or the rules and regulations of the State registrar, and shall be subject to the same penalties for neglect of duty as the local registrar.

SEC. 5. That the body of any person whose death occurs in this State, or which shall be found dead therein, shall not be interred, deposited in a vault or tomb, cremated or otherwise disposed of, or re-

moved from or into any registration district, or be temporarily held pending further disposition more than seventy-two hours after death, unless a permit for burial, removal, or other disposition thereof shall have been properly issued by the local registrar of the registration district in which the death occurred or the body was found.¹ And no such burial or removal permit shall be issued by any registrar until, wherever practicable, a complete and satisfactory certificate of death has been filed with him as hereinafter provided: *Provided*, That when a dead body is transported from outside the State into a registration district in ——— for burial, the transit or removal permit, issued in accordance with the law and health regulations of the place where the death occurred, shall be accepted by the local registrar of the district into which the body has been transported for burial or other disposition, as a basis upon which he may issue a local burial permit; he shall note upon the face of the burial permit the fact that it was a body shipped in for interment, and give the actual place of death; and no local registrar shall receive any fee for the issuance of burial or removal permits under this act other than the compensation provided in section 20.

SEC. 6. That a stillborn child shall be registered as a birth and also as a death, and separate certificates of both the birth and the death shall be filed with the local registrar, in the usual form and manner, the certificate of birth to contain in place of the name of the child, the word "stillbirth": *Provided*, That a certificate of birth and a certificate of death shall not be required for a child that has not advanced to the fifth month of uterogestation. The medical certificate of the cause of death shall be signed by the attending physician, if any, and shall state the cause of death as "stillborn," with the cause of the stillbirth, if known, whether a premature birth, and, if born prematurely, the period of uterogestation, in months, if known; and a burial or removal permit of the prescribed form shall be required. Midwives shall not sign certificates of death for stillborn children; but such cases, and stillbirths occurring without attendance of either physician or midwife, shall be treated as deaths without medical attendance, as provided for in section 8 of this act.

SEC. 7. That the certificate of death shall contain the following items, which are hereby declared necessary for the legal, social, and sanitary purposes subserved by registration records:²

¹ A special proviso may be required for sparsely settled portions of a State.

² The following items are those of the United States standard certificate of death, approved by the Bureau of the Census.

(1) Place of death, including State, county, township, village, or city. If in a city, the ward, street, and house number; if in a hospital or other institution, the name of the same to be given instead of the street and house number. If in an industrial camp, the name of the camp to be given.

(2) Full name of decedent. If an unnamed child, the surname preceded by "Unnamed."

(3) Sex.

(4) Color or race, as white, black, mulatto (or other negro descent), Indian, Chinese, Japanese, or other.

(5) Conjugal condition, as single, married, widowed, or divorced.

(6) Date of birth, including the year, month, and day.

(7) Age, in years, months, and days. If less than one day, the hours or minutes.

(8) Occupation. The occupation to be reported of any person, male or female, who had any remunerative employment, with the statement of (a) trade, profession or particular kind of work; (b) general nature of industry, business, or establishment in which employed (or employer).

(9) Birthplace; at least State or foreign country, if known.

(10) Name of father.

(11) Birthplace of father; at least State or foreign country, if known.

(12) Maiden name of mother.

(13) Birthplace of mother; at least State or foreign country, if known.

(14) Signature and address of informant.

(15) Official signature of registrar, with the date when certificate was filed, and registered number.

(16) Date of death, year, month, and day.

(17) Certification as to medical attendance on decedent, fact and time of death, time last seen alive, and the cause of death, with contributory (secondary) cause of complication, if any, and duration of each, and whether attributed to dangerous or insanitary conditions of employment; signature and address of physician or official making the medical certificate.

(18) Length of residence (for inmates of hospitals and other institutions; transients or recent residents) at place of death and in the State, together with the place where disease was contracted, if not at place of death, and former or usual residence.

(19) Place of burial or removal; date of burial.

(20) Signature and address of undertaker or person acting as such.

The personal and statistical particulars (items 1 to 13) shall be authenticated by the signature of the informant, who may be any competent person acquainted with the facts.

The statement of facts relating to the disposition of the body shall be signed by the undertaker or person acting as such.

The medical certificate shall be made and signed by the physician, if any, last in attendance on the deceased, who shall specify the time in attendance, the time he last saw the deceased alive, and the hour of the day at which death occurred. And he shall further state the cause of death, so as to show the course of disease or sequence of causes resulting in the death, giving first the name of the disease causing death (primary cause), and the contributory (secondary) cause, if any, and the duration of each. Indefinite and unsatisfactory terms, denoting only symptoms of disease or conditions resulting from disease, will not be held sufficient for the issuance of a burial or removal permit; and any certificate containing only such terms as defined by the State Registrar shall be returned to the physician or person making the medical certificate for correction and more definite statement. Causes of death which may be the result of either disease or violence shall be carefully defined; and if from violence, the means of injury shall be stated and whether (probably) accidental, suicidal, or homicidal.¹ And for deaths in hospitals, institutions, or of nonresidents the physician shall supply the information required under this head (item 13), if he is able to do so, and may state where, in his opinion, the disease was contracted.

SEC. 8. That in case of any death occurring without medical attendance it shall be the duty of the undertaker to notify the local registrar of such death, and when so notified the registrar shall, prior to the issuance of the permit, inform the local health officer and refer the case to him for immediate investigation and certification: *Provided*, That when the local health officer is not a physician, or when there is no such official, and in such cases only, the registrar is authorized to make the certificate and return from the statement of relatives or other persons having adequate knowledge of the facts: *Provided further*, That if the registrar has reason to believe that the death may have been due to unlawful act or neglect he shall then refer the case to the coroner or other proper officer for his investigation and certification. And the coroner or other proper officer whose duty it is to hold an inquest on the

¹ In some States the question whether a death was accidental, suicidal, or homicidal must be determined by the coroner or medical examiner and the registration law must be framed to harmonize.

body of any deceased person and to make the certificate of death required for a burial permit shall state in his certificate the name of the disease causing death, or if from external causes, (1) the means of death and (2) whether (probably) accidental, suicidal, or homicidal, and shall in any case furnish such information as may be required by the State Registrar in order properly to classify the death.

