

First things and last : the story of birth and death certificates.

Contributors

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first

things

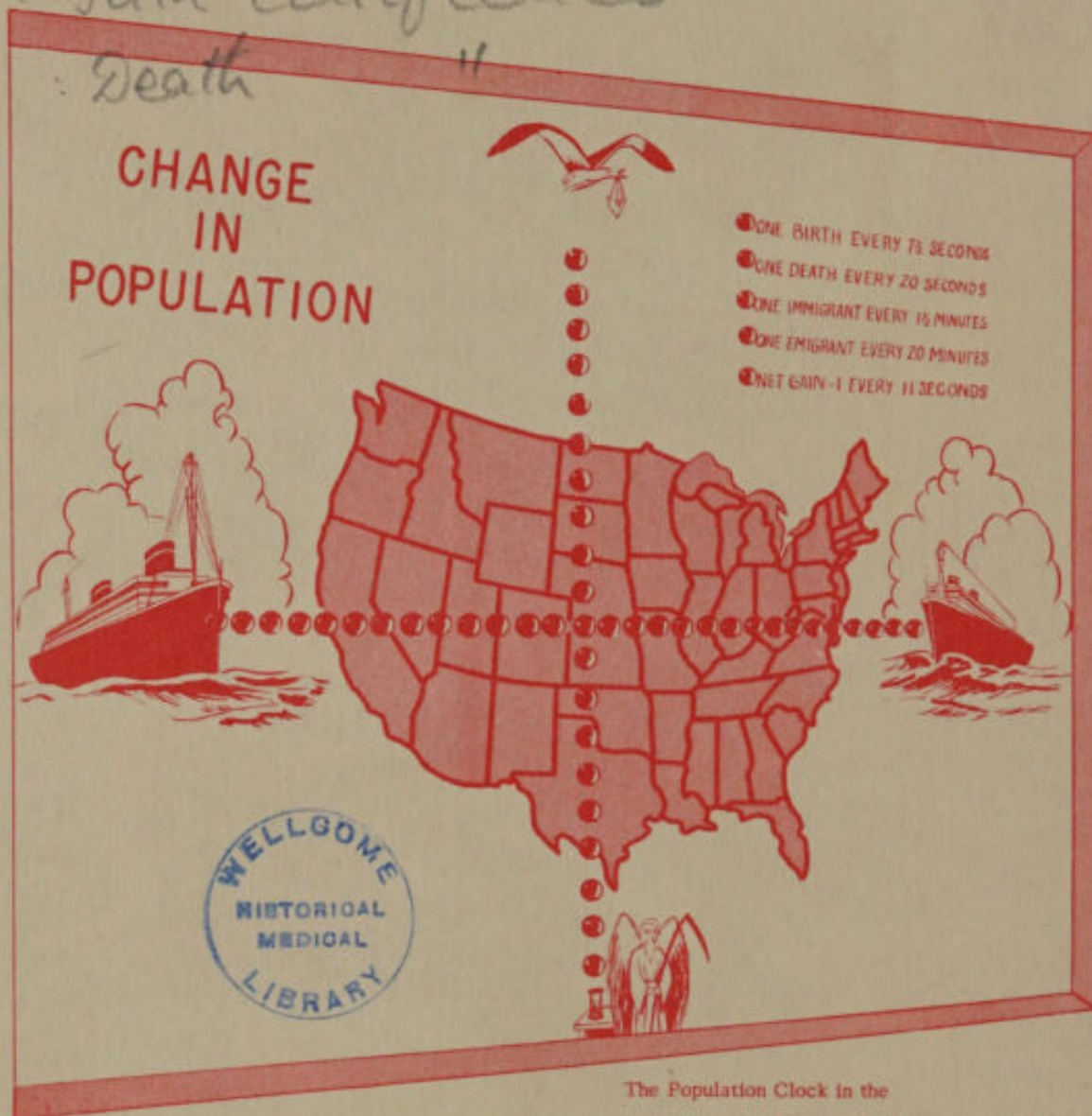
*THE STORY OF
BIRTH AND DEATH
CERTIFICATES*

and

last

**U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE**

AA1
 U.S.A: Birth Certificates
 " : Death



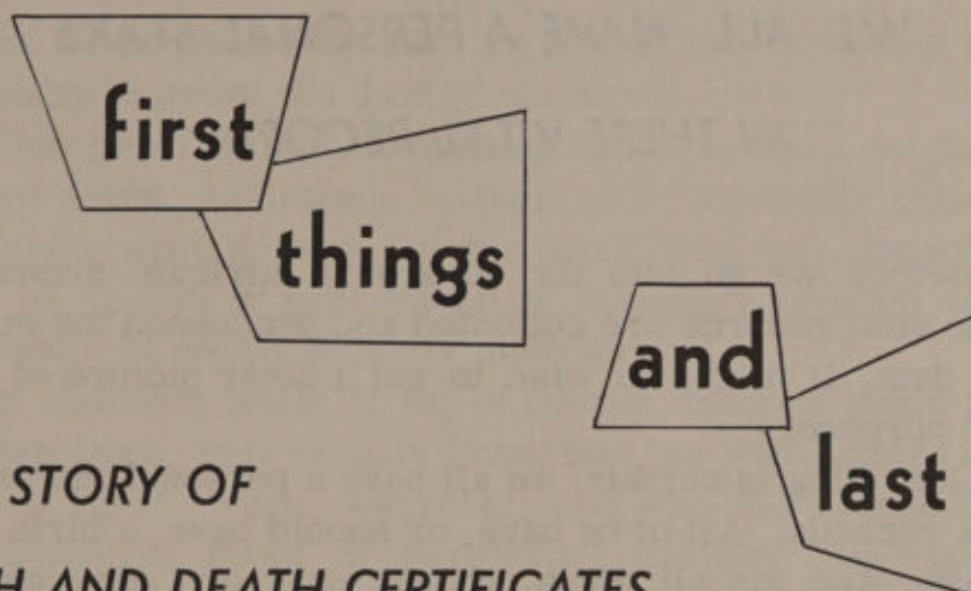
The Population Clock in the
 United States Department of Commerce Building.

The Bureau of the Census takes censuses and collects current data on population, housing, agriculture, manufactures, business, etc. The National Office of Vital Statistics is the country's central source of statistics of births, deaths, morbidity, marriages, divorces, and annulments.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
 PUBLIC HEALTH SERVICE
 National Office of Vital Statistics
 Washington 25, D.C.

