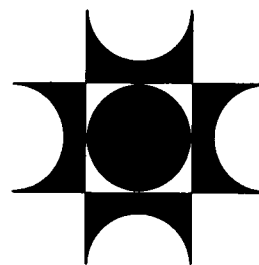


1974

# Michigan Health Statistics

Michigan Department  
of Public Health



### SYMBOLS USED IN TABLES

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|---|-----|
| Data not available .....  | --- |
| Category not applicable .....                                       | 000 |
| Quantity zero .....   | -   |
| Quantity more than zero but<br>less than 0.05 .....                 | 0.0 |
| Figure does not meet standards<br>of reliability or precision ..... | *   |

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## Introduction

The 1974 edition of Michigan Health Statistics is a statistical summary of vital events for calendar year 1974. Data relative to population, births, deaths, fetal deaths, marriages, divorces and communicable diseases are included. Although most of the data in this report pertain to events occurring in 1974, some data for prior years have been included to illustrate trends. Most of the tabulations refer to Michigan residents. Some events, however, such as marriages and divorces are tabulated relating to where the event occurred rather than the residence status of the party or parties involved. Divorces which occurred in Wayne County in 1974 had not been reported when this report was prepared and thus are not included in this report.

As a certain number of Michigan residents either deliver babies or die out of state each year, it is necessary to include data obtained from the certificates of other states in any residence tabulations pertaining to Michigan residents. This report includes all such out-of-state certificates received prior to March 15, 1975, and all in-state certificates and records received prior to March 15, 1975. Although a few records for calendar year 1974 were received after these filing dates, their exclusion from this report is statistically insignificant.

The 1970 edition of Michigan Health Statistics contained a complete section devoted to population characteristics. Similar data are not available for 1974 and thus the 1974 edition of Michigan Health Statistics does not have a section on population. The reader is referred to the 1970 edition for detailed population characteristics and to the reference appendix of this edition for county and state population estimates.

The report is composed of the following sections and appendices:

1. Natality Section, 2. Mortality Section, 3. Marriage and Divorce Section, 4. Reference Appendix

Any comments or suggestions concerning the content and format of this report are always welcome. Any additional needs for data or analyses may be directed to the Office of Vital and Health Statistics. The Office will make every attempt to comply with such requests within the limitation of staff and resources.

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## Technical Notes, Definitions, Rates and Ratios

**TOTAL BIRTHS**—Live Births and Fetal Deaths.

**LIVE BIRTH**—A live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

**FETAL DEATH**—Death prior to the complete expulsion or extraction from its mother of a product of conception, having passed through at least the 20th week of gestation; the fetus shows no signs of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

**RESIDENCE**—Usual place of residence for person to whom event occurred. For births and fetal deaths residence is defined as the mother's usual place of residence.

**OCCURRENCE**—Place where the event actually occurred.

**MINOR CIVIL DIVISION**—City, Village or Township.

**RACE**—Race for mother, father, or descendant is as stated on certificate. Race of child is determined from the race of the parents.

**GESTATIONAL PERIOD**—Number of weeks elapsed between the first day of the last menstrual period and date of delivery.

**BIRTH WEIGHT**—Weight of fetus or infant at time of delivery (normally recorded in pounds and ounces).

**LOW-WEIGHT BIRTH**—Birth wherein the birth weight is equivalent to 2,500 grams or less (approximately 5 lbs., 8 oz.).

**ILLEGITIMATE BIRTH**—Birth wherein there is no marital tie between mother and father, nor an acknowledgement of paternity.

**LIVE-BIRTH ORDER**—Order number is equal to number of previous live births plus current birth.

**INFANT DEATH**—Death occurring to individual of less than 1 year of age.

**NEONATAL DEATH**—Death occurring to individual less than 28 days of age.

**PERINATAL DEATH**—Fetal death or a death under 1 week of age.

**UNDERLYING CAUSE OF DEATH**—That condition giving rise to the chain of events leading to death.

**RELATED CAUSE OF DEATH**—Condition other than the underlying cause of death which may have contributed to the death or was a noncontributory significant condition.

**MATERNAL DEATHS**—Those deaths wherein the physician has designated a maternal condition as the underlying cause of death.

**CRUDE BIRTH RATE** = No. of Resident Live Births divided by Total Resident Population  $\times$  1,000

**CRUDE DEATH RATE** = No. of Resident Deaths divided by Total Resident Population  $\times$  1,000

**AGE-SPECIFIC BIRTH RATE** = No. of Resident Live Births for a Specific Age of Mother divided by Total Female Population of Specific Age  $\times$  1,000

**FERTILITY RATE** = No. of Resident Live Births divided by Total Female Population (15-44)  $\times$  1,000

**FETAL DEATH RATE** = No. of Resident Fetal Deaths divided by Total Resident Live Births and Resident Fetal Deaths  $\times$  1,000

**FETAL DEATH RATIO** = No. of Resident Fetal Deaths divided by Total Resident Live Births  $\times$  1,000

**ILLEGITIMACY RATIO** = No. of Resident Illegitimate Births divided by Total Resident Live Births  $\times$  1,000

**LOW-WEIGHT BIRTH RATIO** = No. of Low-Weight Births divided by Total Resident Live Births  $\times$  1,000

**INFANT MORTALITY RATE** = No. of Infant Deaths divided by Total Resident Live Births  $\times$  1,000

**NEONATAL DEATH RATE** = No. of Neonatal Deaths divided by Total Resident Live Births  $\times$  1,000

**PERINATAL DEATH RATE** = No. of Perinatal Deaths divided by Total Resident Live Births and Resident Fetal Deaths  $\times$  1,000

**MATERNAL DEATH RATE** = No. of Maternal Deaths divided by Total Resident Live Births  $\times$  10,000

**AGE-SPECIFIC DEATH RATE** = No. of Deaths in Specific Age Group divided by Total Resident Population in Specific Age Group  $\times$  100,000

**AGE-ADJUSTED DEATH RATE** =  $\Sigma$  (Age-Specific Death Rates  $\times$  Proportion of Standard Population in Specific Age Group)

**MARRIAGE RATE** = No. of Persons Married divided by Total Resident Population  $\times$  1,000

**DIVORCE RATE** = No. of Persons (Divorces and Annulments) divided by Total Resident Population  $\times$  1,000

**COMMUNICABLE DISEASE CASE RATE** = No. of Reported Cases (Specific Communicable Diseases) divided by Total Resident Population  $\times$  100,000

**SEX RATIO** = No. of Males divided by No. of Females  $\times 100$

**LIFE TABLE VALUES:**

${}_nq_x$  = The proportion of persons in the cohort alive at the beginning of an age interval ( $x$ ) who will die before reaching the end of that age interval ( $x+n$ )

$l_x$  = The number of persons living at the beginning of an age interval ( $x$ ) out of an original cohort of 100,000

${}_nd_x$  = The number of persons who would die during an age interval ( $x$  to  $x+n$ ) out of an original cohort of 100,000

${}_nL_x$  = The number of person-years that would be lived within an indicated age interval ( $x$  to  $x+n$ ) out of an original cohort of 100,000 alive for all or part of the interval

$l_x$  = The number of person-years that would be lived after the beginning of an age interval ( $x$ ) by an original cohort of 100,000 until all are assumed to have died

${}^o e_x$  = The average remaining lifetime (in years) for an individual person who survives to the beginning of an indicated age interval ( $x$ )

**PROBABILITY OF EVENTUALLY DYING FROM A GIVEN CAUSE OF DEATH** = The chance of death due to a given cause rather than some com-

petitive cause based on current mortality data and life expectancy techniques

**RATE OF NATURAL INCREASE** = Total Resident Live Births divided by Total Resident Deaths

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**RATES**—Care should be taken in drawing specific inferences from comparisons of rates for different areas or different periods of time. Rates based on a small number of events or for a small area tend to exhibit considerable variation from time period to time period or place to place. Excessive variation in rates not only negates their utility as estimators of the probability of an event occurring but also their usefulness for comparative purposes. Also, one should recognize the limitations of using unadjusted rates in attempting to attribute rate differences to particular factors. For example, one should not attempt to state that there was a significant difference in rates for two geographic areas for arteriosclerosis without first adjusting the rates to negate the effects of differing age distributions in the two areas.

Many times there are simply not sufficient data available to adequately adjust rates for all possible compounding factors. For this reason, the reader should exercise diligence and caution while attempting to draw substantive conclusions when comparing vital statistics rates.

# Qualifications and Limitations of Data and Calculations

## UNDERREGISTRATION OF EVENTS

The underregistration of vital events in Michigan is considered to be a minimal problem particularly for births and deaths. Tests of registration completeness conducted in conjunction with the 1950 Census indicate that the registration of births was 98.5 percent complete, and that death registration was even more complete. The number of certificates received too late for inclusion in annual statistical files is insignificant when examining statewide patterns.

## GEOGRAPHIC ALLOCATION

The allocation of events on a residence or occurrence basis is for the most part accurate and complete. However, allocations to minor civil divisions are subject to question in some instances. In those cases where the respondent completes the residence item with a mailing address, geographic allocation is sometimes undeterminable and the record receives an unknown minor civil division code.

## FETAL DEATHS

Fetal deaths in Michigan include only those conceptions that have passed through 20 weeks gestation. Inadequacies in determining the gestational age of the fetus may account for some underreporting of fetal deaths.

## COMPARABILITY IN CAUSE OF DEATH STATISTICS

The reader should bear in mind two major limitations in interpreting changes in cause-of-death statistics. Changes in nomenclature and the classification scheme (International Classification of Diseases) and changes in diagnostic practices may seriously affect the comparability of such statistics over time. The classification scheme (ICD) is modified approximately once every ten years to reflect changing medical opinion and practice. The reader is most accurate when comparing cause-of-death certificates which are coded via one revision of the International Classification of Diseases and utilizing the coding practices and procedures in effect at that time.

In order to compare cause-of-death statistics from one revision to the next it is necessary to apply a 'comparability ratio'. Such ratios are developed by comparing the number of deaths assigned to a certain condition or group of conditions under one revision to the number assigned under another revision of the ICD.

## LIFE EXPECTANCY

The procedure used to obtain the Michigan life table values is called the iterative method. This is a method which is being developed by Professor Felix Moore of the Department of Biostatistics, School of Public Health, University of Michigan.

For the age group 0-1 the method utilizes the algorithm developed by Greville with no iteration. For all subsequent age groups the method of Greville (Keyfitz) is used with three iterations to improve the estimate of  ${}_n d_x$  and  ${}_n q_x$ . An iteration procedure is also used for  ${}_n l_x$  for age groups 75-80 and 80-85 where the accuracy of mortality information is a factor and for obtaining the separation factor for the age group 1-4.

# NATALITY

## SECTION I

# Natality

## An Overview 1974

|   |         |
|---|---------|
| TOTAL BIRTHS                                      | 138,865 |
| TOTAL RESIDENT LIVE BIRTHS                        | 137,414 |
| RESIDENT LIVE BIRTHS PER DAY                      | 376.5   |
| TOTAL RESIDENT FETAL DEATHS                       | 1,451   |
| RESIDENT FETAL DEATHS PER DAY                     | 4.0     |
| CRUDE BIRTH RATE                                  | 15.1    |
| FETAL DEATH RATIO                                 | 10.6    |
| FERTILITY RATE                                    | 70.0    |
| ILLEGITIMACY RATIO—LIVE BIRTHS                    | 136.6   |
| ILLEGITIMACY RATIO—FETAL DEATHS                   | 232.3   |
| FIRST ORDER BIRTHS (PERCENT OF TOTAL LIVE BIRTHS) | 39.4    |
| NO PRENATAL CARE RATIO                            | 78.9    |
| NONWHITE BIRTHS (PERCENT OF TOTAL LIVE BIRTHS)    | 18.1    |
| MEDIAN AGE OF MOTHER (LIVE BIRTHS)                | 24      |
| MEDIAN AGE OF MOTHER (FETAL DEATHS)               | 24      |
| OLDEST MOTHER (LIVE BIRTHS)                       | 48      |
| YOUNGEST MOTHER (LIVE BIRTHS)                     | 12      |
| MEDIAN BIRTH WEIGHT IN GRAMS (LIVE BIRTHS)        | 3,345   |
| MEDIAN BIRTH WEIGHT IN GRAMS (FETAL DEATHS)       | 2,165   |
| HEAVIEST LIVE BORN INFANT IN GRAMS                | 6,124   |
| LIGHTEST LIVE BORN INFANT IN GRAMS                | 170     |
| LIVE BORN SETS OF TWINS                           | 1,326   |
| LIVE BORN SETS OF TRIPLETS                        | 10      |
| LIVE BORN MULTIPLE BIRTHS OF FOUR OR MORE         | 0       |

Between 1900 and 1974, the number of total births occurring each year varied considerably. This pattern has not been totally consistent for the two component parts (live births and fetal deaths) of deliveries. The smallest number of live births recorded this century was 43,221. This occurred in 1901. The greatest number was 208,488 in 1957. The smallest number of fetal deaths was 1,325 (recorded in 1900) and the greatest number was 3,834 (recorded in 1927). Figures 1.1 and 1.2 portray the changes that have taken place in the number of live births and fetal deaths recorded each year since 1900. Since 1957, excepting the year 1970, there has been a steady decline in the number of resident live births. The number reported for 1974 is just slightly below the number recorded for 1946.

Another view of the changing pattern in the total births may be obtained through the examination of changes in the crude birth rate and the fetal death ratio. The crude birth rate has ranged from a low of 15.1 in 1974 to a high of 27.4 in 1956. The fetal death ratio has ranged from a low of 10.6 in 1974 to a high of 43.5 in 1905.

Figure 1.3 is a graphic portrayal of trends in live birth rates and fetal death ratios for Michigan since 1900. As can be seen quite clearly from the graph, birth rates display a bimodal pattern with maximum values in 1916-1917 and 1956 whereas fetal death

FIGURE 1.1—Live Births, Michigan Residents, 1900-1974

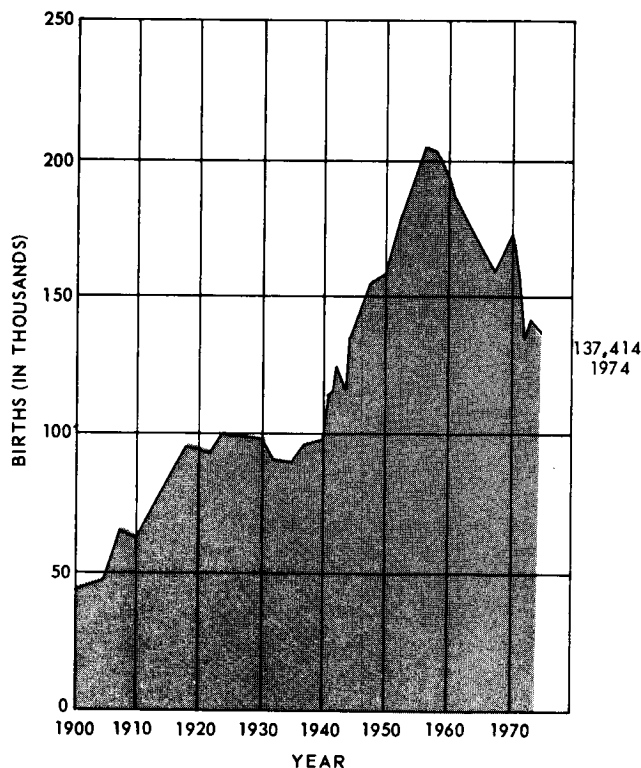
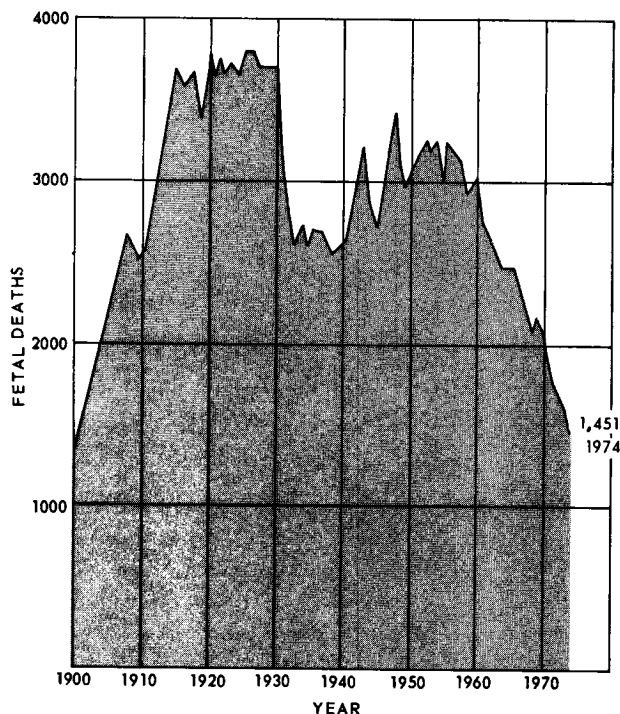


FIGURE 1.2—Fetal Deaths, Michigan Residents, 1900-1974



ratios have declined more or less steadily from the very high levels of the late 1920's.

Crude birth rates rose steadily during the period from 1900 - 1920. This period was also marked by a significant growth of heavy industry in the state. During the 1920's, however, the crude birth rate started to decline, finally troughing out during the early mid-1930's. As Michigan's economic viability returned during the late 1930's and early 1940's, the crude birth rate once again increased. Significant increases were observed in the years immediately following World War II and the rate finally reached an all time high in 1956. Since that time, the rate has declined rather steadily with a slight upward trend noted in 1969 and 1970, and a downward turn noted 1971 through 1974.

From 1900 through 1940, Michigan's crude birth rate lagged behind that of the United States as a whole. By 1950 Michigan's crude birth rate exceeded that of the nation and continues to do so.

The rapidly decreasing number of live births since 1957 coupled with an increasing population has resulted in the 1974 crude birth rate replacing that of 1973 as the lowest ever recorded.

## FERTILITY

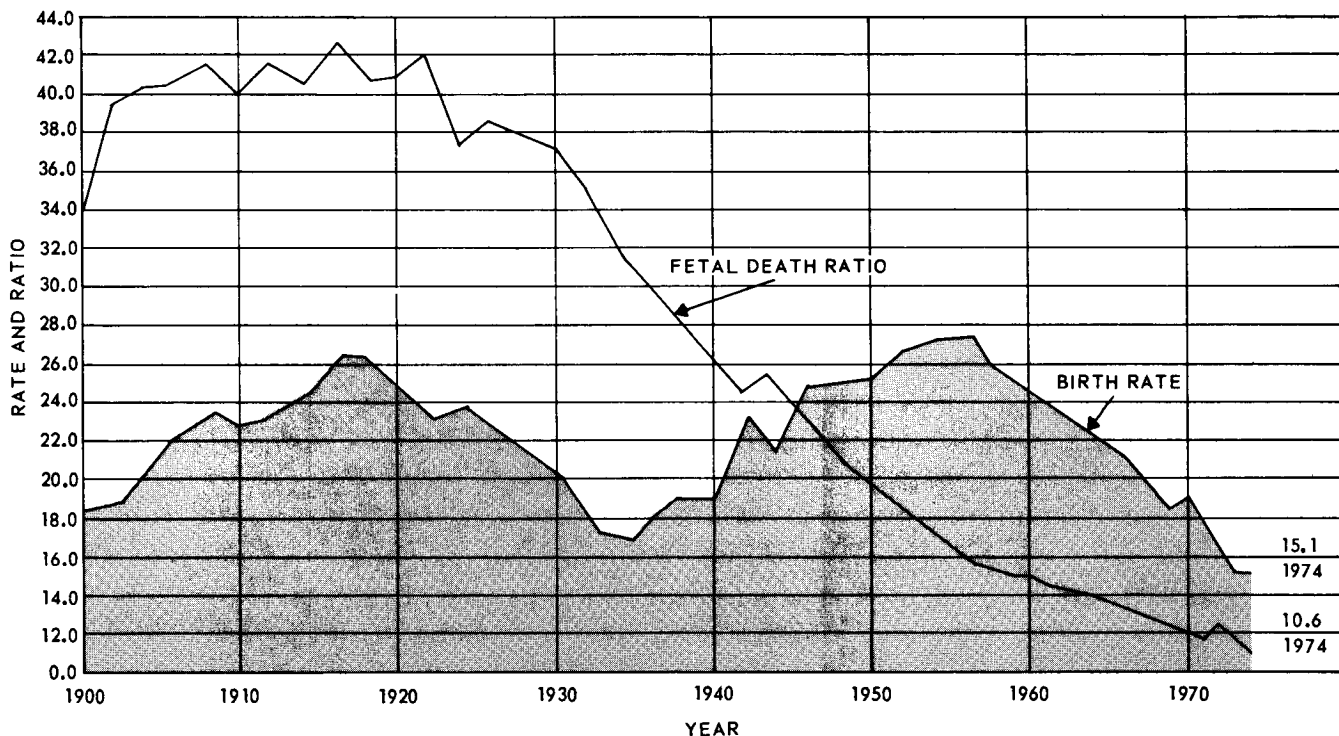
It is impossible to determine from the crude birth rate whether changes are occurring as a result of a changing population structure or from other factors. Changes in the number of women in the prime child-

bearing ages may have a significant impact upon the crude birth rate, thus presenting a somewhat distorted picture of fecundity for a given period of time or a given geographical area. A measure for analyzing changing birth patterns that is more precise than the crude birth rate is the fertility rate. Since the fertility rate relates the number of live births to the female population of childbearing age, more valid comparisons for various periods of time and various locations can be made.

TABLE 1.1—Live Births and Crude Birth Rates, Michigan and United States Residents, Selected Years, 1900-1974

| UNITED STATES |      | YEAR | MICHIGAN    |      |
|---------------|------|------|-------------|------|
| LIVE BIRTHS   | RATE |      | LIVE BIRTHS | RATE |
| N/A           | N/A  | 1900 | 43,699      | 18.1 |
| 2,777,000     | 30.1 | 1910 | 64,109      | 22.8 |
| 2,950,000     | 27.7 | 1920 | 92,245      | 25.1 |
| 2,618,000     | 21.3 | 1930 | 98,882      | 20.4 |
| 2,559,000     | 19.4 | 1940 | 99,106      | 18.9 |
| 3,632,000     | 24.1 | 1950 | 160,055     | 25.1 |
| 4,257,850     | 23.7 | 1960 | 195,056     | 24.9 |
| 4,268,326     | 23.3 | 1961 | 192,825     | 24.4 |
| 4,167,362     | 22.4 | 1962 | 182,790     | 23.0 |
| 4,098,020     | 21.7 | 1963 | 178,871     | 22.3 |
| 4,027,490     | 21.0 | 1964 | 175,103     | 21.6 |
| 3,760,358     | 19.4 | 1965 | 166,464     | 20.3 |
| 3,606,274     | 18.4 | 1966 | 165,794     | 19.9 |
| 3,520,959     | 17.8 | 1967 | 162,756     | 18.9 |
| 3,501,564     | 17.5 | 1968 | 159,058     | 18.3 |
| 3,600,206     | 17.8 | 1969 | 165,760     | 19.0 |
| 3,731,386     | 18.4 | 1970 | 171,667     | 19.3 |
| 3,555,970     | 17.2 | 1971 | 162,244     | 18.0 |
| 3,258,411     | 15.6 | 1972 | 146,854     | 16.3 |
| 3,136,965     | 14.9 | 1973 | 141,550     | 15.6 |
| 3,159,958     | 14.9 | 1974 | 137,414     | 15.1 |

FIGURE 1.3—Live Birth Rate and Fetal Death Ratio, Michigan Residents, 1900-1974



A comparison of fertility rates for Michigan and the United States for selected years is presented in Table 1.2

TABLE 1.2—Fertility Rates, Michigan and United States Residents, Selected Years, 1900-1974

| FERTILITY RATE UNITED STATES | YEAR | FERTILITY RATE MICHIGAN |
|------------------------------|------|-------------------------|
| N/A                          | 1900 | 78.5                    |
| 126.8                        | 1910 | 99.0                    |
| 117.9                        | 1920 | 111.6                   |
| 89.2                         | 1930 | 87.6                    |
| 79.9                         | 1940 | 78.9                    |
| 106.2                        | 1950 | 110.5                   |
| 118.0                        | 1960 | 123.1                   |
| 87.6                         | 1970 | 91.7                    |
| 81.9                         | 1971 | 84.7                    |
| 73.4                         | 1972 | 76.5                    |
| 69.2                         | 1973 | 73.2                    |
| 68.4                         | 1974 | 70.0                    |

## RACIAL COMPOSITION

During the eleven year period from 1964 through 1974, the racial composition of live births in Michigan was also changing. As can be seen from Table 1.3, the number of nonwhite live births has increased, while white live births have steadily decreased. It should be noted, however, that nonwhite live births have been decreasing since 1971.

Inspection of Table 1.3 indicates that in 1964 non-white live births accounted for 11.6 percent of all live births to Michigan residents. In 1973, 18.8 percent of all live births were recorded as nonwhite. This percentage declined in 1974 to 18.1 percent.

## AGE OF MOTHER

In 1974, 55.7 percent of the live births were to mothers age 24 or less. Only 0.8 percent occurred to women 40 or more years of age. The median age of the mothers was 24 years. Mothers of nonwhite infants were younger (median 22 years) than mothers of white babies. Approximately 67 percent of the non-white babies were born to mothers age 24 or less; whereas, only 53 percent of white babies were born to mothers 24 years of age or less. The difference is primarily the result of the large percentage of non-white live births to mothers age 15-19 (Table 1.4).

## AGE-SPECIFIC BIRTH RATES

In 1964, the fertility rate in Michigan was 104.9. The fertility rate, which indicates the number of live births per 1,000 women residents aged 15 to 44, was 70.0 or 33.3 percent less than in 1974. As shown in Table 1.5, a substantial reduction has occurred over the last eleven years in the age-specific birth rates for Michigan females ages 35 through 44. The smallest decrease was for females under 20

TABLE 1.3—Live Births by Race, Michigan Residents, 1964-1974

| YEAR      | TOTAL LIVE BIRTHS |                 | WHITE LIVE BIRTHS |                 | NON-WHITE LIVE BIRTHS |                 |
|-----------|-------------------|-----------------|-------------------|-----------------|-----------------------|-----------------|
|           | Number            | % of all Births | Number            | % of all Births | Number <sup>1</sup>   | % of all Births |
| 1964..... | 175,103           | 100.0           | 154,790           | 88.4            | 20,313                | 11.6            |
| 1965..... | 166,464           | 100.0           | 145,784           | 87.6            | 20,680                | 12.4            |
| 1966..... | 165,794           | 100.0           | 143,876           | 86.8            | 21,918                | 13.2            |
| 1967..... | 162,756           | 100.0           | 139,721           | 85.8            | 23,035                | 14.2            |
| 1968..... | 159,058           | 100.0           | 135,436           | 85.1            | 23,622                | 14.9            |
| 1969..... | 165,760           | 100.0           | 140,222           | 84.6            | 25,538                | 15.4            |
| 1970..... | 171,667           | 100.0           | 143,871           | 83.8            | 27,796                | 16.2            |
| 1971..... | 162,244           | 100.0           | 134,165           | 82.7            | 28,079                | 17.3            |
| 1972..... | 146,854           | 100.0           | 119,788           | 81.6            | 27,066                | 18.4            |
| 1973..... | 141,550           | 100.0           | 114,878           | 81.2            | 26,672                | 18.8            |
| 1974..... | 137,414           | 100.0           | 112,474           | 81.9            | 24,940                | 18.1            |

<sup>1</sup> Non-White includes race not stated.



TABLE 1.4—Total Live Births and Percent Distribution by Age of Mother and Race of Child, Michigan Residents, 1974

| AGE OF MOTHER             | TOTAL   |       | RACE OF CHILD |       |           |       |            |      |
|---------------------------|---------|-------|---------------|-------|-----------|-------|------------|------|
|                           |         |       | WHITE         |       | NON-WHITE |       | NOT STATED |      |
|                           | No.     | %     | No.           | %     | No.       | %     | No.        | %    |
| Under 15 Years.....       | 501     | 0.4   | 185           | 0.2   | 316       | 1.3   | —          | —    |
| 15-19 Years.....          | 25,977  | 18.9  | 18,265        | 16.2  | 7,639     | 31.7  | 73         | 8.7  |
| 20-24 Years.....          | 49,975  | 36.4  | 41,497        | 36.9  | 8,213     | 34.1  | 265        | 31.5 |
| 25-29 Years.....          | 40,215  | 29.3  | 35,050        | 31.2  | 4,849     | 20.1  | 316        | 37.6 |
| 30-39 Years.....          | 19,608  | 14.3  | 16,599        | 14.8  | 2,834     | 11.8  | 175        | 20.8 |
| 40 Years and Over.....    | 1,113   | 0.8   | 866           | 0.8   | 238       | 1.0   | 9          | 1.1  |
| Not Stated.....           | 25      | 0.0   | 12            | 0.0   | 11        | 0.0   | 2          | 0.2  |
| Total.....                | 137,414 | 100.1 | 112,474       | 100.1 | 24,100    | 100.0 | 840        | 99.9 |
| Median Age of Mother..... | 24      | 000   | 24            | 000   | 22        | 000   | 000        | 000  |

TABLE 1.5—Age-Specific Live Birth Rates, Michigan Residents, 1964 and 1974

| AGE GROUP                        | LIVE BIRTHS |         | BIRTH RATE |       | % CHANGE IN BIRTH RATE |
|----------------------------------|-------------|---------|------------|-------|------------------------|
|                                  | 1964        | 1974    | 1964       | 1974  |                        |
| Under 20 <sup>1</sup> Years..... | 22,790      | 26,478  | 67.5       | 56.5  | -16.3                  |
| 20-24 Years.....                 | 62,196      | 49,975  | 217.8      | 126.0 | -42.1                  |
| 25-29 Years.....                 | 44,671      | 40,215  | 170.9      | 120.2 | -29.7                  |
| 30-34 Years.....                 | 26,542      | 15,317  | 101.7      | 52.4  | -48.5                  |
| 35-39 Years.....                 | 14,509      | 4,291   | 54.8       | 18.1  | -67.0                  |
| 40 and Over <sup>2</sup> .....   | 4,282       | 1,113   | 16.5       | 4.8   | -70.9                  |
| Not Stated.....                  | 13          | 25      | *          | *     |                        |
| Total <sup>3</sup> .....         | 175,103     | 137,414 | 104.9      | 70.0  | -33.3                  |

<sup>1</sup> Age-Specific Birth Rates for under 20 based on female population 15-19.  
<sup>2</sup> Age-Specific Birth Rates for 40 and over based on female population 40-44.  
<sup>3</sup> Total Birth Rate based on female population 15-44.

### ILLEGITIMATE LIVE BIRTHS

In 1900, illegitimate live births for Michigan residents numbered 332 (an illegitimacy ratio of 7.6). By 1906 that ratio had more than doubled to 18.6. Then for more than 20 years the ratio fluctuated between 12.3 and 19.9 and it was not until 1933 that the ratio became greater than 20.0. By 1960 the ratio had reached 36.9. Between 1964 and 1974 the illegitimacy ratio increased from 55.5 to 136.3, an increase of 145.5 percent (Table 1.6).

From 1951 through 1973 the illegitimacy ratio increased annually. The ratio for 1974 is 6.4 percent less than the statistics for 1973 (143.4).

It should be pointed out that during the calendar year 1971 a modification of legitimacy determination was instituted. This change allowed the filing of a birth certificate as legitimate for infants born to unwed mothers when there is paternity acknowledgement. During 1972 this modification affected the legitimacy status of 935 live births. By 1974 the number of live births affected rose to 1,458. This modification of legitimacy determination and the increasing numbers of births affected must be considered when evaluating the decline in 1974 of the illegitimacy ratio.

The trend of increasing illegitimacy ratios has been observed nationwide through 1973. Table 1.7 displays the parallel patterns of illegitimacy rates over the last decade in Michigan and in the United States.

FIGURE 1.4—Illegitimate Live Birth Ratio, Michigan Residents, 1900-1974

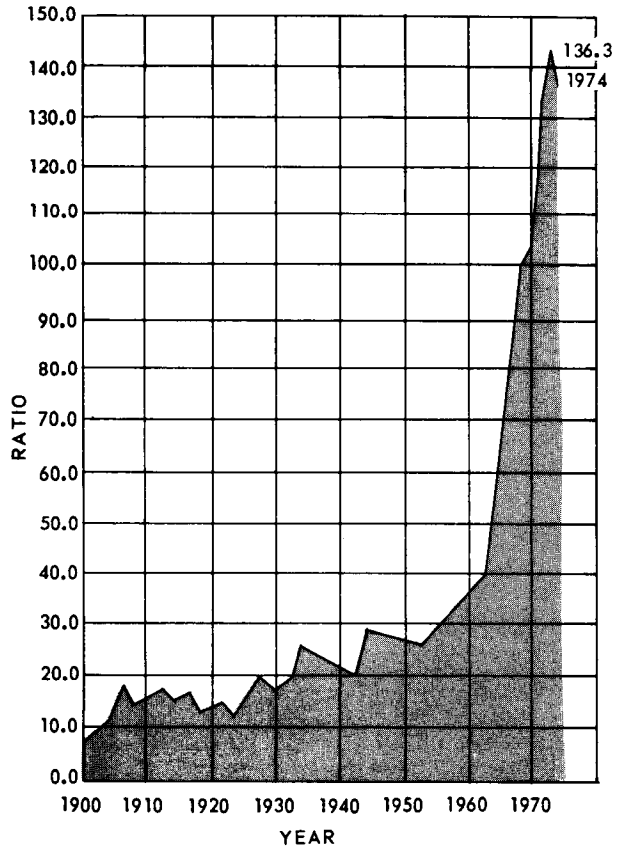


TABLE 1.6—Illegitimate Live Births, and Illegitimacy Ratio by Age of Mother, Michigan Residents, 1964-1974

| AGE GROUP           | ILLE-GITIMATE LIVE BIRTHS |        | ILLE-GITIMACY RATIO |       | % CHANGE IN ILLE-GITIMACY RATIO |
|---------------------|---------------------------|--------|---------------------|-------|---------------------------------|
|                     | 1964                      | 1974   | 1964                | 1974  |                                 |
| Under 20 Years..... | 4,857                     | 10,571 | 213.1               | 399.2 | 87.3                            |
| 20-24 Years.....    | 3,020                     | 5,372  | 48.6                | 107.5 | 121.2                           |
| 25-29 Years.....    | 990                       | 1,752  | 22.2                | 43.6  | 96.4                            |
| 30-34 Years.....    | 506                       | 673    | 19.1                | 43.9  | 129.8                           |
| 35-39 Years.....    | 265                       | 264    | 18.3                | 61.5  | 236.1                           |
| 40 and Over.....    | 80                        | 92     | 18.3                | 82.7  | 351.9                           |
| Not Stated.....     | 6                         | 9      | *                   | *     |                                 |
| Total.....          | 9,724                     | 18,733 | 55.5                | 136.3 | 145.6                           |

TABLE 1.7—Illegitimate Live Births and Illegitimacy Ratios, Michigan and United States Residents, 1964-1974

| UNITED STATES              |       | YEAR | MICHIGAN                   |       |
|----------------------------|-------|------|----------------------------|-------|
| NO. OF ILLEGITIMATE BIRTHS | RATIO |      | NO. OF ILLEGITIMATE BIRTHS | RATIO |
| 275,700                    | 68.5  | 1964 | 9,724                      | 55.5  |
| 291,200                    | 77.4  | 1965 | 10,888                     | 65.4  |
| 302,400                    | 83.9  | 1966 | 12,299                     | 74.2  |
| 318,100                    | 90.3  | 1967 | 13,403                     | 82.4  |
| 339,200                    | 96.9  | 1968 | 14,451                     | 90.9  |
| 360,800                    | 100.2 | 1969 | 16,329                     | 98.5  |
| 398,700                    | 106.9 | 1970 | 18,712                     | 109.0 |
| 401,400                    | 112.9 | 1971 | 19,098                     | 117.7 |
| 403,200                    | 123.7 | 1972 | 19,526                     | 133.0 |
| 407,300                    | 129.8 | 1973 | 20,299                     | 143.4 |
| N/A                        | N/A   | 1974 | 18,733                     | 136.3 |

Table 1.8 presents a comparison of legitimate and illegitimate live births with respect to several social and health factors. From the table it can be seen that a higher percentage of illegitimate births are accompanied by complications of labor, complications related to pregnancy and complications not related to pregnancy. A greater percentage of mothers having illegitimate children in 1974 have had less than 9 years of education as compared to mothers having

legitimate children (6.8 as compared to 2.6). A majority (56.4%) of illegitimate live births are to women less than twenty years of age. The corresponding figure for legitimate live births is 13.4 percent.

Mothers of illegitimate children tend to be somewhat younger than the mothers of legitimate children (Table 1.9). The median age of all mothers having illegitimate births is 20 compared to a median age of 24 for all live births. The median age for nonwhite mothers who have illegitimate births is 20 compared to an overall nonwhite median age of 22. Both the median age of all mothers having illegitimate births and the median age of nonwhite mothers having illegitimate births has increased by one year over the median ages for 1970-1972.

Nonwhite mothers account for approximately 58 percent of all illegitimate births and it can be observed (Table 1.9) that young nonwhite mothers, in particular, have a greater proportion of illegitimate births.

TABLE 1.8—Illegitimate Live Births by Selected Characteristics, Michigan Residents, 1974

| SELECTED CHARACTERISTICS               | TOTAL       |            | ILLEGITIMATE |            | LEGITIMATE  |            |
|--|-------------|------------|--------------|------------|-------------|------------|
|  | LIVE BIRTHS | % OF TOTAL | LIVE BIRTHS  | % OF TOTAL | LIVE BIRTHS | % OF TOTAL |
| Low-Weight Birth (2,500 grams or less) | 10,169      | 7.4        | 2,409        | 12.9       | 7,760       | 6.5        |
| Mother's Age <20 Years                 | 26,478      | 19.3       | 10,571       | 56.4       | 15,907      | 13.4       |
| Mother's Education—8th Grade or less   | 4,371       | 3.2        | 1,266        | 6.8        | 3,105       | 2.6        |
| Complications of Labor                 | 20,673      | 15.0       | 3,182        | 17.0       | 17,491      | 14.7       |
| Complications Related to Pregnancy     | 11,626      | 8.5        | 1,992        | 10.6       | 9,634       | 8.1        |
| Complications Not Related to Pregnancy | 3,388       | 2.5        | 735          | 3.9        | 2,653       | 2.2        |
| Total                                  | 137,414     | 100.0      | 18,733       | 100.0      | 118,681     | 100.0      |

TABLE 1.9—Illegitimate Live Births and Ratio by Age of Mother and Race of Child, Michigan Residents, 1974

| AGE OF MOTHER             | TOTAL  |       | RACE OF CHILD |       |           |       |            |       |
|---------------------------|--------|-------|---------------|-------|-----------|-------|------------|-------|
|                           |        |       | WHITE         |       | NON-WHITE |       | NOT STATED |       |
|                           | No.    | Ratio | No.           | Ratio | No.       | Ratio | No.        | Ratio |
| Under 15 Years.....       | 465    | 928.1 | 156           | 843.2 | 309       | 977.8 | —          | —     |
| 15-19 Years.....          | 10,106 | 389.0 | 4,406         | 241.2 | 5,690     | 744.9 | 10         | 137.0 |
| 20-24 Years.....          | 5,372  | 107.5 | 2,208         | 53.2  | 3,158     | 384.5 | 6          | 22.6  |
| 25-29 Years.....          | 1,752  | 43.6  | 711           | 20.3  | 1,040     | 214.5 | 1          | 3.2   |
| 30-39 Years.....          | 937    | 47.8  | 392           | 23.6  | 545       | 192.3 | —          | —     |
| 40 Years and Over.....    | 92     | 82.7  | 35            | 40.4  | 57        | 239.5 | —          | —     |
| Not Stated.....           | 9      | *     | 1             | *     | 8         | *     | —          | —     |
| Total.....                | 18,733 | 136.3 | 7,909         | 70.3  | 10,807    | 448.4 | 17         | 20.2  |
| Median Age of Mother..... | 20     | 000   | 20            | 000   | 20        | 000   | *          | 000   |

## BIRTH WEIGHT

The mean weight for all live births is 3,320 grams or approximately 7 lbs., 5 oz. The median weight is 3,345 grams or approximately 7 lbs., 6 oz. (Table 1.10). As was alluded to previously, birth weights among illegitimates are slightly lower. The median and mean birth weights for illegitimate births are respectively 3,160 grams (approximately 7 lbs., 0 oz.) and 3,098 grams (6 lbs., 13 oz.).

A subgroup of major importance when analyzing birth weight trends is the infant weighing 2,500 grams or less (approximately 5 lbs., 8 oz. or less) at birth. For a considerable length of time this was the criterion for defining a 'premature' infant. In recent years a broader definition which includes a consideration of the gestational period has come into use and births 2,500 grams or less are called low weight births.

The incidence of low weight births appears to be most significant among the young, the older, and the nonwhite mothers (Table 1.11).

## PRENATAL CARE

In 1974, 1,024 resident live births (0.8%) occurred without the mother having had any prenatal

care. These cases include only those where *no* prenatal care was specified. Those mothers who received no prenatal care are for the most part younger (median age of 21) mothers. Also the lack of prenatal care is disproportionately high among nonwhites. The relative percentage of nonwhites receiving no prenatal care is 4.3 times as large as among whites (Table 1.12).

TABLE 1.10—Live Births by Birth Weight and Legitimacy Status, Michigan Residents, 1974

| WEIGHT AT BIRTH        | LEGITIMACY STATUS |            |              |
|------------------------|-------------------|------------|--------------|
|                        | TOTAL             | LEGITIMATE | ILLEGITIMATE |
| 500 Grams or Less..... | 191               | 135        | 56           |
| 501-1000 Grams.....    | 671               | 472        | 199          |
| 1001-1500 Grams.....   | 888               | 655        | 233          |
| 1501-2000 Grams.....   | 1,890             | 1,442      | 448          |
| 2001-2500 Grams.....   | 6,529             | 5,056      | 1,473        |
| 2501-3000 Grams.....   | 23,369            | 18,704     | 4,665        |
| 3001-3500 Grams.....   | 50,464            | 43,352     | 7,112        |
| 3501-4000 Grams.....   | 38,449            | 34,860     | 3,589        |
| 4001-4500 Grams.....   | 11,559            | 10,778     | 781          |
| 4501 and Over.....     | 2,564             | 2,435      | 129          |
| Not Stated.....        | 840               | 792        | 48           |
| Total.....             | 137,414           | 118,681    | 18,733       |
| Mean Weight.....       | 3,320             | 3,355      | 3,098        |
| Median Weight.....     | 3,345             | 3,375      | 3,160        |

TABLE 1.11—Low Weight Live Births and Ratios by Age of Mother and Race of Child, Michigan Residents, 1974

| AGE OF MOTHER             | TOTAL  |       | RACE OF CHILD |       |           |       |            |       |
|---------------------------|--------|-------|---------------|-------|-----------|-------|------------|-------|
|                           |        |       | WHITE         |       | NON-WHITE |       | NOT STATED |       |
|                           | No.    | Ratio | No.           | Ratio | No.       | Ratio | No.        | Ratio |
| Under 15 Years.....       | 71     | 141.7 | 16            | 86.5  | 55        | 174.1 | —          | —     |
| 15-19 Years.....          | 2,600  | 100.1 | 1,484         | 81.2  | 1,116     | 146.1 | —          | —     |
| 20-24 Years.....          | 3,461  | 69.3  | 2,414         | 58.2  | 1,043     | 127.0 | 4          | 15.1  |
| 25-29 Years.....          | 2,501  | 62.2  | 1,931         | 55.1  | 567       | 116.9 | 3          | 9.5   |
| 30-39 Years.....          | 1,425  | 72.7  | 1,071         | 64.5  | 354       | 124.9 | —          | —     |
| 40 Years and Over.....    | 107    | 96.1  | 79            | 91.2  | 26        | 109.2 | 2          | 222.2 |
| Not Stated.....           | 4      | *     | 1             | *     | 3         | *     | —          | —     |
| Total.....                | 10,169 | 74.0  | 6,996         | 62.2  | 3,164     | 131.3 | 9          | 10.7  |
| Median Age of Mother..... | 23     | 000   | 24            | 000   | 21        | 000   | *          | 000   |

TABLE 1.12—Live Birth with No Prenatal Care by Age of Mother and Race of Child, Michigan Residents, 1974

| AGE OF MOTHER             | TOTAL   |       | RACE OF CHILD |       |           |       |            |       |
|---------------------------|---------|-------|---------------|-------|-----------|-------|------------|-------|
|                           |         |       | WHITE         |       | NON-WHITE |       | NOT STATED |       |
|                           | No.     | Ratio | No.           | Ratio | No.       | Ratio | No.        | Ratio |
| Under 15 Years.....       | 16      | 31.9  | 6             | 32.4  | 10        | 31.6  | —          | —     |
| 15-19 Years.....          | 414     | 15.9  | 200           | 10.9  | 214       | 28.0  | —          | —     |
| 20-24 Years.....          | 359     | 7.2   | 186           | 4.5   | 173       | 21.1  | —          | —     |
| 25-29 Years.....          | 168     | 4.2   | 95            | 2.7   | 72        | 14.8  | 1          | *     |
| 30-39 Years.....          | 106     | 5.4   | 66            | 4.0   | 40        | 14.1  | —          | —     |
| 40 Years and Over.....    | 21      | 18.9  | 13            | 15.0  | 8         | 33.6  | —          | —     |
| Total.....                | 1,084   | 7.9   | 566           | 5.0   | 517       | 21.5  | 1          | *     |
| Median Age of Mother..... | 21      | 000   | 22            | 000   | 20        | 000   | *          | 000   |
| Total Live Births.....    | 137,414 |       | 112,474       |       | 24,100    |       | 840        |       |

TABLE 1.13—Live Births by Month Prenatal Care Began and Number of Prenatal Visits, Michigan Residents, 1974

| MONTH CARE BEGAN | TOTAL   | NUMBER OF VISITS |         |        |        |        |             |            |
|------------------|---------|------------------|---------|--------|--------|--------|-------------|------------|
|                  |         | NONE             | UNDER 5 | 5-9    | 10-14  | 15-19  | 20 AND OVER | NOT STATED |
| Total.....       | 137,414 | 1,084            | 7,425   | 37,342 | 73,569 | 10,802 | 2,953       | 4,239      |
| No Care.....     | 1,084   | 1,084            | —       | —      | —      | —      | —           | —          |
| 1st Month.....   | 12,326  | —                | 205     | 1,846  | 6,898  | 2,223  | 810         | 344        |
| 2nd Month.....   | 48,783  | —                | 543     | 8,447  | 32,622 | 5,049  | 1,296       | 826        |
| 3rd Month.....   | 40,422  | —                | 849     | 11,146 | 24,667 | 2,601  | 581         | 578        |
| 4th Month.....   | 15,930  | —                | 1,015   | 7,261  | 6,583  | 645    | 175         | 251        |
| 5th Month.....   | 7,887   | —                | 1,180   | 4,444  | 1,917  | 157    | 60          | 129        |
| 6th Month.....   | 4,376   | —                | 1,118   | 2,536  | 576    | 50     | 15          | 81         |
| 7th Month.....   | 2,535   | —                | 1,149   | 1,176  | 160    | 20     | 2           | 28         |
| 8th Month.....   | 1,320   | —                | 904     | 366    | 28     | 5      | 3           | 14         |
| 9th Month.....   | 448     | —                | 385     | 42     | 9      | —      | —           | 12         |
| Unknown.....     | 2,303   | —                | 77      | 78     | 109    | 52     | 11          | 1,976      |

A total of 101,531 (73.9%) women having live births started their prenatal care prior to the fourth month of pregnancy. This is an increase over the 72.7 percent figure recorded for 1973. Most women had between 10 and 14 prenatal visits. In addition the second month of pregnancy was the most popular month for initiating prenatal care (Table 1.13).

Since 1970 there has been a small but steady increase in the percentage of women receiving medical care prior to the sixth month of pregnancy. In 1974 91.2 percent of women delivering live born received medical care prior to the sixth month (Figure 1.5).

Of the women having live births in 1974, fifty percent began prenatal care 2.2 or more months from conception. Women with second order live births had a 2.0 month median, the longest length of care. High order live births received prenatal care for slightly shorter median lengths of time.

FIGURE 1.5—Percent of Women Having Live Births Who Received Medical Care Prior to the Sixth Month of Pregnancy, Michigan Residents, 1970-1974

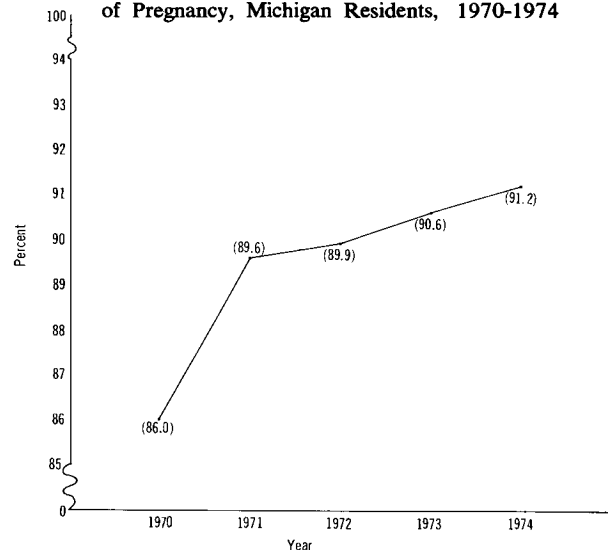


TABLE 1.14—Total Live Births by Month of Pregnancy Prenatal Care Began and Live Birth Order, Michigan Residents, 1974

| MONTH CARE BEGAN                 | TOTAL   | LIVE BIRTH ORDER |        |        |       |                |            |
|----------------------------------|---------|------------------|--------|--------|-------|----------------|------------|
|                                  |         | 1ST              | 2ND    | 3RD    | 4TH   | 5TH OR GREATER | NOT STATED |
| TOTAL.....                       | 137,414 | 56,233           | 43,659 | 19,689 | 8,587 | 7,696          | 1,550      |
| No Care.....                     | 1,084   | 413              | 267    | 156    | 99    | 139            | 10         |
| 1st Month.....                   | 12,326  | 5,273            | 4,036  | 1,720  | 703   | 540            | 54         |
| 2nd Month.....                   | 48,783  | 19,679           | 16,907 | 7,080  | 2,883 | 1,958          | 276        |
| 3rd Month.....                   | 40,422  | 16,214           | 13,195 | 6,060  | 2,549 | 2,184          | 220        |
| 4th Month.....                   | 15,930  | 6,692            | 4,618  | 2,293  | 1,065 | 1,159          | 103        |
| 5th Month.....                   | 7,887   | 3,471            | 2,043  | 1,055  | 591   | 681            | 46         |
| 6th Month.....                   | 4,376   | 2,011            | 1,091  | 525    | 295   | 429            | 25         |
| 7th Month.....                   | 2,535   | 1,084            | 634    | 331    | 188   | 279            | 19         |
| 8th Month.....                   | 1,320   | 552              | 328    | 201    | 82    | 150            | 7          |
| 9th Month.....                   | 448     | 186              | 105    | 72     | 32    | 50             | 3          |
| Not Stated.....                  | 2,303   | 658              | 435    | 196    | 100   | 127            | 787        |
| Median Months Of Prenatal Care.. | 6.8     | 6.8              | 7.0    | 6.8    | 6.7   | 6.4            | 6.8        |

TABLE 1.15—Total Live Births by Live Birth Order, Michigan Residents, 1964 and 1974

| LIVE BIRTH ORDER      | NO. OF BIRTHS |         | PERCENT |       |
|-----------------------|---------------|---------|---------|-------|
|                       | 1964          | 1974    | 1964    | 1974  |
| First Birth.....      | 46,172        | 56,233  | 26.4    | 40.9  |
| Second Birth.....     | 39,309        | 43,659  | 22.4    | 31.8  |
| Third Birth.....      | 31,713        | 19,689  | 18.1    | 14.3  |
| Fourth Birth.....     | 22,441        | 8,587   | 12.8    | 6.3   |
| Fifth Birth or >..... | 35,333        | 7,696   | 20.2    | 5.6   |
| Not Stated.....       | 135           | 1,550   | 0.1     | 1.1   |
| Total.....            | 175,103       | 137,414 | 100.0   | 100.0 |

## BIRTH ORDER

As can be observed from Table 1.15, the relative distribution of Michigan resident live births by live birth order is changing considerably. In addition to the increase noted for first-order births an increase is also evident for second-order births. Decreases are evident for third-order, fourth-order and fifth-order or greater births. The largest decline, relatively speaking, occurred among fifth-order or greater births (a decrease from 20.2 percent in 1964 to 5.6 percent in 1974).

The relative increase in first-order births is not unique to Michigan. As can be observed from Table 1.16 the percentage of first-order births is increasing nationwide. The relative proportion of first-order births is lower for the United States as a whole (39.6 percent in 1973) than is the case for Michigan residents (40.6 percent in 1973).

As can be observed from Table 1.17, the frequency of higher-order births increases with the age of the mother. The median age of mother among first-order births is 21, compared to a median age of 33 among fifth-order or greater births. The median age of all mothers is 24.

TABLE 1.16—First Births, Michigan and United States Residents, 1964-1974

| UNITED STATES |                 | YEAR | MICHIGAN     |                 |
|---------------|-----------------|------|--------------|-----------------|
| FIRST BIRTHS  | % OF ALL BIRTHS |      | FIRST BIRTHS | % OF ALL BIRTHS |
| 1,164,548     | 28.9            | 1964 | 46,172       | 26.4            |
| 1,157,386     | 30.8            | 1965 | 48,660       | 29.2            |
| 1,224,786     | 34.0            | 1966 | 55,100       | 33.2            |
| 1,228,274     | 34.9            | 1967 | 55,409       | 34.0            |
| 1,311,460     | 37.5            | 1968 | 52,147       | 32.8            |
| 1,353,278     | 37.6            | 1969 | 56,497       | 34.1            |
| 1,430,680     | 38.3            | 1970 | 64,222       | 37.4            |
| 1,375,668     | 38.7            | 1971 | 60,413       | 37.2            |
| 1,289,257     | 39.6            | 1972 | 57,477       | 39.1            |
| 1,243,358     | 39.6            | 1973 | 57,411       | 40.6            |
| N/A           | N/A             | 1974 | 56,233       | 40.9            |

TABLE 1.18—Live Births to Mothers Reporting Previous Pregnancy Terminations by Time Span Between Last and Current Termination, Michigan Residents, 1970 and 1974

| TIME SPAN IN YEARS    | 1970    |         | 1974   |         |
|-----------------------|---------|---------|--------|---------|
|                       | NUMBER  | PERCENT | NUMBER | PERCENT |
| Total.....            | 108,516 | 100.0   | 83,452 | 100.0   |
| Less than One.....    | 3,960   | 3.6     | 2,834  | 3.4     |
| 1 < 2.....            | 34,715  | 32.0    | 23,335 | 28.0    |
| 2 < 3.....            | 26,589  | 24.5    | 20,886 | 25.0    |
| 3 < 5.....            | 25,784  | 23.8    | 22,932 | 27.5    |
| 5 or More.....        | 17,468  | 16.1    | 13,465 | 16.1    |
| Median Time Span..... | 2.59    | 000     | 2.74   | 000     |

## INTERPREGNANCY TIME PERIOD

Paralleling the decreasing birth rates and shifting birth order distribution, there has been a lengthening of the time period between pregnancies to women having live births. In 1970, 50 percent reported terminations as being spaced 2.59 years apart or longer. The median value in 1974 was 2.74 years or 5.5 percent greater. The most frequent spacing reported in 1974 was from 1 to 2 years. This is the same as was reported in 1970.

TABLE 1.19—Live Births by Type of Attendant, Michigan Residents, 1974

| ATTENDANT                  | NUMBER  | PERCENT |
|----------------------------|---------|---------|
| Total.....                 | 137,414 | 100.0   |
| Physician M.D.....         | 116,451 | 84.7    |
| Physician D.O.....         | 20,816  | 15.1    |
| Registered Nurse.....      | 8       | 0.0     |
| Physician's Assistant..... | 1       | 0.0     |
| Midwife.....               | 12      | 0.0     |
| Husband.....               | 55      | 0.0     |
| Other Attendant.....       | 30      | 0.0     |
| No Attendant.....          | 26      | 0.0     |
| Unknown.....               | 15      | 0.0     |

## ATTENDANT AT BIRTH

Data in Table 1.19 reveals that 99.8 percent of the live births are attended by a physician either M.D. or D.O. There were 12 live births attended by a midwife.

TABLE 1.17—Total Live Births by Live Birth Order and Age of Mother, Michigan Residents, 1974

| LIVE BIRTH ORDER      | AGE OF MOTHER |             |             |             |           |     | TOTAL   | MEDIAN AGE |
|-----------------------|---------------|-------------|-------------|-------------|-----------|-----|---------|------------|
|                       | <20 YEARS     | 20-24 YEARS | 25-29 YEARS | 30-39 YEARS | 40+ YEARS | N/A |         |            |
| First Birth.....      | 20,786        | 22,532      | 10,459      | 2,370       | 76        | 10  | 56,233  | 21         |
| Second Birth.....     | 4,775         | 19,099      | 15,219      | 4,463       | 97        | 6   | 43,659  | 24         |
| Third Birth.....      | 623           | 5,910       | 8,550       | 4,491       | 112       | 3   | 19,689  | 26         |
| Fourth Birth.....     | 71            | 1,472       | 3,621       | 3,288       | 133       | 2   | 8,587   | 28         |
| Fifth Birth or >..... | 5             | 438         | 1,870       | 4,702       | 679       | 2   | 7,696   | 33         |
| Not Stated.....       | 218           | 524         | 496         | 294         | 16        | 2   | 1,550   | 25         |
| TOTAL.....            | 26,478        | 49,975      | 40,215      | 19,608      | 1,113     | 25  | 137,414 | 24         |

## CONGENITAL ANOMALIES

One or more congenital anomaly was reported for 1,312 of the 137,414 resident live births in 1974. This translates to a rate of 95.5 per 10,000 live births. Congenital anomalies of the limbs was the most frequently reported condition, occurring at a rate of 23.7 per 10,000 live births and comprising about 23 percent of all anomalies mentioned. The frequency of reporting specific anomalies is strongly affected by the reporting cycle, as many conditions are not apparent at birth, when the birth certificates are completed.

## COMPLICATIONS OF PREGNANCY AND BIRTH

Of the four categories of complications reported on birth certificates, only "Complications Unrelated to Pregnancy" has shown a stable incidence rate over the past five years (Figure 1.7). "Complications Related to Pregnancy" has risen from about 750 reported occurrences for 10,000 live births to a rate of 846.1 in 1974. "Birth Injury" reporting has risen markedly since 1970. In that year there were 37.5 reported occurrences per 10,000 live births. This rate rose 81 percent to 67.8 in 1974. The most frequently reported problem of pregnancy and birth is "Complications of Birth." In 1974, such complications occurred about 1,500 times for every 10,000 live births, up 34 percent from 1970 (1121.6). These increases may be due to improved reporting.

FIGURE 1.6—Incidence of Congenital Anomalies Reported per 10,000 Live Births, Michigan Residents, 1970-1974

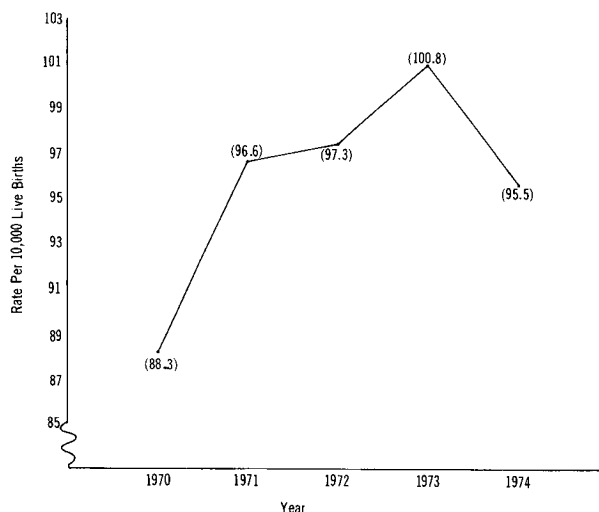


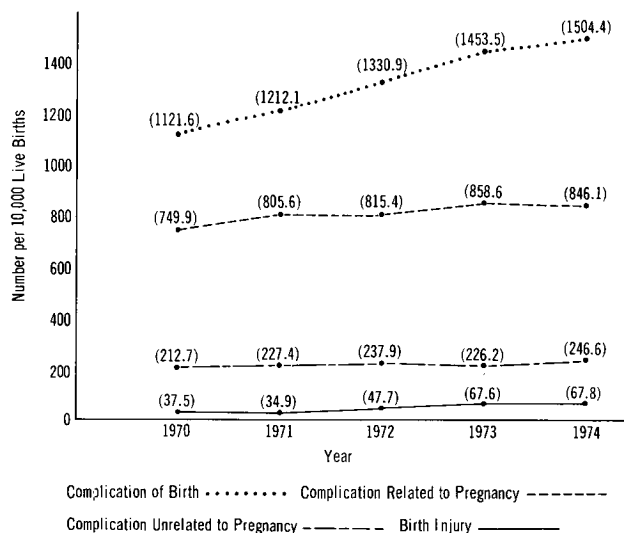
TABLE 1.20—Congenital Anomalies<sup>1</sup> Reported by Type of Anomaly, Michigan Residents, 1974

| Type of Anomaly                                      | ICDA No. | Occurrences | Rate per 100,000 Live Births |
|--|----------|-------------|------------------------------|
| Other Congenital Anomalies of Limbs                  | 755      | 326         | 237.2                        |
| Clubfoot (Congenital)                                | 754      | 177         | 128.8                        |
| Congenital Anomalies of Genital Organs               | 752      | 170         | 123.7                        |
| Cleft Palate and Cleft Lip                           | 749      | 166         | 120.8                        |
| Congenital Syndromes Affecting Multiple Systems      | 759      | 103         | 75.0                         |
| Congenital Anomalies of the Heart                    | 746      | 94          | 68.4                         |
| Spina Bifida   | 741      | 74          | 53.9                         |
| Congenital Anomalies of Skin, Hair and Nails         | 757      | 41          | 29.8                         |
| Congenital Anomalies of Ear, Face and Neck           | 745      | 35          | 25.5                         |
| Other Congenital Anomalies of Musculoskeletal System | 756      | 35          | 25.5                         |
| Other Congenital Anomalies of Digestive System       | 751      | 31          | 22.6                         |
| Other Congenital Anomalies of Upper Alimentary Tract | 750      | 28          | 20.4                         |
| Congenital Hydrocephalus                             | 742      | 26          | 18.9                         |
| Anencephalus   | 740      | 23          | 16.7                         |
| Congenital Anomalies of Urinary System               | 753      | 20          | 14.6                         |
| Other Congenital Anomalies of Circulatory System     | 747      | 20          | 14.6                         |
| Other Congenital Anomalies of Nervous System         | 743      | 19          | 13.8                         |
| Congenital Anomalies of Respiratory System           | 748      | 14          | 10.2                         |
| Other and Unspecified Congenital Anomalies           | 758      | 14          | 10.2                         |
| Congenital Anomalies of Eye                          | 744      | 6           | 4.4                          |
| At Least One Anomaly <sup>2</sup>                    |          | 1,312       | 954.8                        |

<sup>1</sup> Indicates anomalies apparent soon after a live birth.