SEC. 9. That the undertaker or person acting as undertaker shall file the certificate of death with the local registrar of the district in which the death occurred and obtain a burial or removal permit prior to any disposition of the body. He shall obtain the required personal and statistical particulars from the person best qualified to supply them, over the signature and address of his informant. He shall then present the certificate to the attending physician, if any, or to the health officer or coroner, as directed by the local registrar, for the medical certificate of the cause of death and other particulars necessary to complete the record, as specified in sections 7 and 8. And he shall then state the facts required relative to the date and place of burial or removal, over his signature and with his address, and present the completed certificate to the local registrar in order to obtain a permit for burial, removal, or other disposition of the body. The undertaker shall deliver the burial permit to the person in charge of the place of burial before interring or otherwise disposing of the body, or shall attach the removal permit to the box containing the corpse, when shipped by any transportation company, said permit to accompany the corpse to its destination, where, if within the State of ———, it shall be delivered to the person in charge of the place of burial.

[Every person, firm, or corporation selling a casket shall keep a record showing the name of the purchaser, purchaser's post-office address, name of deceased, date of death, and place of death of deceased, which record shall be open to inspection of the State Registrar at all times. On the first day of each month the person, firm, or corporation selling caskets shall report to the State Registrar each sale for the preceding month, on a blank, provided for that purpose: *Provided, however,* That no person, firm, or corporation selling caskets to dealers or undertakers only shall be required to keep such record, nor shall such report be required from undertakers when they have direct charge of the disposition of a dead body.

Every person, firm, or corporation selling a casket at retail, and not having charge of the disposition of the body, shall inclose within the casket a notice furnished by the State Registrar calling attention to the requirements of the law, a blank certificate of death, and the rules

and regulations of the State board of health concerning the burial or other disposition of a dead body.¹

SEC. 10. That if the interment or other disposition of the body is to be made within the State, the wording of the burial or removal permit may be limited to a statement by the registrar, and over his signature, that a satisfactory certificate of death having been filed with him, as required by law, permission is granted to inter, remove, or dispose otherwise of the body, stating the name, age, sex, cause of death, and other necessary details upon the form prescribed by the State registrar.

SEC. 11. That no person in charge of any premises on which interments are made shall inter or permit the interment or other disposition of any body unless it is accompanied by a burial, removal, or transit permit, as herein provided. And such person shall indorse upon the permit the date of interment, over his signature, and shall return all permits so indorsed to the local registrar of his district within ten days from the date of interment, or within the time fixed by the local board of health. He shall keep a record of all bodies interred or otherwise disposed of on the premises under his charge, in each case stating the name of each deceased person, place of death, date of burial or disposal, and name and address of the undertaker; which record shall at all times be open to official inspection: *Provided*, That the undertaker, or person acting as such, when burying a body in a cemetery or burial ground having no person in charge, shall sign the burial or removal permit, giving the date of burial, and shall write across the face of the permit the words "No person in charge," and file the burial or removal permit within ten days with the registrar of the district in which the cemetery is located.

SEC. 12. That the birth of each and every child born in this State shall be registered as hereinafter provided.

SEC. 13. That within ten days after the date of each birth there shall be filed with the local registrar of the district in which the birth occurs a certificate of such birth, which certificate shall be upon the form adopted by the State board of health with a view to procuring a full and accurate report with respect to each item of information enumerated in section 14 of this act.²

In each case where a physician, midwife, or person acting as midwife was in attendance upon the birth, it shall be the duty of such physi-

¹ The provisions in brackets may be useful in States in which no funerals are conducted without regular undertakers.

² A proviso may be added that shall require the registration, or notification, at a shorter interval than ten days, of births that occur in ce-

midwife, or person acting as midwife to file in accordance herewith the certificate herein contemplated.

In each case where there was no physician, midwife, or person acting as midwife in attendance upon the birth, it shall be the duty of the father or mother of the child, the householder or owner of the premises where the birth occurred, or the manager or superintendent of the public or private institution where the birth occurred, each in the order named, within ten days after the date of such birth, to report to the local registrar the fact of such birth. In such case and in case the physician, midwife, or person acting as midwife, in attendance upon the birth is unable, by diligent inquiry, to obtain any item or items of information contemplated in section 14 of this act, it shall then be the duty of the local registrar to secure from the person so reporting, or from any other person having the required knowledge, such information as will enable him to prepare the certificate of birth herein contemplated, and it shall be the duty of the person reporting the birth, or who may be interrogated in relation thereto, to answer correctly and to the best of his knowledge all questions put to him by the local registrar which may be calculated to elicit any information needed to make a complete record of the birth as contemplated by said section 14, and it shall be the duty of the informant as to any statement made in accordance herewith to verify such statement by his signature, when requested so to do by the local registrar.

Sec. 14. That the certificate of birth shall contain the following items, which are hereby declared necessary for the legal, social, and sanitary purposes subserved by registration records:¹

(1) Place of birth, including State, county, township or town, village, or city. If in a city, the ward, street, and house number; if in a hospital or other institution, the name of the same to be given, instead of the street and house number.

(2) Full name of child. If the child dies without a name, before the certificate is filed, enter the words "Died unnamed." If the living child has not yet been named at the date of filing certificate of birth, the space on "Full name of child" is to be left blank, to be filled out subsequently on a supplemental report, as hereinafter provided.

(3) Sex of child.