B-C-: U.S.A.

D-C-: U.S.A.



THE STORY OF

BIRTH AND DEATH CERTIFICATES

High up on the wall of the front lobby of the Department of Commerce building in Washington, D. C., there is a huge "population clock." At regular intervals it ticks off the record of births and deaths throughout the whole country. Every $7\frac{1}{2}$ seconds, according to statistical average, a blue light flashes to report that a baby is born. Every 20 seconds a purple light reports that someone has died. And at intervals of 11 seconds a white light announces that one more person has been added to the net population of the United States.

Birth—death! Birth—death! The inevitable first things and last that are the portion of every member of the human race.

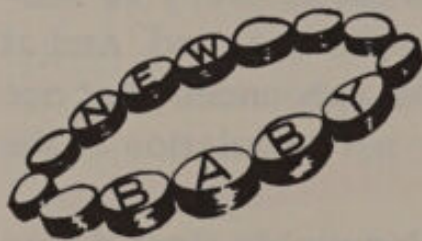
The population count for the country is based on a national census taken every 10 years with estimates for periodic changes. But birth and death statistics are compiled directly from the individual records filed with local registrars for every county or other civil division in every State of the Nation. In 1958 the number of birth certificates totaled 4,203,812, and the number of death certificates, 1,647,886. It is from the information contained in these millions of individual pieces of paper that the vast body of birth and death statistics is produced.

WE ALL HAVE A PERSONAL STAKE IN THESE VITAL RECORDS

Before we go into the somewhat intricate manner in which vital records are collected and processed for statistical data, it might be wise to get a clear picture of their basic purpose.

One thing is certain: we all have a personal interest in these records. All of us have, or should have, a birth certificate. And for all of us, sooner or later, someone will be making out a death certificate.

The Birth Certificate



Let's look at the birth certificate illustrated on the facing page. First and foremost, it should be emphasized that the birth certificate, when filed, is the *legal* record of the child's birth and is so recognized in any court. During the course of his lifetime the child may have many occasions to make use of this record.

For instance, before he can start going to a public school he frequently must have a copy of his birth certificate, or at least an official notification, provided by the State or local health authorities, which gives the essential information as to name, date, and place of birth, etc., as they appear on the certificate. Later, he will undoubtedly need this same proof of age to get his first work permit or a driver's license. His right to vote, his right to marry

(unless he is obviously over legal age) are dependent upon the ability to prove the date of his birth.

Such proof is also necessary if, at any time, he should require public assistance, either as a dependent child or as a needy aged person. On this proof, too, may depend his right to collect a retirement or disability pension under the system of social security insurance.

In addition, while it is, of course, obvious that a person was born, it is equally important, as Will Rogers once said, to know "when, where at, and who to." These facts help establish proof of parentage, identity, the right of inheritance, and legal dependency; they may also help to settle insurance claims. Further, citizenship is determined through proof of place of birth and parentage. This will be of importance when it is necessary to secure a passport to travel abroad.

STATE OF Missouri		CERTIFICATE OF LIVE BIRTH		Birth No.	
1. PLACE OF BIRTH a. COUNTY Dent		2. USUAL RESIDENCE OF MOTHER (Where does mother live?) a. STATE Missouri b. COUNTY Dent			
3. CITY, TOWN, OR LOCATION Salem City		4. CITY, TOWN, OR LOCATION Spring Creek			
5. NAME OF HOSPITAL OR INSTITUTION (If not in hospital, give street address) Grandview Hospital		6. STREET ADDRESS Five Corners			
7. IS PLACE OF BIRTH INSIDE CITY LIMITS? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		8. IS RESIDENCE INSIDE CITY LIMITS? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		9. IS RESIDENCE ON A FARM? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
10. NAME (Type or print) First George Middle Henry Last Coe		11. SEX a. THIS BIRTH <input checked="" type="checkbox"/> SINGLE <input type="checkbox"/> TWIN <input type="checkbox"/> TRIPLET <input type="checkbox"/> b. IF TWIN OR TRIPLET, WAS CHILD BORN 1st <input type="checkbox"/> 2d <input type="checkbox"/> 3d <input type="checkbox"/>		12. DATE OF BIRTH Month March Day 8 Year 1958	
13. NAME First Robert Middle Thomas Last Coe		14. COLOR OR RACE White			
15. AGE (At time of this birth) 29 YEARS		16. BIRTHPLACE (State or foreign country) Illinois		17. USUAL OCCUPATION Farm Laborer	
18. KIND OF BUSINESS OR INDUSTRY Farm		19. COLOR OR RACE White			
20. NAME First Sarah Middle Jane Last Mathews		21. AGE (At time of this birth) 26 YEARS		22. BIRTHPLACE (State or foreign country) Missouri	
23. PREVIOUS DELIVERIES TO MOTHER (Do not include this birth) a. How many OTHER children are now living? 1 b. How many OTHER children were born alive but are now dead? 1 c. How many total deaths (includes born dead at ANY time after conception)? 0		24. INFORMANT Sarah Jane Coe			
25. MOTHER'S MAILING ADDRESS Spring Creek, Missouri		26. SIGNATURE Wilson B. Garfield, M.D.		27. ATTENDANT AT BIRTH M. D. <input checked="" type="checkbox"/> D. O. <input type="checkbox"/> MIDWIFE <input type="checkbox"/> OTHER (Specify):	
28. ADDRESS 205 Elm St., Salem City, Missouri		29. DATE SIGNED March 9, 1958			
30. DATE REC'D. BY LOCAL REG. March 10, 1958		31. REGISTRAR'S SIGNATURE Dryden S. Franklin		32. DATE ON WHICH GIVEN NAME ADDED BY (Registrar) *	
FOR MEDICAL AND HEALTH USE ONLY (This section MUST be filled out)					
33. LENGTH OF PREGNANCY 38 COMPLETED WEEKS		34. WEIGHT AT BIRTH 7 LB. 2 OZ.		35. LEGITIMATE YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
(SPACE FOR ADDITION OF MEDICAL AND HEALTH ITEMS BY INDIVIDUAL STATES)					

The Death Certificate



The death certificate also has many important uses. (See below.) No burial permit can be issued until the certificate is properly made out and signed. In clearing up an estate the legal proof of the individual's death rests upon the certificate filed at the time of his death. Without it, a life insurance claim will not be paid promptly (or sometimes not paid at all). Nor can a survivor's social security benefits be collected without proof of death.