<sup>2</sup> Does not equal the sum of anomalies specified because of multiple anomaly occurrences.

FIGURE 1.7—Incidence Rates for any Complication Related to Pregnancy, any Complication Unrelated to Pregnancy, any Complication of Birth and any Birth Injury per 10,000 Live Births, Michigan Residents, 1970-1974



## FETAL DEATHS

In 1974 there were 1,451 resident Michigan fetal deaths. This is the lowest resident fetal death figure recorded since 1901. The 1974 crude fetal death ratio for Michigan was 10.6 (Table 1.21).

The fetal death ratio in Michigan has been generally below the national ratio in this century. In 1973, the ratio for Michigan residents was 2.5 percent below the national rate of 12.2 per 1,000 live births.

Figure 1.3 (page 16) illustrates the historical pattern of the fetal death ratio in Michigan since 1900. This ratio remained at a relatively high level throughout the first 20 to 30 years of this century. In the 1930's significant declines were observed in the fetal death ratio. Since the 1950's declines in the ratio have been much more moderate. The declines observed from 1950 through 1974 have been small annually but persistent. In the twenty-five years since 1950 the fetal death ratio has declined an average of 1.8 percent a year. This constitutes a cumulative 45 percent decline.

A classification of fetal deaths by underlying cause of death is contained in Table 1.22.

Due to a relatively large number of deaths allocated to unspecific causes (e.g., 224 deaths were assigned to unknown causes in 1974) the reader should exercise caution in attempting to draw specific inferences regarding cause of death among fetal deaths.

Of 1,451 resident fetal deaths, only 95 or approximately 6.5 percent were reported as due to congenital malformations, 167 or approximately 11.5 percent

were due to conditions attributable to the mother, and 152 (10.5%) were reported as due to problems with the pregnancy or delivery. Conditions of the placenta and conditions of the umbilical cord accounted for 568 or 39.0 percent of all fetal deaths. Immaturity (unqualified), other conditions of the fetus, and deaths from unknown causes accounted for 324 or approximately 22.3 percent of all fetal deaths.

TABLE 1.22—Fetal Deaths by Cause of Death (Underlying) and Cause-Specific Ratios, Michigan Residents, 1974

| ICDA LIST NO. | CAUSE OF DEATH   | FREQUENCY | RATIO <sup>1</sup> |
|---------------|--|-----------|--------------------|
| 740           | Anencephalus   | 26        | 18.9               |
| 741           | Spina Bifida   | 9         | 6.5                |
| 742           | Congenital Hydrocephalus   | 16        | 11.6               |
| 743           | Other Congenital Anomalies of the Nervous System                           | 2         | 1.5                |
| 746           | Congenital Anomalies of the Heart  | 7         | 5.1                |
| 747           | Other Congenital Anomalies of the Circulatory System                       | 1         | 0.7                |
| 749           | Cleft Palate and Cleft Lip   | 1         | 0.7                |
| 751           | Other Congenital Anomalies of the Digestive System                         | 1         | 0.7                |
| 753           | Congenital Anomalies of the Urinary System                                 | 3         | 2.2                |
| 755           | Other Congenital Anomalies of Limbs  | 3         | 2.2                |
| 756           | Other Congenital Anomalies of Musculoskeletal System                       | 1         | 0.7                |
| 758           | Other and Unspecified Congenital Anomalies                                 | 8         | 5.8                |
| 759           | Congenital Syndromes Affecting Multiple Systems                            | 17        | 12.4               |
| 760           | Chronic Circulatory and Genito-Urinary Diseases in Mother                  | 2         | 1.5                |
| 761           | Other Maternal Conditions Unrelated to Pregnancy                           | 65        | 47.3               |
| 762           | Toxemia of Pregnancy   | 61        | 44.4               |
| 763           | Maternal Ante- and Intra-Partum Infection                                  | 39        | 28.4               |
| 764           | Difficult Labor with Abnormality of Bones, Organs and Tissue of Pelvis     | 1         | 0.7                |
| 765           | Difficult Labor with Disproportion but no Mention of Abnormality of Pelvis | 8         | 5.8                |
| 766           | Difficult Labor with Malposition of Fetus                                  | 23        | 16.7               |
| 767           | Difficult Labor with Abnormality of Forces of Labor                        | 2         | 1.5                |
| 768           | Difficult Labor with Other and Unspecified Complications                   | 4         | 2.9                |
| 769           | Other Complications of Pregnancy and Childbirth                            | 114       | 83.0               |
| 770           | Conditions of Placenta   | 325       | 236.5              |
| 771           | Conditions of Umbilical Cord   | 243       | 176.8              |
| 772           | Birth Injury without Mention of Cause                                      | 9         | 6.5                |
| 775           | Hemolytic Disease of Newborn without Mention of Kernicterus                | 15        | 10.9               |
| 776           | Anoxic and Hypoxic Conditions not Elsewhere Classifiable                   | 121       | 88.1               |
| 777           | Immaturity, Unqualified  | 81        | 58.9               |
| 778           | Other Conditions of Fetus or Newborn                                       | 19        | 13.8               |
| 779           | Fetal Death of Unknown Cause   | 224       | 163.0              |

TABLE 1.21—Fetal Deaths and Fetal Death Ratios, Michigan and United States Residents, 1900-1974

| UNITED STATES             |                                 | YEAR | MICHIGAN     |                    |
|---------------------------|---------------------------------|------|--------------|--------------------|
| FETAL DEATHS <sup>2</sup> | FETAL DEATH RATIOS <sup>1</sup> |      | FETAL DEATHS | FETAL DEATH RATIOS |
| N/A                       | N/A                             | 1900 | 1,325        | 30.3               |
| N/A                       | N/A                             | 1910 | 2,559        | 39.9               |
| 70,010 <sup>2</sup>       | 39.4                            | 1920 | 3,770        | 40.9               |
| 86,466                    | 39.2                            | 1930 | 3,714        | 37.6               |
| 73,802                    | 31.3                            | 1940 | 2,602        | 26.3               |
| 68,262                    | 19.2                            | 1950 | 3,095        | 19.3               |
| 68,480                    | 16.1                            | 1960 | 3,008        | 15.4               |
| 52,961                    | 14.2                            | 1970 | 2,060        | 12.0               |
| 47,818                    | 13.4                            | 1971 | 1,923        | 11.9               |
| 41,380                    | 12.7                            | 1972 | 1,770        | 12.1               |
| 38,309                    | 12.2                            | 1973 | 1,682        | 11.9               |
| N/A                       | N/A                             | 1974 | 1,451        | 10.6               |

<sup>1</sup> After 1944, includes only deaths of twenty or more weeks gestation.

<sup>2</sup> Data for 1922.

<sup>1</sup> Ratios per 100,000 Resident Live Births.

It appears that the young, the older, and the non-white mothers have a greater risk for fetal mortality. The rates of fetal loss for the under-15 mother, the 40-and-over mother, and the nonwhite mother are considerably higher than those for other groups (Tables 1.23 and 1.24).

TABLE 1.23—Fetal Deaths, Live Births, and Fetal Death Rates by Age of Mother and Race of Fetus, Michigan Residents, 1974

| AGE OF MOTHER AND RACE OF FETUS | FETAL DEATHS | LIVE BIRTHS | TOTAL BIRTHS | RATE PER 1,000 TOTAL BIRTHS |
|---------------------------------|--------------|-------------|--------------|-----------------------------|
| Under 15 Years.....             | 7            | 501         | 508          | 13.8                        |
| White.....                      | 2            | 185         | 187          | 10.7                        |
| Nonwhite.....                   | 5            | 316         | 321          | 15.6                        |
| Not Stated.....                 | —            | —           | —            | —                           |
| 15-19 Years.....                | 327          | 25,977      | 26,304       | 12.4                        |
| White.....                      | 199          | 18,265      | 18,464       | 10.8                        |
| Nonwhite.....                   | 118          | 7,639       | 7,757        | 15.2                        |
| Not Stated.....                 | 10           | 73          | 83           | 120.5                       |
| 20-24 Years.....                | 443          | 49,975      | 50,418       | 8.8                         |
| White.....                      | 310          | 41,497      | 41,807       | 7.4                         |
| Nonwhite.....                   | 114          | 8,213       | 8,327        | 13.7                        |
| Not Stated.....                 | 19           | 265         | 284          | 66.9                        |
| 25-29 Years.....                | 335          | 40,215      | 40,550       | 8.3                         |
| White.....                      | 258          | 35,050      | 35,308       | 7.3                         |
| Nonwhite.....                   | 70           | 4,849       | 4,919        | 14.3                        |
| Not Stated.....                 | 7            | 316         | 323          | 21.7                        |
| 30-39 Years.....                | 301          | 19,608      | 19,909       | 15.1                        |
| White.....                      | 227          | 16,599      | 16,826       | 13.5                        |
| Nonwhite.....                   | 67           | 2,834       | 2,901        | 23.1                        |
| Not Stated.....                 | 7            | 175         | 182          | 38.5                        |
| 40 and Over.....                | 37           | 1,113       | 1,150        | 32.2                        |
| White.....                      | 26           | 866         | 892          | 29.1                        |
| Nonwhite.....                   | 10           | 238         | 248          | 40.3                        |
| Not Stated.....                 | 1            | 9           | 10           | 100.0                       |
| Not Stated.....                 | 1            | 25          | 26           | *                           |
| White.....                      | 1            | 12          | 13           | *                           |
| Nonwhite.....                   | —            | 11          | 11           | *                           |
| Not Stated.....                 | —            | 2           | 2            | *                           |
| Total.....                      | 1,451        | 137,414     | 138,865      | 10.4                        |
| White.....                      | 1,023        | 112,474     | 113,497      | 9.0                         |
| Nonwhite.....                   | 384          | 24,100      | 24,484       | 15.7                        |
| Not Stated.....                 | 44           | 840         | 884          | 49.8                        |

Among live births, the percentage of children weighing 5 lbs., 8 oz. or less at birth was 7.4 percent. The comparable percentage among fetal deaths was 56.7 percent. The distribution of birth weight by plurality for fetal deaths is presented in Table 1.25.

Illegitimate fetal deaths comprised 23.2 percent of all fetal deaths. Illegitimate ratios are particularly high among the young and the nonwhite. Table 1.26 presents a comparison of age specific fetal mortality rates by legitimacy status and Table 1.27 contains illegitimacy ratios for fetal deaths. Note that the fetal mortality rate is highest for those women under age 15 or age 40 and over. However, only 3.0 percent of the fetal deaths occur in these groups. The women in age group (20-24) with the greatest number of fetal deaths (both legitimate and illegitimate) have the lowest fetal death rates. This is expected, but it should be noted that the high fetal death rates are associated with a small number of events.

TABLE 1.25—Fetal Deaths by Fetal Weight and Plurality, Michigan Residents, 1974

| WEIGHT                    | FETAL DEATHS | CUM. % | SINGLE DELIV-ERY | TWIN DELIV-ERY | TRIPLET DELIV-ERY |
|---------------------------|--------------|--------|------------------|----------------|-------------------|
| 500 Grams or Less.....    | 114          | 7.9    | 103              | 11             | —                 |
| 501-1,000 Grams.....      | 303          | 28.7   | 289              | 14             | —                 |
| 1,001-1,500 Grams.....    | 137          | 38.2   | 126              | 11             | —                 |
| 1,501-2,000 Grams.....    | 123          | 46.7   | 117              | 6              | —                 |
| 2,001-2,500 Grams.....    | 146          | 56.7   | 138              | 8              | —                 |
| 2,501-3,000 Grams.....    | 132          | 65.8   | 126              | 6              | —                 |
| 3,001-3,500 Grams.....    | 136          | 75.2   | 133              | 3              | —                 |
| 3,501-4,000 Grams.....    | 75           | 80.4   | 75               | —              | —                 |
| 4,001-4,500 Grams.....    | 38           | 83.0   | 38               | —              | —                 |
| 4,501-5,000 Grams.....    | 19           | 84.3   | 19               | —              | —                 |
| 5,001 and Over Grams..... | 12           | 85.1   | 12               | —              | —                 |
| Not Stated.....           | 216          | 100.0  | 207              | 9              | —                 |
| Total.....                | 1,451        | 100.0  | 1,383            | 68             | —                 |

TABLE 1.24—Fetal Deaths by Age of Mother and Race of Fetus, Michigan Residents, 1974

| AGE GROUP        | RACE OF FETUS |       |       |       |           |       |            |       |
|------------------|---------------|-------|-------|-------|-----------|-------|------------|-------|
|                  | TOTAL         | %     | WHITE | %     | NON WHITE | %     | NOT STATED | %     |
| Under 15.....    | 7             | 0.5   | 2     | 0.2   | 5         | 1.3   | —          | —     |
| 15-19.....       | 327           | 22.5  | 199   | 19.5  | 118       | 30.7  | 10         | 22.7  |
| 20-24.....       | 443           | 30.5  | 310   | 30.3  | 114       | 29.7  | 19         | 43.2  |
| 25-29.....       | 335           | 23.1  | 258   | 25.2  | 70        | 18.2  | 7          | 15.9  |
| 30-34.....       | 196           | 13.5  | 150   | 14.7  | 43        | 11.2  | 3          | 6.8   |
| 35-39.....       | 105           | 7.2   | 77    | 7.5   | 24        | 6.3   | 4          | 9.1   |
| 40-44.....       | 36            | 2.5   | 25    | 2.4   | 10        | 2.6   | 1          | 2.3   |
| 45 and Over..... | 1             | 0.1   | 1     | 0.1   | —         | —     | —          | —     |
| Not Stated.....  | 1             | 0.1   | 1     | 0.1   | —         | —     | —          | —     |
| Total.....       | 1,451         | 100.0 | 1,023 | 100.0 | 384       | 100.0 | 44         | 100.0 |
| Median Age.....  | 24            | 000   | 25    | 000   | 23        | 000   | *          | 000   |

\* Not computed due to the limited number of occurrences.



Of the 1,451 fetal deaths recorded for 1974, 47 or 3.2 percent of the records indicated mothers reported no prenatal visits. The number of prenatal visits was not recorded on 255 (17.6%) of the records.

The month of pregnancy that prenatal care is started among women having stillbirths is most frequently the second month (Table 1.28). Of those reporting, a relatively large percentage (73.9%) had received care before the sixth month of pregnancy.

From 1970 through 1973 there were steady increases in the percentage of women having stillbirths who receive care prior to the sixth month of pregnancy (from 67.4% in 1970 to 74.0% in 1973). This proportion in 1974 (73.9%) is about the same as in 1973, indicating at least a break in trend.

Of the 1,451 fetal deaths, prior pregnancies were reported for 51.7 percent (751) of the women terminating. For these women, the interpregnancy time periods reported on fetal death certificates in 1974 have a median length of 2.77 years. This is nearly the same as live births (Table 1.29). Terminations resulting in fetal deaths were relatively frequent following less than a one-year or a five-year or greater time span between terminations than is the case with live births. The most frequent interval was 1 to 2 years paralleling the mode for live births.

TABLE 1.28—Fetal Deaths by Month Prenatal Care Began and by Number of Prenatal Visits, Michigan Residents, 1974

| MONTH CARE BEGAN | NUMBER OF VISITS |      |     |     |       |       |             |            |
|------------------|------------------|------|-----|-----|-------|-------|-------------|------------|
|                  | TOTAL            | NONE | <5  | 5-9 | 10-14 | 15-19 | 20 AND OVER | NOT STATED |
| No Care....      | 50               | 47   | 1   | —   | —     | —     | —           | 2          |
| 1st Month...     | 136              | 2    | 18  | 40  | 44    | 16    | 13          | 3          |
| 2nd Month...     | 389              | —    | 91  | 109 | 133   | 31    | 13          | 12         |
| 3rd Month...     | 315              | —    | 79  | 111 | 100   | 21    | 1           | 3          |
| 4th Month...     | 148              | 1    | 58  | 39  | 32    | 12    | 4           | 2          |
| 5th Month...     | 85               | —    | 39  | 27  | 15    | 2     | —           | 2          |
| 6th Month...     | 37               | —    | 22  | 6   | 3     | —     | —           | 6          |
| 7th Month...     | 26               | 1    | 21  | 3   | 1     | —     | —           | —          |
| 8th Month...     | 16               | —    | 13  | 1   | 1     | —     | —           | 1          |
| 9th Month...     | 243              | 7    | 6   | 3   | 3     | —     | —           | 224        |
| Unknown...       | 6                | —    | 5   | —   | 1     | —     | —           | —          |
| Total.....       | 1,451            | 58   | 353 | 339 | 333   | 82    | 31          | 255        |

TABLE 1.27—Illegitimate Fetal Deaths and Ratios<sup>1</sup> by Age of Mother and Race of Fetus, Michigan Residents, 1974

| AGE GROUP        | TOTAL | RATIO  | WHITE | RATIO  | NON WHITE | RATIO  | NOT STATED | RATIO |
|------------------|-------|--------|-------|--------|-----------|--------|------------|-------|
| Under 15.....    | 7     | 1000.0 | 2     | 1000.0 | 5         | 1000.0 | —          | —     |
| 15-19 Years..... | 173   | 529.1  | 75    | 376.9  | 94        | 796.6  | 4          | 400.0 |
| 20-24 Years..... | 78    | 176.1  | 28    | 90.3   | 48        | 421.1  | 2          | 105.3 |
| 25-29 Years..... | 40    | 119.4  | 13    | 50.4   | 26        | 371.4  | 1          | 142.9 |
| 30-34 Years..... | 22    | 112.2  | 8     | 53.3   | 14        | 325.6  | —          | —     |
| 35-39 Years..... | 13    | 123.8  | 4     | 51.9   | 9         | 375.0  | —          | —     |
| 40-44 Years..... | 4     | 111.1  | 1     | 40.0   | 3         | 300.0  | —          | —     |
| 45 and Over..... | —     | —      | —     | —      | —         | —      | —          | —     |
| Not Stated.....  | —     | —      | —     | —      | —         | —      | —          | —     |
| Total.....       | 337   | 232.3  | 131   | 128.1  | 199       | 518.2  | 7          | 159.1 |

<sup>1</sup> Ratio computed as = (No. of illegitimate fetal deaths/total fetal deaths) x 1,000.

TABLE 1.26—Fetal Deaths, Live Births and Fetal Death Rates by Age of Mother and Legitimacy Status, Michigan Residents, 1974

| AGE OF MOTHER AND LEGITIMACY STATUS | FETAL DEATHS | LIVE BIRTHS | TOTAL BIRTHS | RATE PER 1,000 TOTAL BIRTHS |
|-------------------------------------|--------------|-------------|--------------|-----------------------------|
| Under 15 Years.....                 | 7            | 501         | 508          | 13.8                        |
| Legitimate.....                     | —            | 36          | 36           | —                           |
| Illegitimate.....                   | 7            | 465         | 472          | 14.8                        |
| 15-19 Years.....                    | 327          | 25,977      | 26,304       | 12.4                        |
| Legitimate.....                     | 154          | 15,871      | 16,025       | 9.6                         |
| Illegitimate.....                   | 173          | 10,106      | 10,279       | 16.8                        |
| 20-24 Years.....                    | 443          | 49,975      | 50,418       | 8.8                         |
| Legitimate.....                     | 365          | 44,603      | 44,968       | 8.1                         |
| Illegitimate.....                   | 78           | 5,372       | 5,450        | 14.3                        |
| 25-29 Years.....                    | 335          | 40,215      | 40,550       | 8.3                         |
| Legitimate.....                     | 295          | 38,463      | 38,758       | 7.6                         |
| Illegitimate.....                   | 40           | 1,752       | 1,792        | 22.3                        |
| 30-39 Years.....                    | 301          | 19,608      | 19,909       | 15.1                        |
| Legitimate.....                     | 266          | 18,671      | 18,937       | 14.0                        |
| Illegitimate.....                   | 35           | 937         | 972          | 36.0                        |
| 40 and Over.....                    | 37           | 1,113       | 1,150        | 32.2                        |
| Legitimate.....                     | 33           | 1,021       | 1,054        | 31.3                        |
| Illegitimate.....                   | 4            | 92          | 96           | 41.7                        |
| Not Stated.....                     | 1            | 25          | 26           | *                           |
| Legitimate.....                     | 1            | 16          | 17           | *                           |
| Illegitimate.....                   | —            | 9           | 9            | —                           |
| Total.....                          | 1,451        | 137,414     | 138,865      | 10.4                        |
| Legitimate.....                     | 1,114        | 118,681     | 119,795      | 9.3                         |
| Illegitimate.....                   | 337          | 18,733      | 19,070       | 17.7                        |

TABLE 1.29—Fetal Deaths and Live Births to Mothers Reporting Prior Pregnancy Terminations by Time Span Between Last and Current Termination, Michigan Residents, 1974

| TIME SPAN IN YEARS    | LIVE BIRTHS |         | FETAL DEATHS |         |
|-----------------------|-------------|---------|--------------|---------|
|                       | NUMBER      | PERCENT | NUMBER       | PERCENT |
| Total.....            | 83,452      | 100.0   | 751          | 100.0   |
| Less than One.....    | 2,834       | 3.4     | 71           | 9.5     |
| 1 < 2.....            | 23,335      | 28.0    | 203          | 27.0    |
| 2 < 3.....            | 20,886      | 25.0    | 131          | 17.4    |
| 3 < 5.....            | 22,932      | 27.5    | 178          | 23.7    |
| 5 or More.....        | 13,465      | 16.1    | 168          | 22.4    |
| Median Time Span..... | 2.74        | 000     | 2.77         | 000     |

# MORTALITY

## SECTION II

# Mortality

## An Overview 1974

|                                   |          |
|-----------------------------------|----------|
| RESIDENT DEATHS                   | 76,143   |
| CRUDE DEATH RATE                  | 8.4      |
| INFANT DEATHS                     | 2,387    |
| INFANT DEATH RATE                 | 17.4     |
| NEONATAL DEATHS                   | 1,734    |
| NEONATAL DEATH RATE               | 12.6     |
| PERINATAL DEATHS                  | 2,960    |
| PERINATAL DEATH RATE              | 21.3     |
| MATERNAL DEATHS                   | 19       |
| MATERNAL DEATH RATE               | 1.4      |
| DEATHS FROM HEART DISEASE PER DAY | 80.0     |
| DEATHS FROM CANCER PER DAY        | 39.0     |
| DEATHS FROM STROKE PER DAY        | 20.9     |
| DEATHS FROM ACCIDENTS PER DAY     | 11.5     |
| MEDIAN AGE AT DEATH               | 70 Years |
| MEDIAN AGE AT DEATH FOR MALES     | 67 Years |
| MEDIAN AGE AT DEATH FOR FEMALES   | 74 Years |

Between 1900 to 1974 the number of deaths occurring to Michigan residents increased from 32,453 to 76,143. The 31,472 deaths recorded in 1902 was the lowest number of resident deaths in this century, while the greatest number was recorded in 1972 when total resident deaths numbered 79,210. Although the total number of deaths increased between 1900 and 1974, the crude death rate decreased. The crude death rate in 1900 was 13.4 while the rate in 1974 was 8.4, the lowest crude death rate observed since 1900. This low rate was also observed in both 1958 and 1959. The highest death rate (15.6) was observed in 1918.

Heart, cancer, and stroke deaths numbered 2,836, 1,460, and 2,136 respectively in 1900, whereas in 1974 heart, cancer, and stroke deaths numbered 29,220, 14,241, and 7,645 respectively. Although there have been significant increases in the number of deaths from these causes, changes in death rates per 100,000 population have not been nearly so dramatic. Heart, cancer, and stroke cause-specific death rates in 1900 were 117.1, 60.3 and 88.2 respectively. Comparable figures for 1974 are 321.2, 156.5, and 84.0.

In 1974, 76,143 deaths were recorded as having occurred to residents of Michigan. The crude death rate for 1974 was 8.4. There has been no significant changes in either the absolute number of deaths or the crude death rate over the past few years (Figure 2.1). This rather static pattern in the crude death rate is not unique to Michigan, as it is similar to a pattern that has emerged across the nation. A comparison of deaths and crude death rates for Michigan and the United States for the period 1964-1974 is presented in Table 2.1.

The stationary pattern in deaths is to be expected given the fact that the vast majority of deaths are due to chronic conditions or conditions that are a function of age. As the number of deaths from chronic diseases may be considered to some extent largely a function of age and sex, one can reasonably expect that the total number of deaths is not likely to change significantly without a concomitant change in the size or composition of the population as a whole or until such time as significant advances are made in reducing mortality to heart diseases, cancer, and stroke.

Of the 76,143 resident deaths that occurred in 1974, 43,002 occurred to males and 33,141 occurred to females. The median age of death for males was 67, compared to a significantly higher figure for females of 74. White deaths numbered 66,600 and accounted for 87 percent of all deaths. Negro deaths numbered 9,233 while 310 deaths occurred to members of other races (Table 2.2).

TABLE 2.1—Number of Deaths and Crude Death Rates, Michigan and United States Residents, 1964-1974

| UNITED STATES |      | YEAR | MICHIGAN |      |
|---------------|------|------|----------|------|
| NO.           | RATE |      | NO.      | RATE |
| 1,798,051     | 9.4  | 1964 | 72,129   | 8.9  |
| 1,828,136     | 9.4  | 1965 | 73,665   | 9.0  |
| 1,863,149     | 9.5  | 1966 | 74,596   | 9.0  |
| 1,851,323     | 9.4  | 1967 | 75,360   | 8.7  |
| 1,930,082     | 9.7  | 1968 | 76,855   | 8.9  |
| 1,921,990     | 9.5  | 1969 | 76,693   | 8.8  |
| 1,921,031     | 9.5  | 1970 | 76,321   | 8.6  |
| 1,927,542     | 9.3  | 1971 | 77,395   | 8.6  |
| 1,963,944     | 9.4  | 1972 | 79,210   | 8.8  |
| 1,973,003     | 9.4  | 1973 | 78,522   | 8.7  |
| 1,934,388     | 9.2  | 1974 | 76,143   | 8.4  |

FIGURE 2.1—Crude Death Rate, Michigan Residents, 1900-1974

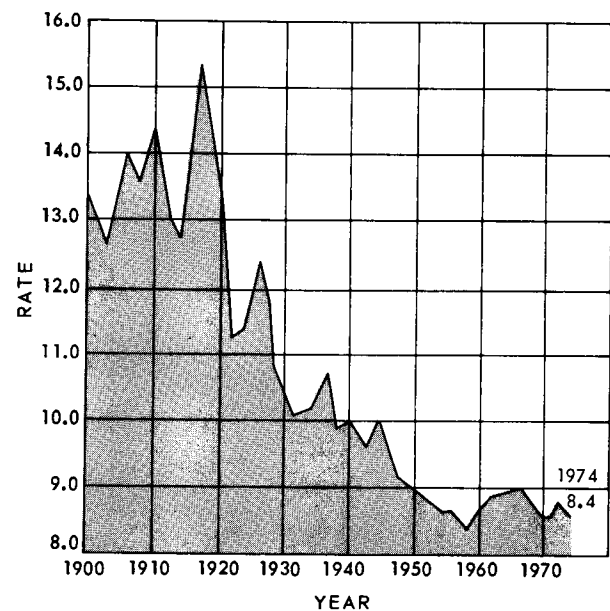


TABLE 2.2—Number of Deaths by Age, Race and Sex,  
Michigan Residents, 1974

| AGE            | ALL RACES |        |        | WHITE  |        |        | BLACK |       |        | OTHER |      |        |
|----------------|-----------|--------|--------|--------|--------|--------|-------|-------|--------|-------|------|--------|
|                | TOTAL     | MALE   | FEMALE | TOTAL  | MALE   | FEMALE | TOTAL | MALE  | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.. | 2,387     | 1,393  | 994    | 1,673  | 985    | 688    | 705   | 406   | 299    | 9     | 3    | 6      |
| 1-4 Years....  | 434       | 262    | 172    | 341    | 206    | 135    | 87    | 52    | 35     | 6     | 4    | 2      |
| 5-9 Years....  | 305       | 188    | 117    | 251    | 155    | 96     | 53    | 33    | 20     | 1     | —    | 1      |
| 10-14 Years..  | 342       | 214    | 128    | 295    | 180    | 115    | 45    | 32    | 13     | 2     | 2    | —      |
| 15-19 Years..  | 1,043     | 773    | 270    | 838    | 630    | 208    | 197   | 136   | 61     | 8     | 7    | 1      |
| 20-24 Years..  | 1,285     | 968    | 317    | 914    | 695    | 219    | 359   | 262   | 97     | 12    | 11   | 1      |
| 25-29 Years..  | 1,049     | 761    | 288    | 691    | 497    | 194    | 349   | 257   | 92     | 9     | 7    | 2      |
| 30-34 Years..  | 974       | 651    | 323    | 616    | 397    | 219    | 348   | 246   | 102    | 10    | 8    | 2      |
| 35-39 Years..  | 984       | 621    | 363    | 710    | 452    | 258    | 264   | 166   | 98     | 10    | 3    | 7      |
| 40-44 Years..  | 1,606     | 980    | 626    | 1,202  | 727    | 475    | 475   | 395   | 246    | 9     | 7    | 2      |
| 45-49 Years..  | 2,733     | 1,718  | 1,015  | 2,136  | 1,335  | 801    | 582   | 374   | 208    | 15    | 9    | 6      |
| 50-54 Years..  | 4,104     | 2,573  | 1,531  | 3,363  | 2,139  | 1,224  | 722   | 424   | 298    | 19    | 10   | 9      |
| 55-59 Years..  | 5,277     | 3,442  | 1,835  | 4,456  | 2,916  | 1,540  | 792   | 507   | 285    | 29    | 19   | 10     |
| 60-64 Years..  | 6,774     | 4,379  | 2,395  | 5,910  | 3,842  | 2,068  | 833   | 515   | 318    | 31    | 22   | 9      |
| 65-69 Years..  | 7,952     | 5,009  | 2,943  | 7,034  | 4,450  | 2,584  | 889   | 536   | 353    | 29    | 23   | 6      |
| 70-74 Years..  | 8,969     | 5,282  | 3,607  | 7,991  | 4,732  | 3,259  | 937   | 522   | 415    | 41    | 28   | 13     |
| 75-79 Years..  | 9,641     | 5,142  | 4,499  | 8,938  | 4,756  | 4,182  | 675   | 369   | 306    | 28    | 17   | 11     |
| 80-84 Years..  | 9,688     | 4,551  | 5,137  | 9,148  | 4,290  | 4,858  | 516   | 248   | 268    | 24    | 13   | 11     |
| 85-89 Years..  | 6,757     | 2,798  | 3,959  | 6,460  | 2,670  | 3,790  | 285   | 123   | 162    | 12    | 5    | 7      |
| 90 and Over..  | 3,830     | 1,290  | 2,540  | 3,629  | 1,221  | 2,408  | 197   | 69    | 128    | 4     | —    | 4      |
| Not Stated...  | 9         | 7      | 2      | 4      | 2      | 2      | 3     | 3     | —      | 2     | 2    | —      |
| Total.....     | 76,143    | 43,002 | 33,141 | 66,600 | 37,277 | 29,323 | 9,233 | 5,526 | 3,707  | 310   | 200  | 110    |
| Median Age..   | 70        | 67     | 74     | 71     | 68     | 75     | 58    | 56    | 61     | 62    | 62   | 63     |

The greatest number of deaths occurred to persons 80-84 years of age and the least number to persons ages 5-9. However, the greatest number of deaths for black persons occurred to persons 70-74 years of age. A total of 23,400 (35.1%) of the deaths occurring to white persons take place before the age of 65; whereas, 5,734 or 62.1 percent of deaths occurring to black persons take place before the age of 65.

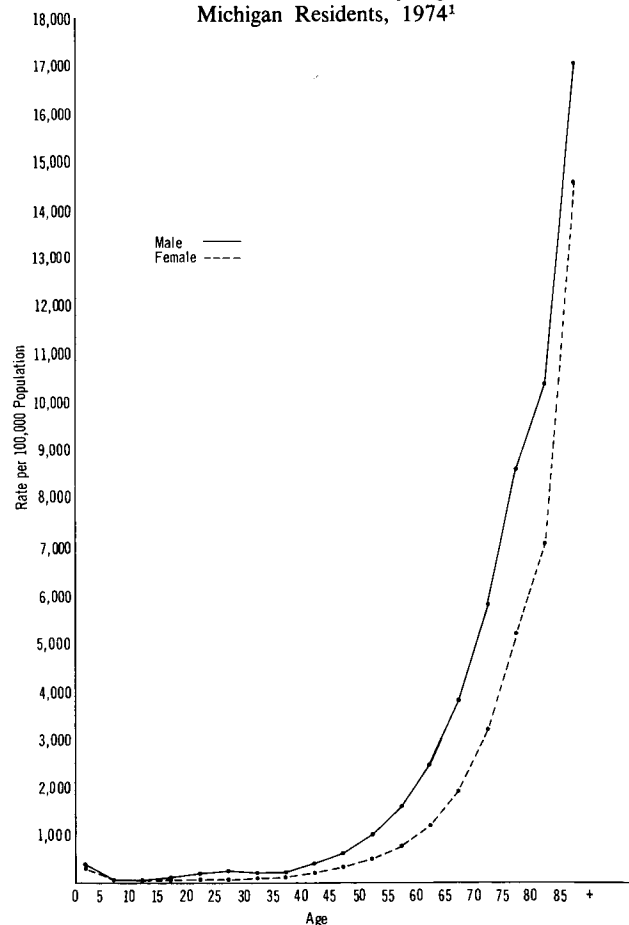
Furthermore, 40.7 percent of the white male deaths were to persons less than 65 years of age. The corresponding figure for black males is 66.2 percent.

Table 2.3—Death Rates<sup>1</sup> by Age and Sex,  
Michigan Residents, 1974

| AGE             | TOTAL    | MALE     | FEMALE   |
|-----------------|----------|----------|----------|
| All Ages.....   | 836.9    | 961.9    | 716.2    |
| 0-4 Years.....  | 363.9    | 417.6    | 307.7    |
| 5-9 Years.....  | 36.8     | 44.6     | 28.8     |
| 10-14 Years.... | 36.4     | 44.7     | 27.7     |
| 15-19 Years.... | 108.9    | 158.1    | 57.6     |
| 20-24 Years.... | 166.2    | 257.1    | 79.9     |
| 25-29 Years.... | 172.3    | 277.6    | 86.1     |
| 30-34 Years.... | 161.5    | 209.2    | 110.6    |
| 35-39 Years.... | 202.4    | 249.5    | 153.0    |
| 40-44 Years.... | 342.7    | 417.1    | 267.9    |
| 45-49 Years.... | 522.6    | 662.2    | 385.1    |
| 50-54 Years.... | 802.3    | 1,044.0  | 577.6    |
| 55-59 Years.... | 1,185.2  | 1,612.7  | 791.6    |
| 60-64 Years.... | 1,851.0  | 2,507.5  | 1,251.8  |
| 65-69 Years.... | 2,864.3  | 3,883.9  | 1,979.7  |
| 70-74 Years.... | 4,383.3  | 5,881.8  | 3,211.3  |
| 75-79 Years.... | 6,619.9  | 8,636.5  | 5,225.3  |
| 80-84 Years.... | 8,392.3  | 10,433.3 | 7,152.6  |
| 85 and Over.... | 15,530.3 | 17,143.3 | 14,662.5 |

<sup>1</sup> Rates per 100,000 population.

FIGURE 2.2—Death Rates by Age and Sex,  
Michigan Residents, 1974<sup>1</sup>



<sup>1</sup> Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

Similarly for white females, 28.1 percent were deaths before age 65; whereas, 56.0 percent of black female deaths occurred before the age of 65.

Data in Table 2.3 and Figure 2.2 illustrate the higher death rates for males at every age group. The most significant differences occur in the age groups 15-19, 20-24 and 25-29. The high death rates for ages 0-4 reflect the influence of infant mortality. Death rates for males age 20-24 and 25-29 are higher than the rates for the preceding (younger) age group of 15-19 and the 30-34 age group, while females displayed a steady progression through these age intervals.

## LEADING CAUSES OF DEATH

The principal causes of death in Michigan in 1974 remained much the same as they have in the recent past. The ten leading causes of death and cause-specific rates per 100,000 population are displayed in Table 2.4 and Figure 2.3.

In 1972 and 1974 the causes Diabetes Mellitus and Influenza and Pneumonia were ranked 4th and 5th respectively while this order was reversed in 1973. Both Homicide and Suicide rose one in the rankings as in 1973. They now hold positions 8 and 9. Arteriosclerosis slipped below these latter two causes, moving from 8th in 1973 to 10th in 1974.

FIGURE 2.3—Leading Causes of Death, Michigan Residents, 1974

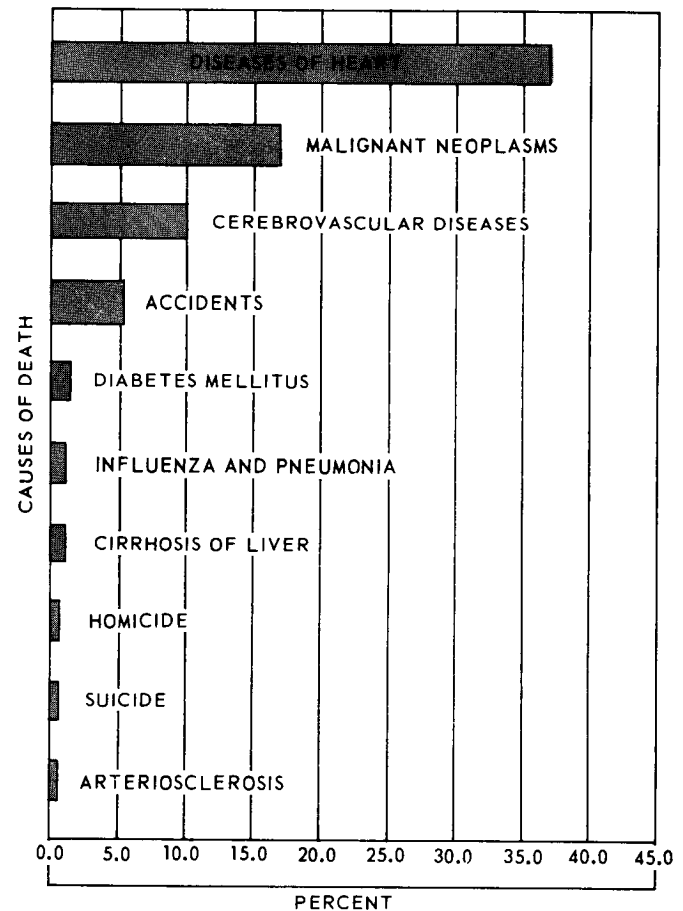


TABLE 2.4—Leading Causes of Death and Cause-Specific Rates, Michigan and United States Residents, 1974

| RANK | CAUSE OF DEATH           | NUMBER OF DEATHS |            | RATE     |            |
|------|--------------------------|------------------|------------|----------|------------|
|      |                          | MICHIGAN         | U.S. Prov. | MICHIGAN | U.S. Prov. |
| 1    | Diseases of Heart        | 29,220           | 746,480    | 321.2    | 353.1      |
| 2    | Malignant Neoplasms      | 14,241           | 358,400    | 156.5    | 169.5      |
| 3    | Cerebrovascular Diseases | 7,645            | 205,380    | 84.0     | 97.2       |
| 4    | Accidents                | 4,211            | 103,320    | 46.3     | 48.9       |
| 5    | Diabetes Mellitus        | 1,940            | 36,850     | 21.3     | 17.4       |
| 6    | Influenza and Pneumonia  | 1,698            | 54,310     | 18.7     | 25.7       |
| 7    | Cirrhosis of the Liver   | 1,650            | 33,870     | 18.1     | 16.0       |
| 8    | Homicide                 | 1,241            | 20,780     | 13.6     | 9.8        |
| 9    | Suicide                  | 1,205            | 26,430     | 13.2     | 12.5       |
| 10   | Arteriosclerosis         | 1,187            | 32,050     | 13.0     | 15.2       |
|      | Sub Total                | 64,238           | 1,617,870  | 706.1    | 765.3      |
|      | All Other Causes         | 11,905           | 315,130    | 130.9    | 149.1      |
|      | Total                    | 76,143           | 1,933,000  | 836.9    | 914.4      |

Note: A detailed tabulation of deaths by specific conditions for 1974 is included in Section 4. Also included in Section 4 is a tabulation by County of Residence of selected causes of death.

TABLE 2.5—Leading Causes of Death and Cause-Specific Rates by Age, Sex and Race, Michigan, 1974

| Age          | Total  |   |  |   |  | White Males  |   |  |  |   | White Females                              |  |  |  |   | Non-White Males  |  |   |  |  | Non-White Females                                   |  |  |   |  |
|--------------|--|---|--|---|--|--|---|--|--|---|--|--|--|--|---|--|--|---|--|--|---|--|--|---|--|
|              | Rank and Cause of Death  | Number  | Specific Rate  | Rank and Cause of Death   | Number   | Specific Rate  | Rank and Cause of Death   | Number   | Specific Rate  | Rank and Cause of Death   | Number                                     | Specific Rate  | Rank and Cause of Death  | Number                                     | Specific Rate                                       | Rank and Cause of Death  | Number                                     | Specific Rate                                       | Rank and Cause of Death  | Number                                     | Specific Rate                                       | Rank and Cause of Death  | Number                                     | Specific Rate                                       |  |
| All Ages     | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Accidents<br>5. Diabetes Mellitus<br>All Causes               | 29,720<br>14,341<br>7,645<br>4,911<br>1,940<br>76,143 | 327.2<br>156.5<br>84.0<br>46.3<br>21.3<br>836.9        | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Accidents<br>5. Cirrhosis of the Liver<br>All Causes | 14,975<br>6,921<br>3,087<br>2,520<br>860<br>37,277 | 382.8<br>176.9<br>78.9<br>64.4<br>22.0<br>952.9          | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Accidents<br>5. Cirrhosis of the Liver<br>All Causes | 11,555<br>5,735<br>3,775<br>1,133<br>997<br>29,323 | 285.5<br>141.7<br>73.5<br>33.0<br>24.6<br>724.4        | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Accidents<br>5. All Causes               | 1,453<br>928<br>663<br>393<br>380<br>5,643 | 260.2<br>166.62<br>118.7<br>70.4<br>61.0<br>1,010.6      | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Accidents<br>5. All Causes              | 1,453<br>928<br>663<br>393<br>380<br>5,643 | 260.2<br>166.62<br>118.7<br>70.4<br>61.0<br>1,010.6 | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Accidents<br>5. All Causes              | 1,453<br>928<br>663<br>393<br>380<br>5,643 | 260.2<br>166.62<br>118.7<br>70.4<br>61.0<br>1,010.6 | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Accidents<br>5. All Causes              | 1,453<br>928<br>663<br>393<br>380<br>5,643 | 260.2<br>166.62<br>118.7<br>70.4<br>61.0<br>1,010.6 | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Accidents<br>5. All Causes              | 1,453<br>928<br>663<br>393<br>380<br>5,643 | 260.2<br>166.62<br>118.7<br>70.4<br>61.0<br>1,010.6 |  |
| Under 1 Year | 1. Certain Diseases of Early Infancy (Birth Injury—73)<br>(Asphyxia of Newborn—178) (Immaturity Unqualified—240) (Other—817)                         | 1,308   | 938.1  | 1. Certain Diseases of Early Infancy (Birth Injury—31)<br>(Asphyxia of Newborn—86) (Immaturity Unqualified—80) (Other—349)                  | 546  | 914.5  | 1. Certain Diseases of Early Infancy (Birth Injury—45)<br>(Immaturity Unqualified—68) (Other—232)   | 363  | 644.4  | 1. Certain Diseases of Early Infancy (Birth Injury—12)<br>(Asphyxia of Newborn—21) (Immaturity Unqualified—45) (Other—107)      | 213  | 1,822.5  | 1. Certain Diseases of Early Infancy (Birth Injury—12)<br>(Asphyxia of Newborn—21) (Immaturity Unqualified—45) (Other—107)     | 213  | 1,822.5   | 1. Certain Diseases of Early Infancy (Birth Injury—12)<br>(Asphyxia of Newborn—21) (Immaturity Unqualified—45) (Other—107)     | 213  | 1,822.5   | 1. Certain Diseases of Early Infancy (Birth Injury—12)<br>(Asphyxia of Newborn—21) (Immaturity Unqualified—45) (Other—107)     | 213  | 1,822.5   | 1. Certain Diseases of Early Infancy (Birth Injury—12)<br>(Asphyxia of Newborn—21) (Immaturity Unqualified—45) (Other—107)     | 213  | 1,822.5   |  |
| 1-4 Years    | 1. Accidents<br>2. Congenital Anomalies<br>3. Malignant Neoplasms<br>4. Pneumonia and Influenza<br>5. All Causes                                     | 204<br>52<br>43<br>24<br>10<br>434                    | 32.1<br>8.2<br>6.8<br>3.8<br>1.6<br>68.3               | 1. Accidents<br>2. Congenital Anomalies<br>3. Malignant Neoplasms<br>4. Pneumonia and Influenza<br>5. Meningitis<br>All Causes              | 103<br>21<br>11<br>4<br>206                        | 37.5<br>7.6<br>6.6<br>4.0<br>1.5<br>75.0                 | 1. Accidents<br>2. Congenital Anomalies<br>3. Malignant Neoplasms<br>4. Pneumonia and Influenza<br>5. All Causes                            | 58<br>14<br>5<br>6<br>135                          | 22.2<br>7.6<br>5.4<br>2.3<br>51.6                      | 1. Accidents<br>2. Congenital Anomalies<br>3. Pneumonia and Influenza<br>4. Acute Bronchitis and Bronchiolitis<br>5. All Causes | 26<br>9<br>5<br>2<br>2                     | 51.9<br>12.0<br>2.0<br>4.0<br>4.7                        | 1. Accidents<br>2. Pneumonia and Influenza<br>3. Congenital Anomalies<br>4. All Causes   | 26<br>9<br>5<br>2                          | 51.9<br>12.0<br>2.0<br>4.0                          | 1. Accidents<br>2. Pneumonia and Influenza<br>3. Congenital Anomalies<br>4. All Causes   | 26<br>9<br>5<br>2                          | 51.9<br>12.0<br>2.0<br>4.0                          | 1. Accidents<br>2. Pneumonia and Influenza<br>3. Congenital Anomalies<br>4. All Causes   | 26<br>9<br>5<br>2                          | 51.9<br>12.0<br>2.0<br>4.0                          | 1. Accidents<br>2. Pneumonia and Influenza<br>3. Congenital Anomalies<br>4. All Causes   | 26<br>9<br>5<br>2                          | 51.9<br>12.0<br>2.0<br>4.0                          |  |
| 5-14 Years   | 1. Accidents<br>2. Malignant Neoplasms<br>3. Congenital Anomalies<br>4. Pneumonia and Influenza<br>5. All Causes                                     | 351<br>85<br>38<br>19<br>16<br>647                    | 19.9<br>4.8<br>2.1<br>1.1<br>0.9<br>36.6               | 1. Accidents<br>2. Malignant Neoplasms<br>3. Congenital Anomalies<br>4. Suicide<br>5. All Causes  | 192<br>51<br>15<br>10<br>335                       | 24.7<br>6.6<br>1.9<br>1.3<br>45.7                        | 1. Accidents<br>2. Malignant Neoplasms<br>3. Congenital Anomalies<br>4. Pneumonia and Influenza<br>5. All Causes                            | 106<br>29<br>3<br>5<br>211                         | 14.2<br>3.9<br>2.0<br>1.5<br>28.3                      | 1. Accidents<br>2. Homicides<br>3. Congenital Anomalies<br>4. Pneumonia and Influenza<br>5. All Causes                          | 39<br>7<br>5<br>2<br>65                    | 31.8<br>5.7<br>3.4<br>1.6<br>53.0                        | 1. Accidents<br>2. Homicides<br>3. Congenital Anomalies<br>4. Pneumonia and Influenza<br>5. All Causes                         | 39<br>7<br>5<br>2                          | 31.8<br>5.7<br>3.4<br>1.6                           | 1. Accidents<br>2. Homicides<br>3. Congenital Anomalies<br>4. Pneumonia and Influenza<br>5. All Causes                         | 39<br>7<br>5<br>2                          | 31.8<br>5.7<br>3.4<br>1.6                           | 1. Accidents<br>2. Homicides<br>3. Congenital Anomalies<br>4. Pneumonia and Influenza<br>5. All Causes                         | 39<br>7<br>5<br>2                          | 31.8<br>5.7<br>3.4<br>1.6                           | 1. Accidents<br>2. Homicides<br>3. Congenital Anomalies<br>4. Pneumonia and Influenza<br>5. All Causes                         | 39<br>7<br>5<br>2                          | 31.8<br>5.7<br>3.4<br>1.6                           |  |
| 15-24 Years  | 1. Accidents<br>2. Homicides<br>3. Suicide<br>4. Malignant Neoplasms<br>5. Mental Disorders<br>All Causes  | 1,098<br>391<br>228<br>120<br>79<br>2,328             | 63.4<br>22.6<br>13.2<br>6.9<br>4.6<br>134.5            | 1. Accidents<br>2. Suicide<br>3. Homicides<br>4. Malignant Neoplasms<br>5. Mental Disorders<br>All Causes                                   | 812<br>169<br>59<br>27<br>1,225                    | 109.2<br>21.4<br>12.8<br>3.6<br>178.1                    | 1. Accidents<br>2. Suicide<br>3. Homicides<br>4. Malignant Neoplasms<br>5. Mental Disorders<br>All Causes                                   | 191<br>42<br>38<br>34<br>427                       | 25.7<br>5.6<br>4.6<br>4.6<br>57.4                      | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                       | 207<br>71<br>36<br>19<br>14<br>408         | 170.3<br>58.4<br>29.6<br>15.6<br>11.5<br>335.8           | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                      | 207<br>71<br>36<br>19<br>14                | 170.3<br>58.4<br>29.6<br>15.6<br>11.5               | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                      | 207<br>71<br>36<br>19<br>14                | 170.3<br>58.4<br>29.6<br>15.6<br>11.5               | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                      | 207<br>71<br>36<br>19<br>14                | 170.3<br>58.4<br>29.6<br>15.6<br>11.5               | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                      | 207<br>71<br>36<br>19<br>14                | 170.3<br>58.4<br>29.6<br>15.6<br>11.5               |  |
| 25-34 Years  | 1. Accidents<br>2. Homicides<br>3. Suicide<br>4. Malignant Neoplasms<br>5. Diseases of the Heart<br>All Causes                                       | 519<br>365<br>265<br>181<br>100<br>2,023              | 42.8<br>30.1<br>21.9<br>14.9<br>8.3<br>166.9           | 1. Accidents<br>2. Suicide<br>3. Homicides<br>4. Malignant Neoplasms<br>5. Diseases of the Heart<br>All Causes                              | 350<br>163<br>90<br>74<br>44<br>894                | 67.7<br>31.5<br>17.4<br>14.3<br>8.5<br>172.8             | 1. Accidents<br>2. Suicide<br>3. Homicides<br>4. Malignant Neoplasms<br>5. Diseases of the Heart<br>All Causes                              | 86<br>85<br>66<br>19<br>18<br>413                  | 15.8<br>15.6<br>12.5<br>5.5<br>7.5                     | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                       | 217<br>61<br>58<br>35<br>27<br>507         | 318.9<br>89.7<br>85.2<br>51.4<br>39.7<br>785.1           | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                      | 217<br>61<br>58<br>35<br>27                | 318.9<br>89.7<br>85.2<br>51.4<br>39.7               | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                      | 217<br>61<br>58<br>35<br>27                | 318.9<br>89.7<br>85.2<br>51.4<br>39.7               | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                      | 217<br>61<br>58<br>35<br>27                | 318.9<br>89.7<br>85.2<br>51.4<br>39.7               | 1. Homicides<br>2. Accidents<br>3. Mental Disorders<br>4. Suicide<br>5. Malignant Neoplasms<br>All Causes                      | 217<br>61<br>58<br>35<br>27                | 318.9<br>89.7<br>85.2<br>51.4<br>39.7               |  |
| 35-49 Years  | 1. Malignant Neoplasms<br>2. Diseases of the Heart<br>3. Accidents<br>4. Cirrhosis of the Liver<br>5. Suicide<br>All Causes                          | 1,272<br>1,243<br>519<br>431<br>280<br>5,323          | 86.1<br>84.1<br>35.1<br>29.2<br>18.9<br>360.2          | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Accidents<br>4. Cirrhosis of the Liver<br>5. Suicide<br>All Causes                 | 810<br>472<br>316<br>181<br>164<br>2,514           | 123.0<br>71.7<br>48.0<br>27.5<br>24.9<br>381.7           | 1. Malignant Neoplasms<br>2. Diseases of the Heart<br>3. Accidents<br>4. Cirrhosis of the Liver<br>5. Suicide<br>All Causes                 | 600<br>217<br>102<br>98<br>93<br>1,534             | 92.2<br>33.3<br>15.7<br>15.1<br>14.3<br>235.7          | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cirrhosis of the Liver<br>4. Accidents<br>5. All Causes                | 144<br>135<br>100<br>99<br>75<br>802       | 170.1<br>159.5<br>118.1<br>117.0<br>88.6<br>947.4        | 1. Malignant Neoplasms<br>2. Diseases of the Heart<br>3. Cirrhosis of the Liver<br>4. Accidents<br>5. All Causes               | 144<br>135<br>100<br>99<br>75              | 170.1<br>159.5<br>118.1<br>117.0<br>88.6            | 1. Malignant Neoplasms<br>2. Diseases of the Heart<br>3. Cirrhosis of the Liver<br>4. Accidents<br>5. All Causes               | 144<br>135<br>100<br>99<br>75              | 170.1<br>159.5<br>118.1<br>117.0<br>88.6            | 1. Malignant Neoplasms<br>2. Diseases of the Heart<br>3. Cirrhosis of the Liver<br>4. Accidents<br>5. All Causes               | 144<br>135<br>100<br>99<br>75              | 170.1<br>159.5<br>118.1<br>117.0<br>88.6            | 1. Malignant Neoplasms<br>2. Diseases of the Heart<br>3. Cirrhosis of the Liver<br>4. Accidents<br>5. All Causes               | 144<br>135<br>100<br>99<br>75              | 170.1<br>159.5<br>118.1<br>117.0<br>88.6            |  |
| 50-64 Years  | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Cirrhosis of the Liver<br>5. Accidents<br>All Causes          | 6,116<br>4,617<br>987<br>732<br>437<br>16,155         | 462.4<br>349.1<br>149.3<br>53.3<br>43.0<br>1,221.4     | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Accidents<br>5. All Causes                           | 3,896<br>2,189<br>448<br>414<br>374<br>10,193      | 686.1<br>385.5<br>78.9<br>72.9<br>57.1<br>1,358.2        | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Cirrhosis of the Liver<br>5. Accidents<br>All Causes | 1,801<br>1,409<br>331<br>164<br>158<br>4,832       | 292.1<br>228.5<br>53.7<br>26.6<br>25.6<br>783.7        | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cirrhosis of the Liver<br>4. Cerebrovascular Disease<br>5. All Causes  | 487<br>364<br>108<br>105<br>72<br>736      | 431.7<br>545.9<br>162.0<br>157.5<br>108.0<br>2,409.6     | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cirrhosis of the Liver<br>4. Cerebrovascular Disease<br>5. All Causes | 487<br>364<br>108<br>105<br>72             | 431.7<br>545.9<br>162.0<br>157.5<br>108.0           | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cirrhosis of the Liver<br>4. Cerebrovascular Disease<br>5. All Causes | 487<br>364<br>108<br>105<br>72             | 431.7<br>545.9<br>162.0<br>157.5<br>108.0           | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cirrhosis of the Liver<br>4. Cerebrovascular Disease<br>5. All Causes | 487<br>364<br>108<br>105<br>72             | 431.7<br>545.9<br>162.0<br>157.5<br>108.0           | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cirrhosis of the Liver<br>4. Cerebrovascular Disease<br>5. All Causes | 487<br>364<br>108<br>105<br>72             | 431.7<br>545.9<br>162.0<br>157.5<br>108.0           |  |
| 65 and Older | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Diabetes Mellitus<br>5. Pneumonia and Influenza<br>All Causes | 21,686<br>7,919<br>6,309<br>1,434<br>1,217<br>46,837  | 2,672.4<br>975.9<br>777.5<br>176.7<br>150.0<br>5,771.7 | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Pneumonia and Influenza<br>5. All Causes             | 10,193<br>4,951<br>2,910<br>808<br>516<br>22,119   | 3,258.2<br>1,286.6<br>882.6<br>181.4<br>165.0<br>7,072.6 | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Cerebrovascular Disease<br>4. Pneumonia and Influenza<br>5. All Causes             | 9,866<br>3,726<br>3,164<br>688<br>668<br>21,081    | 2,919.8<br>719.7<br>741.7<br>189.4<br>154.2<br>4,941.8 | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Malignant Neoplasms<br>4. Pneumonia and Influenza<br>5. All Causes     | 736<br>438<br>208<br>80<br>668<br>1,920    | 2,409.6<br>1,325.9<br>629.6<br>242.2<br>154.2<br>5,812.0 | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Malignant Neoplasms<br>4. Pneumonia and Influenza<br>5. All Causes    | 736<br>438<br>208<br>80<br>668             | 2,409.6<br>1,325.9<br>629.6<br>242.2<br>154.2       | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Malignant Neoplasms<br>4. Pneumonia and Influenza<br>5. All Causes    | 736<br>438<br>208<br>80<br>668             | 2,409.6<br>1,325.9<br>629.6<br>242.2<br>154.2       | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Malignant Neoplasms<br>4. Pneumonia and Influenza<br>5. All Causes    | 736<br>438<br>208<br>80<br>668             | 2,409.6<br>1,325.9<br>629.6<br>242.2<br>154.2       | 1. Diseases of the Heart<br>2. Malignant Neoplasms<br>3. Malignant Neoplasms<br>4. Pneumonia and Influenza<br>5. All Causes    | 736<br>438<br>208<br>80<br>668             | 2,409.6<br>1,325.9<br>629.6<br>242.2<br>154.2       |  |

1. Note totals by race do not add to total because of 83 male and 41 female race not stated. Age groups do not add to respective total due to records with age not stated (see Table 2.2).

No major changes in the order of the ten leading causes for the United States were observed. Several major differences between the United States figures and those of Michigan should be noted. The overall Michigan death rate is significantly lower than the national rate. However, some cause-specific rates are higher than comparative national rates. Such causes include Diabetes Mellitus, Cirrhosis of the Liver, Homicide and Suicide.

As shown in Table 2.5, leading causes of death vary between age groups as well as by sex and race. Heart Disease is not a prominent cause of death until ages 35 and over. Homicide is not among the leading causes of death for either white males or females, while it ranks 4th for nonwhite females and 3rd for nonwhite males. Homicide was the leading cause of death among nonwhite males in the age

groups 15-24, 25-34, and 35-49. This was also true for age groups 15-24 and 25-34 among non-white females.

## DISEASES OF THE HEART

In 1974, 29,220 Michigan residents died from diseases of the heart. Heart disease continues to be the single largest cause of death in Michigan and the United States, accounting for more deaths than the next four largest causes combined (cancer, stroke, accidents, and diabetes mellitus).

Of the 29,220 deaths due to diseases of the heart in 1974, 16,458 were males and 12,762 were females. The median age at death for males was 71 compared to a figure of 78 for females. The median age at death for all heart deaths was 74 (Table 2.6).