(4) Whether a twin, triplet, or other plural birth. A separate certificate shall be required for each child in case of plural births.

¹The following items are those of the United States standard certificate of birth, approved by the Bureau of the Census.

- (5) For plural births, number of each child in order of birth.
- (6) Whether legitimate or illegitimate.¹
- (7) Date of birth, including the year, month, and day.
- (8) Full name of father.
- (9) Residence of father.
- (10) Color or race of father.
- (11) Age of father at last birthday, in years.
- (12) Birthplace of father; at least State or foreign country, if known.
- (13) Occupation of father. The occupation to be reported if engaged in any remunerative employment, with the statement of (a) trade, profession, or particular kind of work; (b) general nature of industry, business, or establishment in which employed (or employer).
- (14) Maiden name of mother.
- (15) Residence of mother.
- (16) Color or race of mother.
- (17) Age of mother at last birthday, in years.
- (18) Birthplace of mother; at least State or foreign country, if known.
- (19) Occupation of mother. The occupation to be reported if engaged in any remunerative employment, with the statement of (a) trade, profession, or particular kind of work; (b) general nature of industry, business, or establishment in which employed (or employer).
- (20) Number of children born to this mother, including present birth.
- (21) Number of children of this mother living.
- (22) The certification of attending physician or midwife as to attendance at birth, including statement of year, month, day (as given in item 7), and hour of birth, and whether the child was born alive or stillborn. This certification shall be signed by the attending physician or midwife, with date of signature and address; if there is not physician or midwife in attendance, then by the father or mother of the child, householder, owner of the premises, or manager or superintendent of public or private institution where the birth occurred, or other competent person, whose duty it shall be to notify the local registrar of such birth, as required by section 13 of this act.
- (23) Exact date of filing in office of local registrar, attested by his official signature, and registered number of birth, as hereinafter provided.

Sec. 15. That when any certificate of birth of a living child is presented without the statement of the given name, then the local registrar

¹ This question may be omitted if desired, or provision may be made so that the identity of parents will not be disclosed.

shall make out and deliver to the parents of the child a special blank for the supplemental report of the given name of the child, which shall be filled out as directed, and returned to the local registrar as soon as the child shall have been named.

SEC. 16. That every physician, midwife, and undertaker shall, without delay, register his or her name, address, and occupation with the local registrar of the district in which he or she resides, or may hereafter establish a residence; and shall thereupon be supplied by the local registrar with a copy of this act, together with such rules and regulations as may be prepared by the State registrar relative to its enforcement. Within thirty days after the close of each calendar year each local registrar shall make a return to the State registrar of all physicians, midwives, or undertakers who have been registered in his district during the whole or any part of the preceding calendar year: *Provided*, That no fee or other compensation shall be charged by local registrars to physicians, midwives, or undertakers for registering their names under this section or making returns thereof to the State registrar.¹

SEC. 17. That all superintendents or managers, or other persons in charge of hospitals, almshouses, lying-in, or other institutions, public or private, to which persons resort for treatment of diseases, confinement, or are committed by process of law, shall make a record of all the personal and statistical particulars relative to the inmates in their institutions at the date of approval of this act, which are required in the forms of the certificates provided for by this act, as directed by the State registrar; and thereafter such record shall be, by them, made for all future inmates at the time of their admittance. And in case of persons admitted or committed for treatment of disease, the physician in charge shall specify for entry in the record, the nature of the disease, and where, in his opinion, it was contracted. The personal particulars and information required by this section shall be obtained from the individual himself if it is practicable to do so; and when they can not be so obtained, they shall be obtained in as complete a manner as possible from relatives, friends, or other persons acquainted with the facts.

SEC. 18. That the State registrar shall prepare, print, and supply to all registrars all blanks and forms used in registering, recording, and preserving the returns, or in otherwise carrying out the purposes of this act; and shall prepare and issue such detailed instructions as may be required to procure the uniform observance of its provisions and the

¹ This section may be omitted if deemed expedient and the duty of supplying instructions may be assumed by the State officer.

maintenance of a perfect system of registration; and no other blanks shall be used than those supplied by the State registrar. He shall carefully examine the certificates received monthly from the local registrars, and if any such are incomplete or unsatisfactory he shall require such further information to be supplied as may be necessary to make the record complete and satisfactory. And all physicians, midwives, informants, or undertakers, and all other persons having knowledge of the facts, are hereby required to supply, upon a form provided by the State registrar or upon the original certificate, such information as they may possess regarding any birth or death upon demand of the State registrar, in person, by mail, or through the local registrar: *Provided, That no certificate of birth or death, after its acceptance for registration by the local registrar, and no other record made in pursuance of this act, shall be altered or changed in any respect otherwise than by amendments properly dated, signed, and witnessed. The State registrar shall further arrange, bind, and permanently preserve the certificates in a systematic manner, and shall prepare and maintain a comprehensive and continuous card index of all births and deaths registered; said index to be arranged alphabetically, in the case of deaths, by the names of decedents, and in the case of births, by the names of fathers and mothers. He shall inform all registrars what diseases are to be considered infectious, contagious, or communicable and dangerous to the public health, as decided by the State board of health, in order that when deaths occur from such diseases proper precautions may be taken to prevent their spread.*

If any cemetery company or association, or any church or historical society or association, or any other company, society, or association, or any individual, is in possession of any record of births or deaths which may be of value in establishing the genealogy of any resident of this State, such company, society, association, or individual may file such record or a duly authenticated transcript thereof with the State registrar, and it shall be the duty of the State registrar to preserve such record or transcript and to make a record and index thereof in such form as to facilitate the finding of any information contained therein. Such record and index shall be open to inspection by the public, subject to such reasonable conditions as the State registrar may prescribe. If any person desires a transcript of any record filed in accordance herewith, the State registrar shall furnish the same upon application, together with a certificate that it is a true copy of such record, as filed in his office, and for his services in so furnishing such transcript and certificate he shall be entitled to a fee of (ten cents per folio) (fifty cents

per hour or fraction of an hour necessarily consumed in making such transcript) and to a fee of twenty-five cents for the certificate, which fees shall be paid by the applicant.