Compensation for death on account of an industrial ac-

CERTIFICATE OF DEATH									
BIRTH NO.		STATE OF		STATE FILE NO.					
1. PLACE OF DEATH a. COUNTY <u>Shelby</u>				2. USUAL RESIDENCE (Where deceased lived. If institution, residence before admission) a. STATE <u>Kentucky</u> b. COUNTY <u>Graves</u>					
3. CITY, TOWN, OR LOCATION <u>Memphis</u>		c. LENGTH OF STAY IN 15 <u>one day</u>		c. CITY, TOWN, OR LOCATION <u>Mayfield</u>		d. STREET ADDRESS <u>189 North 5th Street</u>			
4. NAME OF HOSPITAL OR INSTITUTION <u>Vamsg Hospital</u>				e. IS PLACE OF DEATH INSIDE CITY LIMITS? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		f. IS RESIDENCE INSIDE CITY LIMITS? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		g. IS RESIDENCE ON A FARM? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
3. NAME OF DECEASED (Type or print) First <u>Joseph</u> Middle <u>Paul</u> Last <u>Doe</u>				4. DATE OF DEATH <u>April 9, 1959</u>		5. AGE (In years last birthday) <u>67</u>			
6. SEX <u>Male</u>		7. COLOR OR RACE <u>White</u>		8. MARRIED <input checked="" type="checkbox"/> NEVER MARRIED <input type="checkbox"/> WIDOWED <input type="checkbox"/> DIVORCED <input type="checkbox"/>		9. DATE OF BIRTH <u>March 23, 1893</u>		10. AGE (In years last birthday) <u>67</u>	
11. USUAL OCCUPATION (Give kind of work done during most of working life, even if retired) <u>Truck Driver</u>				12. KIND OF BUSINESS OR INDUSTRY <u>Wholesale Grocery</u>		13. BIRTHPLACE (State or foreign country) <u>England</u>		14. CITIZEN OF WHAT COUNTRY? <u>United States</u>	
15. FATHER'S NAME <u>Paul Joseph Doe</u>				16. MOTHER'S MAIDEN NAME <u>Mary Jane Smith</u>		17. INFORMANT Address <u>Mayfield, Kentucky</u> <u>Mrs. J.P. Doe, 189 N. 5th St.</u>			
18. WAS DECEASED EVER IN U.S. ARMED FORCES? (If yes, see note on reverse) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <u>World War I</u>				19. SOCIAL SECURITY NO. <u>607-05-9823</u>		20. ADDRESS <u>Mayfield, Kentucky</u>			
21. CAUSE OF DEATH (Enter only one cause per line for (a), (b), and (c).) PART I. DEATH WAS CAUSED BY: IMMEDIATE CAUSE (a) <u>Gangrene of Colon</u>				22. DUE TO (b) <u>Complete Obstruction of Colon</u>		23. INTERVAL BETWEEN ONSET AND DEATH <u>24 hours</u>			
24. DUE TO (c) <u>Carcinoma of Sigmoid Colon</u>				25. DUE TO (d) <u>2 weeks</u>		26. WKS. AUTOPSY PERFORMED? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>			
27. PART II. OTHER SIGNIFICANT CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO THE TERMINAL DISEASE CONDITION GIVEN IN PART I (a) <u>Conditions, if any, which gave rise to above cause (a), stating the underlying cause last.</u>				28. DESCRIBE HOW INJURY OCCURRED. (Enter nature of injury in Part I or Part II of Item 18.) <u>None</u>					
29. ACCIDENT <input type="checkbox"/> SUICIDE <input type="checkbox"/> HOMICIDE <input type="checkbox"/>				30. TIME OF INJURY Hour <u>None</u> Month <u>None</u> Day <u>None</u> Year <u>None</u>					
31. PLACE OF INJURY (e.g., in or about home, farm, factory, street, office Bldg., etc.) <u>None</u>				32. CITY, TOWN, OR LOCATION <u>Mayfield, Kentucky</u>					
33. I attended the deceased from <u>April 8</u> to <u>April 9</u> and last saw <u>him</u> alive on <u>April 9</u> Death occurred at <u>4:15</u> p.m. on the date stated above, and to the best of my knowledge, from the causes stated.				34. SIGNATURE <u>J. R. Jones, M. D.</u>					
35. ADDRESS <u>Vamsg Hospital, Memphis, Tennessee</u>				36. DATE SIGNED <u>4/9/59</u>					
37. BIRTH OF DECEASED <u>4/9/1960</u>				38. NAME OF CEMETERY OR CREMATORY <u>Pine Hill Cemetery</u>					
39. LOCATION (City, town, or county) <u>Mayfield, Kentucky</u>				40. FUNERAL DIRECTOR <u>ABC Funeral Home, Mayfield, Kentucky</u>					
41. DATE RECD. BY LOCAL REG. <u>April 11, 1960</u>				42. REGISTRAR'S SIGNATURE <u>J. M. Grant</u>					

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ignorant. He may, for instance, need or want to know his mother's maiden name, the age and place of birth of one or both of his parents, or the place where his parents were living at the time he was born. Professional or amateur genealogical research also makes use of these original records.

In the event of the child's adoption, special provision is made for the issuance of a new birth certificate. For all future use, this certificate, with his new name and that of his adopted parents, has the force of the original birth certificate.

It must always be remembered that the birth certificate is a *basic* document containing vital information that is often not obtainable from any other source. It is only fair to the child, if for no other reason, that the information contained in it be accurate and complete.

A similar case can be made for the importance of the death certificate to the survivors or descendants of the individual who has died. If you run your eye down the questions asked you will have no difficulty in seeing how useful, at some time, the answers may become.

WHEN VITAL RECORDS BECOME VITAL STATISTICS

But the importance to the individual of these birth and death records is only a part of the picture. And this leads to their significance in the domain of vital statistics.

Why the Questions on the Birth Certificate

All the questions on the birth certificate are carefully chosen to contribute to our knowledge of what the children are like who are being born in the United States and what

their parents are like. The standard form closely followed in all States makes it possible to secure a high degree of uniform and comparable data on a variety of essential points.