TABLE 2.6—Deaths Due to Diseases of the Heart by Age, Race and Sex, Michigan Residents, 1974

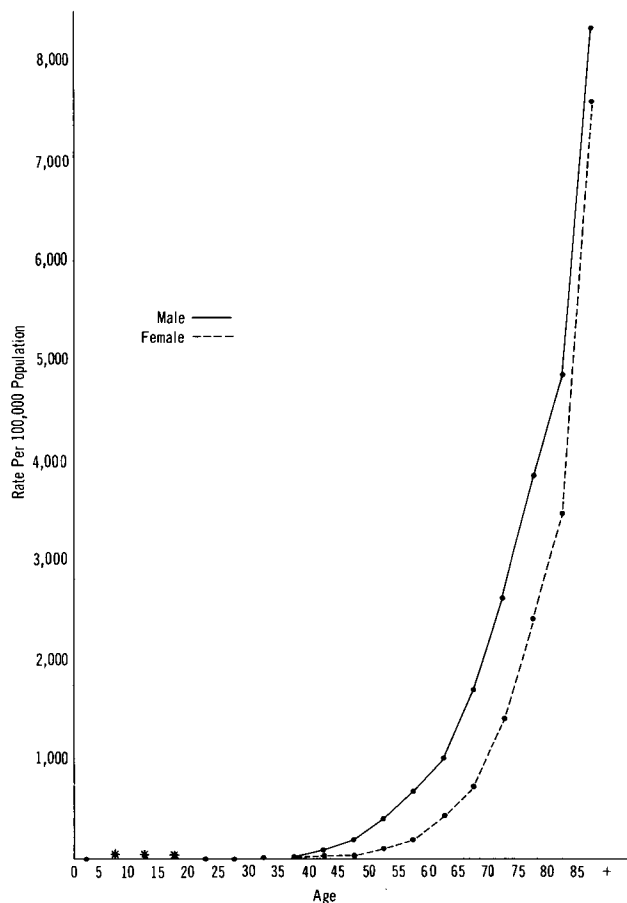
| AGE               | ALL RACES |        |        | WHITE  |        |        | BLACK |       |        | OTHER |      |        |
|-------------------|-----------|--------|--------|--------|--------|--------|-------|-------|--------|-------|------|--------|
|                   | TOTAL     | MALE   | FEMALE | TOTAL  | MALE   | FEMALE | TOTAL | MALE  | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.     | 13        | 8      | 5      | 7      | 5      | 2      | 6     | 3     | 3      | —     | —    | —      |
| 1-4 Years. . . .  | 8         | 3      | 5      | 6      | 3      | 3      | 2     | —     | 2      | —     | —    | —      |
| 5-9 Years. . . .  | 7         | 4      | 3      | 6      | 4      | 2      | 1     | —     | 1      | —     | —    | —      |
| 10-14 Years. . .  | 8         | 6      | 2      | 6      | 5      | 1      | 2     | 1     | 1      | —     | —    | —      |
| 15-19 Years. . .  | 13        | 7      | 6      | 8      | 5      | 3      | 5     | 2     | 3      | —     | —    | —      |
| 20-24 Years. . .  | 26        | 17     | 9      | 13     | 10     | 3      | 12    | 7     | 5      | 1     | —    | 1      |
| 25-29 Years. . .  | 33        | 21     | 12     | 18     | 11     | 7      | 15    | 10    | 5      | —     | —    | —      |
| 30-34 Years. . .  | 67        | 46     | 21     | 45     | 33     | 12     | 21    | 12    | 9      | 1     | 1    | —      |
| 35-39 Years. . .  | 135       | 91     | 44     | 110    | 80     | 30     | 25    | 11    | 14     | —     | —    | —      |
| 40-44 Years. . .  | 354       | 266    | 88     | 277    | 222    | 55     | 76    | 43    | 33     | 1     | 1    | —      |
| 45-49 Years. . .  | 754       | 588    | 166    | 640    | 508    | 132    | 112   | 80    | 32     | 2     | —    | 2      |
| 50-54 Years. . .  | 1,412     | 1,067  | 345    | 1,196  | 936    | 260    | 210   | 128   | 82     | 6     | 3    | 3      |
| 55-59 Years. . .  | 2,004     | 1,477  | 527    | 1,739  | 1,309  | 430    | 255   | 159   | 96     | 10    | 9    | 1      |
| 60-64 Years. . .  | 2,700     | 1,852  | 848    | 2,370  | 1,651  | 719    | 317   | 191   | 126    | 13    | 10   | 3      |
| 65-69 Years. . .  | 3,347     | 2,240  | 1,107  | 2,983  | 2,035  | 948    | 351   | 196   | 155    | 13    | 9    | 4      |
| 70-74 Years. . .  | 3,976     | 2,355  | 1,621  | 3,558  | 2,117  | 1,441  | 399   | 224   | 175    | 19    | 14   | 5      |
| 75-79 Years. . .  | 4,393     | 2,303  | 2,090  | 4,078  | 2,135  | 1,943  | 304   | 161   | 143    | 11    | 7    | 4      |
| 80-84 Years. . .  | 4,614     | 2,118  | 2,496  | 4,380  | 2,013  | 2,367  | 223   | 99    | 124    | 11    | 6    | 5      |
| 85-89 Years. . .  | 3,370     | 1,338  | 2,032  | 3,210  | 1,273  | 1,937  | 154   | 64    | 90     | 6     | 1    | 5      |
| 90 and Over. . .  | 1,986     | 651    | 1,335  | 1,880  | 620    | 1,260  | 105   | 31    | 74     | 1     | —    | 1      |
| Not Stated. . . . | —         | —      | —      | —      | —      | —      | —     | —     | —      | —     | —    | —      |
| Total. . . . .    | 29,220    | 16,458 | 12,762 | 26,530 | 14,975 | 11,555 | 2,595 | 1,422 | 1,173  | 95    | 61   | 34     |
| Median Age. . .   | 74        | 71     | 78     | 75     | 71     | 79     | 68    | 66    | 70     | 70    | 68   | 73     |

Examination of Table 2.7 reveals that the heart disease death rate for males is substantially higher than that for females (368.2 as compared to 275.8).

Between the ages 0-4 the death rates are about the same for both sexes. At ages 5-9, 10-14, and 15-19 death rates were not computed due to the small number of events. For all the remaining age groups, the male heart disease death rate is greater than the female death rate (Table 2.7).

The age and sex specific heart disease death rates contained in Table 2.7 are graphically displayed in Figure 2.4. The death rate associated to this cause can be seen to rise markedly with advancing age. Heart disease was the underlying cause of 21 deaths

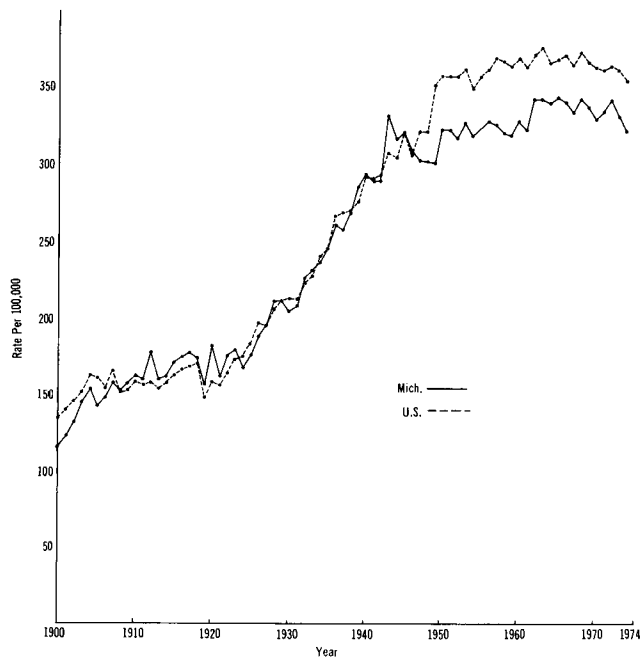
FIGURE 2.4—Heart Disease Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

in the age group 0-4 or about 0.7 percent of all deaths in this age group. In contrast, 50.6 percent of all deaths in the age group 85+ were attributed to this cause in 1974. The heart disease death rate was 7,856.8 in the 85+ age group.

FIGURE 2.5—Heart Disease Death Rates, Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



<sup>1</sup>National rates are from death registration states for 1900-1932 and the United States for 1933-1974.

<sup>2</sup>Heart Disease death rates since 1900 are suitable for general comparison over time but detailed study (such as time series) requires special consideration. See Technical Notes.

TABLE 2.7—Heart Disease Death Rates by Age and Sex, Michigan Residents, 1974

| AGE              | TOTAL   | MALE    | FEMALE  |
|------------------|---------|---------|---------|
| All Ages.....    | 321.2   | 368.2   | 275.8   |
| 0-4 Years.....   | 2.7     | 2.8     | 2.6     |
| 5-9 Years.....   | *       | *       | *       |
| 10-14 Years..... | *       | *       | *       |
| 15-19 Years..... | *       | *       | *       |
| 20-24 Years..... | 3.4     | 4.5     | 2.3     |
| 25-29 Years..... | 5.4     | 7.7     | 3.6     |
| 30-34 Years..... | 11.1    | 14.8    | 7.2     |
| 35-39 Years..... | 27.8    | 36.6    | 18.5    |
| 40-44 Years..... | 75.5    | 113.2   | 37.7    |
| 45-49 Years..... | 144.2   | 226.7   | 63.0    |
| 50-54 Years..... | 276.0   | 432.9   | 130.2   |
| 55-59 Years..... | 450.1   | 692.0   | 227.3   |
| 60-64 Years..... | 737.8   | 1,060.5 | 443.2   |
| 65-69 Years..... | 1,205.6 | 1,736.9 | 744.7   |
| 70-74 Years..... | 1,943.1 | 2,622.4 | 1,411.8 |
| 75-79 Years..... | 3,016.4 | 3,868.1 | 2,427.4 |
| 80-84 Years..... | 3,996.9 | 4,855.6 | 3,475.4 |
| 85 and Over..... | 7,856.8 | 8,341.0 | 7,596.3 |

\* Not computed due to the small number of occurrences.



In 1900, the crude heart disease death rate in Michigan was 117.1, the lowest rate of this century. In 1974, this rate was 321.2. The highest observed rate of death due to heart disease was 342.9 in 1962. The heart disease death rate rose through the time period 1900-1950. This rate has remained relatively stable over the last twenty-five years. The rate for Michigan was consistently close to the national rates until 1946. Since that time the Michigan rate has been well below national rates. In 1974, the national rate was 353.1, about 10 percent above the Michigan rate of death due to heart disease. Michigan's rate in 1974 was the lowest in fifteen years while the national rate was the lowest since 1954 (Figure 2.5).

The most prevalent condition of heart disease death is acute myocardial infarction (14,120 deaths in 1974) commonly referred to as a "coronary" (Table 2.8). Almost as frequent is chronic ischemic heart disease. In 1974, there were 12,523 deaths attributed to this cause. Together, acute myocardial infarction and chronic ischemic heart disease are the underlying cause in 91.2 percent of all Michigan heart disease deaths. The remaining 8.8 percent of the deaths are distributed among 21 other types of heart disease. Just over 50 percent of the remaining 2,577 deaths can be attributed to two causes: symptomatic heart disease and hypertensive heart disease (1,057 and 340 deaths respectively).

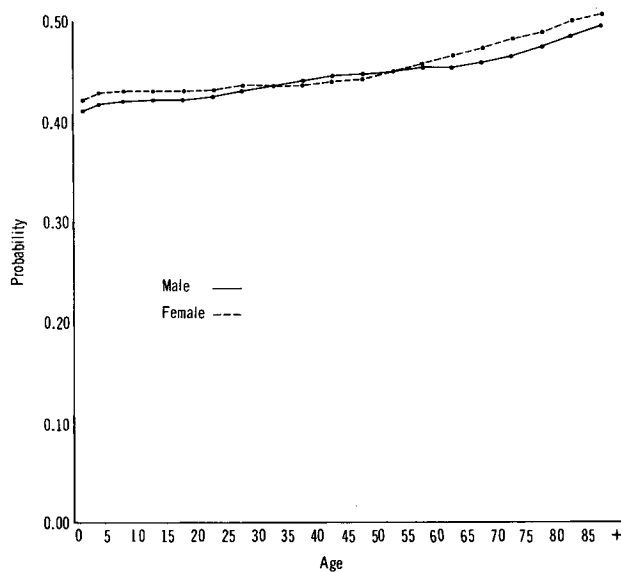
TABLE 2.8—Deaths Due to Diseases of the Heart by Detailed Cause, Michigan Residents, 1974

| ICDA LIST NO. | CAUSE OF DEATH   | NO. OF DEATHS | PERCENT |
|---------------|--|---------------|---------|
| 410           | Acute Myocardial Infarction                              | 14,120        | 48.3    |
| 412           | Chronic Ischemic Heart Disease                           | 12,523        | 42.9    |
| 427           | Symptomatic Heart Disease                                | 1,057         | 3.6     |
| 402           | Hypertensive Heart Disease                               | 340           | 1.2     |
| 398           | Other Heart Disease Specified as Rheumatic               | 191           | 0.7     |
| 395           | Diseases of Aortic Valve                                 | 138           | 0.5     |
| 394           | Diseases of Mitral Valve                                 | 136           | 0.5     |
| 425           | Cardiomyopathy   | 124           | 0.4     |
| 404           | Hypertensive Heart and Renal Disease                     | 119           | 0.4     |
| 429           | Ill-Defined Heart Disease                                | 83            | 0.3     |
| 428           | Other Myocardial Insufficiency                           | 71            | 0.2     |
| 411           | Other Acute and Subacute Forms of Ischemic Heart Disease | 69            | 0.2     |
| 426           | Pulmonary Heart Disease                                  | 62            | 0.2     |
| 424           | Chronic Disease of Endocardium                           | 38            | 0.1     |
| 396           | Diseases of Mitral and Aortic Valve                      | 35            | 0.1     |
| 397           | Diseases of Other Endocardial Structures                 | 32            | 0.1     |
| 421           | Acute and Subacute Endocarditis                          | 23            | 0.1     |
| 423           | Chronic Disease of Pericardium, Non-Rheumatic            | 19            | 0.1     |
| 422           | Acute Myocarditis  | 17            | 0.1     |
| 413           | Angina Pectoris  | 11            | 0.0     |
| 391           | Rheumatic Fever with Heart Involvement                   | 8             | 0.0     |
| 393           | Diseases of Pericardium                                  | 3             | 0.0     |
| 420           | Acute Pericarditis, Non-Rheumatic                        | 1             | 0.0     |
|               | TOTAL  | 29,220        | 100.0   |

The probability of eventually dying from heart disease, based on death data from 1972, 1973 and 1974, is 0.41 for males and 0.42 for females at birth. Males displayed a slightly greater propensity to die from other causes. The chance associated with dying from heart disease increases steadily with advancing age as certain competing causes of death become less likely. By age 85, the observed probability was 0.50 for males and 0.51 for females in 1972-1974. Males are generally less likely to die from heart disease, however, in the ages of 35 through about 55, females displayed a slightly lower probability. The higher risk for females across most age intervals reflects their lesser chances of death due to some cause other than heart disease.

An apparent inconsistency can be noted by review of Figure 2.4 and Figure 2.6. The heart disease mortality rate for males is higher than that for females over all ages, yet the chance of death due to heart disease is slightly greater for females over most ages. This paradox is explained by a comparison of these two measures. Mortality rates, whether cause-specific or not, measure the frequency of death as it relates to population, while the probability of eventual death due to a given cause is related only to the frequency of death not from that cause. Where the heart disease mortality rates for 1974 indicate that males die from heart disease more frequently than females, the probabilities state that males die less frequently from heart disease than from other causes when compared to females.

FIGURE 2.6—Probability of Eventually Dying From Heart Disease by Age and Sex, Michigan Residents, 1972-1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between the graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

## CANCER

Of 76,143 Michigan resident deaths, 14,241 persons died from cancer in 1974. Although not the leading cause of death in Michigan and the United States, cancer affects all the human body's major systems and persons of all ages.

Of the 14,241 cancer deaths in 1974 occurring to Michigan residents, 7,858 were males while 6,383 occurred to females. The median age at death for

males was 67 and for females 66 (Table 2.9).

Cancer death rates are higher overall for males (175.8) than females (137.9). Age-specific rates for males are higher than females in fourteen of the eighteen age groups. The male mortality rate due to cancer is more than twice the female rate at ages 70-74 and 75-79. Only in the age groups 30-34, 35-39, 40-44, and 45-49 are female cancer death rates higher. In the first of these ages (30-34),

TABLE 2.9—Deaths Due to Cancer by Age, Race and Sex, Michigan Residents, 1974

| AGE               | ALL RACES |       |        | WHITE  |       |        | BLACK |      |        | OTHER |      |        |
|-------------------|-----------|-------|--------|--------|-------|--------|-------|------|--------|-------|------|--------|
|                   | TOTAL     | MALE  | FEMALE | TOTAL  | MALE  | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.     | 4         | 1     | 3      | 3      | —     | 3      | 1     | 1    | —      | —     | —    | —      |
| 1-4 Years. . . .  | 43        | 27    | 16     | 35     | 21    | 14     | 6     | 5    | 1      | 2     | 1    | 1      |
| 5-9 Years. . . .  | 45        | 31    | 14     | 42     | 30    | 12     | 3     | 1    | 2      | —     | —    | —      |
| 10-14 Years. . .  | 40        | 22    | 18     | 38     | 21    | 17     | 2     | 1    | 1      | —     | —    | —      |
| 15-19 Years. . .  | 56        | 29    | 27     | 44     | 23    | 21     | 12    | 6    | 6      | —     | —    | —      |
| 20-24 Years. . .  | 64        | 44    | 20     | 53     | 36    | 17     | 11    | 8    | 3      | —     | —    | —      |
| 25-29 Years. . .  | 74        | 39    | 35     | 70     | 39    | 31     | 4     | —    | 4      | —     | —    | —      |
| 30-34 Years. . .  | 107       | 38    | 69     | 90     | 35    | 55     | 17    | 3    | 14     | —     | —    | —      |
| 35-39 Years. . .  | 181       | 82    | 99     | 154    | 74    | 80     | 25    | 8    | 17     | 2     | —    | 2      |
| 40-44 Years. . .  | 349       | 156   | 193    | 302    | 131   | 171    | 47    | 25   | 22     | —     | —    | —      |
| 45-49 Years. . .  | 742       | 334   | 408    | 616    | 267   | 349    | 125   | 66   | 59     | 1     | 1    | —      |
| 50-54 Years. . .  | 1,142     | 570   | 572    | 967    | 475   | 492    | 170   | 93   | 77     | 5     | 2    | 3      |
| 55-59 Years. . .  | 1,536     | 835   | 701    | 1,317  | 702   | 615    | 215   | 130  | 85     | 4     | 3    | 1      |
| 60-64 Years. . .  | 1,939     | 1,152 | 787    | 1,706  | 1,012 | 694    | 229   | 138  | 91     | 4     | 2    | 2      |
| 65-69 Years. . .  | 2,027     | 1,208 | 819    | 1,788  | 1,040 | 748    | 234   | 165  | 69     | 5     | 3    | 2      |
| 70-74 Years. . .  | 1,965     | 1,193 | 772    | 1,754  | 1,067 | 687    | 206   | 121  | 85     | 5     | 5    | —      |
| 75-79 Years. . .  | 1,687     | 989   | 698    | 1,576  | 916   | 660    | 106   | 70   | 36     | 5     | 3    | 2      |
| 80-84 Years. . .  | 1,290     | 665   | 625    | 1,205  | 618   | 587    | 84    | 46   | 38     | 1     | 1    | —      |
| 85-89 Years. . .  | 697       | 336   | 361    | 658    | 315   | 343    | 38    | 20   | 18     | 1     | 1    | —      |
| 90 and Over. . .  | 253       | 107   | 146    | 238    | 99    | 139    | 14    | 8    | 6      | 1     | —    | 1      |
| Not Stated. . . . | —         | —     | —      | —      | —     | —      | —     | —    | —      | —     | —    | —      |
| Total. . . . .    | 14,241    | 7,858 | 6,383  | 12,656 | 6,921 | 5,735  | 1,549 | 915  | 634    | 36    | 22   | 14     |
| Median Age. . . . | 66        | 67    | 66     | 67     | 67    | 66     | 62    | 64   | 61     | *     | *    | *      |

\* Not computed due to the small number of occurrences.

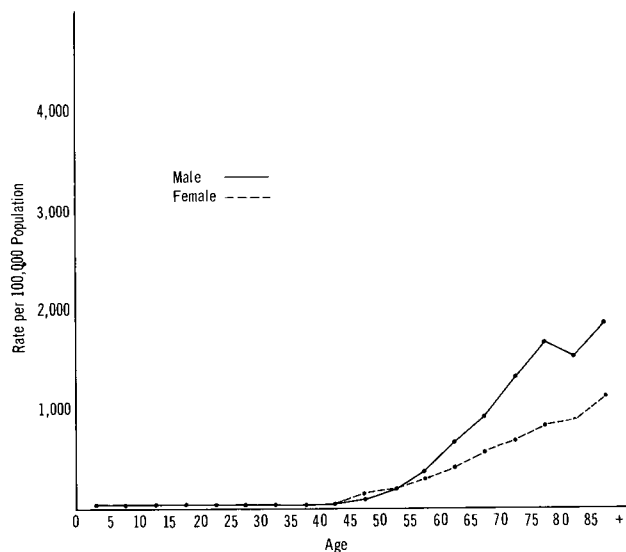
female cancer mortality is 93 percent above the 12.2 rate for males.

The cancer death rates displayed in Figure 2.7 show a strong increase in mortality due to cancer with advancing age. Males demonstrated higher rates from birth to age 30 than females. From 30 years of age through about age 50, female cancer death rates are slightly above those of males. Male rates then pass females and rise much faster from 50 years of age through to age 80, whereupon the rates for both sexes display some convergence.

Cancer death rates have risen steadily since 1900 (Figure 2.8). The overall rate in Michigan was 60.3 in 1900. In 1974, the rate was 156.5, second only to 1973 (156.9) in this century. The lowest observed rate for Michigan was 59.3 in 1902. Michigan's cancer death rate was below the national rate from 1900 through 1915. During the period 1916 through 1946, Michigan was generally at the national rate. Since 1947, the state rate has been consistently below national cancer death rates. Over the last 10 years, the national rate has been rising faster than the rate observed in Michigan. The national cancer death rate in 1974 was 169.5, about 8 percent above that in Michigan.

Deaths from cancer for 59 different causes and sites are presented in Table 2.11. The most common underlying cause of cancer mortality is malignant neoplasm of the Trachea, Bronchus and Lung. In 1974, 21.7 percent of all cancer deaths are attributed to this cause. The second most frequent cause of

FIGURE 2.7—Cancer Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

FIGURE 2.8—Cancer Death Rates, Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



<sup>1</sup>National rates are from death registration states for 1900-1932 and the United States for 1933-1974.

<sup>2</sup>Cancer death rates since 1900 are available for general comparison over time but detailed study (such as time series) requires special consideration. See Technical Notes.

TABLE 2.10—Cancer Death Rates by Age and Sex, Michigan Residents, 1974

| AGE              | TOTAL   | MALE    | FEMALE  |
|------------------|---------|---------|---------|
| All Ages.....    | 156.5   | 175.8   | 137.9   |
| 0-4 Years.....   | 6.1     | 7.1     | 5.0     |
| 5-9 Years.....   | 5.4     | 7.4     | 3.4     |
| 10-14 Years..... | 4.3     | 4.6     | 3.9     |
| 15-19 Years..... | 5.8     | 5.9     | 5.8     |
| 20-24 Years..... | 8.3     | 11.7    | 5.0     |
| 25-29 Years..... | 12.2    | 14.2    | 10.5    |
| 30-34 Years..... | 17.7    | 12.2    | 23.6    |
| 35-39 Years..... | 37.2    | 32.9    | 41.7    |
| 40-44 Years..... | 74.5    | 66.4    | 82.6    |
| 45-49 Years..... | 141.9   | 128.7   | 154.8   |
| 50-54 Years..... | 223.3   | 231.3   | 215.8   |
| 55-59 Years..... | 345.0   | 391.2   | 302.4   |
| 60-64 Years..... | 529.8   | 659.6   | 411.3   |
| 65-69 Years..... | 730.1   | 936.7   | 550.9   |
| 70-74 Years..... | 960.3   | 1,328.5 | 672.4   |
| 75-79 Years..... | 1,158.4 | 1,661.1 | 810.7   |
| 80-84 Years..... | 1,117.5 | 1,524.5 | 870.2   |
| 85 and Over..... | 1,393.6 | 1,857.8 | 1,143.8 |

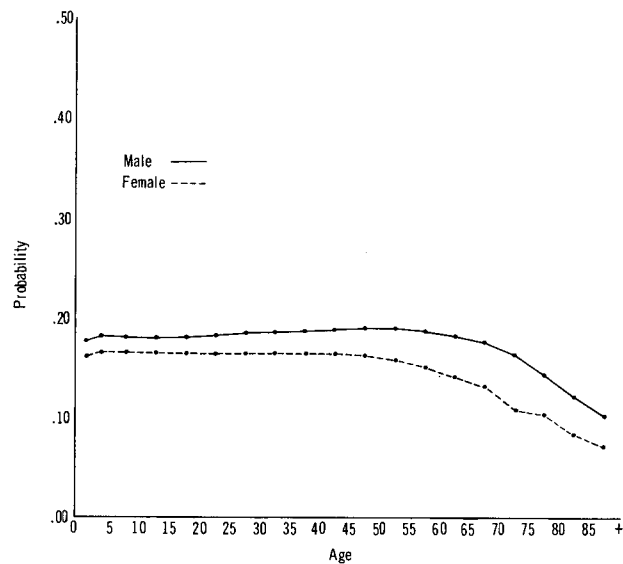
cancer mortality is cancer of the large intestine (1,556 deaths). Breast cancer (1,307 deaths) is third while malignant neoplasms of the prostate and pancreas are fourth and fifth. These first five of the 59 causes listed constitute 51.7 percent of all cancer deaths in Michigan (Table 2.11).

Based upon 1972 through 1974 death data, the probability of death due to malignant neoplasm is 0.178 for males and 0.163 for females at birth (Figure 2.7). The male probability rises slowly to a peak of 0.191 for ages 50-54 then drops rapidly to approximately 0.103 at ages 85 and over. Female probabilities are more stable, displaying little change from birth to ages 45-49 then diminishing to 0.072 at age 85 and up. This falling probability beyond age 50, noting the high cancer mortality rates of older age (Figure 2.7), indicates that age-specific rates of competing causes are rising relatively faster with advancing age.

TABLE 2.11—Malignant Neoplasms by Site Affected, Michigan Residents, 1974

| ICDA LIST NO. | CAUSE AND SITE   | NO. OF DEATHS | PERCENT |
|---------------|--|---------------|---------|
| 162           | Malignant Neoplasm of Trachea, Bronchus and Lung                               | 3,095         | 21.7    |
| 153           | Malignant Neoplasm of Large Intestine, Except Rectum                           | 1,556         | 10.9    |
| 174           | Malignant Neoplasm of Breast   | 1,307         | 9.2     |
| 185           | Malignant Neoplasm of Prostate   | 714           | 5.0     |
| 157           | Malignant Neoplasm of Pancreas   | 694           | 4.9     |
| 151           | Malignant Neoplasm of Stomach  | 582           | 4.1     |
| 199           | Malignant Neoplasm without Specification of Site                               | 569           | 4.0     |
| 183           | Malignant Neoplasm of Ovary, Fallopian Tube and Broad Ligament                 | 413           | 2.9     |
| 188           | Malignant Neoplasm of Bladder  | 391           | 2.7     |
| 154           | Malignant Neoplasm of Rectum and Rectosigmoid Junction                         | 375           | 2.6     |
| 191           | Malignant Neoplasm of Brain  | 355           | 2.5     |
| 150           | Malignant Neoplasm of Esophagus  | 294           | 2.1     |
| 189           | Malignant Neoplasm of Other and Unspecified Urinary Organs                     | 282           | 2.0     |
| 205           | Myeloid Leukemia   | 263           | 1.8     |
| 182           | Other Malignant Neoplasm of Uterus   | 248           | 1.7     |
| 200           | Lymphosarcoma and Reticulum-Cell Sarcoma                                       | 247           | 1.7     |
| 180           | Malignant Neoplasm of Cervix Uteri   | 240           | 1.7     |
| 197           | Secondary Malignant Neoplasm of Respiratory and Digestive Systems              | 240           | 1.7     |
| 203           | Multiple Myeloma   | 208           | 1.5     |
| 202           | Other Neoplasms of Lymphoid Tissue   | 183           | 1.3     |
| 156           | Malignant Neoplasm of Gall Bladder and Bile Ducts                              | 172           | 1.2     |
| 204           | Lymphatic Leukemia   | 157           | 1.1     |
| 207           | Other and Unspecified Leukemia   | 150           | 1.1     |
| 161           | Malignant Neoplasm of Larynx   | 130           | 0.9     |
| 201           | Hodgkin's Disease  | 130           | 0.9     |
| 172           | Malignant Neoplasm of Skin   | 113           | 0.8     |
| 195           | Malignant Neoplasm of Ill-Defined Sites  | 103           | 0.7     |
| 155           | Malignant Neoplasm of Liver and Intra-Hepatic Bile Ducts, Specified as Primary | 82            | 0.6     |
| 141           | Malignant Neoplasm of Tongue   | 76            | 0.5     |
| 170           | Malignant Neoplasm of Bone   | 71            | 0.5     |
| 198           | Other Secondary Malignant Neoplasm   | 68            | 0.5     |
| 171           | Malignant Neoplasm of Connective and Other Soft Tissue                         | 67            | 0.5     |

FIGURE 2.9—Probability of Eventually Dying from Cancer by Age and Sex, Michigan Residents, 1972-1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

| ICDA LIST NO. | CAUSE AND SITE   | NO. OF DEATHS | PERCENT |
|---------------|--|---------------|---------|
| 173           | Other Malignant Neoplasm of Skin   | 48            | 0.3     |
| 145           | Malignant Neoplasm of Other and Unspecified Parts of the Mouth               | 46            | 0.3     |
| 149           | Malignant Neoplasm of Pharynx, Unspecified                                   | 42            | 0.3     |
| 192           | Malignant Neoplasm of Other Parts of Nervous System                          | 42            | 0.3     |
| 184           | Malignant Neoplasm of Other and Unspecified Female Genital Organs            | 41            | 0.3     |
| 146           | Malignant Neoplasm of Oropharynx   | 37            | 0.3     |
| 186           | Malignant Neoplasm of Testis   | 34            | 0.2     |
| 209           | Myelofibrosis  | 31            | 0.2     |
| 152           | Malignant Neoplasm of Small Intestine, Including Duodenum                    | 30            | 0.2     |
| 193           | Malignant Neoplasm of Thyroid Gland  | 30            | 0.2     |
| 148           | Malignant Neoplasm of Hypopharynx  | 29            | 0.2     |
| 158           | Malignant Neoplasm of Peritoneum and Retroperitoneal Tissue                  | 29            | 0.2     |
| 163           | Malignant Neoplasm of Other and Unspecified Respiratory Organs               | 28            | 0.2     |
| 142           | Malignant Neoplasm of Salivary Gland   | 27            | 0.2     |
| 144           | Malignant Neoplasm of Floor of Mouth   | 20            | 0.1     |
| 159           | Malignant Neoplasm of Unspecified Digestive Organs                           | 20            | 0.1     |
| 147           | Malignant Neoplasm of Nasopharynx  | 19            | 0.1     |
| 206           | Monocytic Leukemia   | 19            | 0.1     |
| 208           | Polycythemia Vera  | 18            | 0.1     |
| 160           | Malignant Neoplasm of Nose, Nasal Cavities, Middle Ear and Accessory Sinuses | 17            | 0.1     |
| 194           | Malignant Neoplasm of Other Endocrine Glands                                 | 16            | 0.1     |
| 140           | Malignant Neoplasm of Lip  | 12            | 0.1     |
| 190           | Malignant Neoplasm of Eye  | 11            | 0.1     |
| 187           | Malignant Neoplasm of Other and Unspecified Male Genital Organs              | 9             | 0.1     |
| 143           | Malignant Neoplasm of Gum  | 5             | 0.0     |
| 196           | Secondary and Unspecified Malignant Neoplasm of Lymph Nodes                  | 5             | 0.0     |
| 181           | Chorionepithelioma   | 1             | 0.0     |
|               | TOTAL  | 14,241        | 99.7    |

## CEREBROVASCULAR DISEASES

Deaths due to cerebrovascular diseases (stroke) numbered 7,645 among Michigan resident deaths in 1974 or 10.0 percent of the 76,143 total resident deaths. The median age at death was 77 years.

There were more females whose deaths were attributed to conditions in this category than males. In 1974, 4,418 female deaths were due to cerebrovascular diseases as compared to 3,569 male deaths. The median age of female deaths was 79 or 4 years higher than that of males (Table 2.12).

TABLE 2.12—Deaths Due to Cerebrovascular Diseases by Age, Race and Sex, Michigan Residents, 1974

| AGE            | ALL RACES |       |        | WHITE |       |        | BLACK |      |        | OTHER |      |        |
|----------------|-----------|-------|--------|-------|-------|--------|-------|------|--------|-------|------|--------|
|                | TOTAL     | MALE  | FEMALE | TOTAL | MALE  | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.. | 7         | 3     | 4      | 4     | 2     | 2      | 3     | 1    | 2      | —     | —    | —      |
| 1-4 Years....  | 3         | 2     | 1      | 2     | 1     | 1      | 1     | 1    | —      | —     | —    | —      |
| 5-9 Years....  | 5         | 3     | 2      | 5     | 3     | 2      | —     | —    | —      | —     | —    | —      |
| 10-14 Years..  | 8         | 4     | 4      | 6     | 3     | 3      | 2     | 1    | 1      | —     | —    | —      |
| 15-19 Years..  | 10        | 3     | 7      | 10    | 3     | 7      | —     | —    | —      | —     | —    | —      |
| 20-24 Years..  | 20        | 11    | 9      | 15    | 8     | 7      | 5     | 3    | 2      | —     | —    | —      |
| 25-29 Years..  | 18        | 7     | 11     | 12    | 5     | 7      | 6     | 2    | 4      | —     | —    | —      |
| 30-34 Years..  | 30        | 14    | 16     | 19    | 10    | 9      | 10    | 4    | 6      | 1     | —    | 1      |
| 35-39 Years..  | 52        | 30    | 22     | 33    | 21    | 12     | 18    | 9    | 9      | 1     | —    | 1      |
| 40-44 Years..  | 85        | 47    | 38     | 57    | 30    | 27     | 27    | 16   | 11     | 1     | 1    | —      |
| 45-49 Years..  | 130       | 71    | 59     | 84    | 43    | 41     | 44    | 27   | 17     | 2     | 1    | 1      |
| 50-54 Years..  | 227       | 114   | 113    | 169   | 88    | 81     | 57    | 25   | 32     | 1     | 1    | —      |
| 55-59 Years..  | 281       | 172   | 109    | 220   | 137   | 83     | 59    | 35   | 24     | 2     | —    | 2      |
| 60-64 Years..  | 459       | 268   | 191    | 390   | 223   | 167    | 67    | 44   | 23     | 2     | 1    | 1      |
| 65-69 Years..  | 702       | 383   | 319    | 592   | 329   | 263    | 109   | 53   | 56     | 1     | 1    | —      |
| 70-74 Years..  | 1,001     | 513   | 488    | 882   | 457   | 425    | 111   | 51   | 60     | 8     | 5    | 3      |
| 75-79 Years..  | 1,321     | 588   | 733    | 1,225 | 544   | 681    | 92    | 41   | 51     | 4     | 3    | 1      |
| 80-84 Years..  | 1,523     | 645   | 878    | 1,439 | 610   | 829    | 80    | 33   | 47     | 4     | 2    | 2      |
| 85-89 Years..  | 1,126     | 411   | 715    | 1,085 | 394   | 691    | 38    | 16   | 22     | 3     | 1    | 2      |
| 90 and Over..  | 636       | 180   | 456    | 613   | 176   | 437    | 23    | 4    | 19     | —     | —    | —      |
| Not Stated...  | 1         | 1     | —      | —     | —     | —      | 1     | 1    | —      | —     | —    | —      |
| Total.....     | 7,645     | 3,470 | 4,175  | 6,862 | 3,087 | 3,775  | 753   | 367  | 386    | 30    | 16   | 14     |
| Median Age..   | 77        | 75    | 79     | 78    | 76    | 80     | 68    | 66   | 70     | *     | *    | *      |

TABLE 2.13—Cerebrovascular Disease Death Rates by Age and Sex, Michigan Residents, 1974

| AGE              | TOTAL   | MALE    | FEMALE  |
|------------------|---------|---------|---------|
| All Ages.....    | 84.0    | 77.6    | 90.2    |
| 0-4 Years.....   | *       | *       | *       |
| 5-9 Years.....   | *       | *       | *       |
| 10-14 Years..... | *       | *       | *       |
| 15-19 Years..... | *       | *       | *       |
| 20-24 Years..... | *       | *       | *       |
| 25-29 Years..... | 3.0     | 2.6     | 3.3     |
| 30-34 Years..... | 5.0     | 4.5     | 5.5     |
| 35-39 Years..... | 10.7    | 12.1    | 9.3     |
| 40-44 Years..... | 18.1    | 20.0    | 16.3    |
| 45-49 Years..... | 24.9    | 27.4    | 22.4    |
| 50-54 Years..... | 44.4    | 46.3    | 42.6    |
| 55-59 Years..... | 63.1    | 80.6    | 47.0    |
| 60-64 Years..... | 125.4   | 153.5   | 99.8    |
| 65-69 Years..... | 252.9   | 297.0   | 214.6   |
| 70-74 Years..... | 489.2   | 571.3   | 425.0   |
| 75-79 Years..... | 907.0   | 987.6   | 851.3   |
| 80-84 Years..... | 1,319.3 | 1,478.7 | 1,222.5 |
| 85 and Over..... | 2,584.7 | 2,478.4 | 2,641.9 |

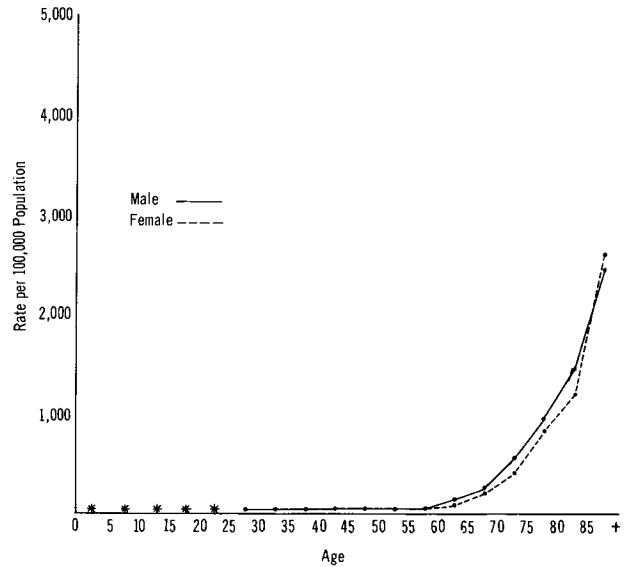
Deaths to whites that were due to cerebrovascular disease displayed median ages 10 years higher than that for black persons. The median age for black males of 66 years contrasts with the white male median of 76. The black female median of 70 years, when compared to the white female statistic of 80, has the same differential as males.

The cerebrovascular disease death rate was 84.0 in 1974. The female rate of 90.2 was significantly higher than the rate for males (77.6). The age-specific death rates in Table 2.13 shows female rates higher than those for males only in the younger and the oldest age groups. With too few deaths to calculate rates below age 25, female rates were higher for age groups 25-29, 30-34 and 85 and over, or 3 of the 13 age intervals presented.

Cerebrovascular diseases are much more frequent among older age groups. As can be seen in Figure 2.10, mortality rates specific to these conditions begin a marked rise about age 50 for males and age 55 for females. Female rates were just below male rates in 1974 for most age intervals.

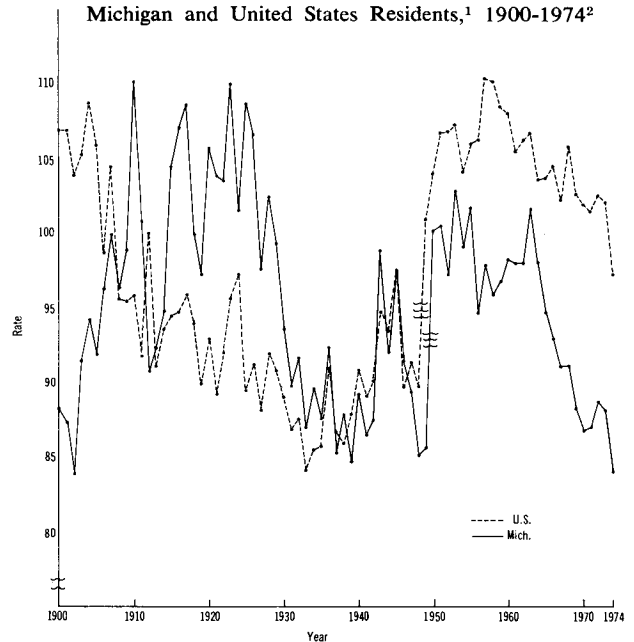
The historic pattern of cerebrovascular disease death rates has been one of strong variation (Figure 2.11). During the time period 1900-1949, the rates in Michigan ranged from a low of 83.9 in 1902 to a high of 110.0 eight years later. The national high and low for the years 1900-1948 are 108.6 in 1904 and 84.1 in 1933. The 6th revision to ICDA cause of death coding was adopted in the year 1949 nationally and 1950 in Michigan. This resulted in a

FIGURE 2.10—Cerebrovascular Disease Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

FIGURE 2.11—Cerebrovascular Disease Death Rates Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



<sup>1</sup>National rates are from death registration states for 1900-1932 and the United States for 1933-1974.

<sup>2</sup>The comparability of cerebrovascular disease death rates from the 5th revision of the ICDA coding procedure with those of the 6th revision is considered weak. The comparability ratio is estimated to be 1.16. The 6th revision was adopted in 1949 for national cause-of-death statistics and in 1950 for Michigan statistics. The comparability of cerebrovascular disease death rates through the 6th, 7th, and 8th revisions (1969 to date nationally and 1950 to date in Michigan) is high.

lack of direct comparability between rates prior to these dates and rates after adoption. Michigan was below national rates from 1900 through 1907 but was generally and sometimes markedly, higher from 1908 to 1938. Michigan and national rates were very similar over the next 8 years, whereupon the Michigan rate slipped below the national rate and has remained there since 1946.

Since the significant change in coding procedures in 1950, the cerebrovascular disease death rate in Michigan has ranged from 102.8 in 1958 to 84.0 in 1974. Recent rates over the last twelve years have shown a clear downward tendency both nationally and in Michigan (Figure 2.11).

Acute but ill-defined cerebrovascular disease was most frequently given as the type of cerebrovascular disease causing death (Table 2.14). Of almost equal frequency was cerebral thrombosis which caused 2,281 deaths in 1974. These two, when combined with

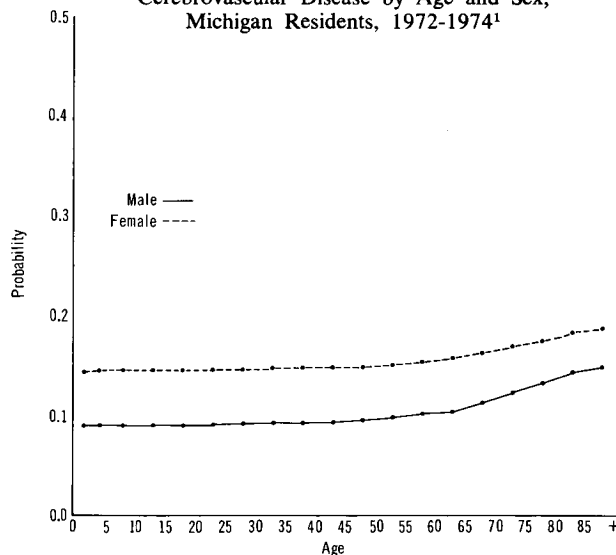
general ischemic cerebrovascular disease and cerebral hemorrhage, comprise 91.8 percent of all cerebrovascular deaths in Michigan.

At birth, a Michigan male faces a 0.090 chance of dying from cerebrovascular disease while the probability associated with a female at birth is 0.145, based upon the mortality experience of 1972 through 1974 in Michigan. Females are consistently more likely to die from this cause than males through all age intervals, according to the 1972-1974 data (Figure 2.12). This results primarily from the higher risks of competing causes for males. At age 60 male chances start rising appreciably with advancing age, reaching 0.150 by age 85. Female data reveals a similar increasing tendency later in life, though it starts at somewhat older ages and displays slower acceleration. The peak probability for females was 0.189 for the age interval 85 and over.

TABLE 2.14—Deaths Due to Cerebrovascular Disease by Detailed Cause, Michigan Residents, 1974

| ICDA LIST NO. | CAUSE OF DEATH                                | NO. OF DEATHS | PERCENT |
|---------------|---|---------------|---------|
| 436           | Acute but Ill-Defined Cerebrovascular Disease | 2,439         | 31.9    |
| 433           | Cerebral Thrombosis                           | 2,281         | 29.8    |
| 437           | General Ischemic Cerebrovascular Disease      | 1,188         | 15.5    |
| 431           | Cerebral Hemorrhage                           | 1,114         | 14.6    |
| 430           | Subarachnoid Hemorrhage                       | 359           | 4.7     |
| 432           | Cerebral Occlusion                            | 119           | 1.6     |
| 438           | Other and Ill-Defined Cerebrovascular Disease | 116           | 1.5     |
| 434           | Cerebral Embolism                             | 27            | 0.4     |
| 435           | Transient Cerebral Ischemia                   | 2             | 0.0     |
|               | TOTAL   | 7,645         | 100.0   |

FIGURE 2.12—Probability of Eventually Dying from Cerebrovascular Disease by Age and Sex, Michigan Residents, 1972-1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

## ACCIDENTS

About 5.5 percent of all Michigan resident deaths were caused by accidents. Of the total 4,211 accidental deaths, 2,940 were males while 1,271 were females.

The median age at death among accident victims was 31 (Table 2.15). Median age among males was

28, twenty years lower than the 48 median for females. This differential is predominantly traceable to relatively high white female ages among accident victims. Where white male median age is 28, white females had a median of 50 in 1974. The age disparity for the sexes among blacks was 1 year with medians of 31 for males and 32 for females.

TABLE 2.15—Deaths Due to Accidents by Age, Race and Sex, Michigan Residents, 1974

| AGE                | ALL RACES |       |        | WHITE |       |        | BLACK |      |        | OTHER |      |        |
|--------------------|-----------|-------|--------|-------|-------|--------|-------|------|--------|-------|------|--------|
|                    | TOTAL     | MALE  | FEMALE | TOTAL | MALE  | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.      | 63        | 38    | 25     | 41    | 22    | 19     | 22    | 16   | 6      | —     | —    | —      |
| 1-4 Years . . . .  | 204       | 129   | 75     | 161   | 103   | 58     | 41    | 25   | 16     | 2     | 1    | 1      |
| 5-9 Years . . . .  | 169       | 109   | 60     | 140   | 87    | 53     | 28    | 22   | 6      | 1     | —    | 1      |
| 10-14 Years . . .  | 182       | 124   | 58     | 158   | 105   | 53     | 22    | 17   | 5      | 2     | 2    | —      |
| 15-19 Years . . .  | 612       | 495   | 117    | 558   | 448   | 110    | 47    | 41   | 6      | 7     | 6    | 1      |
| 20-24 Years . . .  | 486       | 396   | 90     | 445   | 364   | 81     | 32    | 23   | 9      | 9     | 9    | —      |
| 25-29 Years . . .  | 305       | 250   | 55     | 258   | 214   | 44     | 41    | 30   | 11     | 6     | 6    | —      |
| 30-34 Years . . .  | 214       | 169   | 45     | 177   | 136   | 41     | 32    | 28   | 4      | 5     | 5    | —      |
| 35-39 Years . . .  | 161       | 123   | 38     | 132   | 103   | 29     | 25    | 18   | 7      | 4     | 2    | 2      |
| 40-44 Years . . .  | 173       | 129   | 44     | 140   | 104   | 36     | 32    | 25   | 7      | 1     | —    | 1      |
| 45-49 Years . . .  | 185       | 140   | 45     | 146   | 109   | 37     | 34    | 28   | 6      | 5     | 3    | 2      |
| 50-54 Years . . .  | 208       | 142   | 66     | 178   | 121   | 57     | 25    | 18   | 7      | 5     | 3    | 2      |
| 55-59 Years . . .  | 206       | 143   | 63     | 164   | 112   | 52     | 35    | 27   | 8      | 7     | 4    | 3      |
| 60-64 Years . . .  | 163       | 107   | 56     | 140   | 91    | 49     | 19    | 13   | 6      | 4     | 3    | 1      |
| 65-69 Years . . .  | 162       | 108   | 54     | 143   | 93    | 50     | 16    | 12   | 4      | 3     | 3    | —      |
| 70-74 Years . . .  | 131       | 85    | 46     | 115   | 70    | 45     | 16    | 15   | 1      | —     | —    | —      |
| 75-79 Years . . .  | 172       | 87    | 85     | 165   | 83    | 82     | 4     | 2    | 2      | 3     | 2    | 1      |
| 80-84 Years . . .  | 187       | 82    | 105    | 175   | 76    | 99     | 11    | 6    | 5      | 1     | —    | 1      |
| 85-89 Years . . .  | 140       | 52    | 88     | 136   | 50    | 86     | 3     | 1    | 2      | 1     | 1    | —      |
| 90 and Over . . .  | 86        | 30    | 56     | 81    | 29    | 52     | 5     | 1    | 4      | —     | —    | —      |
| Not Stated . . . . | 2         | 2     | —      | —     | —     | —      | 1     | 1    | —      | 1     | 1    | —      |
| Total . . . . .    | 4,211     | 2,940 | 1,271  | 3,653 | 2,520 | 1,133  | 491   | 369  | 122    | 67    | 51   | 16     |
| Median Age . . . . | 31        | 28    | 48     | 31    | 28    | 50     | 31    | 31   | 32     | 36    | 31   | 50     |



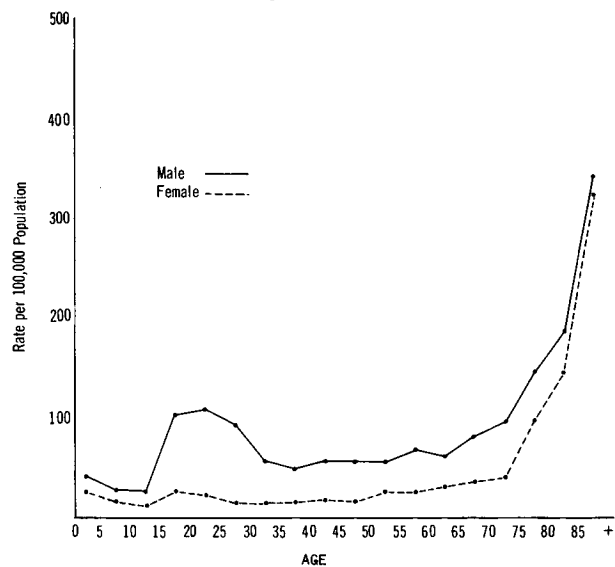
The high female median age at death for deaths due to accidents in 1974 can be attributed to the relatively even distribution of deaths across age groups. The numbers of deaths for all other race and sex groups rise to a peak number of deaths in the age group 15-19 then taper consistently with advancing age. White females also experienced their highest number of accidental deaths in the 15-19 year age group. However, the numbers of deaths remained relatively similar through the older age intervals.

Death rates as the result of accidents for males are twice as large as that for females. Male accidental death rates are greater than female accidental death rates for all age groups. The difference between male and female rates is greatest at age 20-24 where the male rate is 5 times greater than the female rate (Table 2.16).

The mortality rates contained in Table 2.16 are displayed graphically in Figure 2.13. Both sexes experienced greater mortality due to accidents in the age groups 15-19 and 20-24, while a relatively high rate was seen for males in the age interval 25-29. With increasing age, the age-specific accidental death rates of the sexes converge.

Michigan's accidental death rate in 1900 was 71.9. The lowest rate observed in the last 75 years through 1974 was 42.0 in 1950. The highest rate over this

FIGURE 2.13—Accident Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>

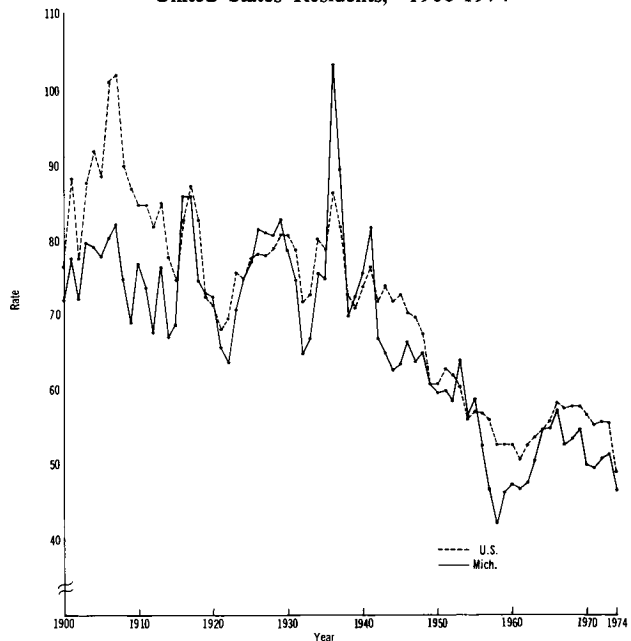


<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

TABLE 2.16—Accident Death Rates by Age and Sex, Michigan Residents, 1974

| AGE              | TOTAL | MALE  | FEMALE |
|------------------|-------|-------|--------|
| All Ages.....    | 46.3  | 65.7  | 27.5   |
| 0-4 Years.....   | 34.4  | 42.1  | 26.4   |
| 5-9 Years.....   | 20.4  | 25.9  | 14.8   |
| 10-14 Years..... | 19.4  | 25.9  | 12.6   |
| 15-19 Years..... | 63.9  | 101.3 | 25.0   |
| 20-24 Years..... | 62.9  | 105.2 | 22.7   |
| 25-29 Years..... | 50.1  | 91.2  | 16.4   |
| 30-34 Years..... | 35.5  | 54.3  | 15.4   |
| 35-39 Years..... | 33.1  | 49.4  | 16.0   |
| 40-44 Years..... | 36.9  | 54.9  | 18.8   |
| 45-49 Years..... | 35.4  | 54.0  | 17.1   |
| 50-54 Years..... | 40.7  | 57.6  | 24.9   |
| 55-59 Years..... | 46.3  | 67.0  | 27.2   |
| 60-64 Years..... | 44.5  | 61.3  | 29.3   |
| 65-69 Years..... | 58.4  | 83.7  | 36.3   |
| 70-74 Years..... | 64.0  | 94.7  | 40.1   |
| 75-79 Years..... | 118.1 | 146.1 | 98.7   |
| 80-84 Years..... | 162.0 | 188.0 | 146.2  |
| 85 and Over..... | 331.5 | 343.9 | 324.9  |

FIGURE 2.14—Accident Death Rates, Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



<sup>1</sup>National rates are from death registration states for 1900-1932 and the United States for 1933-1974.

<sup>2</sup>Accidental death rates since 1900 are suitable for general comparison over time but detailed study (such as time series) requires special consideration. See Technical Notes.

time period was in 1936 when 103.1 persons per 100,000 died from accidental causes. National rates varied from 101.8 in 1907 to 48.9 in 1974. Michigan's rates have been below national rates fairly consistently since 1900.

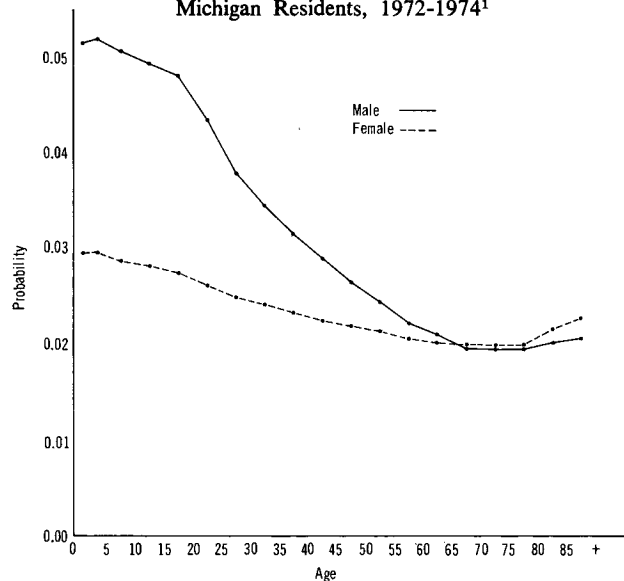
Motor vehicle accidents accounted for 1,883 deaths or 44.7 percent of all accidental deaths in 1974. This type of accident continues to lead all other causes of accidental death. Other accidents was the second most frequent category with 832 deaths. Accidental falls was the second most frequent specific type of accident rather than a general category. This cause of death resulted in 685 deaths in 1974. These three combined account for 80.8 percent of all accidental deaths.

TABLE 2.17—Accidental Deaths by Type of Accidents, Michigan Residents, 1974

| ICDA LIST NO. | TYPE OF ACCIDENT  | NO. OF DEATHS | PERCENT |
|---------------|---|---------------|---------|
| E810-E819     | Motor Vehicle Traffic Accidents                           | 1,883         | 44.7    |
| E910-E929     | Other Accidents   | 832           | 19.8    |
| E880-E887     | Accidental Falls  | 685           | 16.3    |
| E890-E899     | Accidents Caused by Fires and Flames                      | 315           | 7.5     |
| E850-E859     | Accidental Poisonings by Drugs and Medicaments            | 100           | 2.4     |
| E870-E877     | Accidental Poisoning by Gases and Vapors                  | 99            | 2.4     |
| E840-E845     | Air and Space Transport Accidents                         | 49            | 1.2     |
| E830-E838     | Water Transport Accidents                                 | 47            | 1.1     |
| E820-E823     | Motor Vehicle Non-Traffic Accidents                       | 46            | 1.1     |
| E930-E936     | Surgical and Medical Complications and Misadventures      | 44            | 1.0     |
| E900-E909     | Accidents Due to Natural and Environmental Factors        | 42            | 1.0     |
| E860-E869     | Accidental Poisonings by Other Solid or Liquid Substances | 33            | 0.8     |
| E940-E949     | Late Effects of Accidental Injury                         | 21            | 0.5     |
| E800-E807     | Railway Accidents   | 10            | 0.2     |
| E825-E827     | Other Road Vehicle Accidents                              | 5             | 0.1     |
|               | TOTAL   | 4,211         | 100.1   |

It can be seen from Figure 2.14 that the risk of suffering accidental death is higher in the younger age groups than later in life. The probability of eventually dying from accidental causes is 0.052 for males and 0.030 for females at birth, according to Michigan mortality data from the years 1972 through 1974. Male probabilities by age continue to be much higher than females to about age 60-65. Male probabilities decline rather rapidly while those for females decline only slightly. At age interval 65-70, male and female probabilities are about equal. Then male odds of accidental death decline then rise very slightly while female chances gradually rise with advancing age to the terminal age group 85 and over.

FIGURE 2.15—Probability of Eventually Dying from Accidental Causes by Age and Sex, Michigan Residents, 1972-1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

## DIABETES MELLITUS

In 1974, diabetes mellitus caused the death of 1,940 Michigan residents. Deaths to females amounted to 1,122 or about 58 percent of all diabetes mellitus deaths. There were 818 male deaths.

The median age at death for persons dying from diabetes mellitus was 73 years (Table 2.18), just

above the median for all deaths (70 years). Males dying from this disease were slightly younger than females for both the white and black races. The white male median age at death was 3 years less than that of white females, while the black male median was two years less than that of their female counterparts. The disparity between the races was 9 years in 1974. The white male median was 72 years compared to 64

TABLE 2.18—Deaths Due to Diabetes Mellitus by Age, Race and Sex, Michigan Residents, 1974

| AGE            | ALL RACES |      |        | WHITE |      |        | BLACK |      |        | OTHER |      |        |
|----------------|-----------|------|--------|-------|------|--------|-------|------|--------|-------|------|--------|
|                | TOTAL     | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.. | 1         | —    | 1      | 1     | —    | 1      | —     | —    | —      | —     | —    | —      |
| 1-4 Years....  | —         | —    | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| 5-9 Years....  | 1         | —    | 1      | —     | —    | —      | 1     | —    | 1      | —     | —    | —      |
| 10-14 Years..  | 1         | 1    | —      | 1     | 1    | —      | —     | —    | —      | —     | —    | —      |
| 15-19 Years..  | 1         | 1    | —      | 1     | 1    | —      | —     | —    | —      | —     | —    | —      |
| 20-24 Years..  | 7         | 3    | 4      | 6     | 3    | 3      | 1     | —    | 1      | —     | —    | —      |
| 25-29 Years..  | 9         | 3    | 6      | 9     | 3    | 6      | —     | —    | —      | —     | —    | —      |
| 30-34 Years..  | 10        | 6    | 4      | 9     | 5    | 4      | 1     | 1    | —      | —     | —    | —      |
| 35-39 Years..  | 20        | 7    | 13     | 17    | 6    | 11     | 3     | 1    | 2      | —     | —    | —      |
| 40-44 Years..  | 22        | 9    | 13     | 19    | 7    | 12     | 3     | 2    | 1      | —     | —    | —      |
| 45-49 Years..  | 50        | 34   | 16     | 35    | 27   | 8      | 15    | 7    | 8      | —     | —    | —      |
| 50-54 Years..  | 91        | 38   | 53     | 71    | 32   | 39     | 20    | 6    | 14     | —     | —    | —      |
| 55-59 Years..  | 115       | 68   | 47     | 92    | 56   | 36     | 22    | 11   | 11     | 1     | 1    | —      |
| 60-64 Years..  | 178       | 93   | 85     | 148   | 79   | 69     | 29    | 14   | 15     | 1     | —    | 1      |
| 65-69 Years..  | 262       | 117  | 145    | 233   | 107  | 126    | 29    | 10   | 19     | —     | —    | —      |
| 70-74 Years..  | 284       | 108  | 176    | 256   | 98   | 158    | 26    | 10   | 16     | 2     | —    | 2      |
| 75-79 Years..  | 322       | 131  | 191    | 295   | 121  | 174    | 27    | 10   | 17     | —     | —    | —      |
| 80-84 Years..  | 320       | 112  | 208    | 307   | 108  | 199    | 12    | 4    | 8      | 1     | —    | 1      |
| 85-89 Years..  | 173       | 63   | 110    | 167   | 62   | 105    | 6     | 1    | 5      | —     | —    | —      |
| 90 and Over..  | 73        | 24   | 49     | 66    | 20   | 46     | 6     | 4    | 2      | 1     | —    | 1      |
| Not Stated...  | —         | —    | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| Total.....     | 1,940     | 818  | 1,122  | 1,733 | 736  | 997    | 201   | 81   | 120    | 6     | 1    | 5      |
| Median Age..   | 73        | 71   | 74     | 74    | 72   | 75     | 65    | 64   | 66     | *     | *    | *      |

\* Not computed due to the small number of occurrences.

for black males. The white female statistic was 75 years and the black female median age at death was 66 years.