Sec. 19. That each local registrar shall supply blank forms of certificates to such persons as require them. Each local registrar shall carefully examine each certificate of birth or death when presented for record in order to ascertain whether or not it has been made out in accordance with the provisions of this act and the instructions of the State registrar; and if any certificate of death is incomplete or unsatisfactory, it shall be his duty to call attention to the defects in the return, and to withhold the burial or removal permit until such defects are corrected. All certificates, either of birth or of death, shall be written legibly, in durable black ink, and no certificate shall be held to be complete and correct that does not supply all of the items of information called for therein, or satisfactorily account for their omission. If the certificate of death is properly executed and complete, he shall then issue a burial or removal permit to the undertaker; provided, that in case the death occurred from some disease which is held by the State board of health to be infectious, contagious, or communicable and dangerous to the public health, no permit for the removal or other disposition of the body shall be issued by the registrar, except under such conditions as may be prescribed by the State board of health. If a certificate of birth is incomplete, the local registrar shall immediately notify the informant and require him to supply the missing items of information if they can be obtained. He shall number consecutively the certificates of birth and death, in two separate series, beginning with number 1 for the first birth and the first death in each calendar year, and sign his name as registrar in attest of the date of filing in his office. He shall also make a complete and accurate copy of each birth and each death certificate registered by him in a record book supplied by the State registrar, to be preserved permanently in his office as the local record, in such manner as directed by the State registrar. And he shall, on the tenth day of each month, transmit to the State registrar all original certificates registered by him for the preceding month. And if no births or no deaths occurred in any month, he shall, on the tenth day of the following month, report that fact to the State registrar, on a card provided for such purpose.

Sec. 20. That each local registrar shall be paid the sum of twenty-five cents for each birth certificate and each death certificate properly and completely made out and registered with him, and correctly recorded and promptly returned by him to the State registrar, as required by

this act.¹ And in case no births or no deaths were registered during any month, the local registrar shall be entitled to be paid the sum of twenty-five cents for each report to that effect, but only if such report be made promptly as required by this act. All amounts payable to a local registrar under the provisions of this section shall be paid by the treasurer of the county in which the registration district is located, upon certification by the State registrar. And the State registrar shall annually certify to the treasurers of the several counties the number of births and deaths properly registered, with the names of the local registrars and the amounts due each at the rates fixed herein.²

SEC. 21. That the State registrar shall, upon request, supply to any applicant a certified copy of the record of any birth or death registered under provisions of this act, for the making and certification of which he shall be entitled to a fee of fifty cents, to be paid by the applicant. And any such copy of the record of a birth or death, when properly certified by the State registrar, shall be prima facie evidence in all courts and places of the facts therein stated. For any search of the files and records when no certified copy is made, the State registrar shall be entitled to a fee of fifty cents for each hour or fractional part of an hour of time of search, said fee to be paid by the applicant. And the State registrar shall keep a true and correct account of all fees by him received under these provisions, and turn the same over to the State treasurer: *Provided*, That the State registrar shall, upon request of any parent or guardian, supply, without fee, a certificate limited to a statement as to the date of birth of any child when the same shall be necessary for admission to school, or for the purpose of securing employment: *And provided further*, That the United States Census Bureau may obtain, without expense to the State, transcripts, or certified copies of births and deaths without payment of the fees herein prescribed.

SEC. 22. That any person, who for himself or as an officer, agent, or employee of any other person, or of any corporation or partnership (a) shall inter, cremate, or otherwise finally dispose of the dead body of a human being, or permit the same to be done, or shall remove said body from the primary registration district in which the death occurred or

¹ A proviso may be inserted at this point relative to fees of city registrars who are already compensated by salary for their services. See laws of Missouri, Ohio, and Pennsylvania.

² Provision may be made in this section for the payment of sub-registrars and also, if desired, for the payment of physicians and midwives. See Kentucky law.

the body was found without the authority of a burial or removal permit issued by the local registrar of the district in which the death occurred or in which the body was found; or (b) shall refuse or fail to furnish correctly any information in his possession, or shall furnish false information affecting any certificate or record, required by this act; or (c) shall willfully alter, otherwise than is provided by section 18 of this act, or shall falsify any certificate of birth or death, or any record established by this act; or (d) being required by this act to fill out a certificate of birth or death and file the same with the local registrar, or deliver it, upon request, to any person charged with the duty of filling the same, shall fail, neglect, or refuse to perform such duty in the manner required by this act; or (e) being a local registrar, deputy registrar, or subregistrar, shall fail, neglect, or refuse to perform his duty as required by this act and by the instructions and direction of the State registrar thereunder, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall for the first offense be fined not less than five dollars (\$5) nor more than fifty dollars (\$50), and for each subsequent offense not less than ten dollars (\$10) nor more than one hundred dollar (\$100), or be imprisoned in the county jail not more than sixty days, or be both fined and imprisoned in the discretion of the court.¹

SEC. 23. That each local registrar is hereby charged with the strict and thorough enforcement of the provisions of this act in his registration district, under the supervision and direction of the State registrar. And he shall make an immediate report to the State registrar of any violation of this law coming to his knowledge, by observation or upon complaint of any person or otherwise.