For instance, we want to know what proportion of children are born in hospitals, and from the record we can arrive at an exact figure. Answers on the "usual residence of mother" question are processed to show the geographical distribution of births and family increase throughout the country. The "yes" or "no" boxes telling us whether an address is inside or outside the city limits will show the number of births in urban and rural areas and supply information on the present movement of population to the suburbs. The answers to the questions concerning previous deliveries and the others under item 16 make it possible to determine whether it is the first, second, or third, etc., birth occurring in the family and to provide data on the increase or decrease in the average size of families throughout the country. The age of the parents, as recorded on the certificate, will supply information as to the average age of the parents of the first, second, or third child.

The statistical use of the answers to the "race or color" question is obvious, as are also the queries as to whether the child is a twin or triplet, whether or not he is legitimate, etc. The questions on the length of pregnancy, the child's weight at birth, and a description of any birth injury or congenital malformation—all these are of fundamental interest to medical research and health departments in their efforts to find out the cause of some of the handicaps with which many babies are born into this world.

Why the Questions on the Death Certificate

Data obtained from the death certificates also become an essential part of the vital statistics of the Nation. These, of course, provide information on the number of deaths by age, sex, race, and geographical distribution.

But beyond this, the medical information recorded on the certificate is used in medical research for analyzing the *causes* of death occurring in this country.

The key item here is 18c, which lists what, in the opinion of the attending physician, was the *underlying* cause of the death. The underlying cause is defined as the disease or injury which initiated the train of morbid events leading directly to the death or the circumstances of the accident or violence which produced the fatal injury. It is this item to which medical analysts and health authorities give their closest attention, because it is regarded as the most important single statistic relating to the *prevention* of sickness and disease.

By classifying and tabulating the information on the death record it is possible to construct a body of mortality

1953 REVISION OF STANDARD CERTIFICATE (Revised)											
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE—PUBLIC HEALTH SERVICE											
STATE OF <u>Nevada</u>					CERTIFICATE OF FETAL DEATH ¹					Form approved, Bureau No.	
1. PLACE OF DELIVERY					2. USUAL RESIDENCE OF MOTHER (Where does mother live?)					STATE FILE NO.	
a. COUNTY <u>Clark</u>					a. STATE <u>Nevada</u> b. COUNTY <u>Clark</u>						
b. CITY, TOWN, OR LOCATION <u>Las Vegas</u>					c. CITY, TOWN, OR LOCATION <u>Las Vegas</u>						
c. NAME OF HOSPITAL OR INSTITUTION <u>Las Vegas Hospital</u>					d. STREET ADDRESS <u>2001 South 14th Street</u>						
4. IS PLACE OF DELIVERY INSIDE CITY LIMITS? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>					e. IS RESIDENCE INSIDE CITY LIMITS? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>					f. IS RESIDENCE ON A FARM? YES <input type="checkbox"/> NO <input type="checkbox"/>	
3. NAME OF FETUS (If given) <u>Paul Simmons</u>					4. SEX OF FETUS						
					MALE <input checked="" type="checkbox"/> FEMALE <input type="checkbox"/> UNDETERMINED <input type="checkbox"/>						
5a. THIS DELIVERY					5b. IF TWIN OR TRIPLET, WAS THIS FETUS DELIVERED					6. DATE OF DELIVERY (Month) (Day) (Year)	
SINGLE <input type="checkbox"/> TWIN <input checked="" type="checkbox"/> TRIPLET <input type="checkbox"/>					1ST <input type="checkbox"/> 2D <input checked="" type="checkbox"/> 3D <input type="checkbox"/>					February 22, 1957	
7. NAME					8. COLOR OR RACE						
FATHER First Middle Last <u>Howard William Simmons</u>					White						
9. AGE (At time of delivery) YEARS <u>36</u>					10. BIRTHPLACE (State or foreign country) <u>Nevada</u>					11a. USUAL OCCUPATION <u>Lawyer</u>	
										11b. KIND OF BUSINESS OR INDUSTRY <u>Private Practice</u>	
12. MOTHER'S NAME First Middle Last <u>Irene Lewis Clayborn</u>					13. COLOR OR RACE <u>White</u>						
14. AGE (At time of delivery) YEARS <u>32</u>					15. BIRTHPLACE (State or foreign country) <u>California</u>					16. PREVIOUS DELIVERIES TO MOTHER (Do not include this fetus)	
										a. How many children are now living? <u>1</u>	
										b. How many children were born alive but are now dead? <u>0</u>	
										c. How many FETUSES (fetal deaths) (fetuses born dead at any time after conception)? <u>1</u>	
17. INFORMANT <u>Irene Lewis Simmons</u>					18a. LENGTH OF PREGNANCY COMPLETED WEEKS <u>33</u>					18b. WEIGHT OF FETUS LB. <u>4</u> OZ. <u>2</u>	
					19. LEGITIMATE YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>					20. WHEN DID FETUS DIE? BEFORE LABOR <input type="checkbox"/> DURING LABOR <input checked="" type="checkbox"/> OR DELIVERY <input type="checkbox"/> UNKNOWN <input type="checkbox"/>	
										21. WAS AUTOPSY PERFORMED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
22. CAUSE OF FETAL DEATH					PART I. FETAL DEATH WAS CAUSED BY:						
					IMMEDIATE CAUSE (a) <u>Premature Separation of Placenta</u>						
					DUE TO (b) _____						
					DUE TO (c) _____						
					PART II. OTHER SIGNIFICANT CONDITIONS of fetus or mother which may have contributed to fetal death, but, in so far as is known, were not related to cause given in PART I (a). <u>Diabetes Mellitus</u>						
I hereby certify that this delivery occurred on the date stated above and the fetus was born dead.					23a. ATTENDANT'S SIGNATURE (Specify if M. D., D. O., midwife, or other) <u>Marion G. Waples, M.D.</u>					23b. DATE SIGNED <u>Feb. 22, 1957</u>	
					23c. ATTENDANT'S ADDRESS <u>Las Vegas</u>					24. SIGNATURE OF AUTHORIZED OFFICIAL _____ TITLE _____	
					23d. ADDRESS <u>1700 S. Charleston, Nev.</u>						
25a. BURIAL, CREMATION, REMOVAL (Specify) <u>Burial</u>					25b. DATE <u>Feb. 22, 1957</u>					25c. NAME OF CEMETERY OR CREMATORY <u>Woodlawn Cemetery</u>	
										25d. LOCATION (City, town, or county) (State) <u>Las Vegas Nevada</u>	
26. FUNERAL DIRECTOR <u>F. Carpenter, 1400 S. Main St. Nev.</u>					DATE REC'D BY LOCAL REG. <u>Feb. 22, 1957</u>					REGISTRAR'S SIGNATURE <u>Franklin D. Bennett</u>	

data that provide concrete information for an understanding of the causes of death for some 1½ million Americans each year.