The diabetes mellitus death rate was 21.3 in 1974 (Table 2.19). The rate for female deaths due to this cause was 24.2 or 132 percent of the 18.3 rate for males. Age-specific diabetes death rates for persons under age 65 are similar for both sexes. Female rates are higher than male rates in 4 of the 8 age intervals for which rates are calculated. Female rates are above those of males from age interval 65-69 through 80-84. In the terminal age group of 85 and over, the male rate exceeds that of females. These age-specific rates are displayed graphically in Figure 2.16.

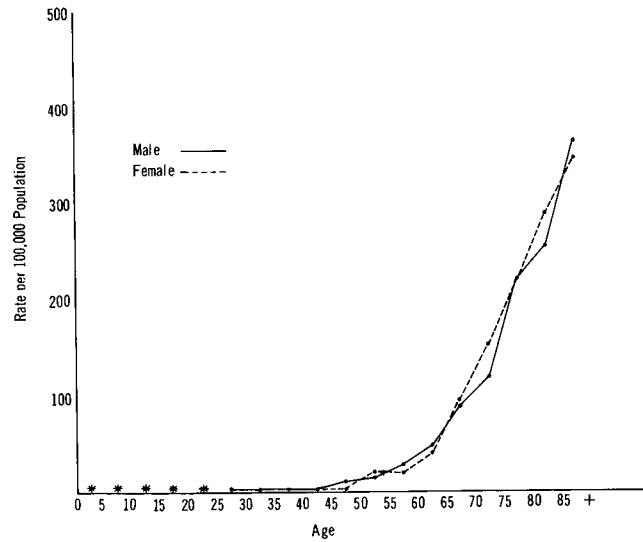
Diabetes mellitus death rates in Michigan rose steadily from a low of 9.3 in 1900 to a peak of 29.7 in 1949 (Figure 2.17). Adoption of the 6th revision to the International Classification of Diseases in 1950 caused a significant change in Michigan diabetes death rates. Over the last twenty-five years the Michigan rate has ranged from 19.2 in 1956 to 26.5 in 1968. The national ranges in this century are from 11.0 in 1900 to 18.3 in 1948 (the year of the adoption of the 6th revision nationally was 1949), and 15.5 in 1955 to 19.2 in 1968.

TABLE 2.19—Diabetes Mellitus Death Rates by Age and Sex, Michigan Residents, 1974

| AGE              | TOTAL | MALE  | FEMALE |
|------------------|-------|-------|--------|
| All Ages.....    | 21.3  | 18.3  | 24.2   |
| 0-4 Years.....   | *     | *     | *      |
| 5-9 Years.....   | *     | *     | *      |
| 10-14 Years..... | *     | *     | *      |
| 15-19 Years..... | *     | *     | *      |
| 20-24 Years..... | *     | *     | *      |
| 25-29 Years..... | 1.5   | 1.1   | 1.8    |
| 30-34 Years..... | 1.7   | 1.9   | 1.4    |
| 35-39 Years..... | 4.1   | 2.8   | 5.5    |
| 40-44 Years..... | 4.7   | 3.8   | 5.6    |
| 45-49 Years..... | 9.6   | 13.1  | 6.1    |
| 50-54 Years..... | 17.8  | 15.4  | 20.0   |
| 55-59 Years..... | 25.8  | 31.9  | 20.3   |
| 60-64 Years..... | 48.6  | 53.3  | 44.4   |
| 65-69 Years..... | 94.4  | 90.7  | 97.5   |
| 70-74 Years..... | 138.8 | 120.3 | 153.3  |
| 75-79 Years..... | 221.1 | 220.0 | 221.8  |
| 80-84 Years..... | 277.2 | 256.8 | 289.6  |
| 85 and Over..... | 360.9 | 364.8 | 358.7  |

\* Not computed due to the small number of occurrences.

FIGURE 2.16—Diabetes Mellitus Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between the graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

FIGURE 2.17—Diabetes Mellitus Death Rates, Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



<sup>1</sup>National rates are from death registration states for 1900-1932 and the United States for 1933-1974.

<sup>2</sup>The comparability of diabetes mellitus death rates from the 5th revision of the ICDA coding procedure with those of the 6th revision is considered good. The comparability ratio is estimated to be .55. The 6th revision was adopted in 1949 for national cause-of-death statistics and in 1950 for Michigan statistics. The comparability of diabetes mellitus disease death rates through the 6th, 7th, and 8th revisions (1949 to date nationally and 1950 to date in Michigan) is high. General comparison before and after these dates of adoption can be made but detailed study requires special consideration. See Technical Notes.

The national diabetes mellitus death rate was generally above the Michigan rate for the first 25 or so years in this century. Michigan's rate of death due to this cause gradually surpassed national rates over the next 15 years. Since 1942, the Michigan rate has been above that of the nation. Through the 1960's the differential between Michigan and United States figures became quite large. This has only recently started to diminish. In 1974 the United States diabetes death rate was 17.4. Michigan's rate was 22 percent above the statistic at 21.3.

In 1974, 91.5 percent of all Diabetes Mellitus deaths did not involve acidosis or coma. This is 0.4 percent above the same percentage in 1973. There were 164 deaths where acidosis or coma was mentioned with the disease. These are deaths where a diabetic crisis was involved.

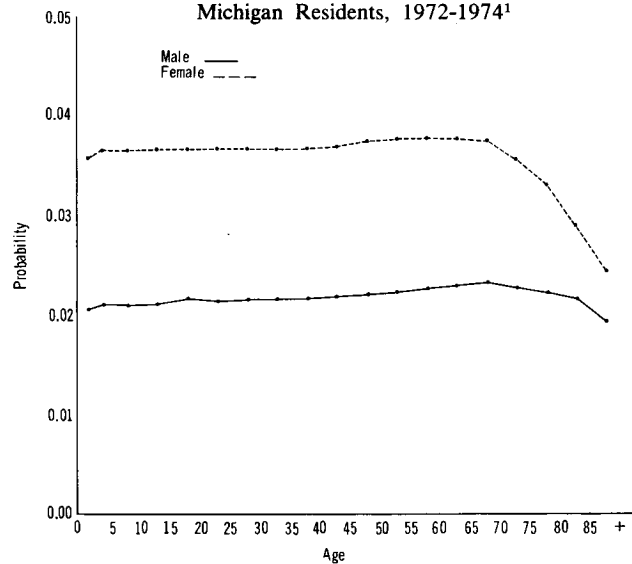
At birth, the probability of eventual death due to diabetes mellitus is 0.021 for males and 0.037 for females. Diabetes mellitus poses a stable pattern of

probability from birth to age 65 for males and to age 55 for females. Males in age group 65-70 are more apt to succumb to this cause than in any other age group. Female chances peak 5 years earlier. Beyond these ages both sexes face decreasing chances of dying from diabetes mellitus and are less likely to die from this cause at ages 85 and over than when they were born. The female probabilities are above those of males throughout life, based on mortality data from Michigan in the years 1972 through 1974.

TABLE 2.20—Diabetes Mellitus by Presence of Acidosis or Coma, Michigan Residents, 1974

| ICDA LIST NO. | CAUSE                               | NO.   | PERCENT |
|---------------|-------------------------------------|-------|---------|
| 250.0         | With Mention of Acidosis or Coma    | 164   | 8.5     |
| 250.9         | Without Mention of Acidosis or Coma | 1,776 | 91.5    |
|               | TOTAL                               | 1,940 | 100.0   |

FIGURE 2.18—Probability of Eventually Dying from Diabetes Mellitus by Age and Sex, Michigan Residents, 1972-1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

## INFLUENZA AND PNEUMONIA

One of every 45 deaths that occurred in Michigan in 1974 was due to influenza and pneumonia. There were a total of 1,698 such deaths, of which 746 were female and 952 were male.

The overall median age at death for those dying from influenza and pneumonia was 76 in 1974 (Table 2.21). This is well above the median age for all deaths of 70 years. The median age for males was less than that for females by 3 years for whites and 2 years for blacks. White medians were higher than those of blacks by as much as 13 years. The medians of 76 for white males and 79 for white females were above the median for all causes of death by 8 and 4 years respectively. Deaths for black males were distributed such that the median age was 63 when death

was due to influenza and pneumonia and 56 for all causes. Black females dying from influenza and pneumonia had a median age of 65, or 4 years above that for any other cause of death.

The influenza and pneumonia death rate was higher for males than females in 1974. The total rate was 18.7 while males and females had rates of 21.3 and 16.1 deaths per 100,000 respectively. The age-specific rates for males were above those of females with fair consistency. Female rates exceeded those of males for only two of the fourteen age groups with sufficient numbers of deaths to prepare rates (Table 2.22).

The higher frequency of male deaths from influenza and pneumonia can be seen in Figure 2.19. Also apparent from this graph is the strong increase in the frequency of death due to influenza and pneumonia with advancing age regardless of sex.

TABLE 2.21—Deaths Due to Influenza and Pneumonia by Age, Race and Sex, Michigan Residents, 1974

| AGE               | ALL RACES |      |        | WHITE |      |        | BLACK |      |        | OTHER |      |        |
|-------------------|-----------|------|--------|-------|------|--------|-------|------|--------|-------|------|--------|
|                   | TOTAL     | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.     | 84        | 49   | 35     | 60    | 32   | 28     | 24    | 17   | 7      | —     | —    | —      |
| 1-4 Years. . . .  | 24        | 14   | 10     | 17    | 11   | 6      | 6     | 2    | 4      | 1     | 1    | —      |
| 5-9 Years. . . .  | 6         | 1    | 5      | 4     | —    | 4      | 2     | 1    | 1      | —     | —    | —      |
| 10-14 Years. . .  | 13        | 6    | 7      | 12    | 5    | 7      | 1     | 1    | —      | —     | —    | —      |
| 15-19 Years. . .  | 10        | 8    | 2      | 9     | 7    | 2      | 1     | 1    | —      | —     | —    | —      |
| 20-24 Years. . .  | 15        | 11   | 4      | 11    | 8    | 3      | 4     | 3    | 1      | —     | —    | —      |
| 25-29 Years. . .  | 15        | 9    | 6      | 11    | 6    | 5      | 4     | 3    | 1      | —     | —    | —      |
| 30-34 Years. . .  | 16        | 6    | 10     | 8     | 2    | 6      | 4     | 4    | —      | —     | —    | —      |
| 35-39 Years. . .  | 13        | 7    | 6      | 7     | 2    | 5      | 6     | 5    | 1      | —     | —    | —      |
| 40-44 Years. . .  | 21        | 13   | 8      | 12    | 6    | 6      | 8     | 6    | 2      | 1     | 1    | —      |
| 45-49 Years. . .  | 39        | 17   | 22     | 29    | 13   | 16     | 10    | 4    | 6      | —     | —    | —      |
| 50-54 Years. . .  | 53        | 33   | 20     | 36    | 20   | 16     | 17    | 13   | 4      | —     | —    | —      |
| 55-59 Years. . .  | 66        | 43   | 23     | 52    | 30   | 22     | 14    | 13   | 1      | —     | —    | —      |
| 60-64 Years. . .  | 106       | 69   | 37     | 84    | 56   | 28     | 21    | 12   | 9      | 1     | 1    | —      |
| 65-69 Years. . .  | 113       | 76   | 37     | 92    | 61   | 31     | 18    | 12   | 6      | 3     | 3    | —      |
| 70-74 Years. . .  | 172       | 105  | 67     | 141   | 85   | 56     | 31    | 20   | 11     | —     | —    | —      |
| 75-79 Years. . .  | 248       | 142  | 106    | 220   | 123  | 97     | 28    | 19   | 9      | —     | —    | —      |
| 80-84 Years. . .  | 291       | 164  | 127    | 270   | 149  | 121    | 21    | 15   | 6      | —     | —    | —      |
| 85-89 Years. . .  | 227       | 120  | 107    | 216   | 114  | 102    | 11    | 6    | 5      | —     | —    | —      |
| 90 and Over. . .  | 166       | 59   | 107    | 155   | 54   | 101    | 10    | 5    | 5      | 1     | —    | 1      |
| Not Stated. . . . | —         | —    | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| Total. . . . .    | 1,698     | 952  | 746    | 1,446 | 784  | 662    | 245   | 162  | 83     | 7     | 6    | 1      |
| Median Age. . .   | 76        | 75   | 78     | 78    | 76   | 79     | 64    | 63   | 65     | *     | *    | *      |

\* Not computed due to the small number of occurrences.

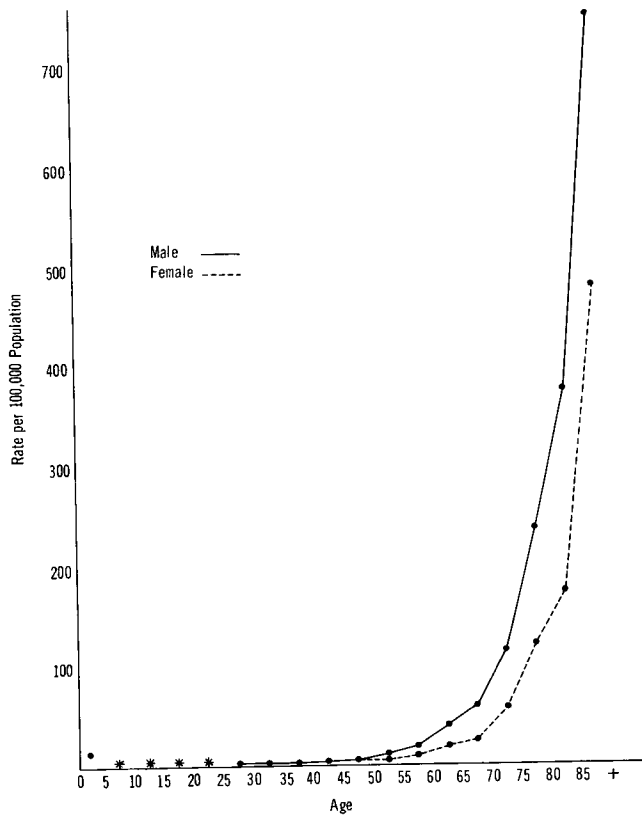
The pattern of influenza and pneumonia death rates has been generally downward since 1900 both nationally and in Michigan (Figure 2.20). The annual rate is seen to be quite erratic from 1900 through 1940 or 1945. Since that time, the rate has been stabilized in terms of year to year variation as well as trendline. Michigan's rate of death due to this cause has been below the national rate almost without exception throughout this century. In 1900, the Michigan rate was 120.3 while the national statistic was 202.1. The peak year for both regions was 1917

TABLE 2.22—Influenza and Pneumonia Death Rates by Age and Sex, Michigan Residents, 1974

| AGE              | TOTAL | MALE  | FEMALE |
|------------------|-------|-------|--------|
| All Ages.....    | 18.7  | 21.3  | 16.1   |
| 0-4 Years.....   | 13.9  | 15.9  | 11.9   |
| 5-9 Years.....   | *     | *     | *      |
| 10-14 Years..... | *     | *     | *      |
| 15-19 Years..... | *     | *     | *      |
| 20-24 Years..... | *     | *     | *      |
| 25-29 Years..... | 2.5   | 3.3   | 1.8    |
| 30-34 Years..... | 2.7   | 1.9   | 3.4    |
| 35-39 Years..... | 2.7   | 2.8   | 2.5    |
| 40-44 Years..... | 4.5   | 5.5   | 3.4    |
| 45-49 Years..... | 7.5   | 6.6   | 8.3    |
| 50-54 Years..... | 10.4  | 13.4  | 7.5    |
| 55-59 Years..... | 14.8  | 20.1  | 9.9    |
| 60-64 Years..... | 29.0  | 39.5  | 19.3   |
| 65-69 Years..... | 40.7  | 58.9  | 24.9   |
| 70-74 Years..... | 84.1  | 116.9 | 58.4   |
| 75-79 Years..... | 170.3 | 238.5 | 123.1  |
| 80-84 Years..... | 252.1 | 376.0 | 176.8  |
| 85 and Over..... | 576.5 | 750.7 | 482.8  |

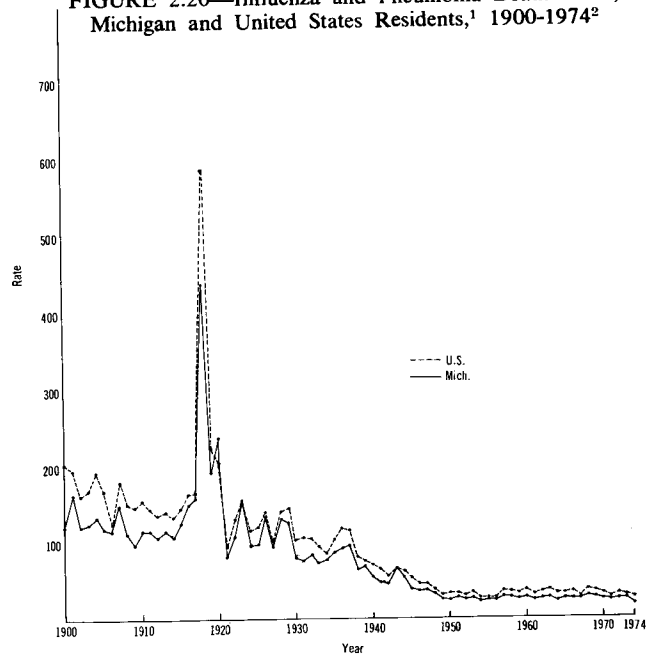
\* Not computed due to the small number of occurrences.

FIGURE 2.19—Influenza and Pneumonia Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

FIGURE 2.20—Influenza and Pneumonia Death Rates, Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



<sup>1</sup>National rates are from death registration states for 1900-1932 and the United States for 1933-1974.

<sup>2</sup>Influenza and Pneumonia death rates since 1900 are suitable for general comparison over time but detailed study (such as time series) requires special consideration. See Technical Notes.

when the United States and Michigan rates were 588.5 and 439.0 respectively. Michigan registered the lowest rate of the century in 1974 (18.7). The national rate in 1974 of 25.7 was the second lowest since 1900. In 1954, the influenza and pneumonia death rate for the country was 25.5.

Pneumonia unspecified caused 988 or 58.2 percent of all influenza and pneumonia deaths. Another 24.7 percent of the deaths due to this cause were bronchopneumonia unspecified. Combined with the 137 deaths due to pneumococcal pneumonia, the top three types of influenza and pneumonia deaths account for 91.0 percent of all such deaths. Less than 4 percent

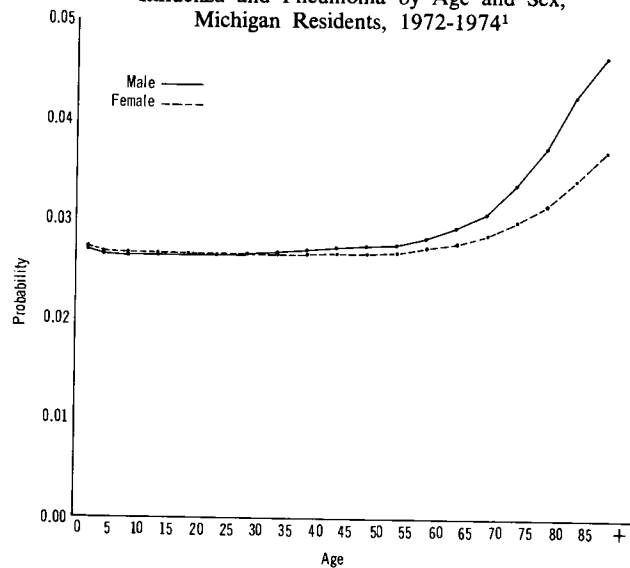
of these deaths were associated with influenza.

The likelihood of eventual death being caused by influenza and pneumonia is a stable 0.027 for both sexes from birth to age 50. The probabilities demonstrated by each sex begin a slow increase at this age, with male chances rising more rapidly than those for females. By ages 85 and over, the chances of eventually dying from influenza and pneumonia are 0.047 for males and 0.037 for females, based on the Michigan mortality experience of 1972-1974 (Figure 2.21).

TABLE 2.23—Influenza and Pneumonia Deaths by Detailed Cause, Michigan Residents, 1974

| ICDA LIST NO. | CAUSE OF DEATH                                  | NO.   | PER-CENT |
|---------------|---|-------|----------|
| 486           | Pneumonia Unspecified                           | 988   | 58.2     |
| 485           | Bronchopneumonia Unspecified                    | 419   | 24.7     |
| 481           | Pneumococcal Pneumonia                          | 137   | 8.1      |
| 482           | Other Bacterial Pneumonia                       | 49    | 2.9      |
| 470           | Influenza Unqualified                           | 30    | 1.8      |
| 480           | Viral Pneumonia                                 | 29    | 1.7      |
| 471           | Influenza with Pneumonia                        | 27    | 1.6      |
| 484           | Acute Interstitial Pneumonia                    | 14    | 0.8      |
| 473           | Influenza with Digestive Manifestations         | 2     | 0.1      |
| 472           | Influenza with Other Respiratory Manifestations | 1     | 0.1      |
| 474           | Influenza with Nervous Manifestations           | 1     | 0.1      |
| 483           | Pneumonia due to Other Specified Organisms      | 1     | 0.1      |
|               | TOTAL   | 1,698 | 100.2    |

FIGURE 2.21—Probability of Eventually Dying from Influenza and Pneumonia by Age and Sex, Michigan Residents, 1972-1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.



## CIRRHOSIS OF THE LIVER

The sixth leading cause of Michigan resident deaths in 1974 was cirrhosis of the liver. This condition caused 1,650 deaths. There were 1,132 male and 518 female cirrhosis of the liver deaths in 1974.

The median age at death for deaths due to cirrhosis

of the liver was 15 years below the median of deaths from all causes (Table 2.24). The distribution of death frequencies across age groups was similar for both white males and females with a median age of death of 57 years. This was much older than for black deaths, with black male and female ages centering on 49 and 48 years respectively.

TABLE 2.24—Deaths Due to Cirrhosis of the Liver by Age, Race and Sex, Michigan Residents, 1974

| AGE            | ALL RACES |       |        | WHITE |      |        | BLACK |      |        | OTHER |      |        |
|----------------|-----------|-------|--------|-------|------|--------|-------|------|--------|-------|------|--------|
|                | TOTAL     | MALE  | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.. | 3         | 2     | 1      | 2     | 2    | —      | 1     | —    | 1      | —     | —    | —      |
| 1-4 Years....  | 3         | 1     | 2      | 3     | 1    | 2      | —     | —    | —      | —     | —    | —      |
| 5-9 Years....  | —         | —     | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| 10-14 Years..  | 1         | —     | 1      | 1     | —    | 1      | —     | —    | —      | —     | —    | —      |
| 15-19 Years..  | 3         | 1     | 2      | 3     | 1    | 2      | —     | —    | —      | —     | —    | —      |
| 20-24 Years..  | 7         | 3     | 4      | 4     | 1    | 3      | 3     | 2    | 1      | —     | —    | —      |
| 25-29 Years..  | 21        | 15    | 6      | 11    | 6    | 5      | 10    | 9    | 1      | —     | —    | —      |
| 30-34 Years..  | 52        | 36    | 16     | 12    | 9    | 3      | 39    | 26   | 13     | 1     | 1    | —      |
| 35-39 Years..  | 69        | 47    | 22     | 34    | 23   | 11     | 35    | 24   | 11     | —     | —    | —      |
| 40-44 Years..  | 131       | 80    | 51     | 81    | 50   | 31     | 48    | 29   | 19     | 2     | 1    | 1      |
| 45-49 Years..  | 231       | 153   | 78     | 159   | 108  | 51     | 71    | 45   | 26     | 1     | —    | 1      |
| 50-54 Years..  | 260       | 180   | 80     | 203   | 141  | 62     | 56    | 39   | 17     | 1     | —    | 1      |
| 55-59 Years..  | 267       | 192   | 75     | 202   | 147  | 55     | 63    | 44   | 19     | 2     | 1    | 1      |
| 60-64 Years..  | 205       | 150   | 55     | 173   | 126  | 47     | 31    | 23   | 8      | 1     | 1    | —      |
| 65-69 Years..  | 193       | 138   | 55     | 172   | 122  | 50     | 21    | 16   | 5      | —     | —    | —      |
| 70-74 Years..  | 90        | 64    | 26     | 78    | 56   | 22     | 12    | 8    | 4      | —     | —    | —      |
| 75-79 Years..  | 67        | 44    | 23     | 63    | 41   | 22     | 4     | 3    | 1      | —     | —    | —      |
| 80-84 Years..  | 32        | 18    | 14     | 31    | 18   | 13     | 1     | —    | 1      | —     | —    | —      |
| 85-89 Years..  | 13        | 7     | 6      | 12    | 7    | 5      | 1     | —    | 1      | —     | —    | —      |
| 90 and Over..  | 2         | 1     | 1      | 2     | 1    | 1      | —     | —    | —      | —     | —    | —      |
| Not Stated...  | —         | —     | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| Total.....     | 1,650     | 1,132 | 518    | 1,246 | 860  | 386    | 396   | 268  | 128    | 8     | 4    | 4      |
| Median Age..   | 55        | 56    | 54     | 57    | 57   | 57     | 49    | 49   | 48     | *     | *    | *      |

\* Not computed due to the small number of occurrences.

The cirrhosis of the liver death rates presented in Table 2.25 reveal a high relative frequency of male over female deaths. The overall male rate of 25.3 is more than double the female incidence of 11.2. The age specific rates for males dying from cirrhosis of the liver are from 2 to 3 times the corresponding female rates.

The differential between male and female mortality due to cirrhosis of the liver in 1974 is quite large, as can be seen in Figure 2.22. Also, apparent from the graph is the relative infrequency of death from this cause prior to age 35. Peak mortality is experienced between ages 65 and 69, whereupon the population proportions succumbing to this disease decline with advancing age.

TABLE 2.25—Cirrhosis of the Liver Death Rates by Age and Sex, Michigan Residents, 1974

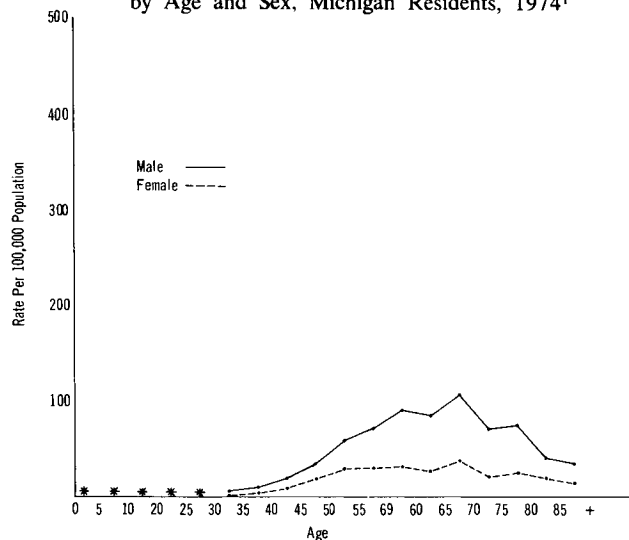
| AGE              | TOTAL | MALE  | FEMALE |
|------------------|-------|-------|--------|
| All Ages.....    | 18.1  | 25.3  | 11.2   |
| 0-4 Years.....   | *     | *     | *      |
| 5-9 Years.....   | *     | *     | *      |
| 10-14 Years..... | *     | *     | *      |
| 15-19 Years..... | *     | *     | *      |
| 20-24 Years..... | *     | *     | *      |
| 25-29 Years..... | 3.5   | 5.5   | 1.8    |
| 30-34 Years..... | 8.6   | 11.6  | 5.5    |
| 35-39 Years..... | 14.2  | 18.9  | 9.3    |
| 40-44 Years..... | 28.0  | 34.0  | 21.8   |
| 45-49 Years..... | 44.2  | 59.0  | 29.6   |
| 50-54 Years..... | 50.8  | 73.0  | 30.2   |
| 55-59 Years..... | 60.0  | 90.0  | 32.4   |
| 60-64 Years..... | 56.0  | 85.9  | 28.7   |
| 65-69 Years..... | 69.5  | 107.0 | 37.0   |
| 70-74 Years..... | 44.0  | 71.3  | 22.6   |
| 75-79 Years..... | 46.0  | 73.9  | 26.7   |
| 80-84 Years..... | 27.7  | 41.3  | 19.5   |
| 85 and Over..... | 22.0  | 33.5  | 15.8   |

\* Not computed due to the small number of occurrences.

Cirrhosis of the liver was the cause of death for 7.9 of every 100,000 Michigan residents in 1900. Mortality rates specific to this cause of death rose to a peak of 13.1 in 1916. The relative frequency of cirrhosis of the liver then fell sharply dropping to 7.4 in 1919. The Michigan rates held stable from this point to about 1936 where they began rising slowly. A peak of 12.4 was reached by 1948.

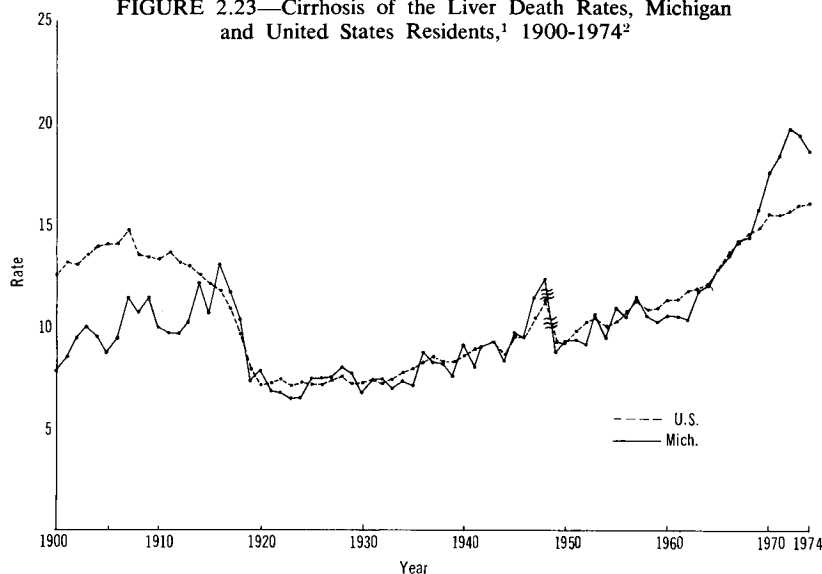
The statistics shown in Figure 2.23 after 1948 are not comparable with preceding years, due to a revision

FIGURE 2.22—Cirrhosis of the Liver Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

FIGURE 2.23—Cirrhosis of the Liver Death Rates, Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



<sup>1</sup>National rates are from death registration states for 1900-1932 and the United States for 1932-1974.

<sup>2</sup>The comparability of cirrhosis of the liver death rates from the 5th revision of the ICDA coding procedures with those of the 6th revision is considered weak. The comparability ratio is estimated to be .80. The 6th revision was adopted in 1949 for national cause-of-death statistics and in 1950 for Michigan statistics. The comparability of cirrhosis of the liver death rates through the 6th, 7th, and 8th revisions (1949 to date nationally and 1950 to date in Michigan) is high. General comparison before and after these dates of adoption can be made but detailed study require special consideration. See Technical Notes.

of cause of death determination. By isolating the period 1949 to 1974, this problem can be ignored. A trend of increase can be seen through this most recent period.

The United States rates of death due to cirrhosis of the liver were well above Michigan rates early in the century. The highest national rate observed during the 1900-1948 period occurred in 1907. Michigan rates were consistently similar to national rates from about 1916 through to 1948.

Following a revision of ICDA coding procedures in 1949, the rates in Michigan and nationally dropped slightly. The closeness of the cirrhosis of the liver death rates remained, however. In 1969, the Michigan rate rose above the national cause-specific rate for that year and from 1969 through 1974, cirrhosis of the liver death rates of Michigan residents have been well above corresponding national rates. In 1974, the Michigan rate was 18.1 while the national rate was 16.0.

The contributing factor of alcoholism was mentioned on 491 or 29.8 percent of the cirrhosis of the liver deaths in 1974. There were 1,159 deaths due to this cause with no mention of alcoholism (Table 2.26).

The probability of eventually dying from cirrhosis of the liver, based upon Michigan mortality data from the years 1972-1974, is displayed in Figure 2.24 by age and sex. This graph reveals that the risk associated with this condition is much greater for males than females. At birth males demonstrate a probability of 0.023 as compared to 0.012 for females. Cirrhosis of the liver deaths display a constant level of risk for both sexes from birth to ages 40 to 45, whereupon, the threat of death due to this condition

diminishes with advancing age. By age 85, the risk indicated by male mortality data is 0.002 and that for females is 0.001.

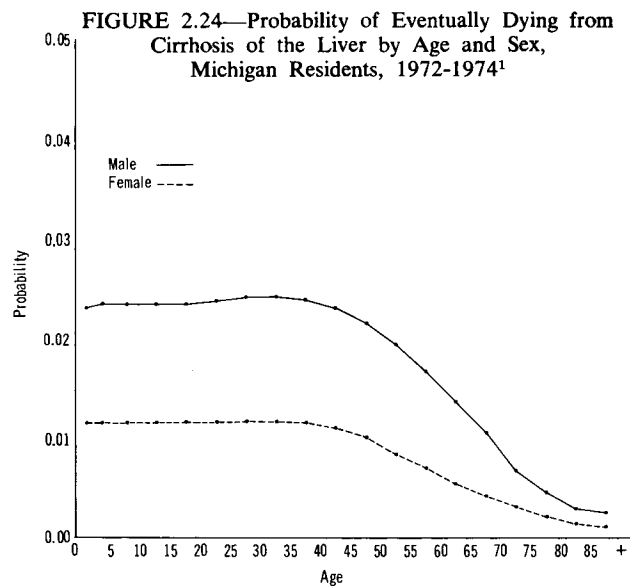


TABLE 2.26—Deaths Due to Cirrhosis of the Liver by Mention of Alcoholism, Michigan Residents, 1974

| ICDA LIST NO. | CAUSE OF DEATH                | NO.   | PERCENT |
|---------------|-------------------------------|-------|---------|
| 571.0         | With Mention of Alcoholism    | 491   | 29.8    |
| 571.8, 571.9  | Without Mention of Alcoholism | 1,159 | 70.2    |
|               | TOTAL                         | 1,650 | 100.0   |

# HOMICIDE

There were 1,241 deaths due to homicide in Michigan in 1974. Of these, 980 or 79 percent were male deaths while only 261 were female. Over 65 percent of all homicides were to blacks. The 150 black female deaths constituted 57 percent of all female homicide victims. Black male deaths comprised over 67 per-

cent of all male deaths attributed to homicide.

The median age at death among homicide victims in 1974 was only 29 years. White males were 4 years younger than white females at the median with statistics of 31 and 35 years respectively. Black male homicide victims were older than black females by 2 years (Table 2.27).

TABLE 2.27—Deaths Due to Homicide by Age, Race and Sex, Michigan Residents, 1974

| AGE              | ALL RACES |      |        | WHITE |      |        | BLACK |      |        | OTHER |      |        |
|------------------|-----------|------|--------|-------|------|--------|-------|------|--------|-------|------|--------|
|                  | TOTAL     | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.    | 4         | 2    | 2      | 1     | —    | 1      | 3     | 2    | 1      | —     | —    | —      |
| 1-4 Years . . .  | 10        | 4    | 6      | 6     | 2    | 4      | 4     | 2    | 2      | —     | —    | —      |
| 5-9 Years . . .  | 7         | 3    | 4      | 1     | —    | 1      | 6     | 3    | 3      | —     | —    | —      |
| 10-14 Years . .  | 9         | 5    | 4      | 3     | 1    | 2      | 6     | 4    | 2      | —     | —    | —      |
| 15-19 Years . .  | 131       | 91   | 40     | 50    | 33   | 17     | 80    | 57   | 23     | 1     | 1    | —      |
| 20-24 Years . .  | 260       | 211  | 49     | 79    | 62   | 17     | 180   | 148  | 32     | 1     | 1    | —      |
| 25-29 Years . .  | 201       | 172  | 29     | 58    | 52   | 6      | 142   | 120  | 22     | 1     | —    | 1      |
| 30-34 Years . .  | 164       | 135  | 29     | 45    | 38   | 7      | 119   | 97   | 22     | —     | —    | —      |
| 35-39 Years . .  | 92        | 79   | 13     | 32    | 26   | 6      | 60    | 53   | 7      | —     | —    | —      |
| 40-44 Years . .  | 75        | 56   | 19     | 26    | 16   | 10     | 49    | 40   | 9      | —     | —    | —      |
| 45-49 Years . .  | 80        | 69   | 11     | 23    | 18   | 5      | 57    | 51   | 6      | —     | —    | —      |
| 50-54 Years . .  | 69        | 56   | 13     | 24    | 19   | 5      | 45    | 37   | 8      | —     | —    | —      |
| 55-59 Years . .  | 43        | 36   | 7      | 15    | 13   | 2      | 28    | 23   | 5      | —     | —    | —      |
| 60-64 Years . .  | 28        | 23   | 5      | 14    | 11   | 3      | 13    | 11   | 2      | 1     | 1    | —      |
| 65-69 Years . .  | 19        | 12   | 7      | 13    | 8    | 5      | 6     | 4    | 2      | —     | —    | —      |
| 70-74 Years . .  | 16        | 7    | 9      | 10    | 4    | 6      | 6     | 3    | 3      | —     | —    | —      |
| 75-79 Years . .  | 15        | 10   | 5      | 11    | 7    | 4      | 4     | 3    | 1      | —     | —    | —      |
| 80-84 Years . .  | 10        | 6    | 4      | 8     | 4    | 4      | 2     | 2    | —      | —     | —    | —      |
| 85-89 Years . .  | 6         | 1    | 5      | 6     | 1    | 5      | —     | —    | —      | —     | —    | —      |
| 90 and Over . .  | 2         | 2    | —      | 2     | 2    | —      | —     | —    | —      | —     | —    | —      |
| Not Stated . . . | —         | —    | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| Total . . . . .  | 1,241     | 980  | 261    | 427   | 317  | 110    | 810   | 660  | 150    | 4     | 3    | 1      |
| Median Age . . . | 29        | 30   | 29     | 31    | 31   | 35     | 29    | 29   | 27     | *     | *    | *      |

\* Not computed due to the small number of occurrences.

There were 13.6 homicide deaths for every 100,000 Michigan residents in 1974. Male deaths were far more frequent than female deaths as indicated by the sex and age-specific rates in Table 2.28. The male overall rate of death due to homicide was 21.9 in 1974 or almost 4 times the female rate of 5.6. Age-specific homicide rates for females were higher than the corresponding male rates only for the age interval 0-4. Male rates dominate most of the other age groups. In the age group 20-24, the male homicide rate is more than seven times that for females (62.7 and 8.7 respectively).

The disparity between the male and female age-specific rates is also evident from Figure 2.25. The 1974 rates were not calculated for age intervals 5-9 and 10-14. The female rate peaked in age groups

20-24 then declined in a wavering fashion to age 60-64 whereupon it rises and peaks again in the age group 85 and over. Male rates soar from ages 15-19 to 25-29 then rapidly decline. The age-specific homicide rate for males falls fairly consistently until equaling the female rates in age group 70-74, then rises and reconverges in the terminal age group.

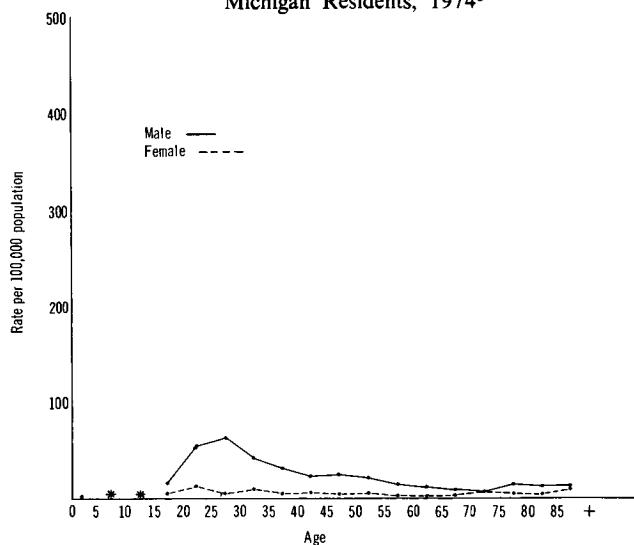
Homicide in Michigan was negligible in 1900 when compared to today. The rate at the turn of the century was 0.6, the lowest rate observed over the 75 years from 1900 to 1974. The 1974 rate was the highest of this time period at 13.6.

TABLE 2.28—Homicide Death Rates by Age and Sex, Michigan Residents, 1974

| AGE              | TOTAL | MALE | FEMALE |
|------------------|-------|------|--------|
| All Ages.....    | 13.6  | 21.9 | 5.6    |
| 0-4 Years.....   | 1.8   | 1.5  | 2.1    |
| 5-9 Years.....   | *     | *    | *      |
| 10-14 Years..... | *     | *    | *      |
| 15-19 Years..... | 13.7  | 18.6 | 8.5    |
| 20-24 Years..... | 33.6  | 56.0 | 12.4   |
| 25-29 Years..... | 33.0  | 62.7 | 8.7    |
| 30-34 Years..... | 27.2  | 43.4 | 9.9    |
| 35-39 Years..... | 18.9  | 31.7 | 5.5    |
| 40-44 Years..... | 16.0  | 23.8 | 8.1    |
| 45-49 Years..... | 15.3  | 26.6 | 4.2    |
| 50-54 Years..... | 13.5  | 22.7 | 4.9    |
| 55-59 Years..... | 9.7   | 16.9 | 3.0    |
| 60-64 Years..... | 7.7   | 13.2 | 2.6    |
| 65-69 Years..... | 6.8   | 9.3  | 4.7    |
| 70-74 Years..... | 7.8   | 7.8  | 7.8    |
| 75-79 Years..... | 10.3  | 16.8 | 5.8    |
| 80-84 Years..... | 8.7   | 13.8 | 5.6    |
| 85 and Over..... | 11.7  | 12.6 | 11.3   |

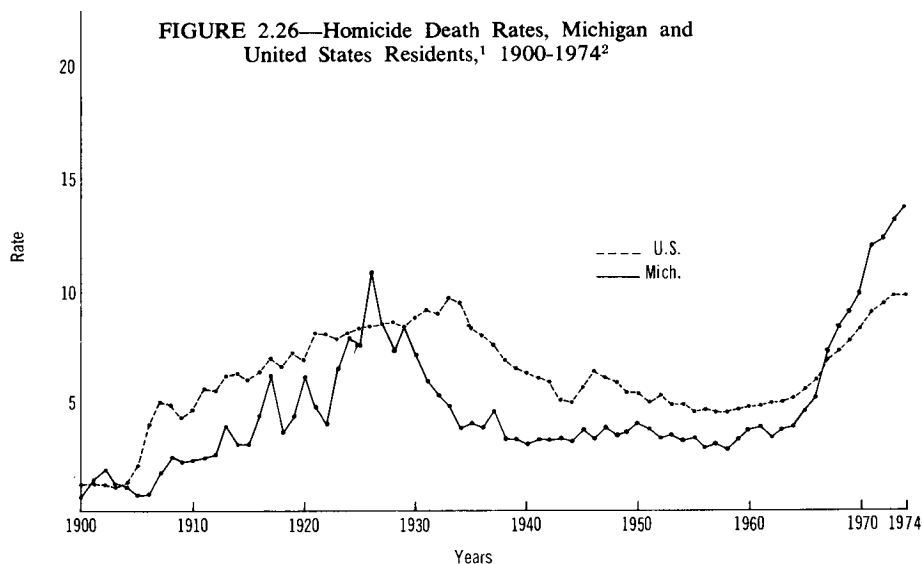
\* Not computed due to the small number of occurrences.

FIGURE 2.25—Homicide Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

FIGURE 2.26—Homicide Death Rates, Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



<sup>1</sup>National rates are from death registration states for 1900-1932 and the United States for 1933-1974.

<sup>2</sup>Homicide death rates since 1900 are suitable for general comparison over time but detailed study (such as time series) requires special consideration. See Technical Notes.

The homicide rate in Michigan rose in the early part of the century to a peak of 10.6 in 1926 whereupon it then declined. It was then stable from 1934 through 1964. In the last 10 years the Michigan rate has risen markedly and consistently to the century high mark measured in 1974.

From 1900 to 1964, the homicide rate in Michigan was above the national rate only 5 times. In the 10 years 1965-1974 the homicide rate was lower in Michigan than nationally in 1965 and 1966 and increasingly greater over the last eight years. In 1974, the Michigan rate of death due to homicide was 38.8 percent above the 9.8 rate observed nationally.

The methods used in 1974 for the commission of homicide are listed in Table 2.29. Assault by firearms and explosives resulted in 898 deaths. This was the most frequent type of homicide. Next most frequent was assault by cutting and piercing instruments. These two methods when combined constitute 88.4 percent of all methods. Another 1.7 percent of the deaths were the result of legal interventions in 1974.

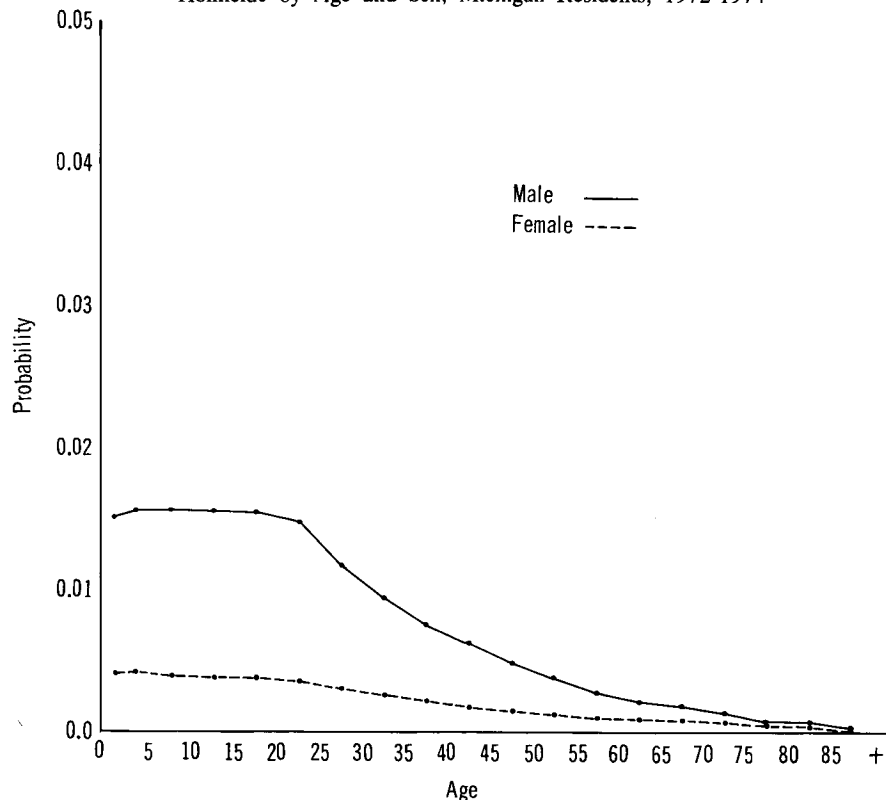
With homicide most prevalent at younger ages, the probability of eventual death due to homicide is as

high at birth as at any other age, according to Michigan death data by cause in 1972-1974. The chance of a male dying eventually from this cause is 0.015 at birth. The risk for females is 0.004. The risk for both sexes stays about at these levels until the late 20's. With advancing age, the probability of eventually dying from homicide declines, becoming negligible for ages over 85.

TABLE 2.29—Deaths Due to Homicide by Detailed Cause, Michigan Residents, 1974

| ICDA LIST NO. | CAUSE OF DEATH  | NO.   | PERCENT |
|---------------|---|-------|---------|
| 965           | Assault by Firearms and Explosives                        | 898   | 72.4    |
| 966           | Assault by Cutting and Piercing Instruments               | 199   | 16.0    |
| 968           | Assault by Other Unspecified Means                        | 73    | 5.9     |
| 963           | Assault by Hanging and Strangulation                      | 40    | 3.2     |
| 970           | Injury Due to Legal Interventions by Firearms             | 21    | 1.7     |
| 964           | Assault by Submersion                                     | 5     | 0.4     |
| 960           | Fight, Brawl or Rape                                      | 3     | 0.2     |
| 967           | Assault by Pushing from High Place                        | 1     | 0.1     |
| 969           | Late Effect of Injury Purposely Inflicted by Other Person | 1     | 0.1     |
|               | TOTAL   | 1,241 | 100.0   |

FIGURE 2.27—Probability of Eventually Dying from Homicide by Age and Sex, Michigan Residents, 1972-1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

## SUICIDE

There were nearly as many suicides as homicides in Michigan in 1974. There was a total of 1,205 suicides, making suicide the 9th leading cause of death. Deaths resulting from suicide were about 71 percent male, with 854 male and 351 female deaths in 1974. This is similar to the 79 percent male deaths observed for homicides. There is no similarity to homicide associated with racial proportion as 92 percent of these deaths were to white persons.

Approximately 50 percent of all suicide deaths were under the age of 41. The male median age (40) was just below that for females (42). The ages at death observed for whites were well above that of black suicide victims. White males and females had medians of 41 and 44 respectively. The 50th percentile of the black male age distribution was 29 and for black females 31 (Table 2.30).

The suicide death rate in 1974 was 13.2, 7.3 percent above that observed in 1973. Suicide by males had a relative frequency more than double that of females with rates of 19.1 and 7.6 respectively. Age-specific rates were higher for males than females across all age groups (Table 2.31). The greatest differential between males and females was observed in the age interval 75-79. At these ages male suicides were more than eight times more frequent than females.

Suicide becomes prevalent between the ages of 15 and 19. The age-specific mortality rates for suicides are displayed graphically in Figure 2.28. In 1974, male suicides were a more frequent cause of death among men in their twenties and age 75 and over. Female rates did not display marked relationships with age after the midteens.

The suicide death rates of Michigan and the United States followed a cyclical path from 1900 to 1944. There were two complete cycles of rising then falling

TABLE 2.31—Suicide Death Rates by Age and Sex, Michigan Residents, 1974

| AGE              | TOTAL | MALE | FEMALE |
|------------------|-------|------|--------|
| All Ages.....    | 13.2  | 19.1 | 7.6    |
| 0-4 Years.....   | *     | *    | *      |
| 5-9 Years.....   | *     | *    | *      |
| 10-14 Years..... | *     | *    | *      |
| 15-19 Years..... | 8.1   | 12.1 | 4.1    |
| 20-24 Years..... | 19.4  | 31.6 | 7.8    |
| 25-29 Years..... | 25.1  | 40.8 | 12.3   |
| 30-34 Years..... | 18.6  | 25.4 | 11.3   |
| 35-39 Years..... | 15.8  | 19.3 | 12.2   |
| 40-44 Years..... | 19.4  | 22.6 | 16.3   |
| 45-49 Years..... | 21.4  | 27.4 | 15.6   |
| 50-54 Years..... | 19.9  | 26.4 | 14.0   |
| 55-59 Years..... | 18.9  | 25.8 | 12.5   |
| 60-64 Years..... | 17.5  | 25.2 | 10.5   |
| 65-69 Years..... | 16.6  | 30.2 | 4.7    |
| 70-74 Years..... | 18.6  | 30.1 | 9.6    |
| 75-79 Years..... | 32.3  | 67.2 | 8.1    |
| 80-84 Years..... | 21.7  | 41.3 | 9.7    |
| 85 and Over..... | *     | *    | *      |

\* Not computed due to the small number of occurrences.

TABLE 2.30—Deaths Due to Suicide by Age, Race and Sex, Michigan Residents, 1974

| AGE            | ALL RACES |      |        | WHITE |      |        | BLACK |      |        | OTHER |      |        |
|----------------|-----------|------|--------|-------|------|--------|-------|------|--------|-------|------|--------|
|                | TOTAL     | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| Under 1 Year.. | —         | —    | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| 1-4 Years....  | —         | —    | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| 5-9 Years....  | —         | —    | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| 10-14 Years..  | 10        | 10   | —      | 10    | 10   | —      | —     | —    | —      | —     | —    | —      |
| 15-19 Years..  | 78        | 59   | 19     | 70    | 54   | 16     | 8     | 5    | 3      | —     | —    | —      |
| 20-24 Years..  | 150       | 119  | 31     | 131   | 105  | 26     | 19    | 14   | 5      | —     | —    | —      |
| 25-29 Years..  | 153       | 112  | 41     | 131   | 96   | 35     | 21    | 15   | 6      | 1     | 1    | —      |
| 30-34 Years..  | 112       | 79   | 33     | 98    | 67   | 31     | 14    | 12   | 2      | —     | —    | —      |
| 35-39 Years..  | 77        | 48   | 29     | 70    | 44   | 26     | 7     | 4    | 3      | —     | —    | —      |
| 40-44 Years..  | 91        | 53   | 38     | 82    | 51   | 31     | 9     | 2    | 7      | —     | —    | —      |
| 45-49 Years..  | 112       | 71   | 41     | 110   | 69   | 41     | 1     | 1    | —      | 1     | 1    | —      |
| 50-54 Years..  | 102       | 65   | 37     | 97    | 61   | 36     | 5     | 4    | 1      | —     | —    | —      |
| 55-59 Years..  | 84        | 55   | 29     | 81    | 53   | 28     | 2     | 1    | 1      | 1     | 1    | —      |
| 60-64 Years..  | 64        | 44   | 20     | 62    | 43   | 19     | 2     | 1    | 1      | —     | —    | —      |
| 65-69 Years..  | 46        | 39   | 7      | 43    | 36   | 7      | 3     | 3    | —      | —     | —    | —      |
| 70-74 Years..  | 38        | 27   | 11     | 36    | 25   | 11     | 2     | 2    | —      | —     | —    | —      |
| 75-79 Years..  | 47        | 40   | 7      | 46    | 39   | 7      | 1     | 1    | —      | —     | —    | —      |
| 80-84 Years..  | 25        | 18   | 7      | 24    | 17   | 7      | 1     | 1    | —      | —     | —    | —      |
| 85-89 Years..  | 13        | 12   | 1      | 13    | 12   | 1      | —     | —    | —      | —     | —    | —      |
| 90 and Over..  | 3         | 3    | —      | 3     | 3    | —      | —     | —    | —      | —     | —    | —      |
| Not Stated..   | —         | —    | —      | —     | —    | —      | —     | —    | —      | —     | —    | —      |
| Total.....     | 1,205     | 854  | 351    | 1,107 | 785  | 322    | 95    | 66   | 29     | 3     | 3    | —      |
| Median Age..   | 41        | 40   | 42     | 42    | 41   | 44     | 29    | 29   | 31     | *     | *    | *      |

\* Not computed due to the small number of occurrences.

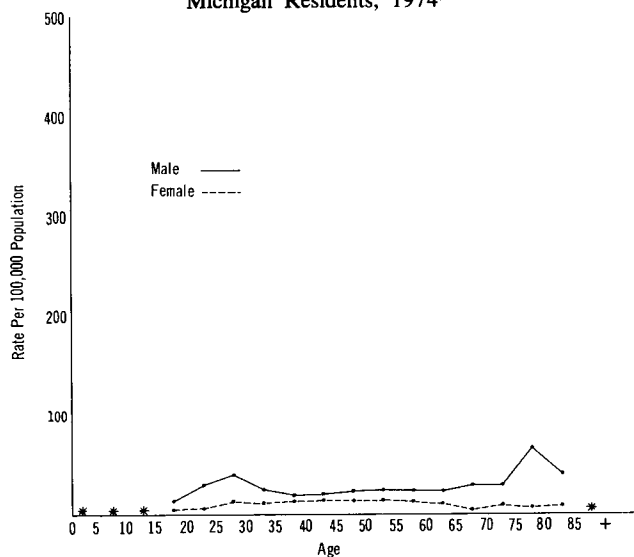
rates in that time period. The rates since 1943 held fairly stable for several years then began a slow rise in both Michigan and the United States. There has been strong similarity in both the trend and the extent of Michigan and national rates in this century (Figure 2.30). In 1974, the Michigan rate was just above the national rate of 12.5. The 1974 suicide death rate was the highest observed since 1940 in Michigan (13.2) and since 1941 in the United States (12.5).

Suicides in Michigan were predominately the result of one of 4 types of self-inflicted injury. Self-inflicted injury by firearms and explosives caused 618 deaths in 1974. Self-inflicted injury by hanging, strangulation and suffocation resulted in 190 deaths.

TABLE 2.32—Deaths Due to Suicide by Method, Michigan Residents, 1974

| ICDA LIST NO. | CAUSE OF DEATH  | NO.   | PERCENT |
|---------------|---|-------|---------|
| 955           | Suicide and Self-Inflicted Injury by Firearms and Explosives                | 618   | 51.3    |
| 953           | Suicide and Self-Inflicted Injury by Hanging, Strangulation and Suffocation | 190   | 15.8    |
| 952           | Suicide and Self-Inflicted Poisoning by Other Gases                         | 185   | 15.4    |
| 950           | Suicide and Self-Inflicted Poisoning by Solid or Liquid Substances          | 151   | 12.5    |
| 954           | Suicide and Self-Inflicted Injury by Submersion (Drowning)                  | 19    | 1.6     |
| 956           | Suicide and Self-Inflicted Injury by Cutting and Piercing Instruments       | 15    | 1.2     |
| 957           | Suicide and Self-Inflicted Injury by Jumping from High Place                | 14    | 1.2     |
| 958           | Suicide and Self-Inflicted Injury by Other and Unspecified Means            | 12    | 1.0     |
| 951           | Suicide and Self-Inflicted Poisoning by Gases in Domestic Use               | 1     | 0.1     |
|               | TOTAL   | 1,205 | 100.1   |

FIGURE 2.28—Suicide Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>

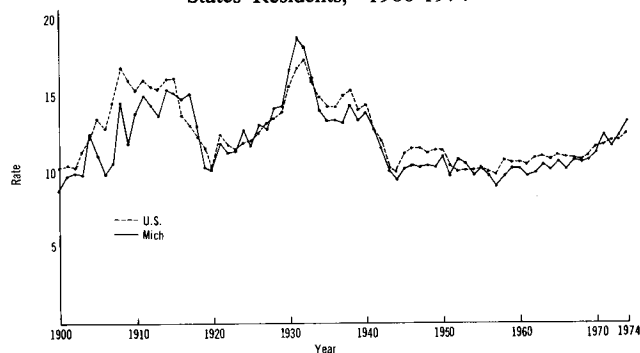


<sup>1</sup>Note: Should comparisons be desired between the graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

Poisonings by non-domestic gases and by solid and liquid substances combined were responsible for an additional 336 deaths. These four types of suicide account for 95.0 percent of all suicidal deaths to Michigan residents in 1974 (Table 2.32).

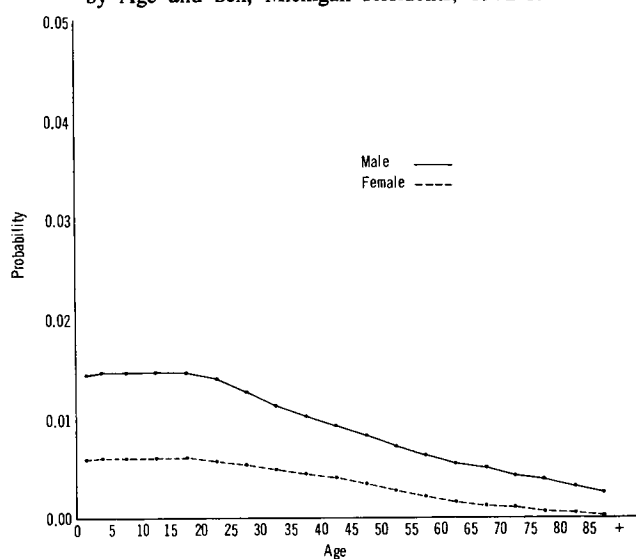
Suicidal death presents a far more persistent problem to both sexes than homicide. Using the Michigan mortality experience of 1972 through 1974, the chance of a male eventually committing suicide is 0.014 at birth. The risk for females is 0.006. These probabilities hold relatively constant with advancing age, tapering slowly after ages 25 to 30. By age 85, the probability of eventually dying from suicide is 0.003 for males and less than 0.001 for females (Figure 2.31).

FIGURE 2.29—Suicide Death Rates, Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



<sup>1</sup>National rates are from death registration states for 1900-1932 and the United States for 1933-1974.  
<sup>2</sup>Suicide death rates since 1900 are suitable for general comparison over time but detailed study (such as time series) requires special consideration. See Technical Notes.

FIGURE 2.30—Probability of Eventually Dying from Suicide by Age and Sex, Michigan Residents, 1972-1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.



## ARTERIOSCLEROSIS

There were a total of 1,187 Michigan resident deaths attributed to arteriosclerosis in 1974. This cause was the 10th leading cause of death in the state. There were 489 male and 698 female deaths. Only 46 of the 1,187 total deaths were non-white.