The State registrar is hereby charged with the thorough and efficient execution of the provisions of this act in every part of the State, and is hereby granted supervisory power over local registrars, deputy local registrars, and subregistrars to the end that all of its requirements shall be uniformly complied with. The State registrar, either personally or by an accredited representative, shall have authority to investigate cases of irregularity or violation of law, and all registrars shall aid him upon request, in such investigations. When he shall deem it necessary he shall report cases of violation of any of the provisions of this act to the prosecuting attorney of the county, with a statement of the facts

¹ Provision may be made whereby compliance with this act shall constitute a condition of granting licenses to physicians, midwives, and embalmers.

and circumstances; and when any such case is reported to him by the State registrar the prosecuting attorney shall forthwith initiate and promptly follow up the necessary court proceedings against the person or corporation responsible for the alleged violation of law. And upon request of the State registrar, the attorney general shall assist in the enforcement of the provisions of this act.

NOTE. — Other sections should be added giving the date on which the act is to go into effect, if not determined by constitutional provisions of the State; providing for the financial support of the law; and repealing prior statutes inconsistent with the present act.

It is desirable that the entire bill should be reviewed by competent legal authority for the purpose of discovering whether it can be made more consistent in any respect with the general form of legislation of the State in which the bill is to be introduced, without material change or injury to the effectiveness of registration.

THE STANDARD BIRTH AND DEATH CERTIFICATES

The following are facsimile reproductions of the standard birth and death certificates. They have been reduced in size to meet the requirements of the printed page. The size of the birth certificate is $6\frac{1}{2}$ by $7\frac{1}{4}$ inches, and of the death certificate $7\frac{1}{4}$ by $8\frac{1}{2}$ inches. Copies can be obtained from the Director of the Census upon request.

MARGIN RESERVED FOR BINDING

WHITE PLAINLY, WITH UNFADING INK. — THIS IS A PERMANENT RECORD
 N. B. — In case of more than one child at a birth, a SEPARATE RETURN must be made
 for each, and the number of each, in order of birth, stated.

DEPARTMENT OF COMMERCE — BUREAU OF THE CENSUS

STANDARD CERTIFICATE OF BIRTH

State File No.

Registered No.

1. PLACE OF BIRTH —
 COUNTY..... STATE.....
 TOWNSHIP..... OR VILLAGE.....
 CITY..... No..... St..... WARD.....
 (If birth occurred in a hospital or institution, give its NAME instead of street and number)

2. Full name of child..... (If child is not yet named, make supplemental report, as directed)

3. Sex of child..... To be answered ONLY in event of plural births. 4. Twin, triplet or other..... 5. Legitimate?..... 6. Date of birth..... (Month, day, year)

8. Full name of FATHER.....	14. Full maiden name of MOTHER.....
9. Residence (Usual place of abode) If nonresident, give place and State.....	15. Residence (Usual place of abode) If nonresident, give place and State.....
10. Color or race.....	16. Color or race.....
11. Age at last birthday..... (Years)	17. Age at last birthday..... (Years)
12. Birthplace (city or place) (State or country).....	18. Birthplace (city or place) (State or country).....
13. Occupation Nature of industry.....	19. Occupation Nature of industry.....
20. Number of children of this mother (Taken as of time of birth of child herein certified and including this child.) (a) Born alive and now living..... (b) Born alive but now dead..... (c) Stillborn.....	

CERTIFICATE OF ATTENDING PHYSICIAN OR MIDWIFE*

I hereby certify that I attended the birth of this child, who was..... at..... m. on the date above stated.....
 (Born alive or stillborn)

* When there was no attending physician or midwife, then the father, householder, etc., should make this return. A stillborn child is one that neither breathes nor shows other evidence of life after birth.

Signature.....
 (Physician or Midwife)

Given name added from a supplemental report..... Address.....
 (Month, day, year)

Filed....., 19.....

Registrar.

Registrar.

APPENDIX III

549

MARGIN RESERVED FOR BINDING

This supplemental report is to be pasted beneath the original 8-442

V. S. No. 108

SUPPLEMENTAL REPORT OF BIRTH

(STATE)

(This return should preferably be made by the person who made the original)

Registered Number¹.....

Place of birth¹.....No..... St.

(Registration district)

sex of CHILD ¹	Twin, ¹ triplet, or other?	} and	Number ¹ in order of birth
---------------------------	---------------------------------------	-------	---------------------------------------

I HEREBY CERTIFY that the child described herein has been named:

DATE OF BIRTH¹.....190..
(Month) (Day) (Year)

(Give name in full) (Surname)

FULL¹ NAME FATHER

(Signature).....

FULL¹ MARDEN NAME MOTHER

(Physician or midwife)

¹ These items to be entered by the Registrar before giving out this form.

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

STANDARD CERTIFICATE OF DEATH

1 PLACE OF DEATH

County..... State..... Registered No.....
 Township..... or Village..... or
 City..... No..... St..... Ward
 (If death occurred in a hospital or institution,
 give its NAME instead of street and number.)

2 FULL NAME.....

(a) Residence No..... St..... Ward.....
 (Usual place of abode.) (If nonresident give city or town and State.)
 Length of residence in city or town..... How long in U. S., if of for-
 where death occurred, yrs. mos. ds. eign birth? yrs. mos. ds.

PERSONAL AND STATISTICAL PARTICULARS

3 SEX..... 4 COLOR OR RACE..... 5 Single, Married, Widowed, or Divorced (Write the word).....

6 If married, widowed, or divorced HUSBAND of (or) WIFE of.....

7 DATE OF BIRTH (month, day, and year).....

8 AGE Yrs. Mon. Ds. If less than 1 day, ... hrs. or ... min.?

9 OCCUPATION OF DECEASED
 (a) Trade, profession, or particular kind of work.....
 (b) General nature of industry, business, or establishment in which employed (or employer).....
 (c) Name of employer.....