Special mention must be made of the importance of recording fetal deaths (stillbirths), which require a separate form (see p. 8) and to which the medical profession and health authorities are paying increasing attention. Exact data on the length of pregnancy, information on the physical condition of the mother, the significant features of her medical history—all these factors, when they can be recorded, contribute to a better knowledge of the causes of fetal deaths and to the efforts to bring more babies through to a normal live birth.

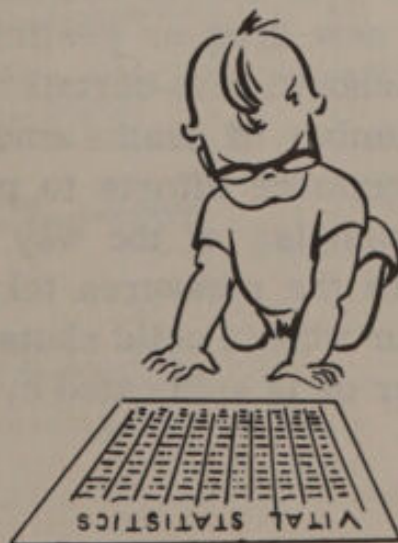
WHAT PART DO VITAL STATISTICS PLAY IN OUR EVERYDAY LIFE

How are the data used that are developed from these birth and death records? What part do these vital statistics play in the everyday life of the community and of the Nation?

The "Eyes and Ears" of Public Health Agencies

For one thing, vital statistics have been called the eyes and ears of public health agencies—local, State, and national—and all sound community planning is based upon them. Only with such data at their fingertips can the authorities gauge the health needs of the community and organize whatever health services may be necessary.

A steady increase in the numbers of births, for example, may



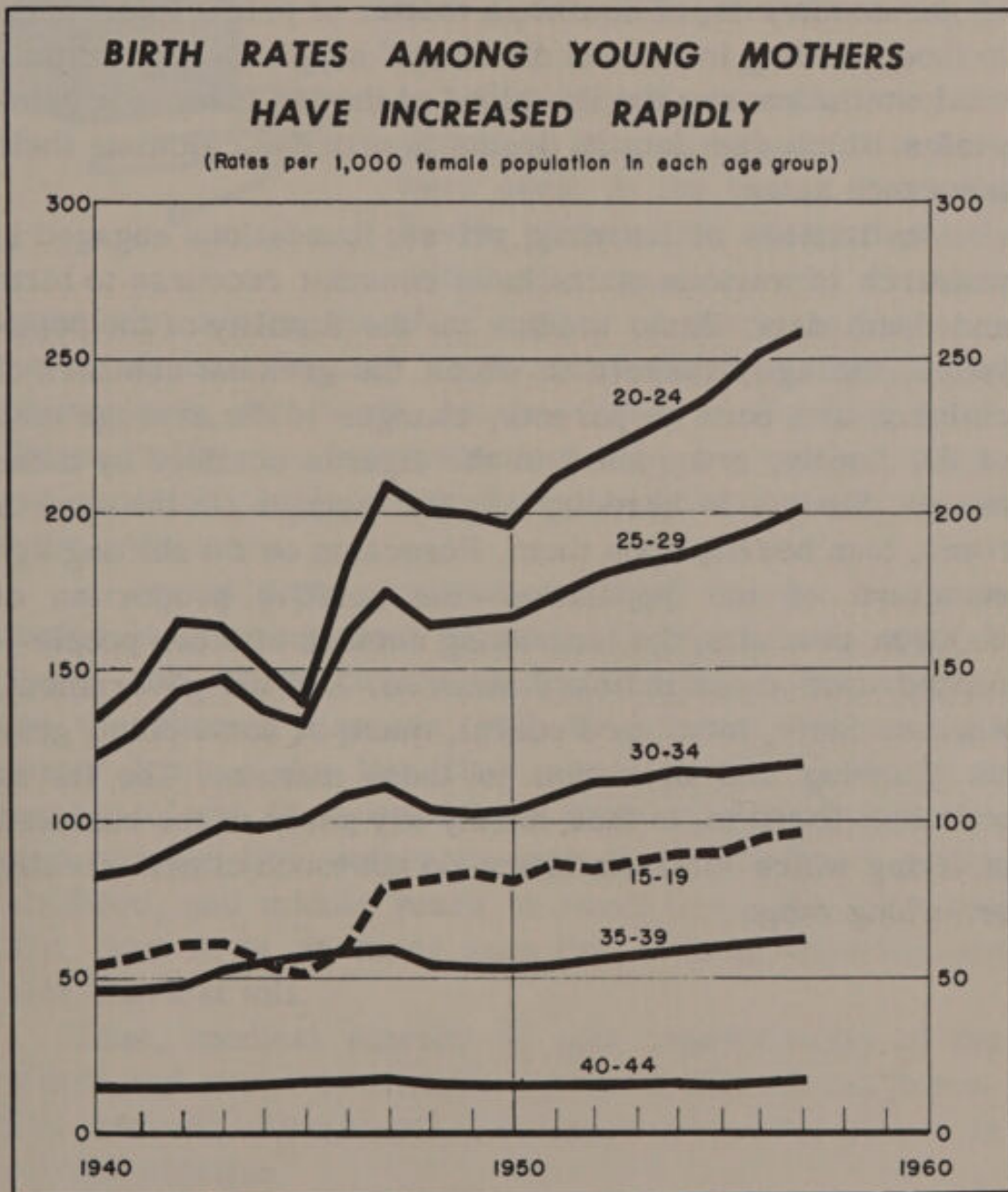
point to the need for more public health nurses or child health centers in those areas of the community where the increase is most pronounced, as shown by an analysis of the "usual residence of mother" answers on the birth certificate. The number of births in an area is also one of the factors used in planning the size and location of hospitals. Mortality data which show an increasing amount of chronic disease may underscore the need for special medical services and facilities for older people.