The majority of the arteriosclerosis deaths were at advanced ages. The median age of all deaths resulting from this condition was 84 in 1974. Male deaths were younger than female deaths, while white deaths displayed median ages much higher than blacks (Table 2.33). The center of the white male age distribution was 82 years, 3 years below that for white females. Black males dying from this disease in 1974 had a median age of 72. This statistic for black females was 79 or 7 years above that for black males.

Arteriosclerosis resulted in 13.0 deaths per 100,000 Michigan residents in 1974. Female deaths resulting from this condition were relatively more frequent than for males with rates of 15.1 and 10.9 respectively (Table 2.34). Age-specific arteriosclerosis death rates were generally higher for males than females. Only for ages 85 and over was the age-specific female rate above that of males in 1974.

The arteriosclerosis deaths observed among Michigan residents in 1974 occurred with greatest frequency to those in the oldest age groups. The rates of arteriosclerosis deaths rise sharply beyond age 75. About 8 of every 1,000 Michigan residents aged 85 and over died from this disease in 1974 (Figure 2.31).

TABLE 2.34—Arteriosclerosis Death Rates by Age and Sex, Michigan Residents, 1974

| AGE              | TOTAL | MALE  | FEMALE |
|------------------|-------|-------|--------|
| All Ages.....    | 13.0  | 10.9  | 15.1   |
| 0-34 Years.....  | **    | **    | **     |
| 35-39 Years..... | *     | *     | *      |
| 40-44 Years..... | *     | *     | *      |
| 45-49 Years..... | *     | *     | *      |
| 50-54 Years..... | *     | *     | *      |
| 55-59 Years..... | 3.1   | 5.2   | 1.3    |
| 60-64 Years..... | 8.5   | 13.7  | 3.7    |
| 65-69 Years..... | 19.5  | 22.5  | 16.8   |
| 70-74 Years..... | 51.3  | 57.9  | 46.2   |
| 75-79 Years..... | 104.4 | 115.9 | 96.4   |
| 80-84 Years..... | 237.4 | 259.1 | 224.2  |
| 85 and Over..... | 798.0 | 763.2 | 816.7  |

\* Not computed due to the small number of occurrences.  
\*\*There were no deaths under 35 years.

Inspection of arteriosclerosis death rates since 1900 is far less informative than the historical data of other causes of death. The classification of this disease has been significantly altered several times since the inception of the ICD codes (see footnotes of Figure 2.33). What can be seen in Figure 2.33 is a strong rise from 1900 to 1912. Michigan and national rates then stabilize and begin declining through to 1929. A coding revision then breaks comparability to 1930 rates. The arteriosclerosis death rates from 1930 to 1938 show no clear direction. The period 1939 to 1948 was again mixed. From 1949 to 1967 the national rates held fairly stable while Michigan rates dropped then returned to national levels. Since the last ICDA revision, the arteriosclerosis rates in

TABLE 2.33—Deaths Due to Arteriosclerosis by Age, Race and Sex, Michigan Residents, 1974

| AGE           | ALL RACES |      |        | WHITE |      |        | BLACK |      |        | OTHER |      |        |
|---------------|-----------|------|--------|-------|------|--------|-------|------|--------|-------|------|--------|
|               | TOTAL     | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE | TOTAL | MALE | FEMALE |
| 35-39 Years.. | 2         | 1    | 1      | 2     | 1    | 1      | —     | —    | —      | —     | —    | —      |
| 40-44 Years.. | 3         | 2    | 1      | 3     | 2    | 1      | —     | —    | —      | —     | —    | —      |
| 45-49 Years.. | 2         | 1    | 1      | 2     | 1    | 1      | —     | —    | —      | —     | —    | —      |
| 50-54 Years.. | 6         | 5    | 1      | 5     | 4    | 1      | 1     | 1    | —      | —     | —    | —      |
| 55-59 Years.. | 14        | 11   | 3      | 11    | 8    | 3      | 3     | 3    | —      | —     | —    | —      |
| 60-64 Years.. | 31        | 24   | 7      | 30    | 23   | 7      | 1     | 1    | —      | —     | —    | —      |
| 65-69 Years.. | 54        | 29   | 25     | 46    | 26   | 20     | 8     | 3    | 5      | —     | —    | —      |
| 70-74 Years.. | 105       | 52   | 53     | 98    | 49   | 49     | 7     | 3    | 4      | —     | —    | —      |
| 75-79 Years.. | 152       | 69   | 83     | 146   | 68   | 78     | 5     | 1    | 4      | 1     | —    | 1      |
| 80-84 Years.. | 274       | 113  | 161    | 265   | 111  | 154    | 9     | 2    | 7      | —     | —    | —      |
| 85-89 Years.. | 284       | 100  | 184    | 279   | 97   | 182    | 4     | 2    | 2      | 1     | 1    | —      |
| 90 and Over.. | 260       | 82   | 178    | 254   | 79   | 175    | 6     | 3    | 3      | —     | —    | —      |
| Total.....    | 1,187     | 489  | 698    | 1,141 | 469  | 672    | 44    | 19   | 25     | 2     | 1    | 1      |
| Median Age..  | 84        | 82   | 85     | 84    | 82   | 85     | 77    | 72   | 79     | *     | *    | *      |

\* Not computed due to the small number of occurrences.

Michigan have been below national rates. This covers the time period 1968-1974. In 1974, the national arteriosclerosis death rate was 15.2.

Virtually all arteriosclerosis deaths are reported as generalized and/or unspecified as to type. Only 8 of the 1,187 deaths were in other classifications (Table 2.35).

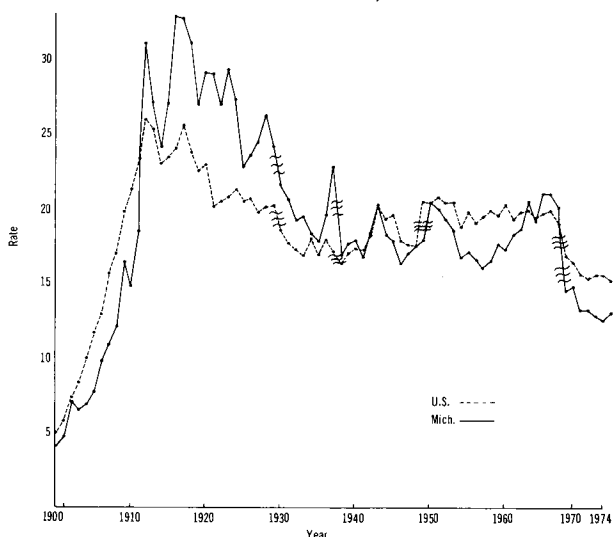
The 1972 through 1974 mortality data for Michigan indicate that females are more likely to eventually die from arteriosclerosis than males. At birth, the likelihood for females is 0.026, while for males it is 0.014. This situation holds through all age intervals with probabilities gradually rising beyond age 55. By age 85, the probability of eventually dying from arteriosclerosis is 0.054 for females and 0.046 for males (Figure 2.34).

As with heart disease (p. 33), arteriosclerosis mortality rates are generally higher for males than for females (Figure 2.31), yet females are more apt to eventually die from this condition (Figure 2.33). The relative frequency of male death over female death for deaths due to any cause is highlighted by this. It evidences that the greater frequency of arteriosclerosis deaths for males is overshadowed by the mortality disparity between the sexes for all other conditions.

TABLE 2.35—Deaths Due to Arteriosclerosis by Detailed Cause, Michigan Residents, 1974

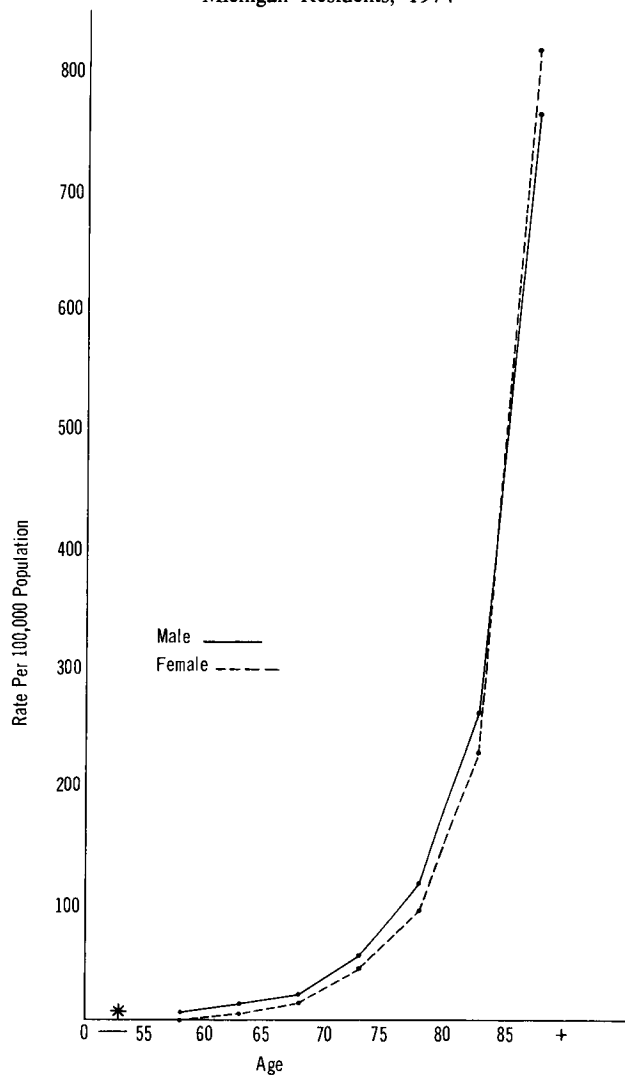
| ICDA LIST NO. | CAUSE OF DEATH                 | NO.   |
|---------------|--------------------------------|-------|
| 440.0         | Of Aorta                       | 3     |
| 440.2         | Of Arteries of the Extremities | 4     |
| 440.3         | Of Other Specific Arteries     | 1     |
| 440.9         | Generalized and Unspecified    | 1,179 |
|               | TOTAL                          | 1,187 |

FIGURE 2.32—Arteriosclerosis Death Rates, Michigan and United States Residents,<sup>1</sup> 1900-1974<sup>2</sup>



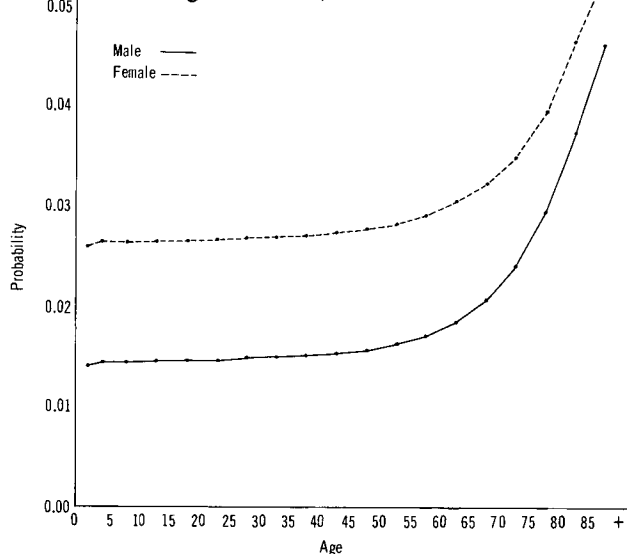
<sup>1</sup>National rates are from death registration states for 1900-1972 and the United States for 1933-1974.  
<sup>2</sup>Although Michigan and United States arteriosclerosis death rates are comparable for any given year, changes in the International Classification of Diseases over the years have made historical comparison of these rates extremely difficult. Comparability breaks are especially pronounced in the 1930, 1935, 1949 and 1968 revisions. Analysis of arteriosclerosis death rates over the time period 1900-1974 requires detailed study to maintain comparability.

FIGURE 2.31—Arteriosclerosis Death Rates by Age and Sex, Michigan Residents, 1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

FIGURE 2.33—Probability of Eventually Dying from Arteriosclerosis by Age and Sex, Michigan Residents, 1972-1974<sup>1</sup>



<sup>1</sup>Note: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

## INFANT DEATHS

Of the 76,143 deaths occurring to Michigan residents in 1974, 2,387 occurred to individuals less than one year of age. The infant mortality rates observed since 1900 in Michigan and since 1915 nationally are displayed in Figure 2.34. The Michigan infant mortality rate in 1900 was 157.1. This has declined over the years with fair consistency to the 1974 rate of 17.4.

Infant mortality rates in Michigan have been generally below those observed nationally. National rates were below those of Michigan for only 9 of the 57 years from 1915 to 1969. Over the last five years the infant mortality rate in Michigan has been slightly above that of the United States. In 1974, the provisional infant mortality rate for the nation was 16.5. Michigan and United States rates over the last decade are presented in Table 2.36.

Infant mortality rates have historically been shown to vary with the age of the mother and the race of the child. Infant mortality rates by age of mother and race of child are provided in Table 2.37. These data are from a file of matched live birth and infant death information. The rates presented are associated with Michigan residents born in 1973. It can be seen from this table that infant mortality rates of non-whites are almost double those of whites. Higher frequencies of infant death generally relate to younger or older mothers, i.e., under 20 or over 40.

TABLE 2.36—Infant Deaths and Infant Mortality Rates, Michigan and United States Residents, 1964-1974

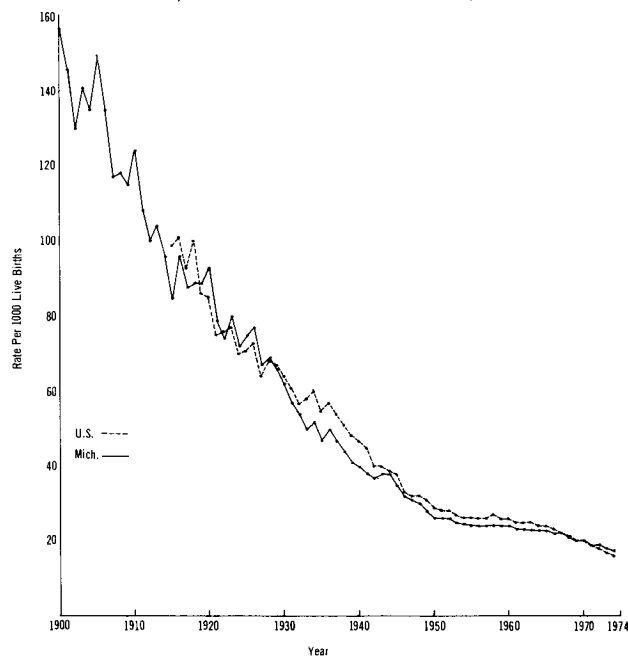
| UNITED STATES |      | YEAR | MICHIGAN |      |
|---------------|------|------|----------|------|
| NO.           | RATE |      | NO.      | RATE |
| 99,783        | 24.8 | 1964 | 4,043    | 23.1 |
| 92,866        | 24.7 | 1965 | 3,936    | 23.6 |
| 85,516        | 23.7 | 1966 | 3,751    | 22.6 |
| 79,028        | 22.4 | 1967 | 3,595    | 22.1 |
| 76,263        | 21.8 | 1968 | 3,438    | 21.6 |
| 75,073        | 20.9 | 1969 | 3,356    | 20.2 |
| 74,667        | 20.0 | 1970 | 3,492    | 20.3 |
| 67,981        | 19.1 | 1971 | 3,157    | 19.5 |
| 60,182        | 18.5 | 1972 | 2,801    | 19.1 |
| 55,581        | 17.7 | 1973 | 2,561    | 18.1 |
| 52,776        | 16.7 | 1974 | 2,387    | 17.4 |

TABLE 2.37—Infant Deaths, Live Births and Infant Mortality Rates by Age of Mother and Race of Infant, Michigan Resident Infants Born in 1973

| AGE OF MOTHER   | WHITE INFANTS |             |                   | OTHER INFANTS |             |                   |
|-----------------|---------------|-------------|-------------------|---------------|-------------|-------------------|
|                 | Infant Deaths | Live Births | Infant Death Rate | Infant Deaths | Live Births | Infant Death Rate |
| TOTAL.....      | 1,623         | 114,878     | 14.1              | 735           | 26,672      | 27.6              |
| Under 15.....   | 3             | 201         | 14.9              | 18            | 368         | 48.9              |
| 15-19.....      | 372           | 19,383      | 19.2              | 254           | 8,425       | 30.1              |
| 20-24.....      | 583           | 42,108      | 13.8              | 256           | 9,176       | 27.9              |
| 25-29.....      | 395           | 34,625      | 11.4              | 125           | 5,220       | 23.9              |
| 30-39.....      | 249           | 17,476      | 14.2              | 77            | 3,207       | 24.0              |
| 40 or more..... | 21            | 1,072       | 19.6              | 5             | 267         | 18.7              |
| Unknown.....    | —             | 13          | *                 | —             | 9           | *                 |

\* Not computed due to the small number of occurrences.

FIGURE 2.34—Infant Mortality Rates, Michigan Residents, 1900-1974, and United States Residents, 1915-1974



There are three subclassifications of infant death:  
 Deaths Under 1 Day ..... 940 in 1974  
 Deaths Under 7 Days ..... 1,509 in 1974  
 Deaths Under 28 Days ..... 1,734 in 1974  
 Total Infant Deaths  
 (Under 1 Year) ..... 2,387 in 1974

When deaths under one week are grouped together with fetal deaths the resultant total is called perinatal deaths. By placing a ceiling of six days for the infant component of perinatal deaths, most accidental and environmental causes of death have been eliminated. In 1974, Michigan resident perinatal deaths numbered 2,960 and the perinatal death rate was 21.3.

Michigan resident infant deaths in 1974 are listed by cause of death classification in Table 2.38. As with fetal deaths there is some non-specific reporting. The number of deaths allocated to "Other Diseases of Early Infancy" was 558 (24.4%) in 1974. Congenital anomalies in 1974 numbered 372. Asphyxia of newborn numbered 178 and immaturity deaths numbered 240. Sudden infant death syndrome was the cause of 259 infant deaths in 1974.

Influenza and pneumonia deaths numbered 84, while accidental deaths numbered 63. The vast majority of infant deaths are attributable to causes restricted to the fetus and newborn but there still remain other major causes of death particularly in three areas: (1) infective and parasitic diseases; (2) respiratory diseases and (3) accidents.

About 91.0 percent of the mothers of Michigan resident infants born in 1973 and dying prior to

TABLE 2.38—Infant Deaths by Cause of Death, Michigan Residents, 1974

| ICDA LIST NUMBER/S         | CAUSE OF DEATH                         | FREQUENCY |
|----------------------------|--|-----------|
| 740-759                    | Congenital Anomalies                   | 372       |
| 795.0                      | Sudden Infant Death Syndrome           | 259       |
| 777                        | Immaturity Unqualified                 | 240       |
| 776.9                      | Asphyxia of Newborn                    | 178       |
| 470-474, 480-486           | Influenza and Pneumonia                | 84        |
| 764-768 (.0-.3), 772       | Birth Injuries                         | 73        |
| E800-E949                  | Accidents                              | 63        |
| Residual 000-136           | Other Infective and Parasitic Diseases | 59        |
| 008, 009                   | Enteritis and Other Diarrheal Diseases | 34        |
| 550-553, 560               | Hernia and Intestinal Obstruction      | 28        |
| 320                        | Meningitis                             | 25        |
| 390-398, 402, 404, 410-429 | Heart Disease                          | 13        |
| 430-438                    | Cerebrovascular Diseases               | 7         |
| 140-209                    | Malignant Neoplasms                    | 4         |
| 466                        | Acute Bronchitis and Bronchiocitis     | 4         |
| E960-E978                  | Homicide                               | 4         |
| 531-533                    | Peptic Ulcer                           | 3         |
| 571                        | Cirrhosis of the Liver                 | 3         |
| 210-239                    | Benign Neoplasms                       | 2         |
| 490, 491                   | Chronic and Unqualified Bronchitis     | 2         |
| 441-448                    | Other Diseases of Arteries, etc.       | 2         |
| 250                        | Diabetes Mellitus                      | 1         |
| 280-285                    | Anemias                                | 1         |
| 580-584                    | Nephritis and Nephrosis                | 1         |
| E980-E999                  | All Other External Causes              | 6         |
| Residual 770-778           | Other Diseases of Early Infancy        | 558       |
|                            | All Other Diseases                     | 361       |
|                            | TOTAL                                  | 2,387     |

TABLE 2.39—Infant Deaths by Month Prenatal Care Began and Number of Prenatal Visits, Michigan Resident Infants Born in 1973

| MONTH CARE BEGAN | TOTAL | NUMBER OF VISITS |         |     |       |       |             |         |
|------------------|-------|------------------|---------|-----|-------|-------|-------------|---------|
|                  |       | NONE             | UNDER 5 | 5-9 | 10-14 | 15-19 | 20 AND OVER | UNKNOWN |
| TOTAL.....       | 2,358 | 130              | 614     | 815 | 597   | 97    | 40          | 65      |
| No Care.....     | 130   | 130              | —       | —   | —     | —     | —           | —       |
| First.....       | 239   | —                | 30      | 94  | 73    | 20    | 13          | 9       |
| Second.....      | 700   | —                | 116     | 256 | 256   | 42    | 18          | 12      |
| Third.....       | 591   | —                | 159     | 221 | 175   | 24    | 5           | 7       |
| Fourth.....      | 293   | —                | 110     | 108 | 64    | 4     | 3           | 4       |
| Fifth.....       | 198   | —                | 97      | 76  | 18    | 5     | —           | 2       |
| Sixth.....       | 87    | —                | 45      | 33  | 6     | 1     | 1           | 1       |
| Seventh.....     | 42    | —                | 23      | 17  | 2     | —     | —           | —       |
| Eighth.....      | 33    | —                | 25      | 6   | 1     | —     | —           | 1       |
| Ninth.....       | 6     | —                | 5       | 1   | —     | —     | —           | —       |
| Unknown.....     | 39    | —                | 4       | 3   | 2     | 1     | —           | 29      |

1 year of age received prenatal care prior to the sixth month of pregnancy (Table 2.39). This is just above the corresponding percentage for all live births in 1973 (90.6%). Of these same women 66.0 percent received care in the first trimester of pregnancy. Among women having live births in 1973, 72.7 percent had received care prior to the 4th month of pregnancy.

The median birth weight of infants born in 1973 and dying prior to 1 year of age was 1,784 grams (Table 2.40). The median birth weight of all Michigan resident live births in 1973 was 3,333 grams. The median weight of those live births in 1973 that resulted in an infant death varied by age of mother. Infants whose mothers were aged 15-19 weighed least (median 1,582 grams).

TABLE 2.40—Infant Deaths by Birth Weight and Mother's Age, Michigan Resident Infants Born in 1973

| BIRTH WEIGHT IN GRAMS | TOTAL | MOTHER'S AGE |       |       |       |       |            |
|-----------------------|-------|--------------|-------|-------|-------|-------|------------|
|                       |       | UNDER 15     | 15-19 | 20-24 | 25-29 | 30-39 | 40 OR MORE |
| TOTAL.....            | 2,358 | 21           | 626   | 839   | 520   | 326   | 26         |
| 500 or Less.....      | 185   | 1            | 29    | 79    | 46    | 27    | 3          |
| 501-1,000.....        | 517   | 9            | 154   | 173   | 103   | 72    | 6          |
| 1,001-1,500.....      | 321   | 5            | 113   | 107   | 55    | 38    | 3          |
| 1,501-2,000.....      | 230   | 1            | 67    | 70    | 59    | 31    | 2          |
| 2,001-2,500.....      | 222   | —            | 53    | 76    | 57    | 33    | 3          |
| 2,501-3,000.....      | 288   | 3            | 80    | 110   | 58    | 34    | 3          |
| 3,001-3,500.....      | 302   | —            | 69    | 120   | 69    | 40    | 4          |
| 3,501-4,000.....      | 182   | —            | 40    | 68    | 47    | 26    | 1          |
| 4,001-4,500.....      | 42    | —            | 9     | 16    | 9     | 8     | —          |
| 4,501 and Over.....   | 18    | —            | —     | 7     | 5     | 6     | —          |
| Not Stated.....       | 51    | 2            | 12    | 13    | 12    | 11    | 1          |
| Median Weight.....    | 1,784 | *            | 1,582 | 1,886 | 1,924 | 1,831 | *          |

## COMMUNICABLE DISEASE DEATHS

Although comprising a small proportion of deaths than they have in the past, communicable disease deaths continue to be a major concern to public health professionals. Deaths due to such diseases as diphtheria, scarlet fever and streptococcal sore throat, smallpox, typhoid fever, measles, poliomyelitis and others have been virtually eliminated not only in Michigan, but across the nation. Table 4.5 illustrates trends in deaths from the major communicable diseases.

In 1974, deaths from all infective and parasitic diseases numbered 601. As can be observed from Table 2.41, the four major causes of death in this group are septicemia (190 deaths), Tuberculosis (142 deaths), Diarrheal disease (90 deaths) and Infectious Hepatitis (29 deaths).

Of particular importance is the fact that infants accounted for 15.5 percent of all infective and parasitic disease deaths while accounting for only 1.7 percent of all deaths.

TABLE 2.41—Deaths from Selected Infective and Parasitic Diseases, Michigan Residents, 1974

| ICDA LIST NUMBER | CAUSE OF DEATH                              | FREQUENCY |
|------------------|---|-----------|
| 038              | Septicemia                                  | 190       |
| 010-019          | Tuberculosis                                | 142       |
| 009              | Diarrheal Disease                           | 90        |
| 070              | Infectious Hepatitis                        | 29        |
| 036              | Meningococcal Infections                    | 14        |
| 094              | Syphilis of Central Nervous System          | 8         |
| 065              | Viral Encephalitis                          | 7         |
| 054              | Herpes Simplex                              | 4         |
| 093              | Cardiovascular Syphilis                     | 3         |
| 044              | Late Effects of Acute Poliomyelitis         | 2         |
| 034              | Streptococcal Sore Throat and Scarlet Fever | 1         |
|                  | All Other                                   | 111       |
|                  | TOTAL                                       | 601       |

## LIFE EXPECTANCY

The life expectancy of a Michigan resident at birth is 71.5 years, based on 1974 mortality statistics. Michigan males demonstrated a significantly shorter longevity than Michigan females. In 1974 the years remaining at birth are 68.0 for males and 75.3 for females. This results from the overall higher mortality rate of males.

Life expectancies by sex in selected years for Michigan and United States residents are presented in Table 2.42. It can be seen that longevity has increased greatly since 1901. In that year the life expectancy of Michigan residents was well above that for the nation. This differential had virtually disappeared by 1950. In 1974, the life expectancy of both males and females in Michigan is below that demonstrated nationwide. Michigan male longevity was only slightly below the national statistic in 1974. Females residing in this State are 0.5 years below the average for the country. Note that females have consistently demonstrated greater longevity than males both in Michigan and the United States.

White persons displayed a life expectancy 6.5 years longer than non-white persons in 1974. White males can be expected to live 7.6 years longer than non-whites in 1974 compared to a differential of 5.8 years in 1950 (Table 2.43). The differential between females by race has moved in the opposite direction over the last twenty-five years. In 1950, Michigan resident white females had an average longevity 8.5 years greater than that of non-white females. This disparity was 5.7 years in 1974. The enlarged racial difference between males is a reflection of the actual reduction in non-white male longevity, over the ten years from 1960 to 1970.

The expected number of years of life remaining are presented graphically by age, race, and sex in Figure 2.35. The relative differential between the sexes for each race hold fairly stable throughout life, based upon Michigan resident mortality data from 1974. Non-whites display slightly greater expectancies in the older age groups.

TABLE 2.42—Life Expectancy at Birth by Sex, Michigan and United States Residents, Selected Years, 1901-1974

| UNITED STATES        |                        | YEAR | MICHIGAN             |                        |
|----------------------|------------------------|------|----------------------|------------------------|
| Male Life Expectancy | Female Life Expectancy |      | Male Life Expectancy | Female Life Expectancy |
| 47.6                 | 50.6                   | 1901 | 53.4                 | 55.1                   |
| 48.4                 | 51.8                   | 1910 | 53.9                 | 56.2                   |
| 53.6                 | 54.6                   | 1920 | 55.1 <sup>1</sup>    | 56.0 <sup>1</sup>      |
| 58.1                 | 61.6                   | 1930 | 59.8 <sup>1</sup>    | 62.8 <sup>1</sup>      |
| 60.8                 | 65.2                   | 1940 | 63.4 <sup>1</sup>    | 67.4 <sup>1</sup>      |
| 65.6                 | 71.1                   | 1950 | 65.7                 | 71.2                   |
| 66.6                 | 73.1                   | 1960 | 67.1                 | 73.3                   |
| 67.1                 | 74.8                   | 1970 | 67.2                 | 74.6                   |
| 67.4                 | 75.0                   | 1971 | 67.3                 | 74.9                   |
| 67.4                 | 75.1                   | 1972 | 67.3                 | 74.9                   |
| 67.6                 | 75.3                   | 1973 | 67.4                 | 75.0                   |
| 68.1                 | 75.8                   | 1974 | 68.0                 | 75.3                   |

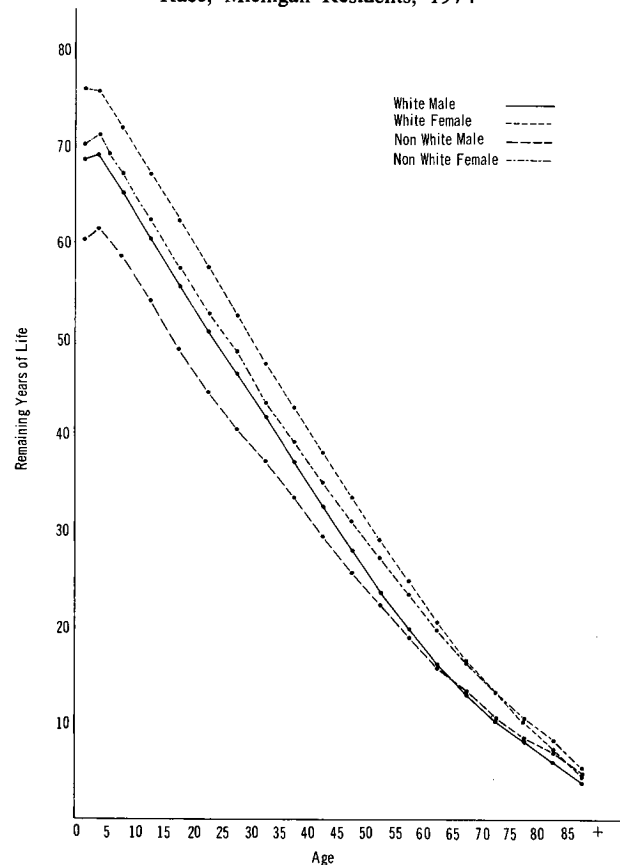
<sup>1</sup> Michigan data for years 1920, 1930 and 1940 are for white only.

The average number of years remaining for non-white females surpasses that of white females around age 70. Non-white males displayed a greater expectation than that of white males at ages 65 and over, and greater than that of white females at ages 85 and over.

TABLE 2.43—Life Expectancy at Birth by Sex and Race, Michigan Residents, Selected Years

| POPULATION SUBGROUP | YEAR |      |      |      |
|---------------------|------|------|------|------|
|                     | 1950 | 1960 | 1970 | 1974 |
| Total Population    | 68.3 | 70.0 | 70.8 | 71.5 |
| Total Male          | 65.7 | 67.1 | 67.2 | 68.0 |
| Total Female        | 71.2 | 73.3 | 74.6 | 75.3 |
| Total White         | 68.8 | 70.5 | 71.6 | 72.4 |
| White Male          | 66.2 | 67.5 | 68.2 | 69.0 |
| White Female        | 71.9 | 74.0 | 75.3 | 76.1 |
| Total Nonwhite      | 61.8 | 65.6 | 65.0 | 65.9 |
| Nonwhite Male       | 60.4 | 63.6 | 61.0 | 61.4 |
| Nonwhite Female     | 63.4 | 67.7 | 69.4 | 70.4 |

FIGURE 2.35—Remaining Years of Life by Age, Sex and Race, Michigan Residents, 1974



# MARRIAGE & DIVORCE

## SECTION III

# Marriage and Divorce

## An Overview 1974

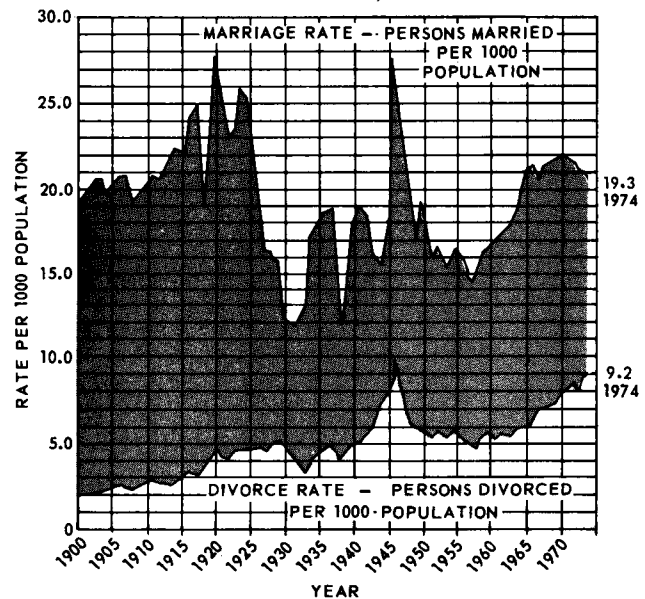
|  |                     |
|--|---------------------|
| TOTAL MARRIAGES                            | 88,023              |
| TOTAL DIVORCES AND ANNULMENTS              | 41,850 <sup>1</sup> |
| MARRIAGE RATE                              | 19.3                |
| DIVORCE RATE                               | 9.2 <sup>1</sup>    |
| MEDIAN AGE OF THE BRIDE                    | 22                  |
| MEDIAN AGE OF THE GROOM                    | 24                  |
| MEDIAN DURATION OF MARRIAGE ENDING IN 1974 | 8                   |

<sup>1</sup> Estimate: Divorces for Wayne County, September of 1972 through December of 1974 not reported.

The number of marriages and divorces occurring annually in Michigan has increased considerably since 1900. The frequency of these events has generally followed the growth of Michigan's population. The smallest number of marriages since 1900 was 23,295 in 1900, while the largest number, 94,486, occurred in 1973. The smallest and largest numbers of divorces and annulments were witnessed in almost the same years with 2,435 occurring in 1900 and 41,850 taking place in 1974. In 1974, the number of marriages in the state fell 7 percent to 88,023. In this same year, the number of divorces and annulments rose to an estimated 41,850, the greatest number in this century.

Since 1900, there have been noticeable shifts in the marriage rates both nationally and in Michigan.

FIGURE 3.1—Marriage Rates, Michigan and United States Occurrences, 1900-1974



The marriage rates observed for the state have generally followed the pattern of rising and falling rates observed nationally. The number of persons married each year per 1,000 population was higher in Michigan than in the country for 19 of the 26 years from 1900 through 1925. Since 1926, the Michigan marriage rate has been exceeded annually by national statistics, excepting only 1965 through 1969. The marriage rate in 1974 was 19.3, the lowest rate in 10 years.

TABLE 3.1—Marriages, Divorces and Annulments, Michigan and United States Occurrences, Selected Years, 1920-1974

| YEAR | MICHIGAN  |                         |               |                            | UNITED STATES |                            |
|------|-----------|-------------------------|---------------|----------------------------|---------------|----------------------------|
|      | MARRIAGES | DIVORCES AND ANNULMENTS | MARRIAGE RATE | DIVORCE AND ANNULMENT RATE | MARRIAGE RATE | DIVORCE AND ANNULMENT RATE |
| 1920 | 50,805    | 8,679                   | 27.7          | 4.7                        | 23.9          | 3.2                        |
| 1930 | 29,482    | 10,639                  | 12.2          | 4.4                        | 18.3          | 3.2                        |
| 1940 | 46,342    | 12,054                  | 17.6          | 4.6                        | 24.2          | 4.0                        |
| 1950 | 58,180    | 15,979                  | 18.3          | 5.0                        | 22.1          | 5.1                        |
| 1960 | 61,090    | 16,656                  | 15.6          | 4.3                        | 17.0          | 4.4                        |
| 1961 | 63,320    | 16,219                  | 16.0          | 4.1                        | 16.9          | 4.5                        |
| 1962 | 65,002    | 17,500                  | 16.4          | 4.4                        | 17.0          | 4.4                        |
| 1963 | 68,160    | 17,479                  | 17.0          | 4.4                        | 17.5          | 4.5                        |
| 1964 | 73,911    | 19,400                  | 18.2          | 4.8                        | 18.0          | 4.7                        |
| 1965 | 81,247    | 20,305                  | 19.8          | 5.0                        | 18.6          | 4.9                        |
| 1966 | 83,903    | 21,727                  | 20.2          | 5.2                        | 19.0          | 5.1                        |
| 1967 | 84,363    | 23,620                  | 19.6          | 5.9                        | 19.5          | 5.3                        |
| 1968 | 90,984    | 25,400                  | 20.5          | 5.9                        | 20.7          | 5.8                        |
| 1969 | 93,392    | 28,347                  | 20.8          | 6.5                        | 21.2          | 6.4                        |
| 1970 | 91,933    | 29,934                  | 20.7          | 6.7                        | 21.2          | 7.0                        |
| 1971 | 92,134    | 31,790                  | 20.5          | 7.1                        | 21.2          | 7.4                        |
| 1972 | 94,447    | 35,934 <sup>1</sup>     | 21.0          | 8.0 <sup>1</sup>           | 22.0          | 8.2                        |
| 1973 | 94,486    | 39,415 <sup>1</sup>     | 20.9          | 8.7 <sup>1</sup>           | 21.8          | 8.8                        |
| 1974 | 88,023    | 41,850 <sup>1</sup>     | 19.3          | 9.2 <sup>1</sup>           | 21.0          | 9.2                        |

<sup>1</sup> Estimate.



## RESIDENCE OF COUPLES MARRYING IN MICHIGAN

In general, most of the couples marrying in Michigan are residents of the state. This pattern has not changed markedly over the last decade (Table 3.2).

The data in Table 3.2 indicate that characteristics of marriages occurring in Michigan should be representative of marriage patterns for Michigan residents.

Examination of data in Table 3.3 reveals that females marry at a younger age on the average than do males. More than twice the number of eligible females under 20 marry each year than do their eligible male counterparts. For ages 20 and over eligible males marry more frequently than their female counterparts.

## ORDER OF MARRIAGE

The data in Tables 3.4 and 3.5 indicate that there is a trend toward younger first marriages by males, older first marriages by females, and a younger age for remarriages among both males and females.

## AGE AT FIRST MARRIAGE

Over the last twenty years, the median age at first marriage for both sexes has been relatively stable.

TABLE 3.2—Marriages by Residence Status of Bride and Groom, Michigan Occurrences, 1964 and 1974

| RESIDENCE STATUS                        | 1964   |         | 1974   |         |
|---|--------|---------|--------|---------|
|   | NO.    | PERCENT | NO.    | PERCENT |
| Both Bride and Groom Residents.....     | 66,213 | 89.6    | 82,652 | 93.9    |
| Bride Resident, Groom Non-Resident..... | 2,907  | 3.9     | 3,177  | 3.6     |
| Groom Resident, Bride Non-Resident..... | 787    | 1.1     | 713    | 0.8     |
| Both Bride and Groom Non-Residents..... | 4,004  | 5.4     | 1,478  | 1.7     |
| Residence Status, Not Stated..          | —      | —       | 3      | 0.0     |
| Total.....                              | 73,911 | 100.0   | 88,023 | 100.0   |

TABLE 3.3—Number of Marriages by Age and Sex, Michigan Occurrences, 1974

| AGE                         | NUMBER OF MARRIAGES |        |
|-----------------------------|---------------------|--------|
|                             | MALE                | FEMALE |
| Under 20 <sup>1</sup> ..... | 13,294              | 28,709 |
| 20-24.....                  | 36,726              | 32,439 |
| 25-34.....                  | 22,892              | 15,751 |
| 35-44.....                  | 6,930               | 5,283  |
| 45 and Over.....            | 8,177               | 5,836  |
| Not Stated.....             | 4                   | 5      |
| Total.....                  | 88,023              | 88,023 |
| Median Age.....             | 24                  | 22     |

<sup>1</sup> 14 and Over.

TABLE 3.4—Age at First Marriage and Remarriage: Bride Michigan Occurrences, 1964 and 1974

| AGES             | 1964   |                |             |            | 1974   |                |             |            |
|------------------|--------|----------------|-------------|------------|--------|----------------|-------------|------------|
|                  | TOTAL  | FIRST MARRIAGE | RE-MARRIAGE | NOT STATED | TOTAL  | FIRST MARRIAGE | RE-MARRIAGE | NOT STATED |
| Under 20.....    | 27,876 | 27,439         | 397         | 40         | 28,709 | 28,238         | 420         | 51         |
| Percent.....     | 37.7   | 48.5           | 2.3         | 64.5       | 32.6   | 44.4           | 1.7         | 76.1       |
| 20-24.....       | 26,937 | 24,169         | 2,753       | 15         | 32,439 | 28,153         | 4,277       | 9          |
| Percent.....     | 36.4   | 42.7           | 15.9        | 24.2       | 36.9   | 44.3           | 17.5        | 13.4       |
| 25-29.....       | 5,814  | 2,968          | 2,844       | 2          | 10,710 | 5,094          | 5,613       | 3          |
| Percent.....     | 7.9    | 5.2            | 16.5        | 3.2        | 12.2   | 8.0            | 23.0        | 4.5        |
| 30-34.....       | 3,089  | 846            | 2,241       | 2          | 5,041  | 1,108          | 3,931       | 2          |
| Percent.....     | 4.2    | 1.5            | 13.0        | 3.2        | 5.7    | 1.7            | 16.1        | 3.0        |
| 35-44.....       | 4,838  | 739            | 4,097       | 2          | 5,283  | 586            | 4,696       | 1          |
| Percent.....     | 6.5    | 1.3            | 23.7        | 3.2        | 6.0    | 0.9            | 19.3        | 1.5        |
| 45 and Over..... | 5,343  | 409            | 4,933       | 1          | 5,836  | 385            | 5,450       | 1          |
| Percent.....     | 7.2    | 0.7            | 28.6        | 1.6        | 6.6    | 0.6            | 22.3        | 1.5        |
| Not Stated.....  | 14     | 4              | 10          | —          | 5      | —              | 5           | —          |
| Percent.....     | 0.0    | 0.0            | 0.1         | —          | 0.0    | —              | 0.0         | —          |
| Total.....       | 73,911 | 56,574         | 17,275      | 62         | 88,023 | 63,564         | 24,392      | 67         |
| Percent.....     | 99.9   | 99.9           | 100.1       | 99.9       | 100.0  | 99.9           | 99.9        | 100.0      |

TABLE 3.5—Age at First Marriage and Remarriage: Groom  
Michigan Occurrences, 1964 and 1974

| AGES             | 1964   |                |             |            | 1974   |                |             |            |
|------------------|--------|----------------|-------------|------------|--------|----------------|-------------|------------|
|                  | TOTAL  | FIRST MARRIAGE | RE-MARRIAGE | NOT STATED | TOTAL  | FIRST MARRIAGE | RE-MARRIAGE | NOT STATED |
| Under 20.....    | 10,632 | 10,585         | 27          | 20         | 13,294 | 13,209         | 46          | 39         |
| Percent.....     | 14.4   | 18.6           | 0.2         | 38.5       | 15.1   | 21.3           | 0.2         | 61.9       |
| 20-24.....       | 35,082 | 33,560         | 1,498       | 24         | 36,726 | 34,283         | 2,426       | 17         |
| Percent.....     | 47.5   | 59.1           | 8.8         | 46.2       | 41.7   | 55.4           | 9.3         | 27.0       |
| 25-29.....       | 10,697 | 8,000          | 2,695       | 2          | 16,037 | 10,455         | 5,579       | 3          |
| Percent.....     | 14.5   | 14.1           | 15.8        | 3.8        | 18.2   | 16.9           | 21.4        | 4.8        |
| 30-34.....       | 4,569  | 2,211          | 2,356       | 2          | 6,855  | 2,208          | 4,646       | 1          |
| Percent.....     | 6.2    | 3.9            | 13.8        | 3.8        | 7.8    | 3.6            | 17.8        | 1.6        |
| 35-44.....       | 5,867  | 1,626          | 4,239       | 2          | 6,930  | 1,055          | 5,875       | —          |
| Percent.....     | 7.9    | 2.9            | 24.8        | 3.8        | 7.9    | 1.7            | 22.5        | —          |
| 45 and Over..... | 7,053  | 774            | 6,277       | 2          | 8,177  | 672            | 7,502       | 3          |
| Percent.....     | 9.5    | 1.4            | 36.7        | 3.8        | 9.3    | 1.1            | 28.8        | 4.8        |
| Not Stated.....  | 11     | 3              | 8           | —          | 4      | 2              | 2           | —          |
| Percent.....     | 0.0    | 0.0            | 0.0         | —          | 0.0    | 0.0            | 0.0         | —          |
| Total.....       | 73,911 | 56,759         | 17,100      | 52         | 88,023 | 61,884         | 26,076      | 63         |
| Percent.....     | 100.0  | 100.0          | 100.1       | 99.9       | 100.0  | 100.0          | 100.0       | 100.1      |

Male age at the 50th percentile of first marriages has ranged from a high of 23.3 years in 1955 down to 22.2 years in 1966. Since 1966, the median age for males has slowly risen to reach 22.6 years of age in 1974. Median age at first marriage for females has been less consistent. This statistic for brides was 20.5 years in 1955. It fell to 19.7 years in 1961, rose to 20.3 in 1963, then fell again to 19.7 years in 1966. By 1974, the median age for females at first marriage was 20.6 years. This is the oldest age observed for females since 1955.

## DIVORCES AND ANNULMENTS

The number of divorces in both Michigan and the United States has increased substantially over the last 10 years (Table 3.1).

The number of persons divorced per 1,000 population was higher in Michigan than the United States for each year from 1900 through 1947 without exception. In the 27 years that followed, the Michigan divorce rate has been at or below the national rate 20 times. The lowest rate in this century for Michigan was 2.0 in the years 1900 and 1901 while the lowest

FIGURE 3.2—Median Age at First Marriage by Sex,  
Michigan Occurrences, 1955-1974

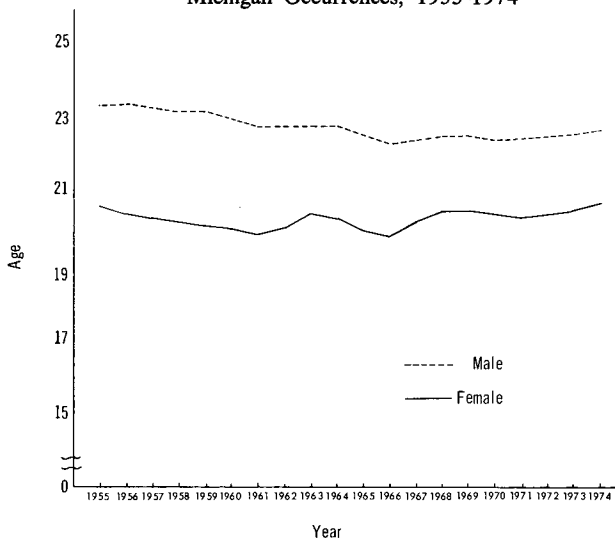


FIGURE 3.3—Divorce Rates, Michigan and  
United States Occurrences, 1900-1974

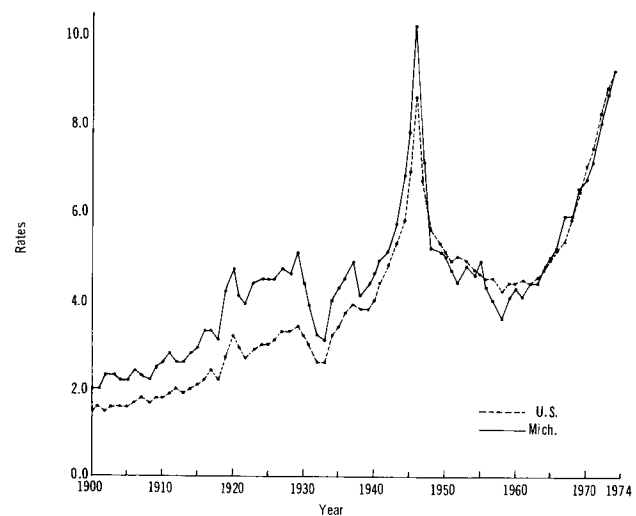


TABLE 3.6—Divorces and Annulments by Duration of Marriage,  
Michigan Occurrences, 1964 and 1974

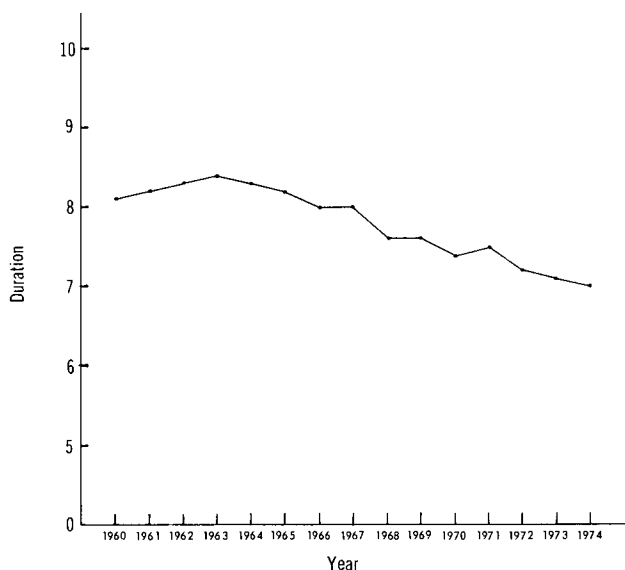
| DURATION IN YEARS    | 1964   |         |                    | 1974                |         |                    |
|----------------------|--------|---------|--------------------|---------------------|---------|--------------------|
|                      | NUMBER | PERCENT | CUMULATIVE PERCENT | NUMBER              | PERCENT | CUMULATIVE PERCENT |
| Under 1 Year.....    | 296    | 1.5     | 1.5                | 246                 | 0.8     | 0.8                |
| 1-4.....             | 5,568  | 28.7    | 30.2               | 9,863               | 34.0    | 34.8               |
| 5-9.....             | 4,988  | 25.7    | 55.9               | 8,573               | 29.5    | 64.3               |
| 10-14.....           | 3,260  | 16.8    | 72.7               | 3,969               | 13.7    | 78.0               |
| 15-19.....           | 2,452  | 12.6    | 85.4               | 2,447               | 8.4     | 86.4               |
| 20-24.....           | 1,422  | 7.3     | 92.7               | 1,810               | 6.2     | 92.6               |
| 25-29.....           | 756    | 3.9     | 96.6               | 1,186               | 4.1     | 96.7               |
| 30-34.....           | 338    | 1.7     | 98.4               | 459                 | 1.6     | 98.3               |
| 35-39.....           | 161    | 0.8     | 99.2               | 169                 | 0.6     | 98.9               |
| 40-44.....           | 72     | 0.4     | 99.6               | 58                  | 0.2     | 99.1               |
| 45-49.....           | 30     | 0.2     | 99.7               | 26                  | 0.1     | 99.2               |
| 50 and Over.....     | 5      | 0.0     | 99.7               | 11                  | 0.0     | 99.2               |
| Not Stated.....      | 52     | 0.3     | 100.0              | 223                 | 0.8     | 100.0              |
| Total.....           | 19,400 | 99.9    | 100.0              | 29,040 <sup>1</sup> | 100.0   | 100.0              |
| Median Duration..... | 8      | 000     | 000                | 7                   | 000     | 000                |

<sup>1</sup> Actual divorces reported. Does not include divorces which occurred in Wayne County for 1974.

national rate was 1.5 in 1900 and 1902. The highest rate observed for the state was 10.2 in 1946. The provisional national estimate of 9.2 in 1974 is the highest national rate for the 75 years examined. The divorce rate for Michigan rose from 8.7 in 1973 to 9.2 in 1974. This represents the highest rate observed for the state in 29 years.

The increase in the percentage of marriages ending in divorce and lasting less than 10 years was 8.4 since 1964 (Table 3.6). There has been a slow decline in the median duration of divorced and annulled marriages from 8.4 in 1963 to 7.0 in 1974. (See Figure 3.4.)

FIGURE 3.4—Median Duration of Divorced and Annulled Marriages, Michigan Occurrences, 1960-1974



The number of children under 18 affected by divorce has increased considerably since 1964. While the percentage of divorces with no children present has actually decreased.

In 1964 cruelty was the primary grounds for divorce whereas in 1974 the majority (97.0%) of divorces were "no fault divorces."<sup>2</sup>

TABLE 3.7—Divorces and Annulments by Children Under 18 Present, Michigan Occurrences, 1964 and 1974

| NUMBER OF CHILDREN | DIVORCES AND ANNULMENTS |                                    |                     |                                    | PERCENTS |       |
|--------------------|-------------------------|------------------------------------|---------------------|------------------------------------|----------|-------|
|                    | 1964                    | ESTIMATED TOTAL CHILDREN (MINIMUM) | 1974                | ESTIMATED TOTAL CHILDREN (MINIMUM) | 1964     | 1974  |
| Zero.....          | 7,830                   | 0                                  | 11,303              | 0                                  | 40.4     | 38.9  |
| One.....           | 3,946                   | 3,946                              | 7,001               | 7,001                              | 20.3     | 24.1  |
| Two.....           | 3,335                   | 6,670                              | 5,887               | 11,774                             | 17.2     | 20.3  |
| Three.....         | 2,027                   | 6,081                              | 2,784               | 8,352                              | 10.4     | 9.6   |
| Four.....          | 1,123                   | 4,492                              | 1,256               | 5,024                              | 5.8      | 4.3   |
| Five or More.....  | 771                     | 3,855                              | 722                 | 3,610                              | 4.0      | 2.5   |
| Not Stated.....    | 368                     | *                                  | 87                  | *                                  | 1.9      | 0.3   |
| Total.....         | 19,400                  | 25,044                             | 29,040 <sup>1</sup> | 35,761                             | 100.0    | 100.0 |

<sup>1</sup> Actual divorces reported. Does not include divorces which occurred in Wayne County for 1974.

TABLE 3.8—Divorces and Annulments by Legal Grounds for Decree, Michigan Occurrences, 1964 and 1974

| LEGAL GROUNDS            | 1964   |         | 1974                |         |
|--------------------------|--------|---------|---------------------|---------|
|                          | NO.    | PERCENT | NO.                 | PERCENT |
| Cruelty.....             | 17,712 | 91.3    | 91                  | 0.3     |
| Desertion.....           | 737    | 3.8     | —                   | —       |
| Nonsupport.....          | 362    | 1.9     | 1                   | 0.0     |
| Fraud.....               | 165    | 0.9     | 83                  | 0.3     |
| Bigamy.....              | 36     | 0.2     | 7                   | 0.0     |
| Conviction of Crime..... | 12     | 0.1     | 1                   | 0.0     |
| Adultery.....            | 27     | 0.1     | 1                   | 0.0     |
| Drunkenness.....         | 35     | 0.2     | 1                   | 0.0     |
| No Fault.....            | —      | —       | 28,167 <sup>2</sup> | 97.0    |
| Other.....               | 36     | 0.2     | 344                 | 1.2     |
| Not Stated.....          | 278    | 1.4     | 344                 | 1.2     |
| Total.....               | 19,400 | 100.1   | 29,040 <sup>1</sup> | 100.0   |

<sup>1</sup> Actual divorces reported. Does not include divorces which occurred in Wayne County for 1974.

<sup>2</sup> Michigan's no fault divorce law went into effect January 1, 1972.