10 BIRTHPLACE (city or town) (State or country).....

11 NAME OF FATHER.....

12 BIRTHPLACE OF FATHER (city or town) (State or country).....

13 MAIDEN NAME OF MOTHER.....

14 BIRTHPLACE OF MOTHER (city or town) (State or country).....

15 Informant (Address).....

16 Filed..... 19.....

Registrar

MEDICAL CERTIFICATE OF DEATH

17 DATE OF DEATH (month, day, and year)..... 19.....

18 I HEREBY CERTIFY, That I attended deceased from..... 19....., to....., 19.....

that I last saw h... alive on....., 19..... and that death occurred, on the date stated above, at..... m. The CAUSE OF DEATH* was as follows:

..... (duration)..... yrs..... mos..... ds.

CONTRIBUTORY (Secondary)..... (duration)..... yrs..... mos..... ds.

19 Where was disease contracted if not at place of death?.....

Did an operation precede death?..... Date of.....

Was there an autopsy?.....

What test confirmed diagnosis?..... (Signed)....., M.D. , 19 (Address)

* State the Disease Causing Death, or in deaths from Violent Causes, state (1) Means and Nature of Injury; and (2) whether Accidental, Suicidal, or Homicidal. (See reverse side for additional space.)

20 PLACE OF BURIAL, CREMATION, OR REMOVAL..... DATE OF BURIAL..... 19.....

21 UNDERTAKER..... ADDRESS.....

MARGIN RESERVED FOR BINDING

8-2067

V. S. No. 98

N. B. — WRITE PLAINLY, WITH UNFADING INK — THIS IS A PERMANENT RECORD. Every item of information should be carefully supplied. AGE should be stated EXACTLY. PHYSICIANS should state CAUSE OF DEATH in plain terms, so that it may be properly classified. Exact statement of OCCUPATION is very important. See instructions on back of certificate.

APPENDIX IV

TABLE VI.—LOGARITHMS OF NUMBERS.

N	0	1	2	3	4	5	6	7	8	9
100	00000	00043	00087	00130	00173	00217	00260	00303	00346	00389
1	0432	0475	0518	0561	0604	0647	0689	0732	0775	0817
2	0860	0903	0945	0988	1030	1072	1115	1157	1199	1242
3	1284	1326	1368	1410	1452	1494	1536	1578	1620	1662
4	1703	1745	1787	1828	1870	1912	1953	1995	2036	2078
5	2119	2160	2202	2243	2284	2325	2366	2407	2449	2490
6	2531	2572	2612	2653	2694	2735	2776	2816	2857	2898
7	2938	2979	3019	3060	3100	3141	3181	3222	3262	3302
8	3342	3383	3423	3463	3503	3543	3583	3623	3663	3703
9	3743	3782	3822	3862	3902	3941	3981	4021	4060	4100
110	04139	04179	04218	04258	04297	04336	04376	04415	04454	04493
1	4532	4571	4610	4650	4689	4727	4766	4805	4844	4883
2	4922	4961	4999	5038	5077	5115	5154	5192	5231	5269
3	5308	5346	5385	5423	5461	5500	5538	5576	5614	5652
4	5690	5729	5767	5805	5843	5881	5919	5956	5994	6032
5	6070	6108	6146	6183	6221	6258	6296	6333	6371	6408
6	6446	6483	6521	6558	6595	6633	6670	6707	6744	6781
7	6819	6856	6893	6930	6967	7004	7041	7078	7115	7151
8	7188	7225	7262	7298	7335	7372	7408	7445	7482	7518
9	7555	7591	7628	7664	7700	7737	7773	7809	7846	7882
120	07918	07954	07990	08027	08063	08099	08135	08171	08207	08243
1	8279	8314	8350	8386	8422	8458	8493	8529	8565	8600
2	8636	8672	8707	8743	8778	8814	8849	8884	8920	8955
3	8991	9026	9061	9096	9132	9167	9202	9237	9272	9307
4	9342	9377	9412	9447	9482	9517	9552	9587	9621	9656
5	9691	9726	9760	9795	9830	9864	9899	9934	9968	10003
6	10037	10072	10106	10140	10175	10209	10243	10278	10312	10346
7	0380	0415	0449	0483	0517	0551	0585	0619	0653	0687
8	0721	0755	0789	0823	0857	0890	0924	0958	0992	1025
9	1059	1093	1126	1160	1193	1227	1261	1294	1327	1361
130	11394	11428	11461	11494	11528	11561	11594	11628	11661	11694
1	1727	1760	1793	1826	1860	1893	1926	1959	1992	2024
2	2057	2090	2123	2156	2189	2222	2254	2287	2320	2352
3	2385	2418	2450	2483	2516	2548	2581	2613	2646	2678
4	2710	2743	2775	2808	2840	2872	2905	2937	2969	3001
5	3033	3066	3098	3130	3162	3194	3226	3258	3290	3322
6	3354	3386	3418	3450	3481	3513	3545	3577	3609	3640
7	3672	3704	3735	3767	3799	3830	3862	3893	3925	3956
8	3988	4019	4051	4082	4114	4145	4176	4208	4239	4270
9	4301	4333	4364	4395	4426	4457	4488	4520	4551	4582
140	14618	14644	14675	14706	14737	14768	14799	14829	14860	14891
1	4922	4963	4993	5014	5045	5076	5106	5137	5168	5198
2	5229	5259	5290	5320	5351	5381	5412	5442	5473	5503
3	5534	5564	5594	5625	5655	5685	5715	5746	5776	5806
4	5836	5866	5897	5927	5957	5987	6017	6047	6077	6107
5	6137	6167	6197	6227	6256	6286	6316	6346	6376	6406
6	6435	6465	6495	6524	6554	6584	6613	6643	6673	6702
7	6732	6761	6791	6820	6850	6879	6909	6938	6967	6997
8	7026	7056	7085	7114	7143	7173	7202	7231	7260	7289
9	7319	7348	7377	7406	7435	7464	7493	7522	7551	7580
150	17609	17638	17667	17696	17725	17754	17782	17811	17840	17869