Public health authorities make continuous use of birth certificates in their followup on new babies born into the community. Immunization must be provided to protect infants against infectious diseases. Special services may be needed for a premature baby. The certificate will show whether a child is born with a birth injury or congenital malformation. Arrangements can then be made for prompt surgery or special medical care which may prevent the child from being burdened with a handicap for the rest of his life.

The cause of death entered on the death certificates may be used by the health authorities to chart the onset of any serious epidemic threatening the community. From these entries also, a health danger may be spotted to which little attention had previously been given. A marked increase, for example, in the number of deaths traceable to the use of a new drug or pesticide may result in quick action by the authorities to curtail the sale of these products. An unusual number of deaths among children from paint poisoning will reinforce efforts to protect them from this danger. Recent examples of the way this information has been employed are the measures taken to prevent the fatalities which occur when a child shuts himself into an abandoned refrigerator or is suffocated by a plastic garment bag.

*Business and Industry, Research Groups,
Make Extensive Use of These Data*

Vital statistics play an important part in the planning of business and industry. Manufacturers of baby foods, baby clothing, perambulators, toys, etc., keep constant watch on



the number of births and where they are taking place. An expanding birth rate foreshadows an increasing market for the great variety of consumer goods which children need when they start to go to school and grow up into young men and women. Education authorities have to plan needs for school facilities as the youngsters begin to approach elementary school, high school, and college age.

A rise or decline in the number of deaths in any area of the country is, of course, a matter of prime importance to those dealing in funeral directors' supplies. Beyond that, vital statistics are the life blood of the big insurance companies which use data on deaths in order to calculate their insurance rates.

Institutions of learning, private foundations engaged in research of various sorts have constant recourse to birth and death data. Basic studies on the fertility of the population, the age brackets in which the greatest numbers of children are born to parents, changes in the average size of the family, are rooted in the figures obtained by these means. Studies in heredity as, for instance, in the case of twins, lean heavily upon them. Forecasts on the shifting age structure of our population—the relative proportion of children to adults, the increasing number of older people—depend upon these primary sources. And all government, whether State, local, or Federal, must, at some point, gear its planning and operation to these matters. The list is endless. There is, in fact, hardly any phase of the business of living which vital statistics do not touch either directly or at long range.

How Mortality Data are Used by the Medical Profession



A continuing study of mortality data helps in determining where further medical research is needed, and the areas where medical services and facilities must be strengthened.

One broad example may be given of the way these data have been used. In the United States the health picture has changed greatly within the past several decades.

Formerly, among the chief causes of death, as shown on the death certificates, were such infectious diseases as tuberculosis, diphtheria, scarlet fever, and typhoid fever. The mortality rate from infectious diseases among children was especially high, although many adults also succumbed to these diseases.

In recent times, however, medical science has succeeded in bringing most of these infections under control. Today, the major causes of death (except for accidents) are the chronic diseases, with diseases of the heart and cancer leading the list. One reason for the shift is that, because of the lessened danger from infectious diseases, more people live safely through their childhood, young adulthood, and middle years to reach their 50's, 60's, and 70's. And it is at these ages that chronic diseases take their heaviest toll.

Thus, medical science is now concentrating on the causes and cures of chronic diseases. And efforts to *prevent* chronic disease take on increasing importance in medical practice.

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ly by those concerned with highway safety and the operation of traffic laws.

HOW VITAL STATISTICS ARE COMPILED AND ANALYZED

How are all these vital statistics compiled and analyzed? What is the method by which the basic information is collected for the original birth and death record? How are the certificates registered to make them available on quick notice? How are the data obtained from them reported to the general public or specially interested groups?

Most people take the business of gathering vital statistics so much for granted that they are quite unaware of the complex system involved in the process. Unlike the national census, which is authorized by a law of Congress, the collection of birth and death records is the responsibility of the individual States. Each State has its own laws and its own methods of operation which often differ, to some degree at least, from those of another State.

Federal officials can, and do, offer assistance to the States in working out the problems in this field. They make recommendations on improving methods of operation, suggest uniform certificates and, in general, offer "advice and counsel." But they can enforce no regulations. The basic authority remains in the State capitals.

The key to the system is the local registrar, who in some cases is also the county health officer. He handles all birth and death registration within the area to which he is assigned. All told, there are more than 15,000 of these officials throughout the Nation.

State laws specify the individuals responsible for filing the birth and death certificates with the registrar. For

FLOW OF BIRTH AND DEATH RECORDS

	Certificate of Death	Certificate of Fetal Death	Certificate of Live Birth
Physician, Other Professional Attendant, or Hospital Authority	<ol style="list-style-type: none"> 1. Completes medical certification and signs certificate. 2. Returns certificate to funeral director. 	<ol style="list-style-type: none"> 1. Certifies to the cause of fetal death and signs certificate. 2. Returns certificate to funeral director. 	<ol style="list-style-type: none"> 1. Completes entire certificate in consultation with parent(s). Physician's signature required. 2. Files certificate with local registrar of district in which birth occurred.
Funeral Director	<ol style="list-style-type: none"> 1. Obtains personal facts about deceased. 2. Takes certificate to physician for medical certification. 3. Delivers completed certificate to local registrar of district where death occurred and obtains burial permit. 	<ol style="list-style-type: none"> 1. Obtains the facts about fetal death. 2. Takes certificate to physician for entry of causes of fetal death. 3. Delivers completed certificate to local registrar of district where delivery occurred and obtains burial permit. 	
Local Registrar of Vital Statistics	<ol style="list-style-type: none"> 1. Verifies completeness and accuracy of certificate. Makes copy, ledger entry, or index entry for local use. 2. Sends certificate to local health department or to State registrar. 3. Issues burial permit to funeral director. 4. Verifies return of burial permit from cemetery attendant. 		<ol style="list-style-type: none"> 1. Verifies completeness and accuracy of certificate. Makes copy, ledger entry, or index entry for local use. 2. Sends certificate to local health department or State registrar.
City or County Health Department	<ol style="list-style-type: none"> 1. Uses certificates in allocating medical and nursing services, following up on infectious diseases, planning programs, and measuring effectiveness of services. 2. Forwards certificates to State registrar. 		
State Health Department Bureau of Vital Statistics	<ol style="list-style-type: none"> 1. Queries physician, funeral director, and parents about incomplete or inconsistent information. 2. Maintains files for permanent reference and source of certified copies. 3. Compiles statistics for State and subdivisions of State for use of the health department or other interested agencies or individuals. 4. Works with funeral directors, physicians, hospitals, local registrars, and the public to promote complete and accurate registration. 5. Prepares transcripts or microfilm copies of birth, death, and fetal-death certificates for transmittal to National Office of Vital Statistics. 		
Public Health Service National Office of Vital Statistics	<ol style="list-style-type: none"> 1. Prepares and publishes national statistics of births, deaths, and fetal deaths. 2. Publishes analyses of data as they relate to public health and social problems. 3. Provides services needed to foster more complete and uniform registration. 		