# REFERENCE APPENDIX

## SECTION IV



TABLE 4.2

LIVE BIRTH RATES - TOTAL AND ILLEGITIMATE; DEATH RATES - ALL AGES, INFANT, NEONATAL, PERINATAL, MATERNAL AND DEATH RATES DUE TO IMMATURITY; FETAL DEATH RATIO: MARRIAGE AND DIVORCE RATES  
MICHIGAN, 1900-1974

(Birth rate, death rate for all ages, rate of persons married and rate of persons divorced per 1,000 population. Illegitimate live birth ratio, fetal death ratio, death rates under 1 year, under 28 days, and death rates due to immaturity per 1,000 live births. Maternal death rates per 10,000 live births. Perinatal death rate - number of deaths under 1 week and fetal deaths per 1,000 live births and fetal deaths.)

| Year | LIVE BIRTHS |              | DEATHS   |              |               |           |                   |       | PERSONS  |         |          |
|------|-------------|--------------|----------|--------------|---------------|-----------|-------------------|-------|----------|---------|----------|
|      | Total       | Illegitimate | All Ages | Under 1 Year | Under 28 Days | Perinatal | Due to Immaturity | Fetal | Maternal | Married | Divorced |
| 1900 | 18.1        | 7.6          | 13.4     | 157.1        |               |           | 14.2              | 30.3  | 103.4    | 19.2    | 2.0      |
| 1901 | 17.6        | 8.4          | 13.3     | 146.2        |               |           | 12.1              | 34.7  | 122.9    | 19.6    | 2.0      |
| 1902 | 18.2        | 8.4          | 12.6     | 130.6        |               |           | 13.3              | 39.4  | 102.8    | 20.5    | 2.3      |
| 1903 | 18.1        | 10.6         | 13.1     | 141.0        |               |           | 11.8              | 39.4  | 92.8     | 20.5    | 2.3      |
| 1904 | 18.4        | 11.8         | 13.4     | 135.1        |               |           | 13.3              | 40.2  | 91.8     | 19.3    | 2.2      |
| 1905 | 18.0        | 9.5          | 13.3     | 150.2        |               |           | 16.0              | 43.5  | 88.6     | 20.1    | 2.2      |
| 1906 | 22.1        | 18.6         | 14.0     | 135.7        |               |           | 14.2              | 40.2  | 68.3     | 20.7    | 2.4      |
| 1907 | 21.9        | 17.6         | 13.6     | 117.0        |               |           | 14.5              | 39.9  | 66.2     | 20.7    | 2.3      |
| 1908 | 23.7        | 13.7         | 13.5     | 118.8        |               |           | 15.1              | 41.6  | 67.9     | 18.9    | 2.2      |
| 1909 | 23.2        | 16.6         | 13.1     | 115.7        |               |           | 17.9              | 39.5  | 63.0     | 19.7    | 2.5      |
| 1910 | 22.8        | 16.4         | 14.2     | 124.8        |               |           | 32.0              | 39.9  | 67.2     | 20.7    | 2.6      |
| 1911 | 22.7        | 16.5         | 13.1     | 108.4        |               |           | 33.8              | 41.3  | 68.6     | 20.6    | 2.8      |
| 1912 | 23.3        | 17.6         | 13.0     | 100.4        |               |           | 33.6              | 41.8  | 56.9     | 21.3    | 2.6      |
| 1913 | 23.8        | 16.8         | 13.3     | 104.8        |               |           | 33.9              | 40.4  | 72.3     | 21.9    | 2.6      |
| 1914 | 24.3        | 15.5         | 12.7     | 96.8         |               |           | 31.1              | 40.6  | 66.0     | 22.4    | 2.8      |
| 1915 | 25.0        | 16.8         | 12.5     | 85.6         |               |           | 27.2              | 41.4  | 60.2     | 21.9    | 2.9      |
| 1916 | 26.2        | 15.5         | 13.8     | 96.7         |               |           | 28.7              | 42.4  | 57.8     | 24.1    | 3.3      |
| 1917 | 26.2        | 12.3         | 13.8     | 88.5         |               |           | 26.5              | 39.7  | 65.5     | 25.1    | 3.3      |
| 1918 | 26.1        | 12.5         | 15.6     | 89.8         |               |           | 25.9              | 40.4  | 77.7     | 19.0    | 3.1      |
| 1919 | 23.5        | 11.9         | 12.7     | 89.9         |               |           | 26.0              | 40.0  | 68.8     | 25.4    | 4.2      |
| 1920 | 25.1        | 15.7         | 14.2     | 93.1         |               |           | 27.2              | 40.9  | 86.2     | 27.7    | 4.7      |
| 1921 | 25.4        | 14.0         | 11.7     | 79.0         |               |           | 25.8              | 38.2  | 63.0     | 21.9    | 4.1      |
| 1922 | 23.1        | 13.1         | 11.2     | 74.7         |               |           | 19.9              | 42.0  | 61.2     | 22.3    | 3.9      |
| 1923 | 23.1        | 13.0         | 12.3     | 80.4         |               |           | 20.6              | 39.3  | 62.7     | 24.7    | 4.4      |
| 1924 | 23.7        | 14.7         | 11.4     | 72.2         | 41.9          | 66.7      | 20.1              | 37.7  | 64.8     | 24.1    | 4.5      |
| 1925 | 23.3        | 12.7         | 11.6     | 75.7         | 40.6          | 64.9      | 20.1              | 37.1  | 63.5     | 21.7    | 4.5      |
| 1926 | 22.5        | 17.0         | 12.4     | 77.5         | 41.2          | 66.3      | 20.2              | 38.8  | 64.2     | 18.7    | 4.5      |
| 1927 | 22.3        | 18.7         | 11.3     | 67.7         | 39.2          | 65.5      | 19.1              | 38.4  | 66.7     | 16.2    | 4.7      |
| 1928 | 21.2        | 19.0         | 11.9     | 69.8         | 38.4          | 65.2      | 18.9              | 38.0  | 61.9     | 16.2    | 4.6      |
| 1929 | 20.9        | 16.5         | 11.9     | 66.9         | 38.3          | 64.6      | 18.8              | 37.6  | 62.5     | 15.6    | 5.1      |
| 1930 | 20.4        | 16.2         | 10.6     | 62.8         | 36.6          | 63.5      | 18.3              | 37.6  | 60.4     | 12.2    | 4.4      |
| 1931 | 18.5        | 18.0         | 10.1     | 57.3         | 34.1          | 60.2      | 16.3              | 35.6  | 59.5     | 11.8    | 3.9      |
| 1932 | 17.3        | 19.9         | 10.1     | 54.3         | 32.8          | 59.0      | 16.1              | 35.0  | 57.8     | 11.6    | 3.2      |
| 1933 | 16.2        | 25.4         | 9.8      | 50.9         | 32.2          | 58.9      | 16.9              | 34.5  | 55.5     | 13.3    | 3.1      |
| 1934 | 16.8        | 25.3         | 10.1     | 52.1         | 32.4          | 55.2      | 16.9              | 31.1  | 53.6     | 17.3    | 4.0      |
| 1935 | 17.3        | 25.1         | 10.1     | 47.7         | 29.2          | 53.6      | 15.9              | 31.1  | 50.1     | 17.9    | 4.3      |
| 1936 | 17.4        | 24.4         | 10.8     | 50.6         | 29.9          | 51.9      | 15.8              | 29.7  | 48.0     | 18.5    | 4.5      |
| 1937 | 17.8        | 24.4         | 10.4     | 47.8         | 29.5          | 52.2      | 15.5              | 29.6  | 35.6     | 18.7    | 4.9      |
| 1938 | 18.7        | 24.0         | 9.8      | 44.5         | 28.2          | 50.0      | 15.3              | 28.2  | 35.6     | 11.6    | 4.1      |
| 1939 | 18.1        | 23.5         | 10.0     | 41.8         | 27.5          | 48.5      | 14.8              | 27.2  | 29.6     | 14.5    | 4.4      |
| 1940 | 18.9        | 23.0         | 9.9      | 40.6         | 26.5          | 46.7      | 13.1              | 26.3  | 29.5     | 17.6    | 4.6      |
| 1941 | 19.8        | 22.0         | 9.7      | 38.8         | 25.0          | 45.3      | 12.6              | 25.8  | 27.7     | 18.8    | 4.9      |
| 1942 | 22.4        | 20.4         | 9.5      | 37.1         | 24.9          | 43.9      | 12.7              | 24.7  | 21.0     | 18.6    | 5.1      |
| 1943 | 23.3        | 20.5         | 10.6     | 38.3         | 23.7          | 43.2      | 11.9              | 25.6  | 18.9     | 16.5    | 5.7      |
| 1944 | 21.1        | 27.4         | 10.0     | 38.1         | 24.5          | 44.1      | 12.4              | 25.3  | 17.4     | 15.5    | 6.8      |
| 1945 | 20.5        | 31.2         | 9.9      | 35.9         | 23.9          | 42.9      | 12.0              | 24.2  | 14.9     | 17.8    | 7.8      |
| 1946 | 24.3        | 28.2         | 9.6      | 32.8         | 24.0          | 42.2      | 12.5              | 22.9  | 11.8     | 27.6    | 10.2     |
| 1947 | 26.4        | 26.9         | 9.4      | 31.5         | 22.9          | 40.2      | 12.2              | 21.4  | 10.8     | 23.5    | 7.1      |
| 1948 | 24.8        | 28.0         | 9.1      | 30.0         | 21.8          | 38.0      | 11.8              | 20.4  | 7.8      | 20.0    | 5.2      |
| 1949 | 24.6        | 25.3         | 9.0      | 28.9         | 20.7          | 36.0      | 11.5              | 19.1  | 6.7      | 16.7    | 5.1      |
| 1950 | 25.1        | 27.6         | 9.0      | 26.3         | 19.0          | 35.4      | 6.8               | 19.3  | 5.7      | 18.3    | 5.0      |
| 1951 | 26.3        | 25.3         | 9.0      | 26.1         | 19.1          | 34.7      | 7.1               | 18.3  | 5.5      | 16.3    | 4.7      |
| 1952 | 26.5        | 25.4         | 8.8      | 26.4         | 19.2          | 34.6      | 7.1               | 18.1  | 4.6      | 15.1    | 4.4      |
| 1953 | 26.7        | 26.1         | 9.1      | 25.8         | 18.5          | 33.2      | 6.1               | 17.4  | 4.3      | 15.6    | 4.8      |
| 1954 | 27.3        | 29.2         | 8.6      | 25.0         | 18.5          | 32.8      | 6.8               | 16.9  | 4.9      | 14.6    | 4.6      |
| 1955 | 27.1        | 30.0         | 8.7      | 24.8         | 18.9          | 32.0      | 6.5               | 15.4  | 3.1      | 15.4    | 4.9      |
| 1956 | 27.4        | 31.5         | 8.6      | 24.5         | 18.4          | 31.8      | 6.0               | 15.7  | 4.1      | 15.2    | 4.3      |
| 1957 | 26.7        | 32.6         | 8.5      | 24.4         | 18.6          | 31.5      | 6.3               | 15.1  | 3.8      | 14.1    | 4.0      |
| 1958 | 25.8        | 33.6         | 8.4      | 24.6         | 18.7          | 31.7      | 6.0               | 15.3  | 3.4      | 14.0    | 3.6      |
| 1959 | 24.9        | 33.9         | 8.4      | 24.4         | 18.5          | 31.1      | 6.1               | 14.8  | 3.6      | 14.8    | 4.1      |
| 1960 | 24.9        | 36.9         | 8.7      | 24.1         | 18.4          | 31.5      | 5.9               | 15.4  | 3.8      | 15.6    | 4.3      |
| 1961 | 24.4        | 41.6         | 8.5      | 23.9         | 18.0          | 30.0      | 5.2               | 14.2  | 4.0      | 16.0    | 4.1      |
| 1962 | 23.0        | 43.8         | 8.8      | 23.9         | 17.8          | 30.6      | 5.0               | 14.8  | 3.1      | 16.4    | 4.4      |
| 1963 | 22.3        | 49.0         | 9.0      | 23.2         | 17.4          | 29.8      | 4.6               | 14.2  | 4.0      | 17.0    | 4.4      |
| 1964 | 21.6        | 55.5         | 8.9      | 23.1         | 17.5          | 29.8      | 4.6               | 14.1  | 3.5      | 18.2    | 4.8      |
| 1965 | 20.3        | 65.4         | 9.0      | 23.6         | 17.5          | 30.4      | 4.6               | 14.9  | 3.2      | 19.8    | 5.0      |
| 1966 | 19.9        | 74.2         | 9.0      | 22.6         | 17.1          | 29.2      | 4.9               | 13.8  | 3.3      | 20.2    | 5.2      |
| 1967 | 18.9        | 82.4         | 8.7      | 22.1         | 16.7          | 28.4      | 4.4               | 13.5  | 3.2      | 19.6    | 5.9      |
| 1968 | 18.3        | 90.9         | 8.9      | 21.6         | 16.5          | 27.8      | 3.1               | 13.0  | 2.8      | 21.0    | 5.9      |
| 1969 | 19.0        | 98.5         | 8.8      | 20.2         | 15.4          | 26.7      | 2.8               | 13.1  | 1.6      | 21.4    | 6.5      |
| 1970 | 19.3        | 109.0        | 8.6      | 20.3         | 16.6          | 26.0      | 2.5               | 12.0  | 1.7      | 20.7    | 6.7      |
| 1971 | 18.0        | 117.7        | 8.6      | 19.5         | 14.9          | 25.2      | 2.4               | 11.9  | 2.0      | 20.5    | 7.1      |
| 1972 | 16.3        | 133.0        | 8.8      | 19.1         | 14.4          | 24.9      | 2.2               | 12.1  | 2.4      | 21.0    | 8.0      |
| 1973 | 15.6        | 143.4        | 8.7      | 18.1         | 13.4          | 23.7      | 2.9               | 11.9  | 1.8      | 20.9    | 8.7      |
| 1974 | 15.1        | 136.3        | 8.4      | 17.4         | 12.6          | 21.3      | 1.7               | 10.6  | 1.4      | 19.3    | 9.2      |

Note: For the years 1900-1910 and 1912, illegitimate live births also include illegitimate fetal deaths. For years prior to 1950 deaths under 1 month of age are included in deaths under 28 days. For 1910 through 1921 deaths due to immaturity also include deaths from congenital debility.

Office of Planning and Evaluation  
Michigan Department of Public Health

TABLE 4.3  
 REPORTED CASES OF CERTAIN COMMUNICABLE DISEASES  
 MICHIGAN OCCURRENCES, 1900-1974

| Year | Diphtheria | Streptococcal Sore Throat (including Scarlet Fever) | Smallpox | Typhoid Fever | Whooping Cough | Measles | Hepatitis, Infectious and Serum | Tuberculosis (all forms) | Meningococcal Infections | Poliomyelitis | Syphilis | Gonorrhea | Chancroid |
|------|------------|---|----------|---------------|----------------|---------|---------------------------------|--------------------------|--------------------------|---------------|----------|-----------|-----------|
| 1900 | 2,706      | 6,734   | 694      | 5,122         | 3,375          | 20,356  |                                 | 2,721                    | 654                      |               |          |           |           |
| 1901 | 2,498      | 7,726   | 5,088    | 3,002         | 2,955          | 4,629   |                                 | 2,915                    | 506                      |               |          |           |           |
| 1902 | 2,993      | 6,582   | 7,086    | 2,456         | 3,534          | 11,978  |                                 | 2,658                    | 528                      |               |          |           |           |
| 1903 | 3,670      | 5,353   | 6,341    | 2,840         | 4,172          | 8,941   |                                 | 2,745                    | 525                      |               |          |           |           |
| 1904 | 3,510      | 4,088   | 5,753    | 3,028         | 1,779          | 10,386  |                                 | 2,928                    | 448                      |               |          |           |           |
| 1905 | 2,159      | 2,286   | 2,985    | 2,774         | 1,196          | 6,061   |                                 | 2,590                    | 577                      |               |          |           |           |
| 1906 | 3,648      | 3,066   | 1,240    | 3,163         | 1,364          | 7,403   |                                 | 2,653                    | 533                      |               |          |           |           |
| 1907 | 2,935      | 2,514   | 1,712    | 1,953         | 872            | 12,139  |                                 | 2,699                    | 575                      |               |          |           |           |
| 1908 | 2,658      | 3,087   | 2,306    | 2,656         | 1,248          | 4,775   |                                 | 2,705                    | 487                      |               |          |           |           |
| 1909 | 3,109      | 5,153   | 1,533    | 2,694         | 1,054          | 9,047   |                                 | 3,423                    | 457                      |               |          |           |           |
| 1910 | 3,433      | 6,501   | 3,319    | 3,361         | 1,136          | 13,934  |                                 | 4,415                    | 522                      | 104           |          |           |           |
| 1911 | 3,762      | 5,177   | 898      | 2,660         | 1,897          | 9,639   |                                 | 5,254                    | 478                      | 68            |          |           |           |
| 1912 | 3,294      | 4,533   | 1,127    | 2,847         | 1,255          | 2,834   |                                 | 1,958                    | 88                       | 78            |          |           |           |
| 1913 | 5,505      | 4,140   | 1,995    | 2,253         | 929            | 9,185   |                                 | 1,920                    | 165                      | 56            |          |           |           |
| 1914 | 5,149      | 3,769   | 1,527    | 2,167         | 1,822          | 11,356  |                                 | 2,566                    | 205                      | 49            |          |           |           |
| 1915 | 4,386      | 3,402   | 1,094    | 1,956         | 2,258          | 4,438   |                                 | 3,648                    | 107                      | 95            |          |           |           |
| 1916 | 5,625      | 6,932   | 1,581    | 2,513         | 1,837          | 12,143  |                                 | 7,076                    | 163                      | 598           |          |           |           |
| 1917 | 8,499      | 14,322  | 3,674    | 1,723         | 3,211          | 14,472  |                                 | 4,856                    | 75                       | 91            |          |           |           |
| 1918 | 6,128      | 5,944   | 5,241    | 1,339         | 2,563          | 6,726   |                                 | 3,655                    | 95                       | 121           |          |           |           |
| 1919 | 7,896      | 6,269   | 2,381    | 1,254         | 1,829          | 8,885   |                                 | 4,231                    | 75                       | 155           | 5,077    | 7,910     | 186       |
| 1920 | 10,360     | 10,280  | 4,818    | 1,421         | 7,171          | 22,364  |                                 | 4,994                    | 203                      | 67            | 8,117    | 11,463    | 262       |
| 1921 | 12,075     | 10,893  | 4,512    | 1,837         | 6,696          | 3,043   |                                 | 5,708                    | 173                      | 483           | 7,421    | 9,774     | 153       |
| 1922 | 8,513      | 9,687   | 1,230    | 1,108         | 5,642          | 12,107  |                                 | 5,573                    | 159                      | 43            | 7,900    | 9,717     | 90        |
| 1923 | 7,725      | 12,868  | 2,311    | 982           | 7,617          | 30,041  |                                 | 5,471                    | 186                      | 39            | 10,480   | 9,597     | 235       |
| 1924 | 6,011      | 12,989  | 4,527    | 782           | 4,364          | 18,290  |                                 | 5,570                    | 157                      | 647           | 13,000   | 10,490    | 183       |
| 1925 | 3,925      | 12,303  | 784      | 962           | 7,576          | 10,332  |                                 | 5,785                    | 128                      | 99            | 14,668   | 10,660    | 104       |
| 1926 | 5,377      | 12,681  | 549      | 583           | 8,776          | 39,946  |                                 | 5,387                    | 96                       | 107           | 14,872   | 10,707    | 103       |
| 1927 | 4,575      | 11,011  | 1,467    | 581           | 6,818          | 8,303   |                                 | 5,406                    | 138                      | 282           | 15,713   | 9,318     | 107       |
| 1928 | 3,724      | 10,486  | 1,335    | 390           | 9,700          | 27,039  |                                 | 5,885                    | 276                      | 77            | 15,323   | 8,592     | 107       |
| 1929 | 4,618      | 14,245  | 2,410    | 310           | 9,340          | 18,040  |                                 | 6,248                    | 1,864                    | 180           | 16,606   | 9,661     | 333       |
| 1930 | 3,206      | 11,174  | 2,375    | 504           | 7,937          | 28,129  |                                 | 5,128                    | 901                      | 208           | 16,538   | 8,554     | 163       |
| 1931 | 1,831      | 13,023  | 915      | 424           | 11,448         | 6,212   |                                 | 6,132                    | 293                      | 1,137         | 14,662   | 7,843     | 170       |
| 1932 | 1,188      | 15,255  | 222      | 513           | 13,091         | 42,129  |                                 | 7,103                    | 129                      | 112           | 11,969   | 6,963     | 140       |
| 1933 | 1,152      | 16,419  | 46       | 453           | 11,720         | 21,654  |                                 | 6,624                    | 86                       | 93            | 7,691    | 6,447     | 85        |
| 1934 | 614        | 19,238  | 59       | 486           | 11,255         | 6,528   |                                 | 5,264                    | 53                       | 230           | 6,483    | 6,188     | 132       |
| 1935 | 645        | 11,849  | 16       | 355           | 13,427         | 79,061  |                                 | 4,642                    | 113                      | 614           | 6,416    | 6,372     | 110       |
| 1936 | 661        | 12,650  | 32       | 287           | 14,287         | 2,453   |                                 | 5,157                    | 120                      | 152           | 6,401    | 6,460     | 133       |
| 1937 | 842        | 24,798  | 152      | 241           | 11,426         | 6,154   |                                 | 6,469                    | 87                       | 421           | 8,708    | 7,072     | 244       |
| 1938 | 619        | 18,362  | 274      | 285           | 14,563         | 79,400  |                                 | 6,335                    | 69                       | 59            | 14,684   | 7,046     | 341       |
| 1939 | 452        | 15,836  | 371      | 177           | 8,997          | 12,948  |                                 | 6,119                    | 46                       | 904           | 13,144   | 6,364     | 286       |
| 1940 | 264        | 10,366  | 76       | 120           | 11,757         | 20,206  |                                 | 6,063                    | 49                       | 1,228         | 9,999    | 7,650     | 218       |
| 1941 | 242        | 8,756   | 114      | 147           | 16,512         | 70,748  |                                 | 5,371                    | 49                       | 270           | 11,370   | 8,767     | 359       |
| 1942 | 243        | 7,503   | 17       | 74            | 11,602         | 8,569   |                                 | 5,720                    | 66                       | 162           | 12,461   | 8,753     | 276       |
| 1943 | 281        | 5,044   | 18       | 115           | 12,091         | 51,764  |                                 | 6,546                    | 757                      | 255           | 15,933   | 9,526     | 260       |
| 1944 | 419        | 8,963   | 10       | 78            | 4,049          | 26,711  |                                 | 6,419                    | 857                      | 884           | 17,288   | 11,987    | 185       |
| 1945 | 630        | 9,304   | 16       | 59            | 5,339          | 6,328   | 134                             | 5,471                    | 270                      | 215           | 16,046   | 12,565    | 244       |
| 1946 | 385        | 5,977   | 3        | 85            | 8,116          | 42,261  | 34                              | 5,548                    | 185                      | 1,091         | 18,051   | 12,635    | 206       |
| 1947 | 238        | 4,834   | 1        | 77            | 10,472         | 9,574   | 14                              | 6,470                    | 113                      | 646           | 15,276   | 10,989    | 216       |
| 1948 | 126        | 5,934   | -        | 49            | 2,668          | 42,952  | 9                               | 6,109                    | 107                      | 775           | 12,100   | 9,448     | 465       |
| 1949 | 119        | 8,852   | -        | 48            | 4,157          | 20,279  | 28                              | 5,953                    | 120                      | 2,909         | 8,740    | 9,427     | 336       |
| 1950 | 84         | 4,665   | -        | 43            | 9,184          | 38,245  | 48                              | 5,538                    | 133                      | 2,029         | 8,830    | 8,678     | 202       |
| 1951 | 48         | 8,181   | -        | 33            | 3,156          | 15,227  | 325                             | 6,144                    | 138                      | 1,463         | 6,532    | 8,494     | 187       |
| 1952 | 45         | 8,325   | -        | 53            | 1,992          | 32,941  | 283                             | 6,152                    | 169                      | 3,912         | 7,377    | 7,691     | 58        |
| 1953 | 12         | 5,885   | -        | 31            | 2,932          | 23,334  | 868                             | 5,643                    | 151                      | 2,346         | 5,619    | 8,790     | 43        |
| 1954 | 57         | 5,142   | -        | 30            | 5,620          | 40,725  | 1,419                           | 5,764                    | 150                      | 2,168         | 4,686    | 9,940     | 47        |
| 1955 | 59         | 5,880   | -        | 24            | 4,249          | 23,882  | 1,244                           | 5,488                    | 170                      | 1,177         | 4,865    | 10,306    | 58        |
| 1956 | 220        | 7,349   | -        | 56            | 1,907          | 41,966  | 814                             | 5,515                    | 182                      | 656           | 4,785    | 9,598     | 52        |
| 1957 | 130        | 7,193   | -        | 12            | 1,363          | 19,070  | 657                             | 5,011                    | 175                      | 498           | 4,571    | 8,428     | 97        |
| 1958 | 6          | 5,380   | -        | 18            | 1,233          | 41,448  | 688                             | 5,587                    | 228                      | 1,228         | 4,267    | 8,621     | 178       |
| 1959 | 3          | 9,452   | -        | 8             | 3,001          | 12,234  | 1,136                           | 4,743                    | 141                      | 448           | 3,421    | 8,033     | 136       |
| 1960 | 9          | 9,287   | -        | 14            | 1,129          | 36,161  | 2,113                           | 4,127                    | 169                      | 88            | 3,647    | 8,372     | 112       |
| 1961 | 3          | 8,347   | -        | 7             | 639            | 29,391  | 4,607                           | 3,838                    | 253                      | 40            | 3,309    | 9,505     | 102       |
| 1962 | 4          | 8,116   | -        | 12            | 1,756          | 25,303  | 3,280                           | 3,474                    | 139                      | 21            | 4,331    | 11,654    | 75        |
| 1963 | 5          | 11,964  | -        | 14            | 1,410          | 48,752  | 2,661                           | 3,298                    | 104                      | 18            | 5,512    | 11,043    | 98        |
| 1964 | 1          | 17,228  | -        | 13            | 957            | 30,897  | 2,472                           | 3,047                    | 80                       | 3             | 5,220    | 12,028    | 106       |
| 1965 | -          | 14,622  | -        | 7             | 612            | 28,132  | 2,625                           | 3,069                    | 107                      | 1             | 5,638    | 14,319    | 95        |
| 1966 | 1          | 13,862  | -        | 7             | 653            | 15,251  | 2,589                           | 3,259                    | 135                      | 1             | 5,842    | 15,424    | 114       |
| 1967 | 1          | 13,269  | -        | 8             | 1,058          | 1,048   | 1,915                           | 2,951                    | 76                       | 3             | 5,581    | 17,088    | 78        |
| 1968 | -          | 10,101  | -        | 1             | 429            | 353     | 2,356                           | 2,618                    | 94                       | 3             | 5,351    | 18,153    | 105       |
| 1969 | -          | 9,763   | -        | 6             | 192            | 401     | 3,359                           | 2,133                    | 114                      | 1             | 3,809    | 18,534    | 103       |
| 1970 | -          | 11,863  | -        | 14            | 195            | 1,834   | 4,594                           | 1,992                    | 69                       | 2             | 3,920    | 20,359    | 118       |
| 1971 | 1          | 11,244  | -        | 10            | 140            | 2,659   | 4,828                           | 1,789                    | 64                       | -             | 4,800    | 22,260    | 93        |
| 1972 | 1          | 13,304  | -        | 7             | 116            | 2,353   | 4,322                           | 1,632                    | 55                       | 1             | 4,891    | 24,750    | 175       |
| 1973 | -          | 24,467  | -        | 14            | 86             | 4,552   | 3,872                           | 1,473                    | 54                       | -             | 4,375    | 31,086    | 217       |
| 1974 | -          | 31,802  | -        | 11            | 104            | 2,365   | 3,599                           | 1,431                    | 54                       | 2             | 2,722    | 32,067    | 171       |

Note: Meningococcal infections - Prior to 1952 data were for meningococcal meningitis.  
 Tuberculosis, syphilis, gonorrhea and chancroid are resident cases.

Office of Planning and Evaluation  
 Michigan Department of Public Health

TABLE 4.4  
CASE RATES OF CERTAIN REPORTED COMMUNICABLE DISEASES  
MICHIGAN OCCURRENCES, 1900-1974  
(Rates per 100,000 Population)

| Year | Diphtheria | Streptococcal Sore Throat (including Scarlet Fever) | Smallpox | Typhoid Fever | Whooping Cough | Measles | Infectious Hepatitis & Serum | Tuberculosis (all forms) | Meningococcal Infections | Poliomyelitis | Syphilis | Gonorrhea | Chancroid |
|------|------------|---|----------|---------------|----------------|---------|------------------------------|--------------------------|--------------------------|---------------|----------|-----------|-----------|
| 1900 | 111.8      | 278.2   | 28.7     | 211.6         | 139.4          | 840.8   |                              | 112.4                    | 27.0                     |               |          |           |           |
| 1901 | 101.5      | 314.1   | 206.8    | 122.0         | 120.1          | 188.2   |                              | 118.5                    | 20.6                     |               |          |           |           |
| 1902 | 119.8      | 263.4   | 283.6    | 98.3          | 141.4          | 479.3   |                              | 106.4                    | 21.1                     |               |          |           |           |
| 1903 | 144.6      | 210.9   | 249.9    | 111.9         | 164.4          | 352.3   |                              | 108.2                    | 20.7                     |               |          |           |           |
| 1904 | 136.2      | 158.7   | 223.3    | 117.5         | 69.0           | 403.1   |                              | 113.6                    | 17.4                     |               |          |           |           |
| 1905 | 82.5       | 87.4  | 114.1    | 106.1         | 45.7           | 231.7   |                              | 99.0                     | 22.1                     |               |          |           |           |
| 1906 | 137.4      | 115.5   | 46.7     | 119.2         | 51.4           | 278.9   |                              | 99.9                     | 20.1                     |               |          |           |           |
| 1907 | 109.0      | 93.3  | 63.6     | 72.5          | 32.4           | 450.7   |                              | 100.2                    | 21.3                     |               |          |           |           |
| 1908 | 97.3       | 113.0   | 84.4     | 97.2          | 45.7           | 174.8   |                              | 99.0                     | 17.8                     |               |          |           |           |
| 1909 | 112.2      | 185.9   | 55.3     | 97.2          | 38.0           | 326.5   |                              | 123.5                    | 16.5                     |               |          |           |           |
| 1910 | 122.2      | 231.3   | 118.1    | 119.6         | 40.4           | 495.8   |                              | 157.1                    | 18.6                     | 3.7           |          |           |           |
| 1911 | 129.9      | 178.8   | 31.0     | 91.8          | 65.5           | 332.8   |                              | 181.4                    | 16.5                     | 2.3           |          |           |           |
| 1912 | 110.5      | 152.0   | 37.8     | 95.5          | 42.1           | 95.0    |                              | 65.7                     | 3.0                      | 2.6           |          |           |           |
| 1913 | 179.5      | 135.0   | 65.0     | 73.4          | 30.3           | 299.4   |                              | 62.6                     | 5.4                      | 1.8           |          |           |           |
| 1914 | 163.3      | 119.5   | 48.4     | 68.7          | 57.8           | 360.1   |                              | 81.4                     | 6.5                      | 1.6           |          |           |           |
| 1915 | 135.4      | 105.0   | 33.8     | 60.4          | 69.7           | 137.0   |                              | 112.6                    | 3.3                      | 2.9           |          |           |           |
| 1916 | 169.2      | 208.5   | 47.5     | 75.6          | 55.2           | 365.2   |                              | 212.8                    | 4.9                      | 18.0          |          |           |           |
| 1917 | 249.2      | 419.9   | 107.7    | 50.5          | 94.1           | 424.3   |                              | 142.4                    | 2.2                      | 2.7           |          |           |           |
| 1918 | 175.2      | 170.0   | 149.9    | 38.3          | 73.3           | 192.4   |                              | 104.5                    | 2.7                      | 3.5           |          |           |           |
| 1919 | 220.4      | 175.0   | 66.5     | 35.0          | 51.1           | 248.0   |                              | 118.1                    | 2.1                      | 4.3           | 141.7    | 220.8     | 5.2       |
| 1920 | 282.4      | 280.2   | 131.3    | 38.7          | 195.5          | 609.6   |                              | 136.1                    | 5.5                      | 1.8           | 221.3    | 312.5     | 7.1       |
| 1921 | 318.9      | 287.7   | 119.2    | 48.5          | 176.9          | 80.4    |                              | 150.8                    | 4.6                      | 12.8          | 196.0    | 258.2     | 4.0       |
| 1922 | 218.1      | 248.2   | 31.5     | 28.4          | 144.5          | 310.2   |                              | 142.8                    | 4.1                      | 1.1           | 202.4    | 248.9     | 2.3       |
| 1923 | 192.1      | 320.1   | 57.5     | 24.4          | 189.5          | 747.2   |                              | 136.1                    | 4.6                      | 1.0           | 260.7    | 238.7     | 5.8       |
| 1924 | 145.3      | 313.9   | 109.4    | 18.9          | 105.5          | 442.0   |                              | 134.6                    | 3.8                      | 15.6          | 314.2    | 253.5     | 4.4       |
| 1925 | 92.2       | 289.1   | 18.4     | 22.6          | 178.0          | 242.8   |                              | 135.9                    | 3.0                      | 2.3           | 344.7    | 250.5     | 2.4       |
| 1926 | 123.0      | 290.0   | 12.6     | 13.3          | 200.7          | 913.5   |                              | 123.2                    | 2.2                      | 2.4           | 340.1    | 244.9     | 2.4       |
| 1927 | 101.9      | 245.2   | 32.7     | 12.9          | 151.8          | 184.9   |                              | 120.4                    | 3.1                      | 6.3           | 349.9    | 207.5     | 2.4       |
| 1928 | 80.8       | 227.6   | 29.0     | 8.5           | 210.5          | 586.9   |                              | 127.7                    | 6.0                      | 1.7           | 332.6    | 186.5     | 2.2       |
| 1929 | 97.7       | 301.5   | 51.0     | 6.6           | 197.7          | 381.8   |                              | 132.2                    | 39.4                     | 3.8           | 351.4    | 204.5     | 7.0       |
| 1930 | 66.2       | 230.8   | 49.0     | 10.4          | 163.9          | 580.9   |                              | 105.9                    | 18.6                     | 4.3           | 341.5    | 176.6     | 3.4       |
| 1931 | 37.5       | 266.7   | 18.7     | 8.7           | 234.4          | 127.2   |                              | 125.6                    | 6.0                      | 23.3          | 300.2    | 160.6     | 3.5       |
| 1932 | 24.1       | 309.7   | 4.5      | 10.4          | 265.8          | 855.4   |                              | 144.2                    | 2.6                      | 2.3           | 243.0    | 141.4     | 2.8       |
| 1933 | 23.2       | 330.6   | 0.9      | 9.1           | 236.0          | 436.0   |                              | 133.4                    | 1.7                      | 1.9           | 154.9    | 129.8     | 1.7       |
| 1934 | 12.3       | 384.2   | 1.0      | 9.7           | 224.8          | 130.4   |                              | 105.1                    | 1.1                      | 4.6           | 129.5    | 123.6     | 2.6       |
| 1935 | 12.8       | 234.7   | 0.3      | 7.0           | 265.9          | 1,565.8 |                              | 91.9                     | 2.2                      | 12.2          | 127.1    | 126.2     | 2.2       |
| 1936 | 13.0       | 248.5   | 0.6      | 5.6           | 280.7          | 48.2    |                              | 101.3                    | 2.4                      | 3.0           | 125.7    | 126.9     | 2.6       |
| 1937 | 16.4       | 483.2   | 3.0      | 4.7           | 222.6          | 119.9   |                              | 126.1                    | 1.7                      | 8.2           | 169.7    | 137.8     | 4.8       |
| 1938 | 12.0       | 354.9   | 5.3      | 5.5           | 281.5          | 1,534.8 |                              | 122.5                    | 1.3                      | 1.1           | 283.8    | 136.2     | 6.6       |
| 1939 | 8.7        | 303.7   | 7.1      | 3.4           | 172.5          | 248.3   |                              | 117.3                    | 0.9                      | 17.3          | 252.0    | 122.0     | 5.5       |
| 1940 | 5.0        | 197.2   | 1.4      | 2.3           | 223.7          | 384.4   |                              | 115.3                    | 0.9                      | 23.4          | 190.2    | 145.5     | 4.1       |
| 1941 | 4.5        | 161.0   | 2.1      | 2.7           | 303.7          | 1,301.1 |                              | 98.8                     | 0.9                      | 5.0           | 209.1    | 161.2     | 6.6       |
| 1942 | 4.4        | 135.5   | 0.3      | 1.3           | 209.5          | 154.7   |                              | 103.3                    | 1.2                      | 2.9           | 225.0    | 158.0     | 5.0       |
| 1943 | 5.2        | 93.8  | 0.3      | 2.1           | 224.8          | 962.6   |                              | 121.7                    | 14.1                     | 4.7           | 296.3    | 177.1     | 4.8       |
| 1944 | 7.8        | 166.7   | 0.2      | 1.5           | 75.3           | 496.7   |                              | 119.4                    | 15.9                     | 16.4          | 321.5    | 222.9     | 3.4       |
| 1945 | 11.6       | 171.2   | 0.3      | 1.1           | 98.2           | 116.4   | 2.5                          | 100.7                    | 5.0                      | 4.0           | 295.2    | 231.2     | 4.5       |
| 1946 | 6.7        | 104.7   | 0.1      | 1.5           | 142.2          | 740.3   | 0.6                          | 97.2                     | 3.2                      | 19.1          | 316.2    | 221.3     | 3.6       |
| 1947 | 3.9        | 79.6  | 0.0      | 1.3           | 172.5          | 157.8   | 0.2                          | 106.6                    | 1.9                      | 10.6          | 251.7    | 181.1     | 3.6       |
| 1948 | 2.0        | 95.8  | -        | 0.8           | 43.1           | 693.3   | 0.1                          | 98.6                     | 1.7                      | 12.5          | 195.3    | 152.5     | 7.5       |
| 1949 | 1.9        | 139.4   | -        | 0.8           | 65.4           | 319.3   | 0.4                          | 93.7                     | 1.9                      | 45.8          | 137.6    | 148.4     | 5.3       |
| 1950 | 1.3        | 73.2  | -        | 0.7           | 144.1          | 600.2   | 0.8                          | 86.9                     | 2.1                      | 31.8          | 138.6    | 136.2     | 3.2       |
| 1951 | 0.7        | 125.0   | -        | 0.5           | 48.2           | 232.7   | 5.0                          | 93.9                     | 2.1                      | 22.4          | 99.8     | 129.8     | 2.9       |
| 1952 | 0.7        | 124.1   | -        | 0.8           | 29.7           | 491.1   | 4.2                          | 91.7                     | 2.5                      | 58.3          | 110.0    | 114.7     | 0.9       |
| 1953 | 0.2        | 85.9  | -        | 0.5           | 42.8           | 340.5   | 12.7                         | 82.4                     | 2.2                      | 34.2          | 82.0     | 128.3     | 0.6       |
| 1954 | 0.8        | 73.2  | -        | 0.4           | 80.0           | 579.8   | 20.2                         | 82.1                     | 2.1                      | 30.9          | 66.7     | 141.5     | 0.7       |
| 1955 | 0.8        | 81.3  | -        | 0.3           | 58.7           | 330.0   | 17.2                         | 75.8                     | 2.3                      | 16.3          | 67.2     | 142.4     | 0.8       |
| 1956 | 2.9        | 97.8  | -        | 0.7           | 25.4           | 558.4   | 10.8                         | 73.4                     | 2.4                      | 8.7           | 63.7     | 127.7     | 0.7       |
| 1957 | 1.7        | 92.2  | -        | 0.2           | 17.5           | 244.4   | 8.4                          | 64.2                     | 2.2                      | 6.4           | 58.6     | 108.0     | 1.2       |
| 1958 | 0.1        | 68.4  | -        | 0.2           | 15.7           | 526.9   | 8.7                          | 71.0                     | 2.9                      | 15.6          | 54.2     | 109.6     | 2.3       |
| 1959 | 0.0        | 118.7   | -        | 0.1           | 37.7           | 153.7   | 14.3                         | 59.6                     | 1.8                      | 5.6           | 43.0     | 100.9     | 1.7       |
| 1960 | 0.1        | 118.7   | -        | 0.2           | 14.4           | 462.2   | 27.0                         | 52.8                     | 2.2                      | 1.1           | 46.6     | 107.0     | 1.4       |
| 1961 | 0.0        | 105.6   | -        | 0.1           | 8.1            | 371.9   | 58.3                         | 48.6                     | 3.2                      | 0.5           | 41.9     | 120.3     | 1.3       |
| 1962 | 0.1        | 102.2   | -        | 0.2           | 22.1           | 318.7   | 41.3                         | 43.8                     | 1.8                      | 0.3           | 54.6     | 146.8     | 0.9       |
| 1963 | 0.1        | 149.0   | -        | 0.2           | 17.6           | 607.1   | 33.1                         | 41.1                     | 1.3                      | 0.2           | 68.6     | 137.5     | 1.2       |
| 1964 | 0.0        | 212.7   | -        | 0.2           | 11.8           | 381.4   | 30.5                         | 37.6                     | 1.0                      | 0.0           | 64.4     | 148.5     | 1.3       |
| 1965 | -          | 178.3   | -        | 0.1           | 7.5            | 343.1   | 32.0                         | 37.4                     | 1.3                      | 0.0           | 68.8     | 174.6     | 1.2       |
| 1966 | 0.0        | 166.7   | -        | 0.1           | 7.9            | 183.4   | 31.1                         | 39.2                     | 1.6                      | 0.0           | 70.3     | 185.5     | 1.4       |
| 1967 | 0.0        | 154.0   | -        | 0.1           | 12.3           | 12.2    | 22.2                         | 34.2                     | 0.9                      | 0.0           | 64.8     | 198.4     | 0.9       |
| 1968 | -          | 116.4   | -        | 0.0           | 4.9            | 4.1     | 27.2                         | 30.2                     | 1.1                      | 0.0           | 61.7     | 209.3     | 1.2       |
| 1969 | -          | 111.8   | -        | 0.1           | 2.2            | 4.6     | 38.5                         | 24.4                     | 1.3                      | 0.0           | 43.6     | 212.2     | 1.2       |
| 1970 | -          | 133.7   | -        | 0.2           | 2.2            | 20.7    | 51.8                         | 22.4                     | 0.8                      | 0.0           | 44.2     | 229.4     | 1.3       |
| 1971 | 0.0        | 125.0   | -        | 0.1           | 1.6            | 29.6    | 53.7                         | 19.9                     | 0.7                      | -             | 53.4     | 247.4     | 1.0       |
| 1972 | 0.0        | 147.6   | -        | 0.1           | 1.3            | 26.1    | 48.0                         | 18.1                     | 0.6                      | 0.0           | 54.3     | 274.6     | 1.9       |
| 1973 | -          | 270.0   | -        | 0.2           | 0.9            | 50.2    | 42.7                         | 16.3                     | 0.6                      | -             | 48.3     | 343.1     | 2.4       |
| 1974 | -          | 349.5   | -        | 0.1           | 1.1            | 26.0    | 37.0                         | 15.7                     | 0.6                      | 0.0           | 29.9     | 352.5     | 1.9       |

Note: Meningococcal infections - Prior to 1952 data were for meningococcal meningitis. Tuberculosis, syphilis, gonorrhea and chancroid are resident rates.

Office of Planning and Evaluation  
Michigan Department of Public Health







TABLE 4.7  
SELECTED VITAL STATISTICS BY COUNTY  
MICHIGAN RESIDENTS, 1974

| Area              | Population Estimate | Live Births | Illegitimate Live Births | Low Weight Live Births | Deaths | Infant Deaths | Neonatal Deaths | Perinatal Deaths | Total Deaths | Marriages <sup>1</sup> | Divorces <sup>1</sup> |
|-------------------|---------------------|-------------|--------------------------|------------------------|--------|---------------|-----------------|------------------|--------------|------------------------|-----------------------|
| STATE             | 9,098,000           | 137,414     | 18,733                   | 10,169                 | 76,143 | 2,387         | 1,734           | 2,960            | 1,451        | 88,023                 | 41,850                |
| Alcona            | 8,900               | 85          | 4                        | 6                      | 103    | 1             | -               | 1                | 1            | 73                     | 46                    |
| Alger             | 8,900               | 112         | 11                       | 9                      | 109    | 3             | 1               | 3                | 2            | 84                     | -                     |
| Allegan           | 1,200               | 93          | 78                       | 8                      | 601    | 23            | 16              | 30               | 16           | 658                    | 274                   |
| Alpena            | 32,900              | 463         | 27                       | 27                     | 266    | 7             | 3               | 9                | 7            | 329                    | 63                    |
| Antrim            | 15,500              | 227         | 17                       | 13                     | 161    | 2             | 1               | 3                | 2            | 159                    | 50                    |
| Arenac            | 12,800              | 187         | 21                       | 12                     | 164    | 5             | 4               | 5                | 1            | 119                    | 32                    |
| Baraga            | 8,000               | 126         | 7                        | 8                      | 88     | 4             | 2               | 3                | 2            | 87                     | 23                    |
| Barry             | 41,000              | 588         | 36                       | 42                     | 390    | 6             | 4               | 10               | 8            | 395                    | 172                   |
| Bay               | 119,400             | 1,822       | 194                      | 106                    | 1,017  | 29            | 24              | 42               | 18           | 1,180                  | 443                   |
| Benzie            | 9,900               | 133         | 11                       | 8                      | 124    | 2             | 1               | 1                | -            | 90                     | 33                    |
| Berrien           | 169,000             | 2,967       | 620                      | 248                    | 1,521  | 56            | 40              | 67               | 33           | 1,978                  | 662                   |
| Branch            | 38,700              | 567         | 50                       | 50                     | 387    | 11            | 11              | 12               | 1            | 378                    | 170                   |
| Calhoun           | 140,900             | 2,166       | 317                      | 166                    | 1,316  | 36            | 24              | 39               | 18           | 1,582                  | 945                   |
| Cass              | 45,700              | 649         | 68                       | 44                     | 398    | 12            | 8               | 9                | 4            | 412                    | 224                   |
| Charlevoix        | 18,000              | 267         | 21                       | 11                     | 147    | 6             | 4               | 3                | -            | 193                    | 88                    |
| Cheboygan         | 19,100              | 302         | 24                       | 24                     | 204    | 8             | 5               | 11               | 6            | 182                    | 59                    |
| Chippewa          | 36,000              | 709         | 44                       | 39                     | 312    | 9             | 7               | 13               | 7            | 419                    | 123                   |
| Clare             | 20,800              | 257         | 21                       | 13                     | 250    | 6             | 5               | 8                | 3            | 203                    | 82                    |
| Clinton           | 51,600              | 773         | 31                       | 36                     | 329    | 13            | 8               | 18               | 10           | 368                    | 173                   |
| Crawford          | 8,000               | 119         | 17                       | 12                     | 85     | 1             | 1               | 3                | 2            | 94                     | 50                    |
| Delta             | 38,300              | 612         | 40                       | 28                     | 441    | 5             | 5               | 11               | 7            | 397                    | 111                   |
| Dickinson         | 24,300              | 324         | 18                       | 18                     | 324    | 8             | 8               | 7                | 2            | 332                    | 36                    |
| Eaton             | 75,300              | 1,044       | 71                       | 74                     | 451    | 16            | 13              | 18               | 8            | 633                    | 333                   |
| Emmet             | 20,700              | 336         | 34                       | 18                     | 195    | 3             | 3               | 2                | -            | 209                    | 71                    |
| Genesee           | 453,900             | 7,250       | 1,195                    | 566                    | 3,200  | 135           | 93              | 160              | 79           | 4,575                  | 2,532                 |
| Gladwin           | 16,600              | 246         | 17                       | 13                     | 161    | -             | -               | 1                | 1            | 146                    | 47                    |
| Googebic          | 20,900              | 239         | 21                       | 18                     | 331    | 5             | 4               | 7                | 3            | 284                    | 39                    |
| Grand Traverse    | 45,000              | 654         | 37                       | 39                     | 406    | 11            | 8               | 11               | 3            | 564                    | 253                   |
| Gratiot           | 40,100              | 645         | 38                       | 29                     | 350    | 7             | 5               | 16               | 11           | 403                    | 146                   |
| Hillsdale         | 39,900              | 586         | 37                       | 49                     | 394    | 13            | 11              | 13               | 3            | 398                    | -                     |
| Houghton          | 36,600              | 509         | 13                       | 24                     | 505    | 5             | 3               | 6                | 3            | 323                    | 89                    |
| Huron             | 35,400              | 571         | 30                       | 31                     | 415    | 16            | 15              | 15               | 3            | 346                    | 86                    |
| Ingham            | 266,600             | 4,099       | 497                      | 251                    | 1,597  | 55            | 45              | 80               | 40           | 3,072                  | 1,525                 |
| Ionia             | 47,000              | 805         | 61                       | 55                     | 421    | 12            | 9               | 15               | 8            | 474                    | 178                   |
| Iosco             | 28,600              | 532         | 20                       | 34                     | 246    | 8             | 6               | 10               | 4            | 311                    | 80                    |
| Iron              | 14,000              | 124         | 6                        | 7                      | 210    | 2             | 2               | 3                | 1            | 156                    | 30                    |
| Isabella          | 50,100              | 738         | 55                       | 66                     | 311    | 8             | 7               | 12               | 5            | 440                    | 144                   |
| Jackson           | 145,000             | 2,156       | 234                      | 122                    | 1,284  | 27            | 22              | 42               | 24           | 1,521                  | 792                   |
| Kalamazoo         | 200,900             | 2,962       | 343                      | 207                    | 1,389  | 45            | 34              | 59               | 31           | 2,234                  | 1,167                 |
| Kalkaska          | 7,500               | 134         | 9                        | 7                      | 83     | 1             | 1               | 1                | 1            | 89                     | 40                    |
| Kent              | 419,500             | 6,745       | 775                      | 399                    | 3,433  | 100           | 65              | 132              | 81           | 4,681                  | 2,021                 |
| Keeweenaw         | 2,200               | 26          | 1                        | -                      | 35     | -             | -               | 2                | 2            | 22                     | 4                     |
| Lake              | 6,700               | 84          | 17                       | 7                      | 104    | 1             | 1               | 2                | 1            | 54                     | -                     |
| Lapeer            | 60,500              | 1,007       | 63                       | 68                     | 412    | 19            | 11              | 19               | 11           | 581                    | 237                   |
| Leelanau          | 12,400              | 120         | 11                       | 6                      | 123    | 3             | -               | 1                | 1            | 103                    | 52                    |
| Lenawee           | 86,700              | 1,478       | 113                      | 85                     | 706    | 17            | 12              | 24               | 12           | 916                    | 315                   |
| Livingston        | 76,100              | 1,062       | 50                       | 51                     | 479    | 13            | 8               | 11               | 4            | 648                    | 345                   |
| Luce              | 7,100               | 113         | 14                       | 9                      | 64     | 1             | 1               | 2                | 1            | 79                     | 19                    |
| Mackinac          | 10,600              | 147         | 24                       | 5                      | 111    | 2             | 2               | 4                | 2            | 91                     | -                     |
| Macomb            | 659,300             | 9,247       | 471                      | 619                    | 4,011  | 139           | 114             | 172              | 75           | 6,263                  | 2,604                 |
| Manistee          | 21,200              | 284         | 10                       | 26                     | 250    | 4             | 4               | 9                | 5            | 211                    | 73                    |
| Marquette         | 49,200              | 1,230       | 77                       | 74                     | 560    | 16            | 13              | 22               | 10           | 721                    | 265                   |
| Mason             | 24,500              | 301         | 29                       | 18                     | 242    | 4             | 4               | 5                | 2            | 269                    | 120                   |
| Mecosta           | 33,500              | 447         | 26                       | 27                     | 264    | 8             | 5               | 13               | 8            | 280                    | 82                    |
| Menominee         | 25,100              | 270         | 15                       | 15                     | 259    | 2             | 1               | 7                | 6            | 383                    | 58                    |
| Midland           | 66,100              | 1,062       | 52                       | 77                     | 419    | 15            | 10              | 22               | 13           | 673                    | 275                   |
| Missaukee         | 8,700               | 121         | 9                        | 3                      | 84     | -             | -               | -                | -            | 85                     | 27                    |
| Monroe            | 124,800             | 1,786       | 155                      | 111                    | 868    | 33            | 23              | 40               | 17           | 1,326                  | 502                   |
| Montcalm          | 42,700              | 663         | 52                       | 33                     | 437    | 12            | 7               | 9                | 4            | 464                    | 186                   |
| Montmorency       | 6,800               | 86          | 11                       | 8                      | 103    | 3             | 2               | 1                | -            | 62                     | 21                    |
| Muskegon          | 156,700             | 2,406       | 438                      | 174                    | 1,384  | 47            | 31              | 51               | 27           | 1,687                  | 803                   |
| Newaygo           | 30,600              | 487         | 39                       | 24                     | 302    | 9             | 6               | 11               | 5            | 307                    | 112                   |
| Oakland           | 952,500             | 13,068      | 1,120                    | 878                    | 6,439  | 193           | 146             | 239              | 111          | 8,772                  | 4,745                 |
| Oceana            | 20,000              | 324         | 29                       | 19                     | 203    | 6             | 6               | 6                | 2            | 239                    | 72                    |
| Ogemaw            | 14,500              | 209         | 7                        | 11                     | 172    | 2             | 2               | 2                | 1            | 165                    | 44                    |
| Ontonagon         | 10,900              | 178         | 10                       | 13                     | 110    | 3             | 1               | 4                | 3            | 112                    | 26                    |
| Osceola           | 17,000              | 263         | 26                       | 10                     | 177    | 2             | 1               | 2                | 1            | 159                    | -                     |
| Oscoda            | 5,800               | 59          | 7                        | 2                      | 79     | 1             | 1               | 5                | 4            | 69                     | 19                    |
| Otsego            | 13,400              | 197         | 20                       | 11                     | 111    | 2             | 2               | 5                | 3            | 139                    | 39                    |
| Ottawa            | 139,300             | 2,133       | 81                       | 101                    | 954    | 31            | 25              | 38               | 17           | 1,307                  | 420                   |
| Presque Isle      | 13,900              | 186         | 14                       | 10                     | 127    | 3             | 1               | 4                | 3            | 114                    | 26                    |
| Roscommon         | 13,900              | 146         | 15                       | 8                      | 172    | 5             | 5               | 6                | 1            | 144                    | 54                    |
| Saginaw           | 226,900             | 3,750       | 738                      | 276                    | 1,765  | 49            | 39              | 83               | 49           | 2,196                  | 904                   |
| St. Clair         | 129,600             | 2,006       | 163                      | 136                    | 1,251  | 32            | 23              | 39               | 18           | 1,251                  | 561                   |
| St. Joseph        | 50,800              | 861         | 78                       | 62                     | 498    | 14            | 10              | 21               | 11           | 548                    | 191                   |
| Sanilac           | 38,900              | 590         | 29                       | 36                     | 383    | 10            | 8               | 14               | 6            | 337                    | 114                   |
| Schoolcraft       | 8,500               | 121         | 7                        | 8                      | 107    | -             | -               | -                | -            | 110                    | 24                    |
| Shiawassee        | 68,300              | 1,134       | 73                       | 67                     | 560    | 21            | 17              | 29               | 13           | 647                    | 323                   |
| Tuscola           | 53,600              | 857         | 52                       | 57                     | 415    | 20            | 16              | 19               | 6            | 498                    | 158                   |
| Van Buren         | 60,700              | 969         | 120                      | 66                     | 581    | 16            | 9               | 17               | 10           | 579                    | 274                   |
| Washtenaw         | 250,100             | 3,650       | 332                      | 252                    | 1,375  | 56            | 43              | 79               | 43           | 2,410                  | 1,383                 |
| Wayne             | 2,556,300           | 38,906      | 8,981                    | 3,683                  | 25,088 | 841           | 591             | 999              | 480          | 22,149                 | 12,810                |
| Wexford           | 21,400              | 341         | 24                       | 16                     | 222    | 4             | 3               | 6                | 4            | 282                    | 110                   |
| County Not Stated | -                   | 9           | 1                        | -                      | 18     | 6             | 5               | 5                | -            | -                      | -                     |

<sup>1</sup> By County of Occurrence rather than county of residence

<sup>2</sup> Estimate

TABLE 4.8  
SELECTED VITAL STATISTICS RATES BY COUNTY  
MICHIGAN RESIDENTS, 1974

| Area           | Live Births | Illegitimate Live Births <sup>3</sup> | Low Weight Live Births <sup>3</sup> | Deaths | Infant Deaths | Neonatal Deaths | Perinatal Deaths | Births <sup>3</sup> | Marriages <sup>1</sup> | Divorces <sup>1</sup> |
|----------------|-------------|---------------------------------------|-------------------------------------|--------|---------------|-----------------|------------------|---------------------|------------------------|-----------------------|
| STATE          | 15.1        | 136.3                                 | 74.0                                | 8.4    | 17.4          | 12.6            | 21.3             | 10.6                | 19.3                   | 9.2                   |
| Alcona         | 9.6         | 47.1                                  | 70.6                                | 11.6   | 11.8          | -               | 11.6             | 11.8                | 16.4                   | 10.3                  |
| Alger          | 12.6        | 98.2                                  | 80.4                                | 12.2   | 26.8          | 8.9             | 26.3             | 17.9                | 18.9                   | -                     |
| Allegan        | 17.3        | 77.5                                  | 65.0                                | 8.6    | 19.2          | 13.3            | 24.7             | 13.3                | 18.9                   | 7.9                   |
| Alpena         | 14.1        | 67.0                                  | 58.3                                | 8.1    | 15.1          | 6.5             | 19.1             | 15.1                | 20.0                   | 3.8                   |
| Antrim         | 14.6        | 74.9                                  | 57.3                                | 10.4   | 8.8           | 4.4             | 13.1             | 8.8                 | 20.5                   | 6.5                   |
| Arenac         | 14.6        | 112.3                                 | 64.2                                | 12.8   | 26.7          | 21.4            | 26.6             | 5.3                 | 18.6                   | 5.0                   |
| Baraga         | 15.8        | 55.6                                  | 63.5                                | 11.0   | 31.7          | 15.9            | 23.4             | 15.9                | 21.8                   | 5.8                   |
| Barry          | 14.3        | 61.2                                  | 71.4                                | 9.5    | 10.2          | 6.8             | 16.8             | 13.6                | 19.3                   | 8.4                   |
| Bay            | 15.3        | 73.5                                  | 58.2                                | 8.5    | 15.9          | 13.2            | 22.8             | 9.9                 | 19.8                   | 7.4                   |
| Benzie         | 13.4        | 82.7                                  | 60.2                                | 12.5   | 15.0          | 7.5             | 7.5              | -                   | 18.2                   | 6.7                   |
| Berrien        | 17.6        | 209.0                                 | 83.6                                | 9.0    | 18.9          | 13.5            | 22.3             | 11.1                | 23.4                   | 7.8                   |
| Branch         | 14.7        | 88.2                                  | 88.2                                | 10.0   | 19.4          | 19.4            | 21.1             | 1.8                 | 19.5                   | 8.8                   |
| Calhoun        | 15.4        | 146.4                                 | 76.6                                | 9.3    | 16.6          | 11.1            | 17.9             | 8.3                 | 22.5                   | 13.4                  |
| Cass           | 14.2        | 104.8                                 | 67.8                                | 8.7    | 18.5          | 12.3            | 13.8             | 6.2                 | 18.0                   | 9.8                   |
| Charlevoix     | 14.8        | 78.7                                  | 41.2                                | 8.2    | 22.5          | 15.0            | 11.2             | -                   | 21.4                   | 9.8                   |
| Cheboygan      | 15.8        | 79.5                                  | 79.5                                | 10.7   | 26.5          | 16.6            | 35.7             | 19.9                | 19.1                   | 6.2                   |
| Chippewa       | 19.7        | 62.1                                  | 55.0                                | 8.7    | 12.7          | 9.3             | 18.2             | 9.9                 | 23.3                   | 6.8                   |
| Clare          | 12.4        | 81.7                                  | 50.6                                | 12.0   | 23.3          | 19.5            | 30.8             | 11.7                | 19.5                   | 7.9                   |
| Clinton        | 15.0        | 40.1                                  | 46.6                                | 6.4    | 16.8          | 10.3            | 23.0             | 12.9                | 14.3                   | 6.7                   |
| Crawford       | 14.9        | 142.9                                 | 100.8                               | 10.6   | 8.4           | 8.4             | 24.8             | 16.8                | 23.5                   | 12.5                  |
| Delta          | 16.0        | 65.4                                  | 45.8                                | 11.5   | 8.2           | 8.2             | 17.8             | 11.4                | 20.7                   | 5.8                   |
| Dickinson      | 13.3        | 55.6                                  | 55.6                                | 13.3   | 24.7          | 15.4            | 21.5             | 6.2                 | 27.3                   | 4.6                   |
| Easton         | 13.9        | 68.0                                  | 70.9                                | 6.0    | 15.3          | 12.5            | 17.1             | 7.7                 | 16.8                   | 8.8                   |
| Emmet          | 16.1        | 101.2                                 | 53.6                                | 9.4    | 8.9           | 8.9             | 6.0              | -                   | 20.2                   | 6.9                   |
| Genesee        | 16.0        | 164.8                                 | 78.1                                | 7.1    | 18.6          | 12.8            | 21.8             | 10.9                | 20.2                   | 11.2                  |
| Gladwin        | 14.8        | 69.1                                  | 52.8                                | 9.7    | -             | -               | 4.0              | 4.1                 | 17.6                   | 5.7                   |
| Gogebic        | 11.4        | 87.9                                  | 75.3                                | 15.8   | 20.9          | 16.7            | 28.9             | 12.6                | 27.2                   | 3.7                   |
| Grand Traverse | 14.5        | 56.6                                  | 59.6                                | 9.0    | 16.8          | 12.2            | 16.7             | 4.6                 | 25.1                   | 11.2                  |
| Gratiot        | 16.1        | 58.9                                  | 45.0                                | 8.7    | 10.9          | 7.8             | 24.4             | 17.1                | 20.1                   | 7.3                   |
| Hillsdale      | 14.7        | 63.1                                  | 83.6                                | 9.9    | 22.2          | 18.8            | 22.1             | 5.1                 | 19.9                   | -                     |
| Houghton       | 13.9        | 25.5                                  | 47.2                                | 13.8   | 9.8           | 5.9             | 11.7             | 5.9                 | 17.7                   | 4.9                   |
| Huron          | 16.1        | 52.5                                  | 54.3                                | 11.7   | 28.0          | 26.3            | 26.1             | 5.3                 | 19.5                   | 4.9                   |
| Ingham         | 15.4        | 121.2                                 | 61.2                                | 6.0    | 13.4          | 11.0            | 19.3             | 9.8                 | 23.0                   | 11.4                  |
| Ionia          | 17.1        | 75.8                                  | 68.3                                | 9.0    | 14.9          | 11.2            | 18.5             | 9.9                 | 20.2                   | 7.6                   |
| Iosco          | 18.6        | 37.6                                  | 63.9                                | 8.6    | 15.0          | 11.3            | 18.7             | 7.5                 | 21.7                   | 5.6                   |
| Iron           | 8.9         | 48.4                                  | 56.5                                | 15.0   | 16.1          | 16.1            | 24.0             | 8.1                 | 22.3                   | 4.3                   |
| Isabella       | 14.7        | 74.5                                  | 89.4                                | 6.2    | 10.8          | 9.5             | 16.2             | 6.8                 | 17.6                   | 5.7                   |
| Jackson        | 14.9        | 108.5                                 | 56.6                                | 8.9    | 12.5          | 10.2            | 19.3             | 11.1                | 21.0                   | 10.9                  |
| Kalamazoo      | 14.7        | 115.8                                 | 69.9                                | 6.9    | 15.2          | 11.5            | 19.7             | 10.5                | 22.2                   | 11.6                  |
| Kalamazoo      | 17.9        | 67.2                                  | 52.2                                | 11.1   | 7.5           | 7.5             | 7.4              | 7.5                 | 23.7                   | 10.7                  |
| Kent           | 16.1        | 114.9                                 | 59.2                                | 8.2    | 14.8          | 9.6             | 19.3             | 12.0                | 22.3                   | 9.6                   |
| Keweenaw       | 11.8        | 38.5                                  | -                                   | 15.9   | -             | -               | 71.4             | 76.9                | 20.0                   | 3.6                   |
| Lake           | 12.5        | 202.4                                 | 83.3                                | 15.5   | 11.9          | 11.9            | 23.5             | 11.9                | 16.1                   | -                     |
| Lapeer         | 16.6        | 62.6                                  | 67.5                                | 6.8    | 18.9          | 10.9            | 18.7             | 10.9                | 19.2                   | 7.8                   |
| Leelanau       | 9.7         | 91.7                                  | 50.0                                | 9.9    | 25.0          | -               | 8.3              | 8.3                 | 16.6                   | 8.4                   |
| Lenawee        | 17.0        | 76.5                                  | 57.5                                | 8.1    | 11.5          | 8.1             | 16.1             | 8.1                 | 21.1                   | 7.3                   |
| Livingston     | 14.0        | 47.1                                  | 48.0                                | 6.3    | 12.2          | 7.5             | 10.3             | 3.8                 | 17.9                   | 9.1                   |
| Luce           | 15.9        | 123.9                                 | 79.6                                | 9.0    | 8.8           | 8.8             | 17.5             | 8.8                 | 22.3                   | 5.4                   |
| Mackinac       | 13.9        | 163.3                                 | 34.0                                | 10.5   | 13.6          | 13.6            | 26.8             | 13.6                | 17.2                   | -                     |
| Macomb         | 14.0        | 50.9                                  | 66.9                                | 6.1    | 15.0          | 12.3            | 18.5             | 8.1                 | 19.0                   | 7.9                   |
| Manistee       | 13.4        | 35.2                                  | 91.5                                | 11.8   | 14.1          | 14.1            | 31.1             | 17.6                | 19.9                   | 6.9                   |
| Marquette      | 17.8        | 62.6                                  | 60.2                                | 8.1    | 13.0          | 10.6            | 17.7             | 8.1                 | 20.8                   | 7.7                   |
| Mason          | 12.3        | 96.3                                  | 59.8                                | 9.9    | 13.3          | 13.3            | 16.5             | 6.6                 | 22.0                   | 9.8                   |
| Mecosta        | 13.3        | 58.2                                  | 60.4                                | 7.9    | 17.9          | 11.2            | 28.6             | 17.9                | 15.7                   | 4.8                   |
| Menominee      | 10.8        | 55.6                                  | 55.6                                | 10.3   | 7.4           | 3.7             | 25.4             | 22.2                | 30.5                   | 4.6                   |
| Midland        | 16.1        | 49.0                                  | 72.5                                | 6.3    | 14.1          | 9.4             | 20.5             | 12.2                | 20.4                   | 8.3                   |
| Missaukee      | 13.9        | 74.4                                  | 24.8                                | 9.7    | -             | -               | -                | -                   | 19.5                   | 6.2                   |
| Monroe         | 14.3        | 86.8                                  | 62.2                                | 7.0    | 18.5          | 12.9            | 22.2             | 9.5                 | 21.3                   | 8.0                   |
| Montcalm       | 15.5        | 78.4                                  | 49.8                                | 10.2   | 18.1          | 10.6            | 13.5             | 6.0                 | 21.7                   | 8.7                   |
| Montmorency    | 12.6        | 127.9                                 | 93.0                                | 15.1   | 34.9          | 23.3            | 11.6             | -                   | 18.2                   | 6.2                   |
| Muskegon       | 15.4        | 182.0                                 | 72.3                                | 8.8    | 19.5          | 12.9            | 21.0             | 11.2                | 21.5                   | 10.2                  |
| Newaygo        | 15.9        | 80.1                                  | 49.3                                | 9.9    | 18.5          | 12.3            | 22.4             | 10.3                | 20.1                   | 7.3                   |
| Oakland        | 13.7        | 85.7                                  | 67.2                                | 6.8    | 14.8          | 11.2            | 18.1             | 8.5                 | 18.4                   | 10.0                  |
| Oceana         | 16.2        | 89.5                                  | 58.6                                | 10.2   | 18.5          | 18.5            | 18.4             | 6.2                 | 23.9                   | 7.2                   |
| Ogemaw         | 14.4        | 33.5                                  | 52.6                                | 11.9   | 9.6           | 9.6             | 9.5              | 4.8                 | 22.8                   | 6.1                   |
| Ontonagon      | 16.3        | 56.2                                  | 73.0                                | 10.1   | 16.9          | 5.6             | 22.1             | 16.9                | 20.6                   | 4.8                   |
| Oscoda         | 15.5        | 98.9                                  | 38.0                                | 10.4   | 7.6           | 3.8             | 7.6              | 3.8                 | 18.7                   | -                     |
| Oscoda         | 10.2        | 118.6                                 | 33.9                                | 13.6   | 16.9          | 16.9            | 79.4             | 67.8                | 23.8                   | 6.6                   |
| Otsego         | 14.7        | 101.5                                 | 55.8                                | 8.3    | 10.2          | 10.2            | 25.0             | 15.2                | 20.7                   | 5.8                   |
| Ottawa         | 15.3        | 38.0                                  | 47.4                                | 6.8    | 14.5          | 11.7            | 17.7             | 8.0                 | 18.8                   | 6.0                   |
| Preque Isle    | 13.4        | 75.3                                  | 53.8                                | 9.1    | 16.1          | 5.4             | 21.2             | 16.1                | 16.4                   | 3.7                   |
| Roscommon      | 10.5        | 102.7                                 | 54.8                                | 12.4   | 34.2          | 34.2            | 40.8             | 6.8                 | 20.7                   | 7.8                   |
| Saginaw        | 16.6        | 196.8                                 | 73.6                                | 7.8    | 13.1          | 10.4            | 21.8             | 13.1                | 19.4                   | 8.0                   |
| St. Clair      | 15.5        | 81.3                                  | 67.8                                | 9.7    | 16.0          | 11.5            | 19.3             | 9.0                 | 19.3                   | 8.7                   |
| St. Joseph     | 16.9        | 90.6                                  | 72.0                                | 9.8    | 16.3          | 11.6            | 24.1             | 12.8                | 21.6                   | 7.5                   |
| Sanilac        | 15.2        | 49.2                                  | 61.0                                | 9.8    | 16.9          | 13.6            | 23.5             | 10.2                | 17.3                   | 5.9                   |
| Schoolcraft    | 14.2        | 57.9                                  | 66.1                                | 12.6   | 12.6          | -               | -                | -                   | 25.9                   | 5.6                   |
| Shiawassee     | 16.6        | 64.4                                  | 59.1                                | 8.2    | 18.5          | 15.0            | 25.3             | 11.5                | 18.9                   | 9.5                   |
| Tuscola        | 16.0        | 66.7                                  | 66.5                                | 7.7    | 23.3          | 18.7            | 22.0             | 7.0                 | 18.6                   | 5.9                   |
| Van Buren      | 16.0        | 123.8                                 | 68.1                                | 9.6    | 16.5          | 9.3             | 17.4             | 10.3                | 19.1                   | 9.0                   |
| Washtenaw      | 14.6        | 91.0                                  | 69.0                                | 5.5    | 15.3          | 11.8            | 21.4             | 11.8                | 19.3                   | 11.1                  |
| Wayne          | 15.2        | 230.8                                 | 94.7                                | 9.8    | 21.6          | 15.2            | 25.4             | 12.3                | 17.3                   | 10.0                  |
| Wexford        | 15.9        | 70.4                                  | 46.9                                | 10.4   | 11.7          | 8.8             | 17.4             | 11.7                | 26.4                   | 10.3                  |