N	0	1	2	3	4	5	6	7	8	9
150	17609	17638	17667	17696	17725	17754	17782	17811	17840	17869
1	7898	7926	7955	7984	8013	8041	8070	8099	8127	8156
2	8184	8213	8241	8270	8298	8327	8355	8384	8412	8441
3	8469	8498	8526	8554	8583	8611	8639	8667	8696	8724
4	8752	8780	8808	8837	8865	8893	8921	8949	8977	9005
5	9033	9061	9089	9117	9145	9173	9201	9229	9257	9285
6	9312	9340	9368	9396	9424	9451	9479	9507	9535	9563
7	9590	9618	9645	9673	9700	9728	9756	9783	9811	9838
8	9866	9893	9921	9948	9976	20003	20030	20058	20085	20112
9	20140	20167	20194	20222	20249	0276	0303	0330	0358	0385
160	20412	20439	20466	20493	20520	20548	20575	20602	20629	20656
1	0683	0710	0737	0763	0790	0817	0844	0871	0898	0925
2	0952	0978	1005	1032	1059	1085	1112	1139	1165	1192
3	1219	1245	1272	1299	1325	1352	1378	1405	1431	1458
4	1484	1511	1537	1564	1590	1617	1643	1669	1696	1722
5	1748	1775	1801	1827	1854	1880	1906	1932	1958	1985
6	2011	2037	2063	2089	2115	2141	2167	2192	2220	2246
7	2272	2298	2324	2350	2376	2401	2427	2453	2479	2505
8	2531	2557	2583	2608	2634	2660	2686	2712	2737	2763
9	2789	2814	2840	2866	2891	2917	2943	2968	2994	3019
170	23045	23070	23096	23121	23147	23172	23198	23223	23249	23274
1	3300	3325	3350	3376	3401	3426	3452	3477	3502	3528
2	3553	3578	3603	3629	3654	3679	3704	3729	3754	3779
3	3805	3830	3855	3880	3905	3930	3955	3980	4005	4030
4	4055	4080	4105	4130	4155	4180	4204	4229	4254	4279
5	4304	4329	4353	4378	4403	4428	4452	4477	4502	4527
6	4551	4575	4601	4625	4650	4674	4699	4724	4748	4773
7	4797	4822	4846	4871	4895	4920	4944	4969	4993	5018
8	5042	5066	5091	5115	5139	5164	5188	5212	5237	5261
9	5285	5310	5334	5358	5382	5406	5431	5455	5479	5503
180	25527	25551	25575	25600	25624	25648	25672	25696	25720	25744
1	5768	5792	5816	5840	5864	5888	5912	5935	5959	5983
2	6007	6031	6055	6079	6102	6126	6150	6174	6198	6221
3	6245	6269	6293	6316	6340	6364	6387	6411	6435	6458
4	6482	6505	6529	6553	6576	6600	6623	6647	6670	6694
5	6717	6741	6764	6788	6811	6834	6858	6881	6905	6928
6	6951	6975	6998	7021	7045	7068	7091	7114	7138	7161
7	7184	7207	7231	7254	7277	7300	7323	7346	7370	7393
8	7416	7439	7462	7485	7508	7531	7554	7577	7600	7623
9	7646	7669	7692	7715	7738	7761	7784	7807	7830	7852
190	27875	27898	27921	27944	27967	27989	28012	28035	28058	28081
1	8103	8126	8149	8171	8194	8217	8240	8262	8285	8307
2	8330	8353	8375	8398	8421	8443	8466	8488	8511	8533
3	8556	8578	8601	8623	8646	8668	8691	8713	8735	8758
4	8780	8803	8825	8847	8870	8892	8914	8937	8959	8981
5	9003	9026	9048	9070	9092	9115	9137	9159	9181	9203
6	9226	9248	9270	9292	9314	9336	9358	9380	9403	9425
7	9447	9469	9491	9513	9535	9557	9579	9601	9623	9645
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6	5713	5718	5722	5727	5732	5737	5742	5746	5751	5756
7	5761	5766	5770	5775	5780	5785	5789	5794	5799	5804
8	5809	5813	5818	5823	5828	5832	5837	5842	5847	5852
9	5856	5861	5866	5871	5875	5880	5885	5890	5895	5899
910	95904	95909	95914	95918	95923	95928	95933	95938	95942	95947
1	5952	5957	5961	5966	5971	5976	5980	5985	5990	5995
2	5999	6004	6009	6014	6019	6023	6028	6033	6038	6042
3	6047	6052	6057	6061	6066	6071	6076	6080	6085	6090
4	6095	6099	6104	6109	6114	6118	6123	6128	6133	6137
5	6142	6147	6152	6156	6161	6166	6171	6175	6180	6185
6	6190	6194	6199	6204	6209	6213	6218	6223	6227	6232
7	6237	6242	6246	6251	6256	6261	6265	6270	6275	6280
8	6284	6289	6294	6298	6303	6308	6313	6317	6322	6327
9	6332	6336	6341	6346	6350	6355	6360	6365	6369	6374
920	96379	96384	96388	96393	96398	96402	96407	96412	96417	96421
1	6426	6431	6435	6440	6445	6450	6454	6459	6464	6468
2	6473	6478	6483	6487	6492	6497	6501	6506	6511	6515
3	6520	6525	6530	6534	6539	6544	6548	6553	6558	6562
4	6567	6572	6577	6581	6586	6591	6595	6600	6605	6609
5	6614	6619	6624	6628	6633	6638	6642	6647	6652	6656
6	6661	6666	6670	6675	6680	6685	6689	6694	6699	6703
7	6708	6713	6717	6722	6727	6731	6736	6741	6745	6750
8	6755	6759	6764	6769	6774	6778	6783	6788	6792	6797
9	6802	6806	6811	6816	6820	6825	6830	6834	6839	6844
930	96848	96853	96858	96862	96867	96872	96877	96881	96886	96890
1	6895	6900	6904	6909	6914	6918	6923	6928	6932	6937
2	6942	6946	6951	6956	6960	6965	6970	6974	6979	6984
3	6988	6993	6997	7002	7007	7011	7016	7021	7025	7030
4	7035	7039	7044	7049	7053	7058	7063	7067	7072	7077
5	7081	7086	7090	7095	7100	7104	7109	7114	7118	7123
6	7128	7132	7137	7142	7146	7151	7155	7160	7165	7169
7	7174	7179	7183	7188	7192	7197	7202	7206	7211	7216
8	7220	7225	7230	7234	7239	7243	7248	7253	7257	7262
9	7267	7271	7276	7280	7285	7290	7294	7299	7304	7308
940	97313	97317	97322	97327	97331	97336	97340	97345	97350	97354
1	7359	7364	7368	7373	7377	7382	7387	7391	7396	7400
2	7405	7410	7414	7419	7424	7428	7433	7437	7442	7447
3	7451	7456	7460	7465	7470	7474	7479	7483	7488	7493
4	7497	7502	7506	7511	7516	7520	7525	7529	7534	7539
5	7543	7548	7552	7557	7562	7566	7571	7575	7580	7585
6	7589	7594	7598	7603	7607	7612	7617	7621	7626	7630
7	7635	7640	7644	7649	7653	7658	7663	7667	7672	7676
8	7681	7685	7690	7695	7699	7704	7708	7713	7717	7722
9	7727	7731	7736	7740	7745	7749	7754	7759	7763	7768
950	97772	97777	97782	97786	97791	97795	97800	97804	97809	97813