births, it is the attending physician or midwife; for deaths, the funeral director. But in collecting and supplying the necessary information, and in the actual filling out of the forms, a great many other people may be involved.

Such a list would include physicians, hospital floor nurses, head nurses, hospital medical librarians and record clerks, hospital superintendents, medical examiners, coroners, the parents of the newborn baby, a member of the family of the person who had died, or, in fact, any individual competent to provide necessary information. These are the people who have first-hand knowledge of the particular event of birth or death, and upon the accuracy of the information obtained from them depends the effectiveness of the whole system.

The Itinerary of a Birth Certificate

Let's follow the course of a typical birth certificate for a baby born in a hospital. (At present, 96 percent of all babies in the United States are born in hospitals.) Often it is the hospital floor nurse who initiates the process. As soon as the mother is able to answer questions, the nurse jots down the personal information that must be recorded: names, addresses, ages, and occupations of parents, etc. This information is attached to the mother's medical history and sent to the hospital record librarian. Here the relevant medical information is added from the record and the official certificate is made out. Usually the mother is given an opportunity to verify the personal information as recorded, and in some States her signature is required.

Thereafter, the certificate goes to the attending physician for his signature and is then given to the hospital super-



intendent, who in turn delivers it to the registrar.

At some hospitals much of the "nonmedical" information for the birth certificate is obtained by the hospital admission clerk, and the record librarian fills out the certificate directly from the data on the admission record.



For a child born outside a hospital, the attending physician or midwife takes full responsibility for making out the certificate and filing it with the registrar. In all States, the certificate must be filed within 10 days after the birth occurs.

How the Death Certificate is Handled

The handling of the death certificate follows a slightly more involved pattern, and the time limit for filing it is only 3 days. When a death occurs in a hospital the certificate may be made out, as with the birth certificate, in part from the data on the admission record, and in collaboration with the floor nurse and attending physician. When it occurs outside the hospital, it may be filled out in the doctor's office, usually by his secretary or nurse.

Generally, however, it is the funeral director, the person legally responsible for filing the certificate, who secures the necessary nonmedical information from the person making arrangements for the funeral. He then takes the partially completed certificate to the physician, who fills in the medical information, signs it, and returns it to the funeral director. The latter files the document with the registrar and thus secures the necessary burial permit.

In the event of death from an injury, the medical information is filled in and signed by the medical examiner required by law to examine the body, or by the coroner.

Then to the Local Registrar

The next step in the process is the local registrar. As previously noted, he may be the local health officer, although he usually appoints a member of his staff to handle the job.

When either a birth or death certificate is filed, the registrar or his deputy goes over it carefully for errors and omissions. Sometimes he checks back to the origi-



nal source for necessary corrections. As soon as he is satisfied that the certificate is accurate and complete, he makes a record for his own files, and sends the original to the State office of vital statistics which is usually located in the State capital.

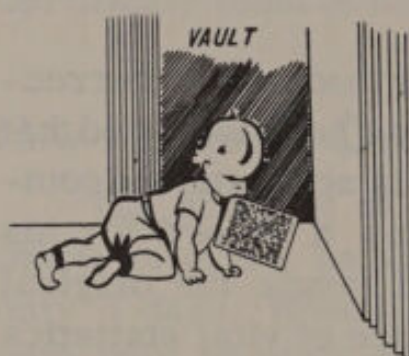
As part of the procedure in the handling of the birth certificate, the mother is sent an official notification that the record is on file. In some States, this may be mailed by the local registrar; in others by the State office. The form of the notification varies in different States. It may be a photostat of the original certificate except for the medical information. Or it may be a short-form certification containing only such relevant information as the baby's name, date and place of birth, parents' names, etc.



Then to the State Office of Vital Statistics

In all States, except one, the office of vital statistics is a part of the State health department. (In Massachusetts, it is under the Secretary of the Commonwealth.) This is the

all-important central registration system which is now established in every State. By this means, the State health department is able to answer inquiries concerning any birth or death certificate that has ever been filed in that State. The certificates, as they come from the local registrars, are rechecked for possible errors and omissions. They are



numbered and indexed for quick reference, then permanently filed in fireproof vaults. States provide, for a small fee, a copy of the original death or birth certificate, or a birth card, to anyone having a legitimate interest.

Each State department of health makes an extensive analysis of the information contained in the birth and death certificates filed for central registration. Usually the most modern methods are employed; the information is transferred to punchcards and fed into automatic machines. In this way, comprehensive data on selected items in the certificate can be obtained and used to compare with previous data or with other relevant information.

Reports are issued both monthly and annually. The monthly reports are primarily statistical tabulations broken down by counties; specific data for individual towns and cities are also likely to be included. A typical report will include information on how many babies were born and how many died in the last month, what diseases caused deaths at other ages. Often some interpretation of special news interest will be added, as for instance, a rise or decline of the birth rate in any area or the impact, say, of an influenza epidemic.



Annual reports follow the same pattern though in much greater detail. As a rule they present an analysis of whatever elements of the overall health picture the data reveal. These reports are available for study by local public health authorities, physicians, medical analysts, hospital directors, and anyone else concerned with health matters within the State. A year-to-year or decade-to-decade comparison with the data offered in these reports may form the basis of proposals for new health legislation by the State legislature.

The Role of the National Office of Vital Statistics

Before the birth and death certificates are permanently filed in the State offices, microfilm copies are made and sent to the National Office of Vital Statistics (NOVS) in Washington, D.C. This Office is part of the Public Health Service of the U.S. Department of Health, Education, and Welfare.