1 - By county of occurrence rather than county of residence  
2 - Rate of persons per population rather than events per population  
3 - Ratio per 1,000 live births

TABLE 4.9  
VITAL STATISTICS BY SELECTED CITIES\*  
MICHIGAN RESIDENTS, 1974

| Area             | Live Births<br>by Residence | Illegitimate<br>Live Births<br>by Residence |       | Deaths<br>by Residence | Infant Deaths<br>by Residence |      | Fetal Deaths<br>by Residence |       |
|------------------|-----------------------------|---|-------|------------------------|-------------------------------|------|------------------------------|-------|
|                  | Number                      | Number                                      | Rate  | Number                 | Number                        | Rate | Number                       | Ratio |
| Allen Park       | 364                         | 17  | 46.7  | 292                    | 5                             | 13.7 | 2                            | 5.5   |
| Ann Arbor        | 1,436                       | 112   | 78.0  | 517                    | 19                            | 13.2 | 16                           | 11.1  |
| Battle Creek     | 777                         | 189   | 243.2 | 550                    | 16                            | 20.6 | 7                            | 9.0   |
| Bay City         | 694                         | 88  | 126.8 | 551                    | 14                            | 20.2 | 4                            | 5.8   |
| Birmingham       | 309                         | 5   | 16.2  | 255                    | 7                             | 22.7 | 3                            | 9.7   |
| Dearborn         | 982                         | 45  | 45.8  | 1,008                  | 11                            | 11.2 | 14                           | 14.3  |
| Dearborn Heights | 811                         | 41  | 50.6  | 465                    | 6                             | 7.4  | 7                            | 8.6   |
| Detroit          | 22,812                      | 7,643                                       | 335.0 | 16,635                 | 588                           | 25.8 | 316                          | 13.9  |
| East Detroit     | 415                         | 17  | 41.0  | 327                    | 3                             | 7.2  | 7                            | 16.9  |
| East Lansing     | 431                         | 23  | 53.4  | 128                    | 1                             | 2.3  | 4                            | 9.3   |
| Ferndale         | 451                         | 46  | 102.0 | 274                    | 3                             | 6.7  | 7                            | 15.5  |
| Flint            | 3,453                       | 898   | 260.1 | 1,635                  | 81                            | 23.5 | 45                           | 13.0  |
| Garden City      | 489                         | 24  | 49.1  | 179                    | 6                             | 12.3 | 3                            | 6.1   |
| Grand Rapids     | 3,099                       | 592   | 191.0 | 2,029                  | 64                            | 20.7 | 46                           | 14.8  |
| Hamtramck        | 313                         | 45  | 143.8 | 393                    | 8                             | 25.6 | 5                            | 16.0  |
| Highland Park    | 462                         | 177   | 383.1 | 405                    | 16                            | 34.6 | 12                           | 26.0  |
| Holland (Pt.)    | 382                         | 28  | 73.3  | 237                    | 10                            | 26.2 | 2                            | 5.2   |
| Inkster          | 715                         | 180   | 251.7 | 258                    | 20                            | 28.0 | 11                           | 15.4  |
| Jackson          | 770                         | 133   | 172.7 | 552                    | 12                            | 15.6 | 11                           | 14.3  |
| Kalamazoo        | 1,433                       | 249   | 173.8 | 697                    | 26                            | 18.1 | 19                           | 13.3  |
| Lansing (Pt.)    | 2,497                       | 386   | 154.6 | 998                    | 42                            | 16.8 | 21                           | 8.4   |
| Lincoln Park     | 666                         | 41  | 61.6  | 389                    | 7                             | 10.5 | 11                           | 16.5  |
| Livonia          | 1,148                       | 60  | 52.3  | 630                    | 14                            | 12.2 | 5                            | 4.4   |
| Madison Heights  | 576                         | 34  | 59.0  | 193                    | 7                             | 12.2 | 2                            | 3.5   |
| Midland (Pt.)    | 577                         | 27  | 46.8  | 215                    | 7                             | 12.1 | 8                            | 13.9  |
| Muskegon         | 829                         | 191   | 230.4 | 557                    | 14                            | 16.9 | 15                           | 18.1  |
| Oak Park         | 434                         | 14  | 32.3  | 297                    | 4                             | 9.2  | 3                            | 6.9   |
| Pontiac          | 2,146                       | 551   | 256.8 | 770                    | 37                            | 17.2 | 24                           | 11.2  |
| Portage          | 465                         | 24  | 51.6  | 134                    | 5                             | 10.8 | 2                            | 4.3   |
| Port Huron       | 638                         | 85  | 133.2 | 440                    | 14                            | 21.9 | 8                            | 12.5  |
| Roseville        | 909                         | 53  | 58.3  | 361                    | 16                            | 17.6 | 9                            | 9.9   |
| Royal Oak        | 996                         | 45  | 45.2  | 634                    | 12                            | 12.0 | 11                           | 11.0  |
| Saginaw          | 1,858                       | 579   | 311.6 | 904                    | 32                            | 17.2 | 24                           | 12.9  |
| St. Clair Shores | 857                         | 37  | 43.2  | 628                    | 13                            | 15.2 | 7                            | 8.2   |
| Southfield       | 658                         | 20  | 30.4  | 631                    | 10                            | 15.2 | 6                            | 9.1   |
| Southgate        | 431                         | 19  | 44.1  | 187                    | 1                             | 2.3  | 4                            | 9.3   |
| Sterling Heights | 1,412                       | 24  | 17.0  | 308                    | 17                            | 12.0 | 7                            | 5.0   |
| Taylor           | 1,518                       | 116   | 76.4  | 354                    | 24                            | 15.8 | 11                           | 7.2   |
| Troy             | 754                         | 21  | 27.9  | 216                    | 4                             | 5.3  | 7                            | 9.3   |
| Warren           | 2,035                       | 123   | 60.4  | 1,020                  | 33                            | 16.2 | 17                           | 8.4   |
| Westland         | 1,530                       | 93  | 60.8  | 390                    | 15                            | 9.8  | 13                           | 8.5   |
| Wyandotte        | 572                         | 56  | 97.9  | 375                    | 8                             | 14.0 | 8                            | 14.0  |
| Wyoming          | 982                         | 57  | 58.0  | 337                    | 12                            | 12.2 | 9                            | 9.2   |
| Ypsilanti        | 611                         | 123   | 201.3 | 210                    | 12                            | 19.6 | 13                           | 21.3  |

\*25,000 population or over





TABLE 4.12  
NUMBER OF DEATHS BY CAUSE  
MICHIGAN RESIDENTS, 1974

| ICDA LIST NUMBER                                     | CAUSE OF DEATH  | NUMBER | ICDA LIST NUMBER   | CAUSE OF DEATH   | NUMBER |
|--|---|--------|--|--|--------|
| <b>I. INFECTIVE AND PARASITIC DISEASES (000-136)</b> |   |        | 181  | Chorionepithelioma-----  | 1      |
| 000  | Cholera-----  | 1      | 182  | Other malignant neoplasm of uterus-----  | 248    |
| 003  | Other salmonella infections-----  | 2      | 183  | Malignant neoplasm of ovary,<br>fallopian tube, and broad ligament----                     | 413    |
| 004  | Bacillary dysentery-----  | 1      | 184  | Malignant neoplasm of other and<br>unspecified female genital organs----                   | 41     |
| 008  | Enteritis due to other specified organism-----  | 6      | 185  | Malignant neoplasm of prostate-----  | 714    |
| 009  | Diarrheal disease-----  | 90     | 186  | Malignant neoplasm of testis-----  | 34     |
| 010  | Silicosis-----  | 2      | 187  | Malignant neoplasm of other and<br>unspecified male genital organs-----                    | 9      |
| 011  | Pulmonary tuberculosis-----   | 106    | 188  | Malignant neoplasm of bladder-----   | 391    |
| 012  | Other respiratory tuberculosis-----   | 1      | 189  | Malignant neoplasm of other and<br>unspecified urinary organs-----                         | 282    |
| 013  | Tuberculosis of meninges and<br>central nervous system-----                           | 5      | 190  | Malignant neoplasm of eye-----   | 11     |
| 015  | Tuberculosis of bones and joints-----   | 1      | 191  | Malignant neoplasm of brain-----   | 355    |
| 016  | Tuberculosis of genitourinary system-----   | 1      | 192  | Malignant neoplasm of other parts<br>of nervous system-----                                | 42     |
| 017  | Tuberculosis of other organs-----   | 1      | 193  | Malignant neoplasm of thyroid gland-----   | 30     |
| 018  | Disseminated tuberculosis-----  | 4      | 194  | Malignant neoplasm of other<br>endocrine glands-----                                       | 16     |
| 019  | Late effects of tuberculosis-----   | 21     | 195  | Malignant neoplasm of ill-defined<br>sites-----  | 103    |
| 021  | Other zoonotic bacterial diseases-----  | 1      | 196  | Secondary and unspecified malignant<br>neoplasm of lymph nodes-----                        | 5      |
| 031  | Other diseases due to mycobacteria-----   | 1      | 197  | Secondary malignant neoplasm of<br>respiratory and digestive systems-----                  | 240    |
| 033  | Whooping cough-----   | 2      | 198  | Other secondary malignant neoplasm-----  | 68     |
| 034  | Streptococcal sore throat and<br>scarlet fever-----                                   | 14     | 199  | Malignant neoplasm without<br>specification of site-----                                   | 569    |
| 036  | Meningococcal infection-----  | 1      | 200  | Lymphosarcoma and reticulum-cell<br>sarcoma-----   | 247    |
| 038  | Septicemia-----   | 190    | 201  | Hodgkin's disease-----   | 130    |
| 039  | Other bacterial diseases-----   | 22     | 202  | Other neoplasms of lymphoid tissue-----  | 183    |
| 041  | Acute poliomyelitis with other paralysis-----   | 1      | 203  | Multiple myeloma-----  | 208    |
| 044  | Late effects of acute poliomyelitis-----  | 2      | 204  | Lymphatic leukemia-----  | 157    |
| 045  | Aseptic meningitis due to enterovirus-----  | 1      | 205  | Myeloid leukemia-----  | 263    |
| 046  | Other enterovirus diseases of<br>central nervous system-----                          | 1      | 206  | Monocytic leukemia-----  | 19     |
| 053  | Herpes zoster-----  | 4      | 207  | Other and unspecified leukemia-----  | 150    |
| 054  | Herpes simplex-----   | 7      | 208  | Polycythemia vera-----   | 18     |
| 065  | Viral encephalitis, unspecified-----  | 4      | 209  | Myelofibrosis-----   | 31     |
| 066  | Late effects of viral encephalitis-----   | 1      | 211  | Benign neoplasm of other parts of<br>digestive system-----                                 | 17     |
| 070  | Infectious hepatitis-----   | 29     | 212  | Benign neoplasm of respiratory system--  | 3      |
| 074  | Specific diseases due to coxsackie virus--  | 4      | 213  | Benign neoplasm of bone and<br>cartilage-----  | 1      |
| 079  | Other viral diseases-----   | 16     | 215  | Other benign neoplasm of muscular<br>and connective tissue-----                            | 4      |
| 093  | Cardiovascular syphilis-----  | 3      | 217  | Benign neoplasm of breast-----   | 2      |
| 094  | Syphilis of central nervous system-----   | 8      | 218  | Uterine fibroma-----   | 2      |
| 099  | Other venereal disease-----   | 1      | 219  | Other benign neoplasm of uterus-----   | 1      |
| 100  | Leptospirosis-----  | 1      | 220  | Benign neoplasm of ovary-----  | 4      |
| 112  | Moniliasis-----   | 9      | 223  | Benign neoplasm of kidney and other<br>urinary organs-----                                 | 1      |
| 115  | Histoplasmosis-----   | 3      | 225  | Benign neoplasm of brain and other<br>parts of nervous system-----                         | 31     |
| 116  | Blastomycosis-----  | 5      | 226  | Benign neoplasm of endocrine glands----  | 6      |
| 117  | Other systemic mycosis-----   | 3      | 227  | Hemangioma and lymphangioma-----   | 6      |
| 127  | Other intestinal helminthiasis-----   | 1      | 228  | Benign neoplasm of other and<br>unspecified organs and tissues-----                        | 5      |
| 135  | Sarcoidosis-----  | 16     | 230  | Neoplasm of unspecified nature of<br>digestive organs-----                                 | 7      |
| 136  | Other and unspecified infective and<br>parasitic diseases-----                        | 8      | 231  | Neoplasm of unspecified nature of<br>respiratory organs-----                               | 14     |
| <b>II. NEOPLASMS (140-239)</b>                       |   |        | 235  | Neoplasm of unspecified nature of ovary  | 1      |
| 140  | Malignant neoplasm of lip-----  | 12     | 237  | Neoplasm of unspecified nature of<br>other genitourinary organs-----                       | 1      |
| 141  | Malignant neoplasm of tongue-----   | 76     | 238  | Neoplasm of unspecified nature of eye,<br>brain, and other parts of nervous<br>system----- | 29     |
| 142  | Malignant neoplasm of salivary gland-----   | 27     | 239  | Neoplasm of unspecified nature of<br>other and unspecified organs-----                     | 7      |
| 143  | Malignant neoplasm of gum-----  | 5      | <b>III. ENDOCRINE, NUTRITIONAL, AND<br/>METABOLIC DISEASES (240-279)</b> |  |        |
| 144  | Malignant neoplasm of floor of mouth-----   | 20     | 242  | Thyrototoxicosis with or without<br>goiter-----  | 10     |
| 145  | Malignant neoplasm of other and<br>unspecified parts of mouth-----                    | 46     | 244  | Myxedema-----  | 12     |
| 146  | Malignant neoplasm of oropharynx-----   | 37     | 245  | Thyroiditis-----   | 1      |
| 147  | Malignant neoplasm of nasopharynx-----  | 19     | 250  | Diabetes mellitus-----   | 1,940  |
| 148  | Malignant neoplasm of hypopharynx-----  | 29     | 251  | Disorders of pancreatic internal<br>secretion other than diabetes<br>mellitus-----         | 9      |
| 149  | Malignant neoplasm of pharynx, unspecified  | 42     | 252  | Diseases of parathyroid gland-----   | 3      |
| 150  | Malignant neoplasm of esophagus-----  | 294    | 253  | Diseases of pituitary gland-----   | 13     |
| 151  | Malignant neoplasm of stomach-----  | 582    | 254  | Diseases of thymus gland-----  | 1      |
| 152  | Malignant neoplasm of small intestine,<br>including duodenum-----                     | 30     | 255  | Diseases of adrenal glands-----  | 21     |
| 153  | Malignant neoplasm of large intestine,<br>except rectum-----                          | 1,556  | 258  | Polyglandular dysfunction and other<br>diseases of endocrine glands----                    | 17     |
| 154  | Malignant neoplasm of rectum and<br>rectosigmoid junction-----                        | 375    |  |  |        |
| 155  | Malignant neoplasm of liver and intra-<br>hepatic bile ducts, specified as primary--  | 82     |  |  |        |
| 156  | Malignant neoplasm of gallbladder and<br>bile ducts-----                              | 172    |  |  |        |
| 157  | Malignant neoplasm of pancreas-----   | 694    |  |  |        |
| 158  | Malignant neoplasm of peritoneum<br>and retroperitoneal tissue-----                   | 29     |  |  |        |
| 159  | Malignant neoplasm of unspecified<br>digestive organs-----                            | 20     |  |  |        |
| 160  | Malignant neoplasm of nose, nasal cavities,<br>middle ear, and accessory sinuses----- | 17     |  |  |        |
| 161  | Malignant neoplasm of larynx-----   | 130    |  |  |        |
| 162  | Malignant neoplasm of trachea, bronchus,<br>and lung-----                             | 3,095  |  |  |        |
| 163  | Malignant neoplasm of other and<br>unspecified respiratory organs-----                | 28     |  |  |        |
| 170  | Malignant neoplasm of bone-----   | 71     |  |  |        |
| 171  | Malignant neoplasm of connective<br>and other soft tissue-----                        | 67     |  |  |        |
| 172  | Malignant melanoma of skin-----   | 113    |  |  |        |
| 173  | Other malignant neoplasm of skin-----   | 48     |  |  |        |
| 174  | Malignant neoplasm of breast-----   | 1,307  |  |  |        |
| 180  | Malignant neoplasm of cervix uteri-----   | 240    |  |  |        |



TABLE 4.12  
NUMBER OF DEATHS BY CAUSE  
MICHIGAN RESIDENTS, 1974 (continued)

| ICDA LIST NUMBER   | CAUSE OF DEATH  | NUMBER | ICDA LIST NUMBER                                      | CAUSE OF DEATH   | NUMBER |
|--|---|--------|---|--|--------|
| 268  | Nutritional marasmus-----   | 23     | 403   | Hypertensive renal disease-----  | 171    |
| 269  | Other nutritional deficiency-----   | 73     | 404   | Hypertensive heart and renal<br>disease-----                               | 119    |
| 270  | Congenital disorders of amino-acid<br>metabolism-----                                   | 3      | 410   | Acute myocardial infarction-----   | 14,120 |
| 272  | Congenital disorders of lipid<br>metabolism-----  | 8      | 411   | Other acute and subacute forms of<br>ischemic heart disease-----           | 69     |
| 273  | Other and unspecified congenital disorders<br>of metabolism-----                        | 27     | 412   | Chronic ischemic heart disease-----  | 12,523 |
| 274  | Gout-----   | 13     | 413   | Angina pectoris-----   | 11     |
| 275  | Plasma protein abnormalities-----   | 15     | 420   | Acute pericarditis, nonrheumatic-----                                      | 1      |
| 276  | Amyloidosis-----  | 11     | 421   | Acute and subacute endocarditis-----                                       | 23     |
| 277  | Obesity not specified as of endocrine<br>origin-----                                    | 66     | 422   | Acute myocarditis-----   | 17     |
| 278  | Other hyperalimentation-----  | 1      | 423   | Chronic disease of pericardium,<br>nonrheumatic-----                       | 19     |
| 279  | Other and unspecified metabolic diseases-----   | 26     | 424   | Chronic disease of endocardium-----  | 38     |
| IV. DISEASES OF THE BLOOD AND<br>BLOOD-FORMING ORGANS (280-289)  |   |        | 425   | Cardiomyopathy-----  | 124    |
| 280  | Iron deficiency anemias-----  | 7      | 426   | Pulmonary heart disease-----   | 62     |
| 281  | Other deficiency anemias-----   | 13     | 427   | Symptomatic heart disease-----   | 1,057  |
| 282  | Hereditary hemolytic anemias-----   | 21     | 428   | Other myocardial insufficiency-----  | 71     |
| 283  | Acquired hemolytic anemias-----   | 11     | 429   | Ill-defined heart disease-----   | 83     |
| 284  | Aplastic anemia-----  | 47     | 430   | Subarachnoid hemorrhage-----   | 359    |
| 285  | Other and unspecified anemias-----  | 43     | 431   | Cerebral hemorrhage-----   | 1,114  |
| 286  | Coagulation defects-----  | 48     | 432   | Occlusion of precerebral arteries-----                                     | 119    |
| 287  | Purpura and other hemorrhagic conditions-----   | 24     | 433   | Cerebral thrombosis-----   | 2,281  |
| 288  | Agranulocytosis-----  | 17     | 434   | Cerebral embolism-----   | 27     |
| 289  | Other diseases of blood and blood-forming<br>organs-----                                | 13     | 435   | Transient cerebral ischemia-----   | 2      |
| V. MENTAL DISORDERS (290-315)                                    |   |        | 436   | Acute but ill-defined<br>cerebrovascular disease-----                      | 2,439  |
| 290  | Senile and presenile dementia-----  | 24     | 437   | Generalized ischemic<br>cerebrovascular disease-----                       | 1,188  |
| 291  | Alcoholic psychosis-----  | 17     | 438   | Other and ill-defined<br>cerebrovascular disease-----                      | 116    |
| 295  | Schizophrenia-----  | 7      | 440   | Arteriosclerosis-----  | 1,187  |
| 296  | Affective psychoses-----  | 1      | 441   | Aortic aneurysm (nonsyphilitic)-----                                       | 621    |
| 299  | Unspecified psychosis-----  | 5      | 442   | Other aneurysm-----  | 65     |
| 303  | Alcoholism-----   | 177    | 443   | Other peripheral vascular disease-----                                     | 24     |
| 304  | Drug dependence-----  | 192    | 444   | Arterial embolism and thrombosis-----                                      | 190    |
| 306  | Special symptoms not elsewhere classified-----  | 3      | 445   | Gangrene-----  | 108    |
| 309  | Mental disorders not specified as psychotic<br>associated with physical conditions----- | 35     | 446   | Polyarteritis nodosa and allied<br>conditions-----                         | 25     |
| 315  | Unspecified mental retardation-----   | 12     | 447   | Other diseases of arteries and<br>arterioles-----                          | 23     |
| VI. DISEASES OF THE NERVOUS SYSTEM AND<br>SENSE ORGANS (320-389) |   |        | 448   | Diseases of capillaries-----   | 1      |
| 320  | Meningitis-----   | 59     | 450   | Pulmonary embolism and infarction-----                                     | 463    |
| 321  | Phlebitis and thrombophlebitis of<br>intracranial venous sinuses-----                   | 1      | 451   | Phlebitis and thrombophlebitis-----  | 7      |
| 322  | Intracranial and intraspinal abscess-----   | 15     | 452   | Portal vein thrombosis-----  | 2      |
| 323  | Encephalitis, myelitis, and<br>encephalomyelitis-----                                   | 14     | 453   | Other venous embolism and<br>thrombosis-----                               | 32     |
| 324  | Late effects of intracranial abscess<br>or pyogenic infection-----                      | 3      | 454   | Varicose veins of lower<br>extremities-----                                | 9      |
| 330  | Hereditary neuromuscular disorders-----   | 35     | 456   | Varicose veins of other sites-----   | 10     |
| 331  | Hereditary diseases of the<br>striatopallidal system-----                               | 14     | 457   | Noninfective disease of lymphatic<br>channels-----                         | 5      |
| 332  | Hereditary ataxia-----  | 1      | 458   | Other diseases of circulatory system-----                                  | 21     |
| 333  | Other hereditary and familial diseases<br>of nervous system-----                        | 5      | VIII. DISEASES OF THE RESPIRATORY SYSTEM<br>(460-519) |  |        |
| 340  | Multiple sclerosis-----   | 77     | 461   | Acute sinusitis-----   | 1      |
| 341  | Other demyelinating diseases of<br>central nervous system-----                          | 2      | 462   | Acute pharyngitis-----   | 1      |
| 342  | Paralysis agitans-----  | 132    | 463   | Acute tonsillitis-----   | 1      |
| 343  | Cerebral spastic infantile paralysis-----   | 23     | 464   | Acute laryngitis and tracheitis-----                                       | 4      |
| 344  | Other cerebral paralysis-----   | 56     | 465   | Acute upper respiratory infection<br>of multiple or unspecified sites----- | 9      |
| 345  | Epilepsy-----   | 84     | 466   | Acute bronchitis and bronchiolitis-----                                    | 23     |
| 347  | Other diseases of brain-----  | 100    | 470   | Influenza, unqualified-----  | 30     |
| 348  | Motor neurone disease-----  | 81     | 471   | Influenza with pneumonia-----  | 27     |
| 349  | Other diseases of spinal cord-----  | 10     | 472   | Influenza with other respiratory<br>manifestations-----                    | 1      |
| 354  | Polynneuritis and polyradiculitis-----  | 9      | 473   | Influenza with digestive<br>manifestations-----                            | 2      |
| 355  | Other and unspecified forms of<br>neuralgia and neuritis-----                           | 1      | 474   | Influenza with nervous manifestations-----                                 | 1      |
| 356  | Other diseases of cranial nerves-----   | 1      | 480   | Viral pneumonia-----   | 29     |
| 357  | Other diseases of peripheral nerves<br>except autonomic-----                            | 4      | 481   | Pneumococcal pneumonia-----  | 137    |
| 373  | Strabismus-----   | 1      | 482   | Other bacterial pneumonia-----   | 49     |
| 374  | Cataract-----   | 1      | 483   | Pneumonia due to other specified<br>organism-----                          | 1      |
| 375  | Glaucoma-----   | 1      | 484   | Acute interstitial pneumonia-----  | 14     |
| 381  | Otitis media without mention of<br>mastoiditis-----                                     | 5      | 485   | Bronchopneumonia, unspecified-----   | 419    |
| 382  | Otitis media with mastoiditis-----  | 2      | 486   | Pneumonia, unspecified-----  | 988    |
| 383  | Mastoiditis without mention of<br>otitis media-----                                     | 1      | 490   | Bronchitis, unqualified-----   | 23     |
| VII. DISEASES OF THE CIRCULATORY SYSTEM (390-458)                |   |        | 491   | Chronic bronchitis-----  | 193    |
| 391  | Rheumatic fever with heart involvement-----   | 8      | 492   | Empyema-----   | 882    |
| 393  | Diseases of pericardium-----  | 3      | 493   | Asthma-----  | 67     |
| 394  | Diseases of mitral valve-----   | 136    | 500   | Hypertrophy of tonsils and adenoids-----                                   | 3      |
| 395  | Diseases of aortic valve-----   | 138    | 508   | Other diseases of upper respiratory<br>tract-----                          | 16     |
| 396  | Diseases of mitral and aortic valves-----   | 35     | 510   | Empyema-----   | 12     |
| 397  | Diseases of other endocardial structures-----   | 32     | 511   | Pleurisy-----  | 27     |
| 398  | Other heart disease, specified as<br>rheumatic-----                                     | 191    | 512   | Spontaneous pneumothorax-----  | 12     |
| 400  | Malignant hypertension-----   | 46     | 513   | Abscess of lung-----   | 31     |
| 401  | Essential benign hypertension-----  | 54     | 514   | Pulmonary congestion and hypostasis-----                                   | 44     |
| 402  | Hypertensive heart disease-----   | 340    | 515   | Pneumoconiosis due to silica and<br>silicates-----                         | 15     |
|  |   |        | 516   | Other pneumoconioses and<br>related diseases-----                          | 1      |
|  |   |        | 517   | Other chronic interstitial pneumonia-----                                  | 139    |
|  |   |        | 518   | Bronchiectasis-----  | 29     |
|  |   |        | 519   | Other diseases of respiratory system-----                                  | 507    |

TABLE 4.12  
NUMBER OF DEATHS BY CAUSE  
MICHIGAN RESIDENTS, 1974 (continued)

| ICDA LIST NUMBER  | CAUSE OF DEATH   | NUMBER | ICDA LIST NUMBER  | CAUSE OF DEATH  | NUMBER |
|---|--|--------|---|---|--------|
| <b>IX. DISEASES OF THE DIGESTIVE SYSTEM (520-577)</b>                           |  |        | <b>XII. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680-709)</b>                  |   |        |
| 527   | Diseases of the salivary glands-----   | 3      | 682   | Other cellulitis and abscess-----   | 11     |
| 530   | Diseases of esophagus-----   | 47     | 686   | Other local infections of skin and subcutaneous tissue-----   | 6      |
| 531   | Ulcer of stomach-----  | 123    | 692   | Other eczema and dermatitis-----  | 2      |
| 532   | Ulcer of duodenum-----   | 104    | 694   | Pemphigus-----  | 5      |
| 533   | Peptic ulcer, site unspecified-----  | 43     | 695   | Erythematous conditions-----  | 9      |
| 534   | Gastrojejunal ulcer-----   | 17     | 696   | Psoriasis and similar disorders-----  | 1      |
| 535   | Gastritis and duodenitis-----  | 27     | 707   | Chronic ulcer of skin-----  | 35     |
| 536   | Disorders of function of stomach-----  | 4      | 708   | Urticaria-----  | 1      |
| 537   | Other diseases of stomach and duodenum-----                                  | 23     | 709   | Other diseases of skin-----   | 1      |
| 540   | Acute appendicitis-----  | 28     |   |   |        |
| 541   | Appendicitis, unqualified-----   | 1      | <b>XIII. DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE (710-738)</b> |   |        |
| 550   | Inguinal hernia without mention of obstruction-----                          | 1      | 710   | Acute arthritis due to pyogenic organisms-----  | 1      |
| 551   | Other hernia of abdominal cavity without mention of obstruction-----         | 62     | 712   | Rheumatoid arthritis and allied conditions-----   | 32     |
| 552   | Inguinal hernia with obstruction-----  | 19     | 713   | Osteoarthritis and allied conditions-----   | 15     |
| 553   | Other hernia of abdominal cavity with obstruction-----                       | 31     | 715   | Arthritis, unspecified-----   | 8      |
| 560   | Intestinal obstruction without mention of hernia-----                        | 177    | 716   | Polymyositis and dermatomyositis-----   | 7      |
| 561   | Gastroenteritis and colitis, except ulcerative, of noninfectious origin----- | 9      | 717   | Other nonarticular rheumatism-----  | 1      |
| 562   | Diverticula of intestine-----  | 136    | 720   | Osteomyelitis and periostitis-----  | 8      |
| 563   | Chronic enteritis and ulcerative colitis-----                                | 38     | 721   | Osteitis deformans-----   | 8      |
| 564   | Functional disorders of intestines-----                                      | 1      | 722   | Osteochondrosis-----  | 1      |
| 566   | Abscess of anal and rectal regions-----                                      | 5      | 723   | Other diseases of bone-----   | 7      |
| 567   | Peritonitis-----   | 53     | 725   | Displacement of intervertebral disc-----  | 2      |
| 568   | Peritoneal adhesions-----  | 3      | 729   | Other diseases of joint-----  | 8      |
| 569   | Other diseases of intestines and peritoneum-----                             | 245    | 732   | Infective myositis and other inflammatory diseases of tendon and fascia-----  | 2      |
| 570   | Acute and subacute necrosis of liver-----                                    | 19     | 733   | Other diseases of muscle, tendon, and fascia-----   | 13     |
| 571   | Cirrhosis of liver-----  | 1,650  | 734   | Diffuse diseases of connective tissue-----  | 58     |
| 572   | Suppurative hepatitis and liver abscess-----                                 | 11     | 735   | Curvature of spine-----   | 5      |
| 573   | Other diseases of liver-----   | 140    |   |   |        |
| 574   | Cholelithiasis-----  | 56     | <b>XIV. CONGENITAL ANOMALIES (740-759)</b>  |   |        |
| 575   | Cholecystitis and cholangitis, without mention of calculus-----              | 40     | 740   | Anencephalus-----   | 26     |
| 576   | Other diseases of gallbladder and biliary ducts-----                         | 37     | 741   | Spina bifida-----   | 23     |
| 577   | Diseases of pancreas-----  | 135    | 742   | Congenital hydrocephalus-----   | 31     |
|   |  |        | 743   | Other congenital anomalies of nervous system-----   | 33     |
| <b>X. DISEASES OF THE GENITOURINARY SYSTEM (580-629)</b>                        |  |        | 746   | Congenital anomalies of heart-----  | 260    |
| 580   | Acute nephritis-----   | 45     | 747   | Other congenital anomalies of circulatory system-----   | 29     |
| 581   | Nephrotic syndrome-----  | 18     | 748   | Congenital anomalies of respiratory system-----   | 27     |
| 582   | Chronic nephritis-----   | 202    | 749   | Cleft palate and cleft lip-----   | 1      |
| 583   | Nephritis, unqualified-----  | 23     | 750   | Other congenital anomalies of upper alimentary tract-----   | 3      |
| 584   | Renal sclerosis, unqualified-----  | 2      | 751   | Other congenital anomalies of digestive system-----   | 20     |
| 590   | Infections of kidney-----  | 158    |   |   |        |
| 591   | Hydronephrosis-----  | 8      | 753   | Congenital anomalies of urinary system-----   | 36     |
| 592   | Calculus of kidney and ureter-----   | 16     | 755   | Other congenital anomalies of limbs-----  | 2      |
| 593   | Other diseases of kidney and ureter-----                                     | 201    | 756   | Other congenital anomalies of musculoskeletal system-----   | 20     |
| 594   | Calculus of other parts of urinary system-----                               | 2      | 757   | Congenital anomalies of skin, hair, and nails-----  | 2      |
| 595   | Cystitis-----  | 11     | 758   | Other and unspecified congenital anomalies-----   | 12     |
| 596   | Other diseases of bladder-----   | 17     | 759   | Congenital syndromes affecting multiple systems-----  | 57     |
| 597   | Urethritis (nonvenereal)-----  | 2      |   |   |        |
| 598   | Stricture of urethra-----  | 2      | <b>XV. CERTAIN CAUSES OF PERINATAL MORBIDITY AND MORTALITY (760-779)</b>            |   |        |
| 599   | Other diseases of urinary tract-----   | 68     | 761   | Other maternal conditions unrelated to pregnancy-----   | 11     |
| 600   | Hyperplasia of prostate-----   | 41     | 762   | Toxemia of pregnancy-----   | 5      |
| 601   | Prostatitis-----   | 4      | 763   | Maternal ante- and intrapartum infection-----   | 11     |
| 602   | Other diseases of prostate-----  | 11     | 764   | Difficult labor with abnormality of bones, organs, or tissues of pelvis, but no mention of abnormality of pelvis----- | 1      |
| 607   | Other diseases of male genital organs-----                                   | 5      | 765   | Difficult labor with disproportion, but no mention of abnormality of pelvis-----                                      | 1      |
| 611   | Other diseases of breast-----  | 2      | 766   | Difficult labor with malposition of fetus-----  | 13     |
| 614   | Salpingitis and oophoritis, unqualified-----                                 | 3      | 767   | Difficult labor with abnormality of forces of labor-----  | 5      |
| 616   | Diseases of parametrium and pelvic peritoneum (female)-----                  | 7      | 768   | Difficult labor with other and unspecified complications-----   | 11     |
| 623   | Uterovaginal prolapse-----   | 3      | 769   | Other complications of pregnancy and childbirth-----  | 165    |
| 625   | Other diseases of uterus-----  | 1      | 770   | Conditions of placenta-----   | 60     |
| 626   | Disorders of menstruation-----   | 1      |   |   |        |
| 629   | Other diseases of female genital organs-----                                 | 2      |   |   |        |
| <b>XI. COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM (630-678)</b> |  |        |   |   |        |
| 631   | Ectopic pregnancy-----   | 2      |   |   |        |
| 632   | Hemorrhage of pregnancy-----   | 2      |   |   |        |
| 634   | Other complications of pregnancy-----  | 1      |   |   |        |
| 637   | Pre-eclampsia, eclampsia, and toxemia, unspecified-----                      | 3      |   |   |        |
| 640   | Abortion induced for medical indications-----                                | 1      |   |   |        |
| 651   | Delivery complicated by placenta previa or antepartum hemorrhage-----        | 1      |   |   |        |
| 659   | Delivery with rupture of uterus-----   | 2      |   |   |        |
| 661   | Delivery with other complications-----                                       | 5      |   |   |        |
| 674   | Cerebral hemorrhage in the puerperium-----                                   | 1      |   |   |        |
| 677   | Other and unspecified complications of the puerperium-----                   | 1      |   |   |        |

TABLE 4.12  
NUMBER OF DEATHS BY CAUSE  
MICHIGAN RESIDENTS, 1974 (continued)

| ICDA LIST NUMBER | CAUSE OF DEATH   | NUMBER | ICDA LIST NUMBER | CAUSE OF DEATH  | NUMBER |
|------------------|--|--------|------------------|---|--------|
| 771              | Conditions of umbilical cord-----  | 13     | E860             | Accidental poisoning by alcohol-----  | 3      |
| 772              | Birth injury without mention of cause-----   | 65     | E861             | Accidental poisoning by cleansing<br>and polishing agents-----                              | 1      |
| 774              | Hemolytic disease of newborn with<br>kernicterus-----                                      | 1      | E864             | Accidental poisoning by petroleum<br>products and other solvents-----                       | 2      |
| 775              | Hemolytic disease of newborn without<br>mention of kernicterus-----                        | 15     | E867             | Accidental poisoning by corrosives<br>and caustics, not elsewhere<br>classified-----        | 1      |
| 776              | Anoxic and hypoxic conditions not<br>elsewhere classifiable-----                           | 586    | E868             | Accidental poisoning by noxious<br>foodstuffs and poisonous plants-----                     | 1      |
| 777              | Immaturity, unqualified-----   | 240    | E869             | Accidental poisoning by other and<br>unspecified solid and liquid<br>substances-----        | 25     |
| 778              | Other conditions of fetus or newborn-----  | 111    | E870             | Accidental poisoning by gas<br>distributed by pipeline-----                                 | 3      |
|                  | XVI. SYMPTOMS AND ILL-DEFINED CONDITIONS<br>(780-796)                                      |        | E871             | Accidental poisoning by liquefied<br>petroleum gas distributed in<br>mobile containers----- | 3      |
| 780              | Certain symptoms referable to nervous<br>system and special senses-----                    | 7      | E872             | Accidental poisoning by other<br>utility gas-----   | 2      |
| 781              | Other symptoms referable to nervous<br>system and special senses-----                      | 4      | E873             | Accidental poisoning by motor<br>vehicle exhaust gas-----                                   | 52     |
| 782              | Symptoms referable to cardiovascular<br>and lymphatic system-----                          | 43     | E875             | Accidental poisoning by other<br>carbon monoxide-----                                       | 27     |
| 783              | Symptoms referable to respiratory system-----  | 1      | E876             | Accidental poisoning by other gases<br>and vapors-----                                      | 9      |
| 784              | Symptoms referable to upper<br>gastrointestinal tract-----                                 | 4      | E877             | Accidental poisoning by unspecified<br>gases and vapors-----                                | 3      |
| 788              | Other general symptoms-----  | 4      | E880             | Fall on or from stairs or steps-----  | 80     |
| 792              | Uremia-----  | 9      | E881             | Fall on or from ladders or<br>scaffolding-----  | 17     |
| 794              | Senility without mention of psychosis-----   | 24     | E882             | Fall from or out of building or<br>other structure-----                                     | 23     |
| 795              | Sudden death (cause unknown)-----  | 288    | E883             | Fall into hole or other opening<br>in surface-----  | 3      |
| 796              | Other ill-defined and unknown causes<br>of morbidity and mortality-----                    | 144    | E884             | Other fall from one level to another-----   | 60     |
|                  | E XVII. ACCIDENTS, POISONINGS, AND VIOLENCE<br>(EXTERNAL CAUSE) (E800-E999)                |        | E885             | Fall on same level from slipping,<br>stumbling, or tripping-----                            | 16     |
| E800             | Railway accident involving collision<br>with rolling stock-----                            | 1      | E887             | Other and unspecified fall-----   | 486    |
| E801             | Railway accident involving collision<br>with other object-----                             | 2      | E890             | Accident caused by conflagration<br>in private dwelling-----                                | 234    |
| E805             | Hit by rolling stock-----  | 5      | E891             | Accident caused by conflagration<br>in other building or structure-----                     | 4      |
| E807             | Railway accident of unspecified nature-----  | 2      | E892             | Accident caused by conflagration<br>not in building or structure-----                       | 2      |
| E810             | Motor vehicle traffic accident involving<br>collision with train-----                      | 45     | E893             | Accident caused by ignition of<br>clothing-----   | 8      |
| E812             | Motor vehicle traffic accident involving<br>collision with another motor vehicle-----      | 755    | E894             | Accident caused by ignition of<br>highly inflammable material-----                          | 14     |
| E813             | Motor vehicle traffic accident involving<br>collision with other vehicle-----              | 67     | E895             | Accident caused by controlled fire<br>in private dwelling-----                              | 2      |
| E814             | Motor vehicle traffic accident involving<br>collision with pedestrian-----                 | 303    | E898             | Accident caused by other specified<br>fires or flames-----                                  | 29     |
| E815             | Other motor vehicle traffic accident<br>involving collision-----                           | 166    | E899             | Accident caused by unspecified fire-----  | 22     |
| E816             | Noncollision motor vehicle traffic<br>accident due to loss of control-----                 | 387    | E900             | Excessive heat-----   | 1      |
| E818             | Other noncollision motor vehicle<br>traffic accident-----                                  | 15     | E901             | Excessive cold-----   | 13     |
| E819             | Motor vehicle traffic accident of<br>unspecified nature-----                               | 145    | E904             | Hunger, thirst, exposure, and<br>neglect-----   | 15     |
| E820             | Motor vehicle nontraffic accident<br>involving collision with moving object-----           | 23     | E906             | Other accidents caused by animals-----  | 5      |
| E821             | Motor vehicle nontraffic accident<br>involving collision with stationary object-----       | 4      | E907             | Lightning-----  | 4      |
| E823             | Motor vehicle nontraffic accident<br>of other and unspecified nature-----                  | 19     | E908             | Cataclysm-----  | 4      |
| E826             | Pedal cycle accident-----  | 2      | E910             | Accidental drowning and submersion  | 275    |
| E827             | Other nonmotor road vehicle accident-----  | 3      | E911             | Inhalation and ingestion of food<br>causing obstruction or suffocation-----                 | 105    |
| E830             | Accident to watercraft causing submersion-----   | 21     | E912             | Inhalation and ingestion of other<br>object causing obstruction or<br>suffocation-----      | 46     |
| E831             | Accident to watercraft causing<br>other injury-----  | 1      | E913             | Accidental mechanical suffocation-----  | 49     |
| E832             | Other accidental submersion or drowning<br>in water transport-----                         | 20     | E915             | Foreign body accidentally<br>entering other orifice-----                                    | 2      |
| E838             | Other and unspecified water transport<br>accident-----                                     | 5      | E916             | Struck accidentally by falling<br>object-----   | 36     |
| E841             | Accident to powered aircraft,<br>other and unspecified-----                                | 44     | E917             | Striking against or struck<br>accidentally by objects-----                                  | 23     |
| E842             | Accident to unpowered aircraft-----  | 1      | E918             | Caught accidentally in or between<br>objects-----   | 33     |
| E844             | Other specified air transport accidents-----   | 4      | E920             | Accidents caused by cutting or<br>piercing instruments-----                                 | 5      |
| E851             | Accidental poisoning by hormones and<br>synthetic substitutes-----                         | 2      |                  |   |        |
| E853             | Accidental poisoning by analgesics<br>and antipyretics-----                                | 26     |                  |   |        |
| E854             | Accidental poisoning by other<br>sedatives and hypnotics-----                              | 15     |                  |   |        |
| E855             | Accidental poisoning by autonomic nervous<br>system and psychotherapeutic drugs-----       | 4      |                  |   |        |
| E856             | Accidental poisoning by other central<br>nervous system depressants<br>and stimulants----- | 2      |                  |   |        |
| E859             | Accidental poisoning by other and<br>unspecified drugs and medicaments-----                | 51     |                  |   |        |

TABLE 4.12  
NUMBER OF DEATHS BY CAUSE  
MICHIGAN RESIDENTS, 1974 (continued)

| ICDA LIST NUMBER | CAUSE OF DEATH  | NUMBER |       |  |
|------------------|---|--------|-------|--|
| E921             | Accidents caused by explosion of pressure vessel                                | 4      | E960  | other and unspecified means  |
| E922             | Accident caused by firearm missiles   | 87     | E963  | Fight, brawl, or rape  |
| E923             | Accident caused by explosive material   | 18     | E964  | Assault by hanging and strangulation   |
| E924             | Accident caused by hot substance, corrosive liquid, and steam                   | 8      | E965  | Assault by submersion (drowning)   |
| E925             | Accident caused by electric current   | 33     | E966  | Assault by firearms and explosives   |
| E927             | Vehicle accidents not elsewhere classifiable                                    | 2      | E967  | Assault by cutting and piercing instruments  |
| E928             | Machinery accidents not elsewhere classifiable                                  | 18     | E968  | Assault by pushing from high place   |
| E929             | Other and unspecified accidents   | 68     | E969  | Assault by other and unspecified means   |
| E930             | Complications and misadventures in operative therapeutic procedures             | 21     | E970  | Late effect of injury purposely inflicted by other person  |
| E931             | Complications and misadventures in other and unspecified therapeutic procedures | 17     | E970  | Injury due to legal intervention by firearms   |
| E932             | Complications and misadventures in diagnostic procedures                        | 6      | E980  | Poisoning by solid or liquid substances, undetermined whether accidentally or purposely inflicted    |
| E940             | Late effect of motor vehicle accident   | 8      | E982  | Poisoning by other gases, undetermined whether accidentally or purposely inflicted                   |
| E941             | Late effect of other transport accident   | 1      | E983  | Hanging and strangulation, undetermined whether accidentally or purposely inflicted                  |
| E942             | Late effect of accidental poisoning   | 1      | E984  | Submersion (drowning), undetermined whether accidentally or purposely inflicted                      |
| E943             | Late effect of accidental fall  | 2      | E985  | Injury by firearms and explosives, undetermined whether accidentally or purposely inflicted          |
| E946             | Late effect of other accident   | 6      | E986  | Injury by cutting and piercing instruments, undetermined whether accidentally or purposely inflicted |
| E947             | Late effect of surgical operation   | 3      | E987  | Falling from high place, undetermined whether accidentally or purposely inflicted                    |
| E950             | Suicide and self-inflicted poisoning by solid or liquid substances              | 151    | E988  | Injury by other and unspecified means, undetermined whether accidentally or purposely inflicted      |
| E951             | Suicide and self-inflicted poisoning by gases in domestic use                   | 1      | E989  | Late effect of injury, undetermined whether accidentally or purposely inflicted                      |
| E952             | Suicide and self-inflicted poisoning by other gases                             | 185    |       |  |
| E953             | Suicide and self-inflicted injury by hanging, strangulation, and suffocation    | 190    |       |  |
| E954             | Suicide and self-inflicted injury by submersion (drowning)                      | 19     |       |  |
| E955             | Suicide and self-inflicted injury by firearms and explosives                    | 618    |       |  |
| E956             | Suicide and self-inflicted injury by cutting and piercing instruments           | 15     |       |  |
| E957             | Suicide and self-inflicted injury by jumping from high place                    | 14     |       |  |
| E958             | Suicide and self-inflicted injury by  |        |       |  |
|                  |   |        | TOTAL | 78,143   |

TABLE 4.13  
Population by Age and Sex,<sup>1</sup>  
Michigan Residents, 1974

| Age   | Total     | Percent | Males     | Percent | Females   | Percent |
|-------|-----------|---------|-----------|---------|-----------|---------|
| 0-4   | 775,239   | 8.52    | 396,278   | 8.86    | 378,962   | 8.19    |
| 5-9   | 828,030   | 9.10    | 421,310   | 9.42    | 406,720   | 8.79    |
| 10-14 | 940,064   | 10.33   | 478,577   | 10.71   | 461,487   | 9.97    |
| 15-19 | 957,677   | 10.53   | 488,803   | 10.93   | 468,874   | 10.13   |
| 20-24 | 773,086   | 8.50    | 376,517   | 8.42    | 396,569   | 8.57    |
| 25-29 | 608,689   | 6.69    | 274,180   | 6.13    | 334,508   | 7.23    |
| 30-34 | 603,234   | 6.63    | 311,193   | 6.96    | 292,041   | 6.31    |
| 35-39 | 486,145   | 5.34    | 248,875   | 5.57    | 237,270   | 5.13    |
| 40-44 | 468,652   | 5.15    | 234,977   | 5.26    | 233,675   | 5.05    |
| 45-49 | 522,982   | 5.75    | 259,429   | 5.80    | 263,552   | 5.70    |
| 50-54 | 511,513   | 5.62    | 246,466   | 5.51    | 265,047   | 5.73    |
| 55-59 | 445,235   | 4.89    | 213,430   | 4.77    | 231,805   | 5.01    |
| 60-64 | 365,962   | 4.02    | 174,639   | 3.91    | 191,322   | 4.13    |
| 65-69 | 277,628   | 3.05    | 128,969   | 2.89    | 148,659   | 3.21    |
| 70-74 | 204,618   | 2.25    | 89,803    | 2.01    | 114,815   | 2.48    |
| 75-79 | 145,637   | 1.60    | 59,538    | 1.33    | 86,100    | 1.86    |
| 80-84 | 115,439   | 1.27    | 43,620    | 0.98    | 71,820    | 1.55    |
| 85+   | 68,170    | 0.75    | 23,846    | 0.53    | 44,324    | 0.96    |
| Total | 9,098,000 | 99.99   | 4,470,450 | 99.99   | 4,627,550 | 100.00  |

<sup>1</sup> Estimates developed from total state population estimate for 7/1/74 as contained in: Population Estimates, Current Population Reports, series P-26, no. 10, USDC, SESA, USGPO, May, 1975, and from projected population subgroup proportions as developed from: Population Projections, Research Division, Bureau of Programs and Budgets, Executive Office, State of Michigan, Dec., 1972.

TABLE 4.14  
POPULATION CHANGES BY COUNTY  
MICHIGAN RESIDENTS, 1974

| Area           | Population Estimates<br>July 1, 1964 | Population Estimates<br>July 1, 1974 | Percent Change | Natural Increases | Net Migration |
|----------------|--------------------------------------|--------------------------------------|----------------|-------------------|---------------|
| STATE          | 8,100,000                            | 9,098,000                            | 12.3           | 834,530           | 164,070       |
| Alcona         | 6,200                                | 8,900                                | 43.5           | -20               | 2,720         |
| Alger          | 8,800                                | 8,900                                | 1.1            | 255               | -155          |
| Allegan        | 58,500                               | 69,500                               | 18.8           | 6,092             | 4,908         |
| Alpena         | 29,300                               | 32,900                               | 12.3           | 2,582             | 1,018         |
| Antrim         | 10,700                               | 15,500                               | 44.9           | 443               | 4,357         |
| Arenac         | 9,500                                | 12,800                               | 34.7           | 560               | 2,760         |
| Baraga         | 7,400                                | 8,000                                | 8.1            | 375               | 225           |
| Barry          | 30,100                               | 41,000                               | 36.2           | 2,817             | 8,083         |
| Bay            | 106,900                              | 119,400                              | 11.7           | 11,658            | 842           |
| Benzie         | 7,900                                | 9,900                                | 25.3           | 228               | 1,772         |
| Berrien        | 156,600                              | 169,000                              | 7.9            | 17,001            | -4,601        |
| Branch         | 35,500                               | 38,700                               | 9.0            | 2,232             | 968           |
| Calhoun        | 139,200                              | 140,900                              | 1.2            | 12,277            | -10,577       |
| Cass           | 38,100                               | 45,700                               | 19.9           | 2,972             | 4,628         |
| Charlevoix     | 14,000                               | 18,000                               | 28.6           | 889               | 3,111         |
| Cheboygan      | 14,000                               | 19,100                               | 36.4           | 1,106             | 3,994         |
| Chippewa       | 34,200                               | 36,000                               | 5.3            | 4,517             | -2,717        |
| Clare          | 12,100                               | 20,800                               | 71.9           | 629               | 8,071         |
| Clinton        | 42,000                               | 51,600                               | 22.9           | 5,718             | 3,882         |
| Crawford       | 5,200                                | 8,000                                | 53.8           | 296               | 2,504         |
| Delta          | 34,000                               | 38,300                               | 12.6           | 1,902             | 2,398         |
| Dickinson      | 23,800                               | 24,300                               | 2.1            | 369               | 131           |
| Eaton          | 53,500                               | 75,300                               | 40.7           | 6,367             | 15,433        |
| Emmet          | 16,500                               | 20,700                               | 25.5           | 1,120             | 3,080         |
| Genesee        | 408,400                              | 453,900                              | 11.1           | 58,205            | -12,705       |
| Gladwin        | 10,500                               | 16,600                               | 58.1           | 560               | 5,540         |
| Gogebic        | 21,600                               | 20,900                               | -3.2           | -496              | -204          |
| Grand Traverse | 35,700                               | 45,000                               | 26.1           | 3,131             | 6,169         |
| Grafton        | 38,000                               | 40,100                               | 5.5            | 4,060             | -1,960        |
| Hillsdale      | 34,100                               | 39,900                               | 17.0           | 2,641             | 3,159         |
| Houghton       | 34,900                               | 36,600                               | 4.9            | 213               | 1,487         |
| Huron          | 34,100                               | 35,400                               | 3.8            | 2,055             | -755          |
| Ingham         | 226,500                              | 266,600                              | 17.7           | 32,958            | 7,142         |
| Ionia          | 44,500                               | 47,000                               | 5.6            | 4,185             | -1,685        |
| Iosco          | 20,000                               | 28,600                               | 43.0           | 3,233             | 5,367         |
| Iron           | 15,900                               | 14,000                               | -11.9          | -706              | -1,194        |
| Isabella       | 36,200                               | 50,100                               | 38.4           | 4,317             | 9,583         |
| Jackson        | 132,100                              | 145,000                              | 9.8            | 11,685            | 1,215         |
| Kalamazoo      | 177,400                              | 200,900                              | 13.2           | 18,936            | 4,564         |
| Kalkaska       | 4,600                                | 7,500                                | 63.0           | 232               | 2,668         |
| Kent           | 379,700                              | 419,500                              | 10.5           | 39,231            | 569           |
| Keveeenaw      | 2,300                                | 2,200                                | -4.3           | -117              | 17            |
| Lake           | 5,300                                | 6,700                                | 26.4           | -207              | 1,607         |
| Lapeer         | 44,000                               | 60,500                               | 37.5           | 5,569             | 10,931        |
| Leelanau       | 9,400                                | 12,400                               | 31.9           | 327               | 2,673         |
| Lenawee        | 76,500                               | 86,700                               | 13.3           | 7,668             | 2,532         |
| Livingston     | 40,600                               | 76,100                               | 87.4           | 5,218             | 30,282        |
| Luce           | 7,600                                | 7,100                                | -6.6           | 168               | -668          |
| Mackinac       | 10,400                               | 10,600                               | 1.9            | 473               | -273          |
| Macomb         | 487,900                              | 659,300                              | 35.1           | 79,976            | 91,424        |
| Manistee       | 19,400                               | 21,200                               | 9.3            | 676               | 1,124         |
| Marquette      | 60,000                               | 69,200                               | 15.3           | 6,687             | 2,513         |
| Mason          | 21,900                               | 24,500                               | 11.9           | 671               | 1,929         |
| Mecosta        | 21,900                               | 33,500                               | 53.0           | 2,284             | 9,316         |
| Menominee      | 24,500                               | 25,100                               | 2.4            | 675               | -75           |
| Midland        | 54,100                               | 66,100                               | 22.2           | 8,495             | 3,505         |
| Missaukee      | 6,500                                | 8,700                                | 33.8           | 245               | 1,955         |
| Monroe         | 105,900                              | 124,800                              | 17.8           | 12,742            | 6,158         |
| Montcalm       | 37,300                               | 42,700                               | 14.5           | 3,099             | 2,301         |
| Montmorency    | 4,200                                | 6,800                                | 61.9           | 10                | 2,590         |
| Muskegon       | 151,600                              | 156,700                              | 3.4            | 15,112            | -10,012       |
| Newaygo        | 25,000                               | 30,600                               | 22.4           | 1,804             | 3,796         |
| Oakland        | 741,100                              | 952,500                              | 28.5           | 93,079            | 118,321       |
| Oceana         | 16,400                               | 20,000                               | 22.0           | 1,206             | 2,394         |
| Ogemaw         | 9,400                                | 14,500                               | 54.3           | 146               | 4,954         |
| Ontonagon      | 10,900                               | 10,900                               | -              | 468               | -468          |
| Osceola        | 13,800                               | 17,000                               | 23.2           | 940               | 2,260         |
| Oscoda         | 3,600                                | 5,800                                | 61.1           | -33               | 2,233         |
| Otsego         | 8,200                                | 13,400                               | 63.4           | 1,006             | 4,194         |
| Ottawa         | 106,300                              | 139,300                              | 31.0           | 13,878            | 19,122        |
| Presque Isle   | 13,100                               | 13,900                               | 6.1            | 727               | 73            |
| Roscommon      | 7,500                                | 13,900                               | 85.3           | -284              | 6,684         |
| Saginaw        | 201,100                              | 226,900                              | 12.8           | 26,522            | -722          |
| St. Clair      | 107,600                              | 129,600                              | 20.4           | 9,859             | 12,141        |
| St. Joseph     | 43,200                               | 50,800                               | 17.6           | 3,477             | 4,123         |
| Sanilac        | 33,400                               | 38,900                               | 16.5           | 1,964             | 3,536         |
| Schoolcraft    | 8,300                                | 8,500                                | 2.4            | 191               | 9             |
| Shiawassee     | 56,000                               | 68,300                               | 22.0           | 7,133             | 5,167         |
| Tuscola        | 44,500                               | 53,600                               | 20.4           | 4,384             | 4,716         |
| Van Buren      | 50,500                               | 60,700                               | 20.2           | 3,985             | 6,215         |
| Washtenaw      | 186,900                              | 250,100                              | 33.8           | 27,867            | 35,333        |
| Wayne          | 2,654,900                            | 2,556,300                            | -3.7           | 218,443           | -317,043      |
| Wexford        | 18,800                               | 21,400                               | 13.8           | 1,195             | 1,405         |
| Not Stated     | -                                    | -                                    | -              | -3                | 3             |

NOTE: County totals rounded to nearest hundred  
State totals rounded to nearest thousand

TABLE 4.15—Abridged Life Table, Michigan Residents, 1974

| AGE        | NQX(1) <sup>1</sup> | LX(2) <sup>1</sup> | NDX(3) <sup>1</sup> | NLX(4) <sup>1</sup> | TX(5) <sup>1</sup> | EX(6) <sup>1</sup> |
|------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
| 0-1.....   | 0.01712             | 100,000            | 1,712               | 98,440              | 7,152,248          | 71.522             |
| 1-5.....   | 0.00273             | 98,288             | 268                 | 392,528             | 7,053,808          | 71.767             |
| 5-10.....  | 0.00185             | 98,020             | 180                 | 489,603             | 6,661,281          | 67.958             |
| 10-15..... | 0.00182             | 97,839             | 178                 | 488,826             | 6,171,677          | 63.080             |
| 15-20..... | 0.00544             | 97,662             | 531                 | 487,112             | 5,682,852          | 58.189             |
| 20-25..... | 0.00828             | 97,131             | 804                 | 483,707             | 5,195,740          | 53.492             |
| 25-30..... | 0.00859             | 96,327             | 827                 | 479,561             | 4,712,033          | 48.917             |
| 30-35..... | 0.00805             | 95,500             | 768                 | 475,608             | 4,232,472          | 44.319             |
| 35-40..... | 0.01008             | 94,732             | 954                 | 471,448             | 3,756,864          | 39.658             |
| 40-45..... | 0.01701             | 93,778             | 1,694               | 465,201             | 3,285,416          | 35.034             |
| 45-50..... | 0.02582             | 92,184             | 2,380               | 455,373             | 2,820,215          | 30.593             |
| 50-55..... | 0.03938             | 89,804             | 3,636               | 440,718             | 2,364,842          | 26.333             |
| 55-60..... | 0.05767             | 86,267             | 4,975               | 419,665             | 1,924,124          | 22.304             |
| 60-65..... | 0.08870             | 81,293             | 7,210               | 389,471             | 1,504,459          | 18.507             |
| 65-70..... | 0.13408             | 74,083             | 9,932               | 346,729             | 1,114,987          | 15.051             |
| 70-75..... | 0.19815             | 64,150             | 12,711              | 289,949             | 768,259            | 11.976             |
| 75-80..... | 0.28403             | 51,439             | 14,610              | 220,674             | 478,310            | 9.298              |
| 80-85..... | 0.34540             | 36,829             | 12,721              | 151,557             | 257,635            | 6.995              |
| 85+.....   | 1.00000             | 24,109             | 24,109              | 106,079             | 106,079            | 4.400              |

<sup>1</sup> Definitions of life table values are contained in the Technical Notes.