N	0	1	2	3	4	5	6	7	8	9
950	97772	97777	97782	97786	97791	97795	97800	97804	97809	97813
1	7818	7823	7827	7832	7836	7841	7845	7850	7855	7859
2	7864	7868	7873	7877	7882	7886	7891	7896	7900	7905
3	7909	7914	7918	7923	7928	7932	7937	7941	7946	7950
4	7955	7959	7964	7968	7973	7978	7982	7987	7991	7996
5	8000	8005	8009	8014	8019	8023	8028	8032	8037	8041
6	8046	8050	8055	8059	8064	8068	8073	8078	8082	8087
7	8091	8096	8100	8105	8109	8114	8118	8123	8127	8132
8	8137	8141	8146	8150	8155	8159	8164	8168	8173	8177
9	8182	8186	8191	8195	8200	8204	8209	8214	8218	8223
960	98227	98232	98236	98241	98245	98250	98254	98259	98263	98268
1	8272	8277	8281	8286	8290	8295	8299	8304	8308	8313
2	8318	8322	8327	8331	8336	8340	8345	8349	8354	8358
3	8363	8367	8372	8376	8381	8385	8390	8394	8399	8403
4	8408	8412	8417	8421	8426	8430	8435	8439	8444	8448
5	8453	8457	8462	8466	8471	8475	8480	8484	8489	8493
6	8498	8502	8507	8511	8516	8520	8525	8529	8534	8538
7	8543	8547	8552	8556	8561	8565	8570	8574	8579	8583
8	8588	8592	8597	8601	8605	8610	8614	8619	8623	8628
9	8632	8637	8641	8646	8650	8655	8659	8664	8668	8673
970	98677	98682	98686	98691	98695	98700	98704	98709	98713	98717
1	8722	8726	8731	8735	8740	8744	8749	8753	8758	8762
2	8767	8771	8776	8780	8784	8789	8793	8798	8802	8807
3	8811	8816	8820	8825	8829	8834	8838	8843	8847	8851
4	8856	8860	8865	8869	8874	8878	8883	8887	8892	8896
5	8900	8905	8909	8914	8918	8923	8927	8932	8936	8941
6	8945	8949	8954	8958	8963	8967	8972	8976	8981	8985
7	8989	8994	8998	9003	9007	9012	9016	9021	9025	9029
8	9034	9038	9043	9047	9052	9056	9061	9065	9069	9074
9	9078	9083	9087	9092	9096	9100	9105	9109	9114	9118
980	99123	99127	99131	99136	99140	99145	99149	99154	99158	99162
1	9167	9171	9176	9180	9185	9189	9193	9198	9202	9207
2	9211	9216	9220	9224	9229	9233	9238	9242	9247	9251
3	9255	9260	9264	9269	9273	9277	9282	9286	9291	9295
4	9300	9304	9308	9313	9317	9322	9326	9330	9335	9339
5	9344	9348	9352	9357	9361	9366	9370	9374	9379	9383
6	9388	9392	9396	9401	9405	9410	9414	9419	9423	9427
7	9432	9436	9441	9445	9449	9454	9458	9463	9467	9471
8	9476	9480	9484	9489	9493	9498	9502	9506	9511	9515
9	9520	9524	9528	9533	9537	9542	9546	9550	9555	9559
990	99564	99568	99572	99577	99581	99585	99590	99594	99599	99603
1	9607	9612	9616	9621	9625	9629	9634	9638	9642	9647
2	9651	9656	9660	9664	9669	9673	9677	9682	9686	9691
3	9695	9699	9704	9708	9712	9717	9721	9726	9730	9734
4	9739	9743	9747	9752	9756	9760	9765	9769	9774	9778
5	9782	9787	9791	9795	9800	9804	9808	9813	9817	9822
6	9826	9830	9835	9839	9843	9848	9852	9856	9861	9865
7	9870	9874	9878	9883	9887	9891	9896	9900	9904	9909
8	9913	9917	9922	9926	9930	9935	9939	9944	9948	9952
9	9957	9961	9965	9970	9974	9978	9983	9987	9991	9996
1000	00000	00004	00009	00013	00017	00022	00026	00030	00035	00039

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