State tabulations and analyses, of course, are responsive to local needs and conditions, which vary from State to State. At NOVS the emphasis is on the uniform processing of all items from the point of view of national or regional interests. Monthly reports, issued through the Public Health Service, tend to be confined to statistical tabulations, though interpretative comment of national or regional import may be added. The annual report, "Vital Statistics of the United States," is an analytical document which is studied by med-

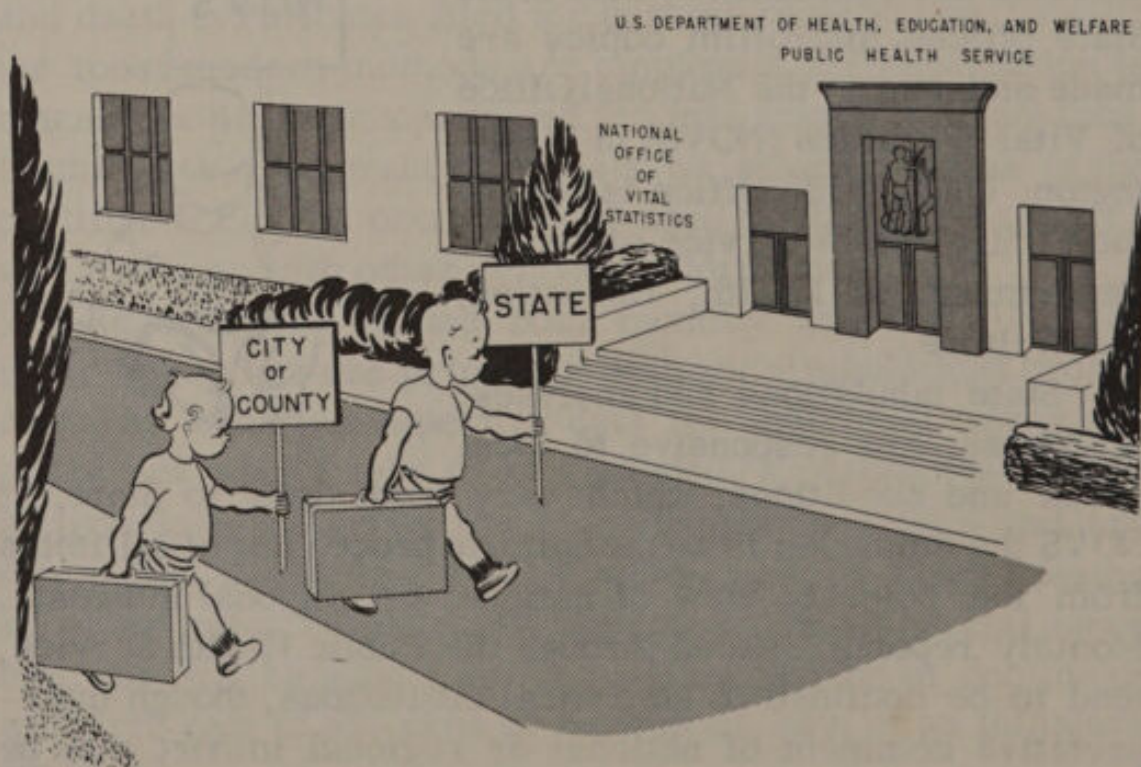


ical analysts and others both here and abroad. It contains not only the detailed statistics on births and deaths for the



entire Nation during the previous 12 months, but an analysis of dominant fertility and population trends as revealed by the data obtained, and underscoring of the strengths and weaknesses of the current national health picture. In addition, staff personnel in the National Office conduct research projects in many areas relating to vital statistics, the results of which are published in professional journals or issued as separate research reports.

As previously noted, NOVS works closely with the State offices of vital statistics, confers with them on ways to improve methods of operation, and supplies pamphlets and other literature for their use. It also often undertakes



joint projects with various States to check what "bugs" may still exist in the business of securing prompt, complete, and accurate registration on all births and deaths occurring within a given area.

Staff personnel of the National Office participate extensively in State, regional, and national conferences on public health matters and are active in groups concerned with statistical methods. The Office works closely with voluntary health agencies and groups engaged in health research. It also works with other units in the Public Health Service, with the Department's Children's Bureau, Bureau of Public Assistance, and Food and Drug Administration, and with the U.S. Bureau of the Census.

A Little Background History

It is only during the present century that anything approaching adequate data on births and deaths have been available on a nationwide basis. Up to 1900, only 10 States and the District of Columbia could supply data sufficiently complete and accurate to be used for national compilation. In the other States reliable data could be obtained only from some of the larger cities. Throughout the 19th century, statistics on birth and death were based primarily on census figures and were for the most part untrustworthy, especially in respect to the recording of the causes of death.

In 1900, the Bureau of the Census abandoned its efforts to secure mortality information from its own records and concentrated on developing uniform data from the original death records filed in the various State health departments. Since each State had its own method of registering deaths, the first step was to draft uniform practices and laws, and to prepare a recommended standard death certificate. This standard form was adopted, either in whole or in part, by

18 States and the District of Columbia and in 71 major cities located in the other States. Those States which could demonstrate fairly complete registration were constituted an official death-registration area, and the data collected formed the basis for the mortality reporting for the Nation.

Over the next few decades, the registration area was gradually expanded. By 1920, there were 34 States and the District of Columbia providing uniform death statistics on a statewide basis. By 1930, only one State was not in the registration area, and by 1933 the roster was complete.

The collection of nationwide data on births had a similar history, though it was not until 1915 that the Bureau of the Census established a birth-registration area, as a counterpart to the death-registration area. By 1920, there were 24 States and the District of Columbia from which statewide data on birth registration could be secured. By 1930, only two States were missing, and in 1933 the birth-registration area covered the whole country.

In 1946, the Division of Vital Statistics of the Bureau of the Census was reorganized as the National Office of Vital Statistics and transferred to the Public Health Service in the Department of Health, Education, and Welfare.

And Finally

The collection and analysis of vital records is a huge cooperative endeavor in which a vast number of people in the community and at all levels of government play an important part.

There are, of course, many opportunities for improvement. Efforts are constantly underway to seek better methods of collecting and refining the data. There can be little question, however, that the system is now broadly based and works well. And it is evident that it serves the individual, the community, and the Nation in very many useful ways.

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