TABLE 4.16—Abridged Life Table for Males, Michigan Residents, 1974

| AGE        | NQX(1) <sup>1</sup> | LX(2) <sup>1</sup> | NDX(3) <sup>1</sup> | NLX(4) <sup>1</sup> | TX(5) <sup>1</sup> | EX(6) <sup>1</sup> |
|------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
| 0-1.....   | 0.01951             | 100,000            | 1,951               | 98,224              | 6,795,273          | 67.953             |
| 1-5.....   | 0.00323             | 98,049             | 316                 | 391,465             | 6,697,049          | 68.303             |
| 5-10.....  | 0.00223             | 97,733             | 218                 | 488,065             | 6,305,584          | 64.519             |
| 10-15..... | 0.00224             | 97,515             | 218                 | 487,145             | 5,817,519          | 59.658             |
| 15-20..... | 0.00789             | 97,297             | 767                 | 484,780             | 5,330,374          | 54.784             |
| 20-25..... | 0.01278             | 96,530             | 1,233               | 479,682             | 4,845,594          | 50.198             |
| 25-30..... | 0.01379             | 95,297             | 1,313               | 473,148             | 4,365,912          | 45.814             |
| 30-35..... | 0.01041             | 93,983             | 978                 | 467,439             | 3,892,764          | 41.420             |
| 35-40..... | 0.01241             | 93,005             | 1,154               | 462,334             | 3,425,325          | 36.829             |
| 40-45..... | 0.02066             | 91,852             | 1,897               | 454,885             | 2,962,990          | 32.258             |
| 45-50..... | 0.03262             | 89,954             | 2,934               | 442,965             | 2,508,105          | 27.882             |
| 50-55..... | 0.05097             | 87,020             | 4,435               | 424,740             | 2,065,140          | 23.732             |
| 55-60..... | 0.07771             | 82,585             | 6,417               | 397,839             | 1,640,400          | 19.863             |
| 60-65..... | 0.11836             | 76,168             | 9,015               | 359,453             | 1,242,561          | 16.313             |
| 65-70..... | 0.17761             | 67,154             | 11,927              | 307,031             | 883,108            | 13.151             |
| 70-75..... | 0.25693             | 55,227             | 14,189              | 241,204             | 576,077            | 10.431             |
| 75-80..... | 0.35400             | 41,038             | 14,527              | 168,178             | 334,873            | 8.160              |
| 80-85..... | 0.40978             | 26,511             | 10,863              | 104,105             | 166,695            | 6.288              |
| 85+.....   | 1.00000             | 15,647             | 15,647              | 62,589              | 62,589             | 4.000              |

<sup>1</sup> IBID.

TABLE 4.17—Abridged Life Table for Females, Michigan Residents, 1974

| AGE        | NQX(1) <sup>1</sup> | LX(2) <sup>1</sup> | NDX(3) <sup>1</sup> | NLX(4) <sup>1</sup> | TX(5) <sup>1</sup> | EX(6) <sup>1</sup> |
|------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
| 0-1.....   | 0.01461             | 100,000            | 1,461               | 98,666              | 7,527,881          | 75.279             |
| 1-5.....   | 0.00221             | 98,539             | 218                 | 393,643             | 7,429,215          | 75.394             |
| 5-10.....  | 0.00144             | 98,321             | 141                 | 491,217             | 7,035,571          | 71.557             |
| 10-15..... | 0.00139             | 98,180             | 136                 | 490,588             | 6,544,354          | 66.657             |
| 15-20..... | 0.00288             | 98,044             | 282                 | 489,567             | 6,053,766          | 61.746             |
| 20-25..... | 0.00399             | 97,762             | 390                 | 487,862             | 5,564,200          | 56.916             |
| 25-30..... | 0.00430             | 97,372             | 418                 | 485,843             | 5,076,338          | 52.134             |
| 30-35..... | 0.00552             | 96,953             | 535                 | 483,496             | 4,590,495          | 47.347             |
| 35-40..... | 0.00763             | 96,419             | 735                 | 480,410             | 4,106,998          | 42.595             |
| 40-45..... | 0.01332             | 95,684             | 1,274               | 475,456             | 3,626,589          | 37.902             |
| 45-50..... | 0.01909             | 94,410             | 1,802               | 467,829             | 3,151,133          | 33.377             |
| 50-55..... | 0.02850             | 92,608             | 2,639               | 456,796             | 2,683,304          | 28.975             |
| 55-60..... | 0.03887             | 89,969             | 3,496               | 441,651             | 2,226,508          | 24.747             |
| 60-65..... | 0.06082             | 86,473             | 5,259               | 420,089             | 1,784,856          | 20.641             |
| 65-70..... | 0.09460             | 81,214             | 7,683               | 388,052             | 1,364,768          | 16.805             |
| 70-75..... | 0.14922             | 73,531             | 10,972              | 341,645             | 976,715            | 13.283             |
| 75-80..... | 0.23165             | 62,559             | 14,492              | 277,317             | 635,071            | 10.151             |
| 80-85..... | 0.30306             | 48,068             | 14,567              | 203,651             | 357,754            | 7.443              |
| 85+.....   | 1.00000             | 33,501             | 33,501              | 154,102             | 154,102            | 4.600              |

<sup>1</sup> IBID.

TABLE 4.18—Abridged Life Table for Whites, Michigan Residents, 1974

| AGE        | NQX(1) <sup>1</sup> | LX(2) <sup>1</sup> | NDX(3) <sup>1</sup> | NLX(4) <sup>1</sup> | TX(5) <sup>1</sup> | EX(6) <sup>1</sup> |
|------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
| 0-1.....   | 0.01435             | 100,000            | 1,435               | 98,686              | 7,241,694          | 72.417             |
| 1-5.....   | 0.00254             | 98,565             | 250                 | 393,682             | 7,143,008          | 72.470             |
| 5-10.....  | 0.00176             | 98,315             | 172                 | 491,100             | 6,749,326          | 68.650             |
| 10-15..... | 0.00183             | 98,142             | 179                 | 490,333             | 6,258,226          | 63.767             |
| 15-20..... | 0.00509             | 97,963             | 498                 | 488,676             | 5,767,893          | 58.878             |
| 20-25..... | 0.00688             | 97,466             | 670                 | 485,680             | 5,279,218          | 54.165             |
| 25-30..... | 0.00648             | 96,796             | 627                 | 482,388             | 4,793,537          | 49.522             |
| 30-35..... | 0.00580             | 96,169             | 557                 | 479,487             | 4,311,150          | 44.829             |
| 35-40..... | 0.00833             | 95,612             | 796                 | 476,239             | 3,831,662          | 40.075             |
| 40-45..... | 0.01451             | 94,816             | 1,376               | 470,918             | 3,355,423          | 35.389             |
| 45-50..... | 0.02285             | 93,440             | 2,135               | 462,265             | 2,884,505          | 30.870             |
| 50-55..... | 0.03624             | 91,305             | 3,309               | 448,806             | 2,422,240          | 26.529             |
| 55-60..... | 0.05439             | 87,996             | 4,785               | 428,823             | 1,973,434          | 22.426             |
| 60-65..... | 0.08612             | 83,211             | 7,166               | 399,249             | 1,544,611          | 18.563             |
| 65-70..... | 0.13290             | 76,045             | 10,106              | 356,145             | 1,145,362          | 15.062             |
| 70-75..... | 0.19495             | 65,939             | 12,854              | 298,589             | 789,217            | 11.969             |
| 75-80..... | 0.28355             | 53,084             | 15,052              | 227,877             | 490,628            | 9.242              |
| 80-85..... | 0.34861             | 38,033             | 13,258              | 156,221             | 262,752            | 6.909              |
| 85+.....   | 1.00000             | 24,774             | 24,774              | 106,530             | 106,530            | 4.300              |

<sup>1</sup> IBID.

TABLE 4.19—Abridged Life Table for White Males, Michigan Residents, 1974

| AGE        | NQX(1) <sup>1</sup> | LX(2) <sup>1</sup> | NDX(3) <sup>1</sup> | NLX(4) <sup>1</sup> | TX(5) <sup>1</sup> | EX(6) <sup>1</sup> |
|------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
| 0-1.....   | 0.01648             | 100,000            | 1,648               | 98,491              | 6,898,439          | 68.984             |
| 1-5.....   | 0.00300             | 98,352             | 294                 | 392,732             | 6,799,948          | 69.139             |
| 5-10.....  | 0.00213             | 98,057             | 208                 | 489,715             | 6,407,216          | 65.341             |
| 10-15..... | 0.00219             | 97,849             | 213                 | 488,822             | 5,917,501          | 60.476             |
| 15-20..... | 0.00747             | 97,636             | 729                 | 486,530             | 5,428,679          | 55.601             |
| 20-25..... | 0.01070             | 96,907             | 1,037               | 481,998             | 4,942,149          | 50.999             |
| 25-30..... | 0.01028             | 95,871             | 985                 | 476,816             | 4,460,150          | 46.523             |
| 30-35..... | 0.00715             | 94,886             | 678                 | 472,728             | 3,983,335          | 41.980             |
| 35-40..... | 0.01023             | 94,207             | 963                 | 468,822             | 3,510,607          | 37.265             |
| 40-45..... | 0.01727             | 93,244             | 1,610               | 462,540             | 3,041,785          | 32.622             |
| 45-50..... | 0.02867             | 91,634             | 2,627               | 452,149             | 2,579,245          | 28.147             |
| 50-55..... | 0.04760             | 89,007             | 4,236               | 435,199             | 2,127,095          | 23.898             |
| 55-60..... | 0.07365             | 84,771             | 6,243               | 409,260             | 1,691,896          | 19.958             |
| 60-65..... | 0.11575             | 78,528             | 9,089               | 371,187             | 1,282,636          | 16.333             |
| 65-70..... | 0.17753             | 69,439             | 12,328              | 317,529             | 911,450            | 13.126             |
| 70-75..... | 0.25593             | 57,112             | 14,617              | 249,584             | 593,921            | 10.399             |
| 75-80..... | 0.35411             | 42,495             | 15,048              | 174,181             | 344,337            | 8.103              |
| 80-85..... | 0.41441             | 27,447             | 11,374              | 107,470             | 170,155            | 6.199              |
| 85+.....   | 1.00000             | 16,073             | 16,073              | 62,685              | 62,685             | 3.900              |

<sup>1</sup> IBID.

TABLE 4.20—Abridged Life Table for White Females, Michigan Residents, 1974

| AGE        | NQX(1) <sup>1</sup> | LX(2) <sup>1</sup> | NDX(3) <sup>1</sup> | NLX(4) <sup>1</sup> | TX(5) <sup>1</sup> | EX(6) <sup>1</sup> |
|------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
| 0-1.....   | 0.01223             | 100,000            | 1,223               | 98,880              | 7,605,020          | 76.050             |
| 1-5.....   | 0.00207             | 98,777             | 204                 | 394,631             | 7,506,141          | 75.991             |
| 5-10.....  | 0.00137             | 98,573             | 135                 | 492,494             | 7,111,510          | 72.145             |
| 10-15..... | 0.00146             | 98,438             | 143                 | 491,858             | 6,619,015          | 67.240             |
| 15-20..... | 0.00259             | 98,295             | 254                 | 490,876             | 6,127,157          | 62.334             |
| 20-25..... | 0.00319             | 98,041             | 313                 | 489,438             | 5,636,281          | 57.489             |
| 25-30..... | 0.00333             | 97,728             | 325                 | 487,851             | 5,146,843          | 52.665             |
| 30-35..... | 0.00431             | 97,403             | 419                 | 486,026             | 4,658,991          | 47.832             |
| 35-40..... | 0.00621             | 96,984             | 602                 | 483,559             | 4,172,965          | 43.027             |
| 40-45..... | 0.01140             | 96,383             | 1,098               | 479,377             | 3,689,406          | 38.279             |
| 45-50..... | 0.01683             | 95,285             | 1,603               | 472,685             | 3,210,029          | 33.689             |
| 50-55..... | 0.02558             | 93,681             | 2,396               | 462,774             | 2,737,344          | 29.220             |
| 55-60..... | 0.03637             | 91,285             | 3,319               | 448,700             | 2,274,570          | 24.917             |
| 60-65..... | 0.05849             | 87,966             | 5,144               | 427,876             | 1,825,871          | 20.757             |
| 65-70..... | 0.09274             | 82,821             | 7,680               | 396,101             | 1,397,994          | 16.880             |
| 70-75..... | 0.14483             | 75,141             | 10,882              | 349,994             | 1,001,893          | 13.334             |
| 75-80..... | 0.23112             | 64,259             | 14,851              | 285,045             | 651,899            | 10.145             |
| 80-85..... | 0.30561             | 49,408             | 15,099              | 209,035             | 366,854            | 7.425              |
| 85+.....   | 1.00000             | 34,308             | 34,308              | 157,818             | 157,818            | 4.600              |

<sup>1</sup> IBID.

TABLE 4.21—Abridged Life Table for Nonwhites, Michigan Residents, 1974

| AGE        | NQX(1) <sup>1</sup> | LX(2) <sup>1</sup> | NDX(3) <sup>1</sup> | NLX(4) <sup>1</sup> | TX(5) <sup>1</sup> | EX(6) <sup>1</sup> |
|------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
| 0-1.....   | 0.03130             | 100,000            | 3,130               | 97,181              | 6,585,717          | 65.857             |
| 1-5.....   | 0.00374             | 96,870             | 362                 | 386,627             | 6,488,536          | 66.982             |
| 5-10.....  | 0.00240             | 96,509             | 231                 | 481,907             | 6,101,909          | 63.227             |
| 10-15..... | 0.00179             | 96,277             | 172                 | 481,062             | 5,620,002          | 58.373             |
| 15-20..... | 0.00759             | 96,106             | 729                 | 479,003             | 5,138,940          | 53.472             |
| 20-25..... | 0.01665             | 95,377             | 1,588               | 473,216             | 4,659,936          | 48.858             |
| 25-30..... | 0.02304             | 93,790             | 2,160               | 463,680             | 4,186,721          | 44.640             |
| 30-35..... | 0.02430             | 91,629             | 2,226               | 452,541             | 3,723,041          | 40.632             |
| 35-40..... | 0.02204             | 89,403             | 1,970               | 442,260             | 3,270,500          | 36.582             |
| 40-45..... | 0.03480             | 87,433             | 3,042               | 429,997             | 2,828,241          | 32.348             |
| 45-50..... | 0.04827             | 84,391             | 4,073               | 412,224             | 2,398,244          | 28.418             |
| 50-55..... | 0.06495             | 80,318             | 5,216               | 389,042             | 1,986,020          | 24.727             |
| 55-60..... | 0.08576             | 75,102             | 6,440               | 359,914             | 1,596,978          | 21.264             |
| 60-65..... | 0.11147             | 68,661             | 7,654               | 324,657             | 1,237,064          | 18.017             |
| 65-70..... | 0.14380             | 61,007             | 8,773               | 284,000             | 912,407            | 14.956             |
| 70-75..... | 0.22879             | 52,235             | 11,950              | 231,907             | 628,406            | 12.030             |
| 75-80..... | 0.29036             | 40,284             | 11,697              | 171,469             | 396,499            | 9.842              |
| 80-85..... | 0.29869             | 28,588             | 8,539               | 120,776             | 225,030            | 7.872              |
| 85+.....   | 1.00000             | 20,049             | 20,049              | 104,254             | 104,254            | 5.200              |

<sup>1</sup> IBID.

TABLE 4.22—Abridged Life Table for Nonwhite Males, Michigan Residents, 1974

| AGE        | NQX(1) <sup>1</sup> | LX(2) <sup>1</sup> | NDX(3) <sup>1</sup> | NLX(4) <sup>1</sup> | TX(5) <sup>1</sup> | EX(6) <sup>1</sup> |
|------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
| 0-1.....   | 0.03503             | 100,000            | 3,503               | 96,859              | 6,137,316          | 61.373             |
| 1-5.....   | 0.00447             | 96,497             | 430                 | 384,980             | 6,040,457          | 62.597             |
| 5-10.....  | 0.00294             | 96,067             | 282                 | 479,560             | 5,655,478          | 58.870             |
| 10-15..... | 0.00256             | 95,785             | 245                 | 478,463             | 5,175,918          | 54.037             |
| 15-20..... | 0.01047             | 95,540             | 1,000               | 475,648             | 4,697,455          | 49.167             |
| 20-25..... | 0.02528             | 94,540             | 2,390               | 467,261             | 4,221,806          | 44.656             |
| 25-30..... | 0.03863             | 92,151             | 3,559               | 452,026             | 3,754,546          | 40.744             |
| 30-35..... | 0.03618             | 88,592             | 3,205               | 434,717             | 3,302,520          | 37.278             |
| 35-40..... | 0.02884             | 85,387             | 2,462               | 420,928             | 2,867,803          | 33.586             |
| 40-45..... | 0.04737             | 82,925             | 3,928               | 405,323             | 2,446,874          | 29.507             |
| 45-50..... | 0.06279             | 78,996             | 4,960               | 382,973             | 2,041,551          | 25.844             |
| 50-55..... | 0.07831             | 74,037             | 5,797               | 358,248             | 1,658,578          | 22.402             |
| 55-60..... | 0.11184             | 68,239             | 7,631               | 322,692             | 1,302,331          | 19.085             |
| 60-65..... | 0.14109             | 60,608             | 8,551               | 282,005             | 979,639            | 16.164             |
| 65-70..... | 0.17814             | 52,057             | 9,273               | 237,691             | 697,633            | 13.401             |
| 70-75..... | 0.26578             | 42,784             | 11,371              | 185,868             | 459,942            | 10.750             |
| 75-80..... | 0.35248             | 31,413             | 11,072              | 128,482             | 274,074            | 8.725              |
| 80-85..... | 0.34587             | 20,341             | 7,035               | 83,056              | 145,592            | 7.158              |
| 85+.....   | 1.00000             | 13,306             | 13,306              | 62,536              | 62,536             | 4.700              |

<sup>1</sup> IBID.

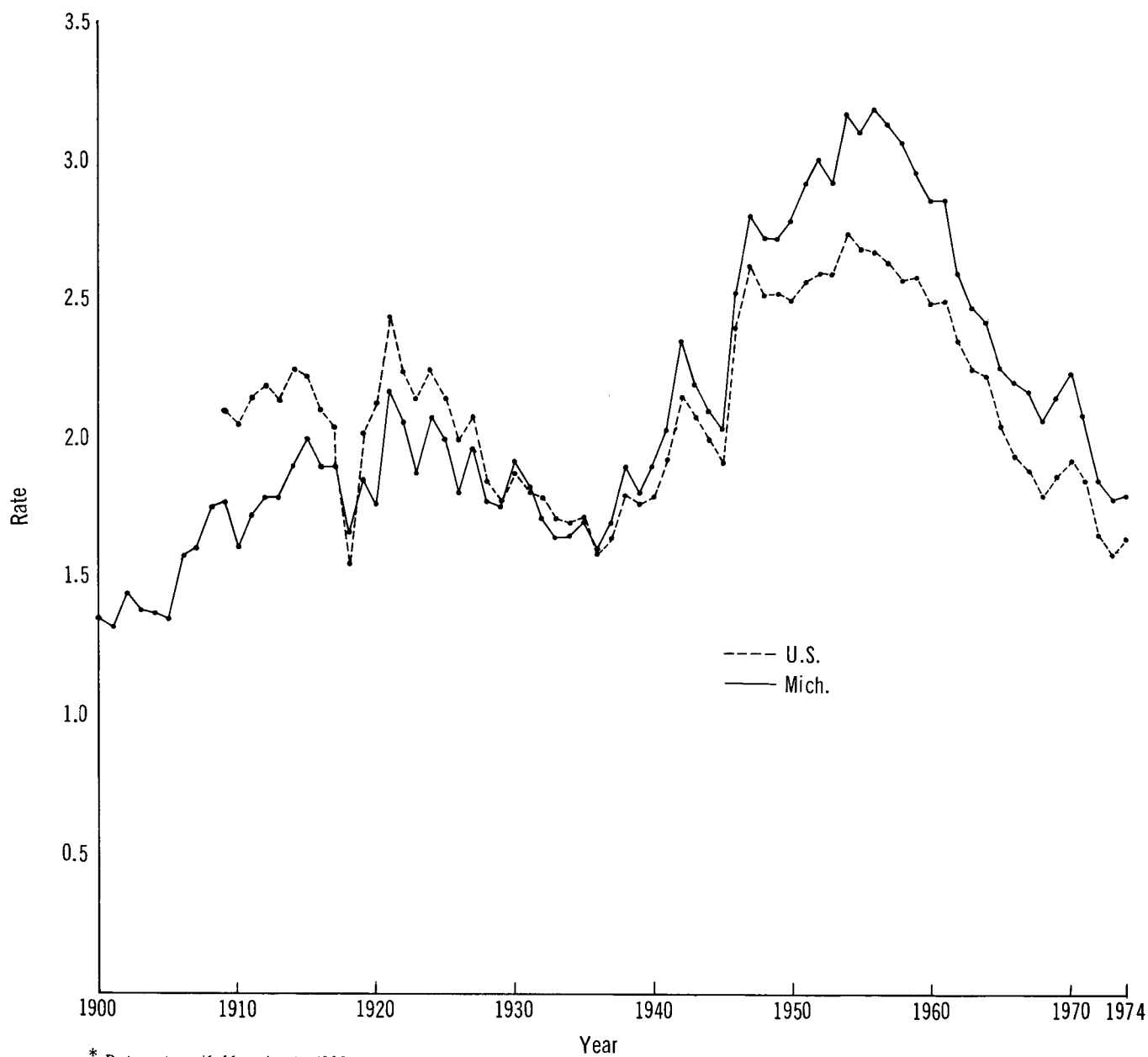
TABLE 4.23—Abridged Life Table for Nonwhite Females, Michigan Residents, 1974

| AGE        | NQX(1) <sup>1</sup> | LX(2) <sup>1</sup> | NDX(3) <sup>1</sup> | NLX(4) <sup>1</sup> | TX(5) <sup>1</sup> | EX(6) <sup>1</sup> |
|------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|
| 0-1.....   | 0.02606             | 100,000            | 2,606               | 97,639              | 7,043,842          | 70.438             |
| 1-5.....   | 0.00300             | 97,394             | 292                 | 388,880             | 6,946,202          | 71.321             |
| 5-10.....  | 0.00186             | 97,102             | 181                 | 485,014             | 6,557,322          | 67.530             |
| 10-15..... | 0.00100             | 96,921             | 96                  | 484,422             | 6,072,309          | 62.652             |
| 15-20..... | 0.00461             | 96,825             | 446                 | 483,175             | 5,587,886          | 57.711             |
| 20-25..... | 0.00908             | 96,380             | 874                 | 479,835             | 5,104,711          | 52.964             |
| 25-30..... | 0.01080             | 95,505             | 1,031               | 475,036             | 4,624,875          | 48.425             |
| 30-35..... | 0.01360             | 94,475             | 1,285               | 469,285             | 4,149,840          | 43.925             |
| 35-40..... | 0.01744             | 93,190             | 1,624               | 462,162             | 3,680,554          | 39.495             |
| 40-45..... | 0.02832             | 91,566             | 2,592               | 451,720             | 3,218,393          | 35.148             |
| 45-50..... | 0.03840             | 88,973             | 3,416               | 436,716             | 2,766,672          | 31.096             |
| 50-55..... | 0.05222             | 85,557             | 4,467               | 416,929             | 2,329,956          | 27.233             |
| 55-60..... | 0.06061             | 81,090             | 4,915               | 393,523             | 1,913,027          | 23.591             |
| 60-65..... | 0.08139             | 76,175             | 6,199               | 365,966             | 1,519,504          | 19.948             |
| 65-70..... | 0.11063             | 69,976             | 7,741               | 331,752             | 1,153,538          | 16.485             |
| 70-75..... | 0.19406             | 62,235             | 12,077              | 281,867             | 821,786            | 13.205             |
| 75-80..... | 0.23898             | 50,158             | 11,987              | 220,411             | 539,919            | 10.764             |
| 80-85..... | 0.26461             | 38,171             | 10,100              | 165,119             | 319,508            | 8.370              |
| 85+.....   | 1.00000             | 28,071             | 28,071              | 154,389             | 154,389            | 5.500              |

<sup>1</sup> IBID.



FIGURE 4.1—Rate of Natural Increase, Michigan, 1900-1974,  
and the United States, 1909\*-1974



\* Data not available prior to 1909.

FIGURE 4.2 Total Population, Percent Under Age 20 and Percent Age 65 and over by Region, Michigan, 1974

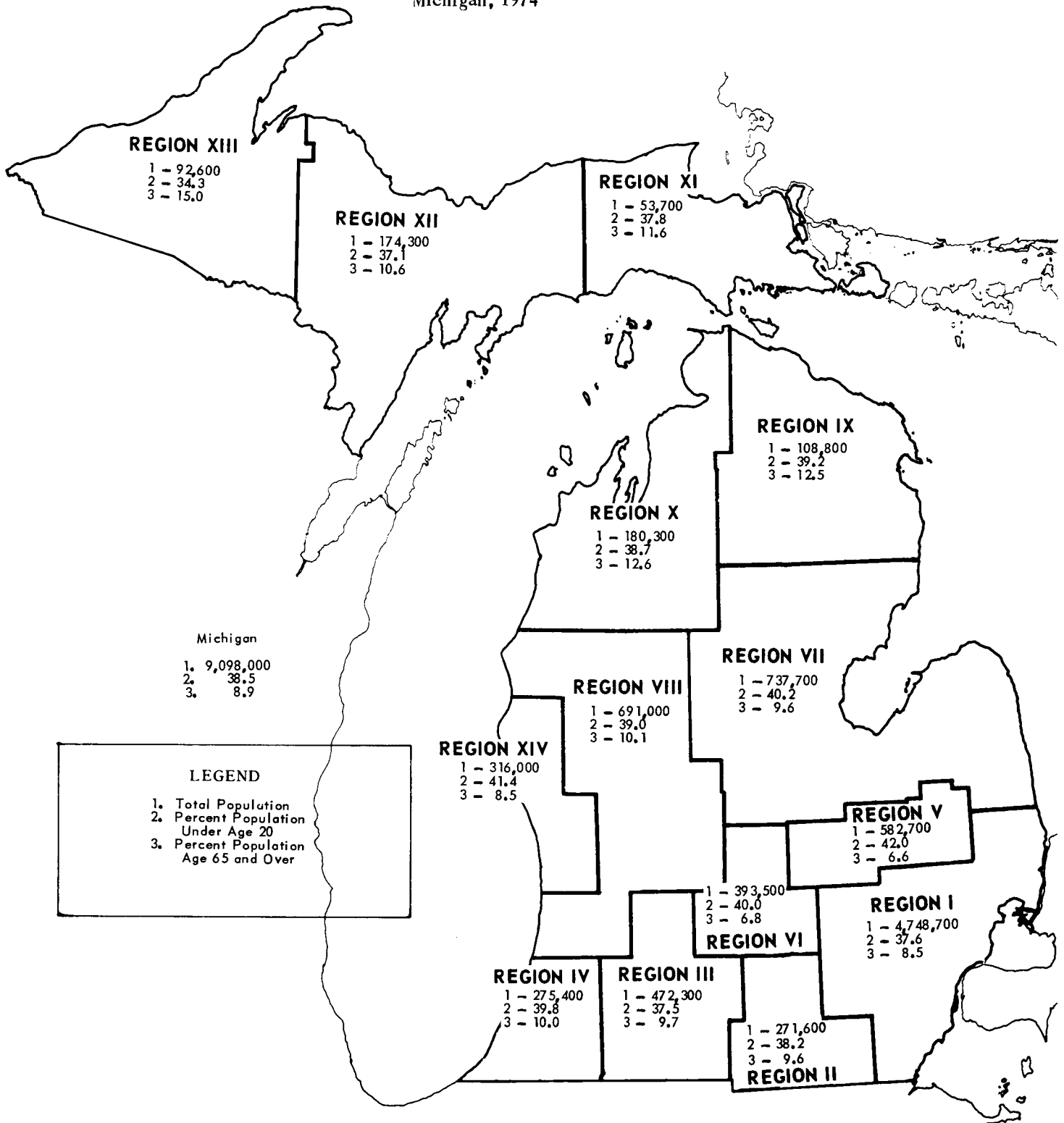


FIGURE 4.3 Population Density, Live Birth Rates, Illegitimate Live Birth Ratios, Fetal Death Ratios, Death Rates and Infant Mortality Rates by Region, Michigan Residents, 1974

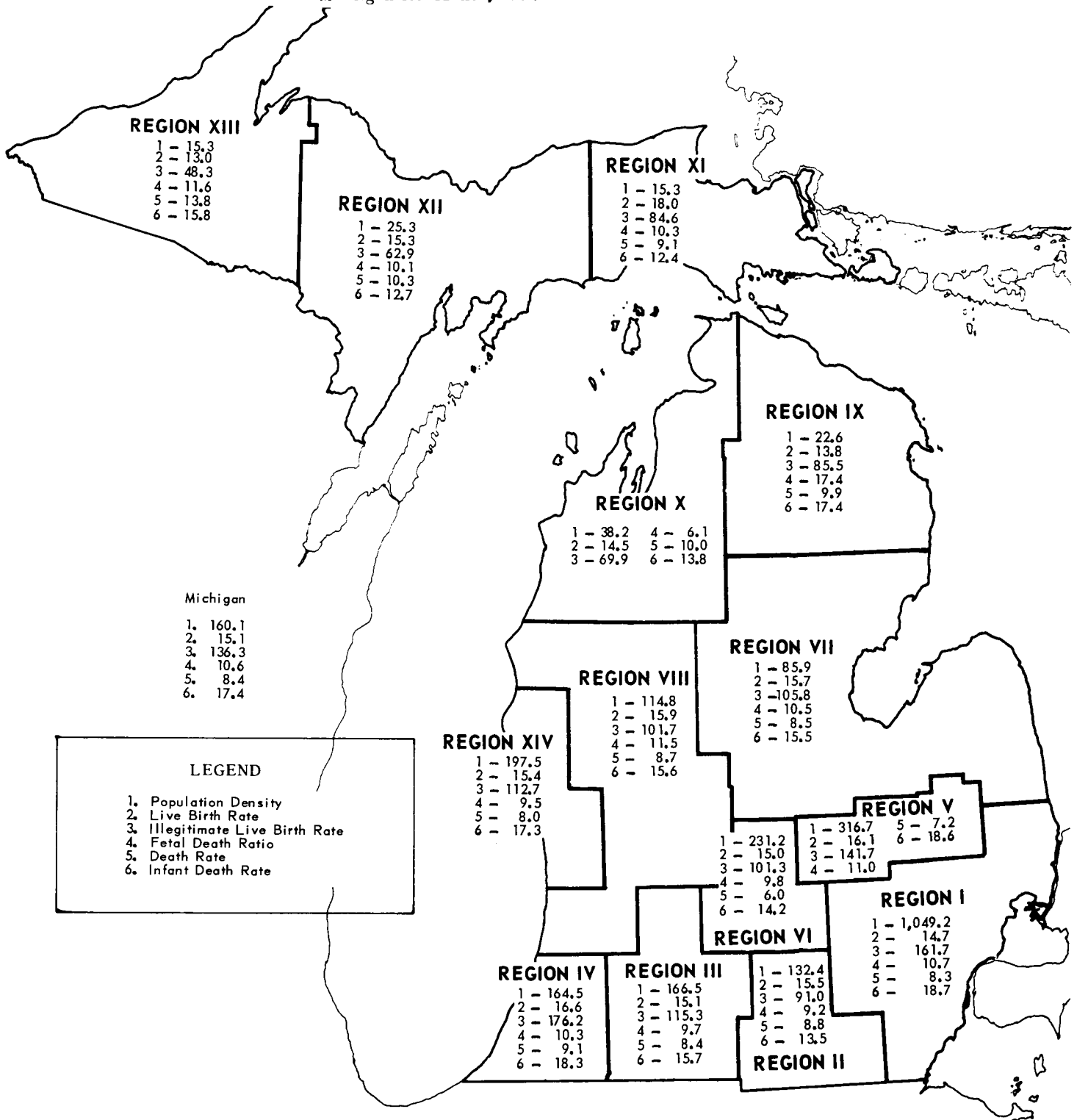
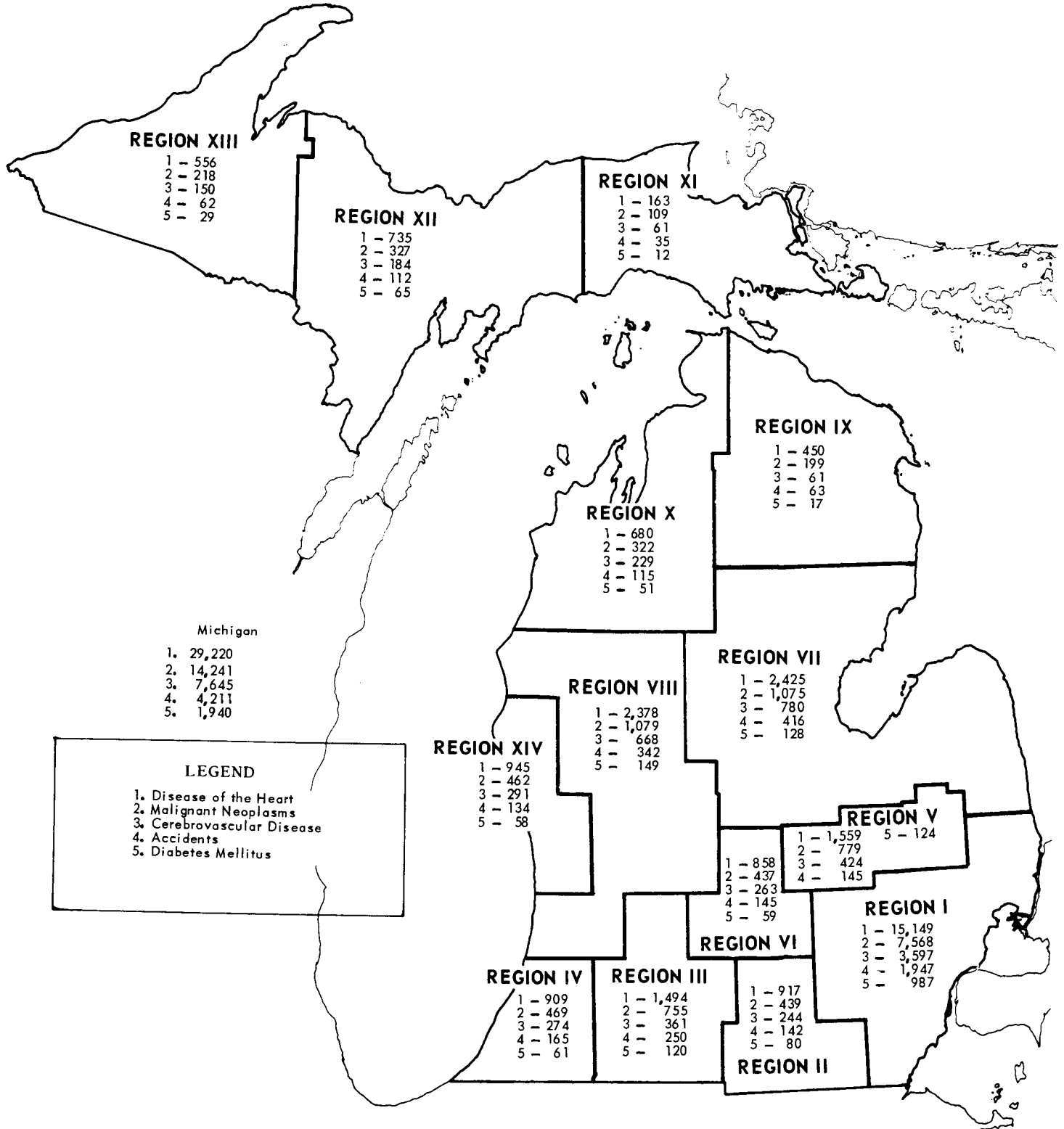
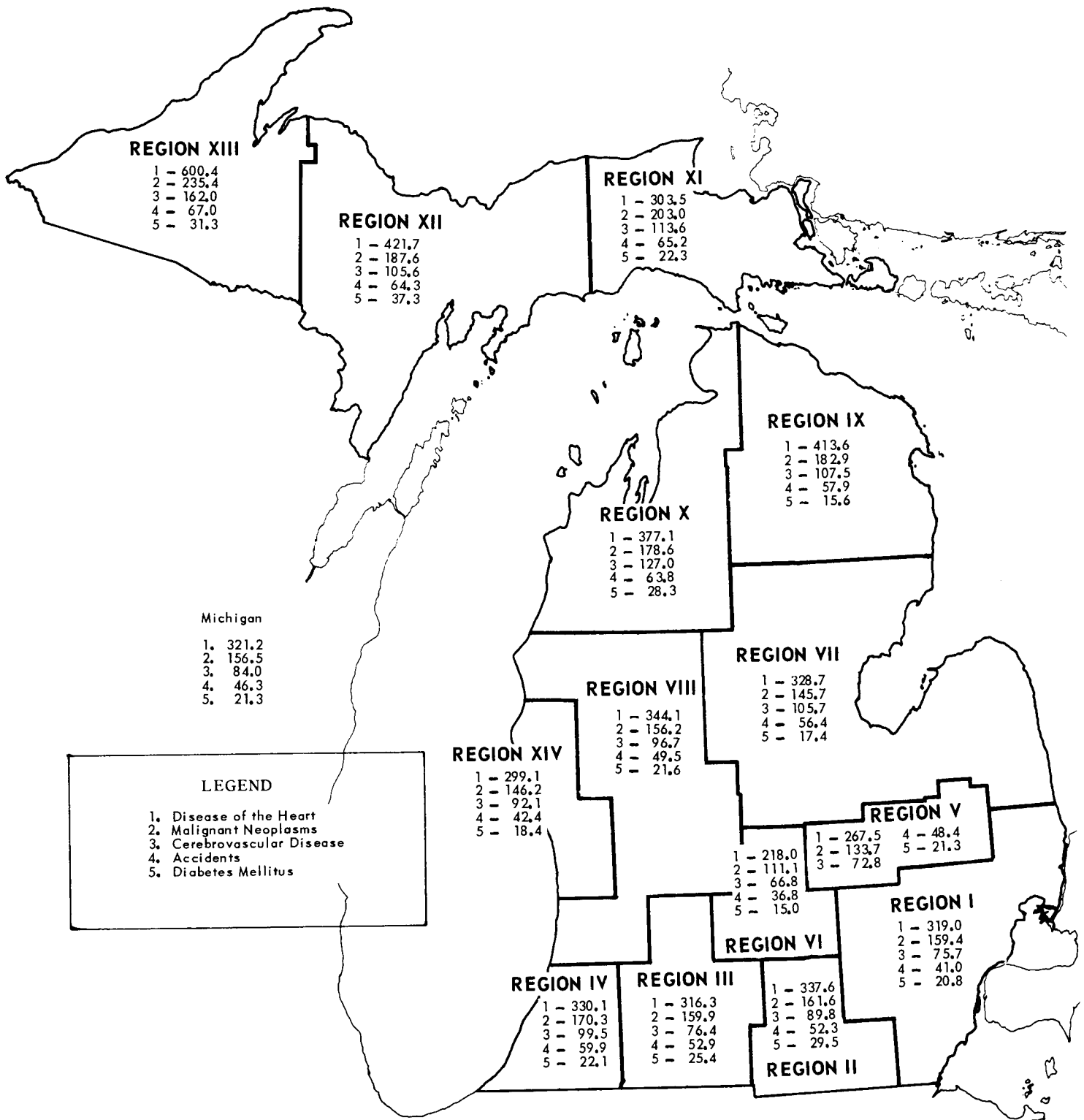


FIGURE 4.4 Leading Causes of Death; Number of Deaths by Region,<sup>1</sup> Michigan Residents, 1974



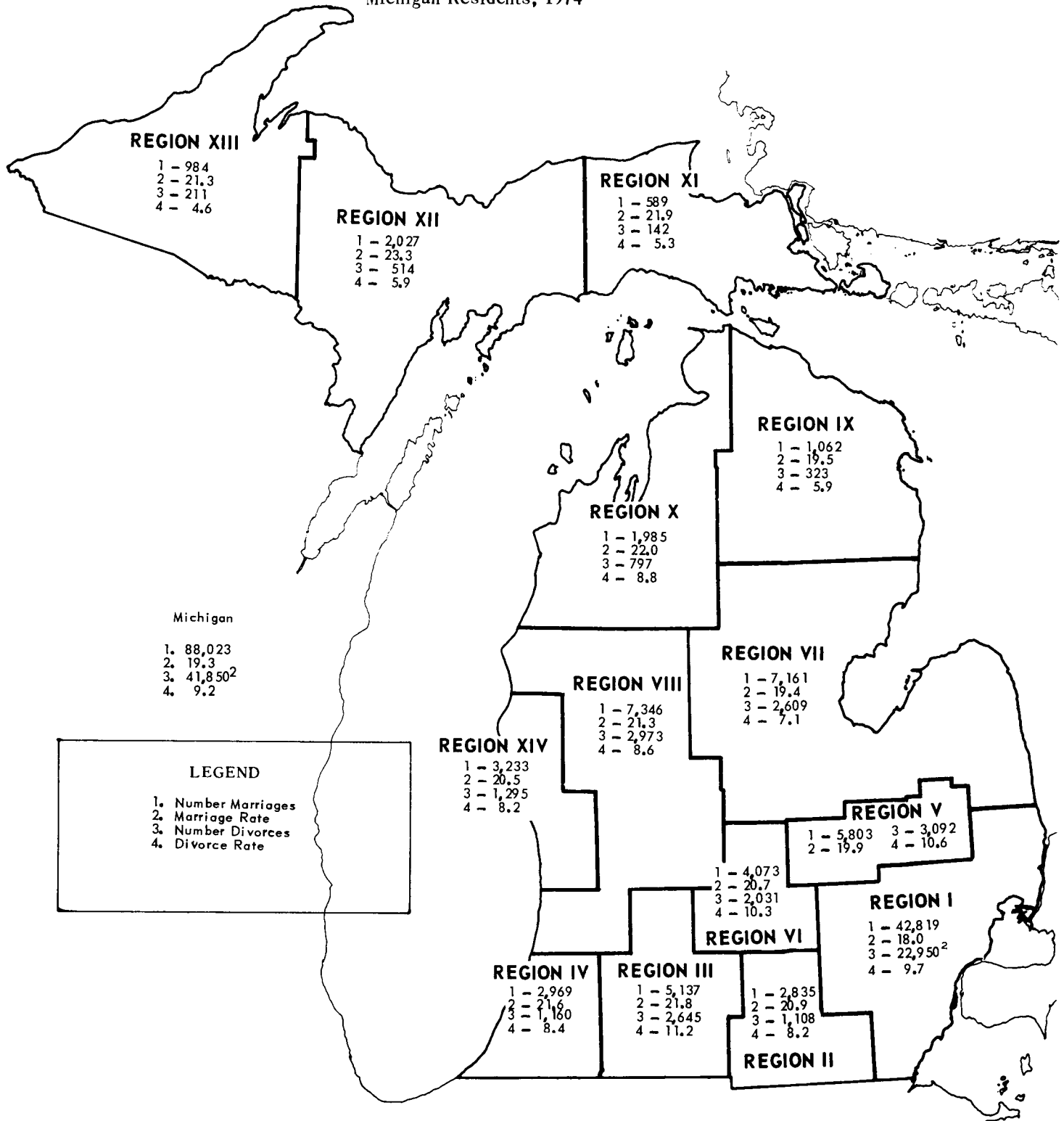
1. State Planning and Development Regions - August, 1973

FIGURE 4.5 Leading Causes of Death; Death Rates by Region,<sup>1</sup> Michigan Residents, 1973



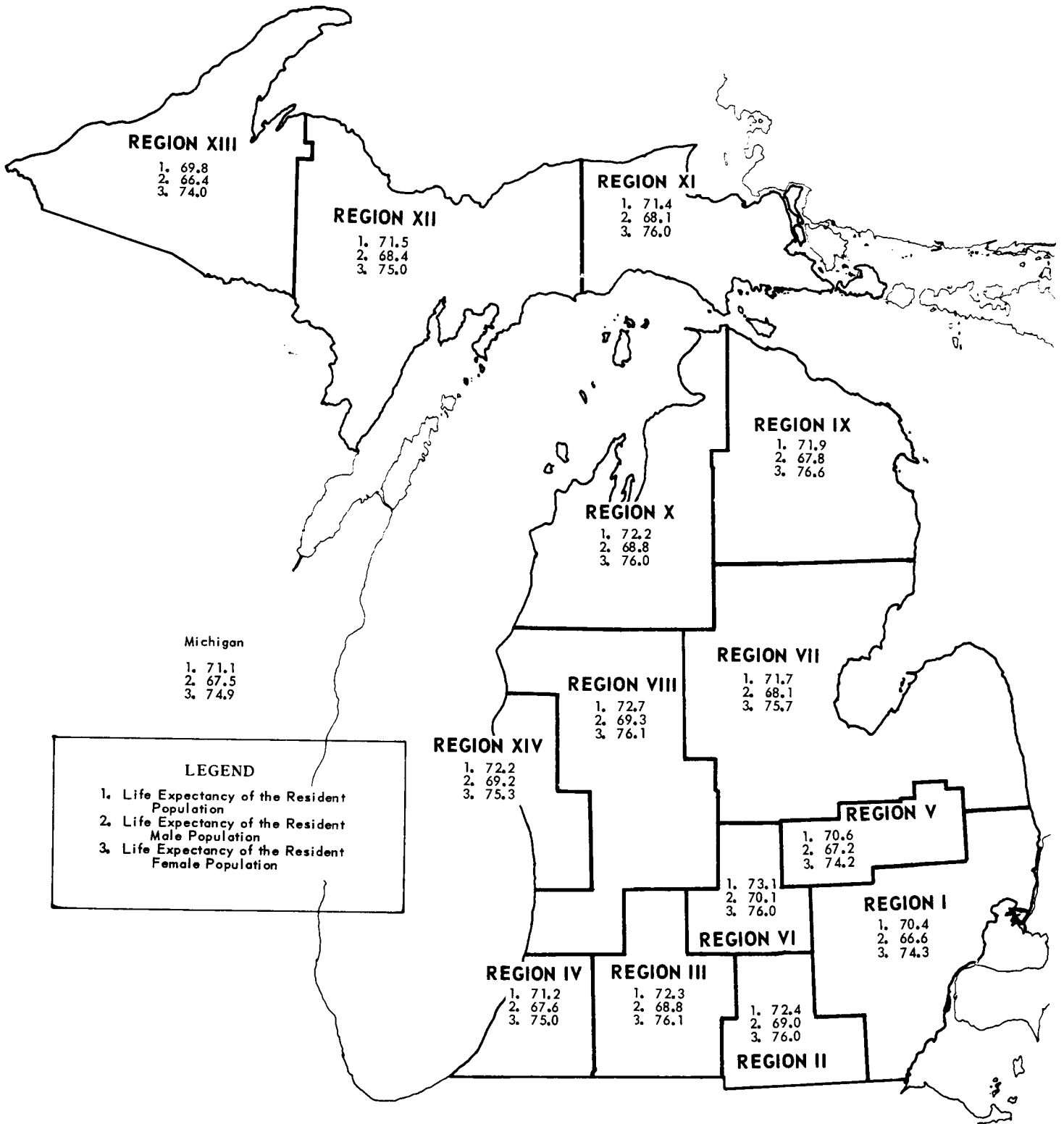
1. State Planning and Development Regions - August, 1973

FIGURE 4.6 Marriages and Marriage Rates, Divorces and Divorce Rates by Region,<sup>1</sup> Michigan Residents, 1974



1. State Planning and Development Regions - August, 1973  
 2. Includes Wayne County Estimate

FIGURE 4.7 Life Expectancy at Birth By Sex By Region, Michigan Residents, 1973 - 1974



MICHIGAN DEPARTMENT OF PUBLIC HEALTH  
**CERTIFICATE OF LIVE BIRTH 121 -**

LOCAL FILE NUMBER

BIRTH NUMBER

|   |   |   |   |  |  |  |   |                |
|---|---|---|---|--|--|--|---|----------------|
| CHILD NAME  |   | FIRST   | MIDDLE                                    | LAST   | DATE OF BIRTH (MONTH, DAY, YEAR)                                 |  | HOUR  |                |
| 1   |   |   |   |  | 2a   |  | 2b M.   |                |
| CHILD   | SEX   | THIS BIRTH—SINGLE, TWIN, TRIPLET, ETC. (SPECIFY)                            |   | IF NOT SINGLE BIRTH—BORN FIRST, SECOND, THIRD, ETC. (SPECIFY)                  |  | COUNTY OF BIRTH                        |   |                |
|   | 3   | 4a  |   | 4b   |  | 5a                                     |   |                |
| CITY, VILLAGE OR TOWNSHIP OF BIRTH                                |   | INSIDE CITY LIMITS (SPECIFY YES OR NO)                                      |   | HOSPITAL—NAME (IF NOT IN HOSPITAL, GIVE STREET AND NUMBER)                     |  |  |   |                |
| 5b  |   | 5c  |   | 5d   |  |  |   |                |
| MOTHER  | MOTHER—MAIDEN NAME  |   |   | FIRST  | MIDDLE   | LAST                                   | AGE (AT TIME OF THIS BIRTH)                     |                |
|   | 6a  |   |   |  |  |  | 6b  |                |
|   | RESIDENCE—STATE   |   | COUNTY                                    | CITY, VILLAGE OR TOWNSHIP  |  | INSIDE CITY LIMITS (SPECIFY YES OR NO) | STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY) |                |
| 7a  |   | 7b  | 7c  |  | 7d   | 7e                                     |   |                |
| FATHER  | FATHER—NAME   |   |   | FIRST  | MIDDLE   | LAST                                   | AGE (AT TIME OF THIS BIRTH)                     |                |
|   | 8a  |   |   |  |  |  | 8b  |                |
| INFORMANT   |   |   |   |  |  | RELATION TO CHILD                      |   |                |
| 9a  |   |   |   |  |  |  |   |                |
| CERTIFIER   | I CERTIFY THAT THE ABOVE NAMED CHILD WAS BORN ALIVE AT THE PLACE AND TIME AND ON THE DATE STATED ABOVE. |   |   |  | DATE SIGNED (MONTH, DAY, YEAR)                                   |  | ATTENDANT—M.D., D.O., MIDWIFE, OTHER (SPECIFY)  |                |
|   | 10a SIGNATURE   |   |   |  | 10b  |  | 10c   |                |
|   | CERTIFIER—NAME (TYPE OR PRINT)  |   |   |  | MAILING ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP) |  |   |                |
|   | 10d   |   |   |  | 10e  |  |   |                |
| REGISTRAR—SIGNATURE   |   |   |   |  |  | DATE RECEIVED BY LOCAL REGISTRAR       |   |                |
| 11a   |   |   |   |  |  | 11b                                    |   |                |
| <b>CONFIDENTIAL INFORMATION FOR MEDICAL AND HEALTH USE ONLY</b>   |   |   |   |  |  |  |   |                |
| FATHER  | RACE—FATHER   |   | EDUCATION—SPECIFY HIGHEST GRADE COMPLETED |  | PREVIOUS DELIVERIES—HOW MANY OTHER CHILDREN                      |  |   |                |
|   | 12  |   |   |  | 14a  |  | 14b   |                |
| MOTHER  | RACE—MOTHER   |   | EDUCATION—SPECIFY HIGHEST GRADE COMPLETED |  | DATE OF LAST LIVE BIRTH  |  | DATE OF LAST FETAL DEATH                        |                |
|   | 15  |   |   |  | 17a  |  | 17b   |                |
| DATE LAST NORMAL MENSES BEGAN                                     |   | MONTH OF PREGNANCY PRENATAL CARE BEGAN FIRST, SECOND, THIRD, ETC. (SPECIFY) |   | PRENATAL VISITS TOTAL NUMBER (IF NONE, SO STATE)                               |  | LEGITIMATE (SPECIFY YES OR NO)         |   |                |
| 18  |   | 19a   |   | 19b  |  | 20                                     |   |                |
| COMPLICATIONS RELATED TO PREGNANCY (DESCRIBE OR WRITE "NONE")     |   |   |   | BIRTH INJURIES TO CHILD (DESCRIBE OR WRITE "NONE")                             |  |  |   |                |
| 22  |   |   |   | 23   |  |  |   |                |
| COMPLICATIONS NOT RELATED TO PREGNANCY (DESCRIBE OR WRITE "NONE") |   |   |   | CONGENITAL MALFORMATIONS OR ANOMALIES OF CHILD (DESCRIBE OR WRITE "NONE")      |  |  |   |                |
| 24  |   |   |   | 25   |  |  |   |                |
| COMPLICATIONS OF LABOR (DESCRIBE OR WRITE "NONE")                 |   |   |   | HAVE EYES OF CHILD BEEN IRRITATED WITH ONE PERCENT SOLUTION OF SILVER NITRATE? |  |  |   |                |
| 26  |   |   |   | 27   |  |  |   |                |
| WAS MOTHER'S BLOOD TESTED FOR SYPHILIS DURING THIS PREGNANCY?     |   |   | DATE OF TEST                              |  | IF BLOOD NOT TESTED, STATE REASON                                |  |   |                |
| 98  |   |   | 99  |  | 30   |  |   |                |
| DEATH UNDER ONE YEAR OF AGE                                       |   | ENTER STATE FILE NUMBER OF DEATH CERTIFICATE FOR THIS CHILD                 |   | MULTIPLE BIRTHS (ENTER STATE FILE NUMBER FOR MATRINS)                          |  | LIVE BIRTH(S)                          |   | FETAL DEATH(S) |

SAMPLE COPY

**DETACH INSTRUCTIONS BEFORE FILING CERTIFICATE WITH REGISTRAR**

**TYPE OR PRINT (EXCEPT SIGNATURES) IN BLACK INK—THIS IS A PERMANENT RECORD**

Michigan Public Act 343 of 1925, as amended, requires that certificates of birth be filed with the registrar of the district in which the birth occurred within five days after the event.

Many important legal, personal, public health, and social welfare interests require complete and accurate registration of all births. Individuals need certification of the facts of birth for evidence of age, of citizenship, and of family relationship. Social and health agencies need medical and social information concerning the child and his parents for administrative and statistical purposes. In order to protect the privacy of the individual to whom this certificate applies, most of the information of the latter type has been placed in a section of the certificate labeled: "Confidential Information for Medical and Health Use Only."

**In case of more than one child at birth, a SEPARATE RETURN must be made for each and the number of each in order of birth stated. Accurate recording of the residence (not mailing address) of the mother is particularly important as it is used extensively for statistical purposes.**

1963-1964 1-L



MICHIGAN DEPARTMENT OF PUBLIC HEALTH  
**CERTIFICATE OF FETAL DEATH**

|   |        |   |  |
|---|--------|---|--|
| LOCAL FILE NUMBER   |        | STATE FILE NUMBER   |  |
| FETUS—NAME<br>FIRST MIDDLE LAST   |        |   | DATE OF DELIVERY (MONTH, DAY, YEAR)                            |
| SEX<br>THIS DELIVERY — SINGLE, TWIN, TRIPLET, ETC. (SPECIFY)<br>IF NOT SINGLE DELIVERY BORN FIRST, SECOND, THIRD, ETC. (SPECIFY)              |        |   | COUNTY OF DELIVERY   |
| CITY, VILLAGE OR TOWNSHIP OF BIRTH  |        | INSIDE CITY LIMITS (SPECIFY YES OR NO)  | HOSPITAL — NAME (IF NOT IN HOSPITAL, GIVE STREET AND NUMBER)   |
| MOTHER—MAIDEN NAME<br>FIRST MIDDLE LAST   |        | AGE (AT TIME OF THIS DELIVERY)  | STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)                |
| RESIDENCE—STATE   | COUNTY | CITY, VILLAGE OR TOWNSHIP   | INSIDE CITY LIMITS (SPECIFY YES OR NO)                         |
| FATHER—NAME<br>FIRST MIDDLE LAST  |        | AGE (AT TIME OF THIS DELIVERY)  | STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)                |
| 9. PART I. FETAL DEATH WAS CAUSED BY: [ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), AND (c)]   |        |   | SPECIFY FETAL OR MATERNAL                                      |
| FETAL OR MATERNAL CONDITION DIRECTLY CAUSING FETAL DEATH  |        |   | (a) IMMEDIATE CAUSE  |
| FETAL AND/OR MATERNAL CONDITIONS, IF ANY, GIVING RISE TO THE IMMEDIATE CAUSE (a); STATING THE UNDERLYING CAUSE LAST                           |        |   | (b) DUE TO, OR AS A CONSEQUENCE OF:                            |
|   |        |   | (c) DUE TO, OR AS A CONSEQUENCE OF:                            |
| PART II. OTHER SIGNIFICANT CONDITIONS OF FETUS OR MOTHER: CONDITIONS CONTRIBUTING TO FETAL DEATH BUT NOT RELATED TO CAUSE GIVEN IN PART I (a) |        |   | FETAL DEATH DUE TO LACERATION OR DELIVERY, UNKNOWN (SPECIFY)   |
|   |        |   | AUTOPSY (SPECIFY YES OR NO)                                    |
|   |        |   | IF YES, WERE FINDINGS CONSIDERED IN DETERMINING CAUSE OF DEATH |
| 12a. SIGNATURE  |        | 12b. DATE SIGNED (MONTH, DAY, YEAR)   | 12c. ATTENDANT—M.D., D.O., MIDWIFE, OTHER (SPECIFY)            |
| CERTIFIER—MAILING ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)  |        | AUTHORIZED OFFICIAL (IF DELIVERY NOT ATTENDED BY PHYSICIAN)                   |  |
| 12d. BURIAL, CREMATION, OR REMOVAL (SPECIFY)  |        | 13. SIGNATURE   |  |
| 14a. DATE (MONTH, DAY, YEAR)  |        | 14c. LOCATION (CITY OR TOWN, STATE)   |  |
| 14b. FUNERAL HOME NAME AND ADDRESS  |        | 14d. FUNERAL DIRECTOR—SIGNATURE   |  |
| 15a. REGISTRAR—SIGNATURE  |        | 15b. DATE RECEIVED BY LOCAL REGISTRAR (MONTH DAY YEAR)                        |  |
| <b>CONFIDENTIAL INFORMATION FOR MEDICAL AND HEALTH USE ONLY</b>   |        |   |  |
| RACE—FATHER (SPECIFY)   |        | EDUCATION—SPECIFY HIGHEST GRADE COMPLETED                                     |  |
| PREVIOUS DELIVERIES—HOW MANY OTHER CHILDREN   |        | BIRTH INJURIES TO FETUS   |  |
| RACE—MOTHER (SPECIFY)   |        | EDUCATION—SPECIFY HIGHEST GRADE COMPLETED                                     |  |
| DATE OF LAST LIVE BIRTH (MONTH DAY YEAR)  |        | DATE OF LAST FETAL DEATH (MONTH DAY YEAR)                                     |  |
| DATE LAST NORMAL MENSES BEGAN (MONTH, DAY, YEAR)  |        | PRENATAL CARE BEGAN (MONTH, DAY, YEAR)  |  |
| 23. COMPLICATIONS RELATED TO PREGNANCY (DESCRIBE OR WRITE "NONE")   |        | 24. PRENATAL VISITS TOTAL NUMBER (IF NONE, SO STATE)                          |  |
| 25. LEGITIMATE (SPECIFY YES OR NO)  |        | 26. BIRTH WEIGHT  |  |
| 27. COMPLICATIONS NOT RELATED TO PREGNANCY (DESCRIBE OR WRITE "NONE")   |        | 28. CONGENITAL MALFORMATIONS OR ANOMALIES OF FETUS (DESCRIBE OR WRITE "NONE") |  |
| 29. COMPLICATIONS OF LABOR (DESCRIBE OR WRITE "NONE")   |        | 30. MULTIPLE BIRTHS (ENTER STATE FILE NUMBER FOR MATRESSES)                   |  |
|   |        | LIVE BIRTH(S)   |  |
|   |        | FETAL DEATH(S)  |  |

SAMPLE COPY

34. IF BLOOD NOT TESTED, STATE REASON  
 33. DATE OF TEST  
 32. WAS MOTHER'S BLOOD TESTED FOR SYPHILIS DURING THIS PREGNANCY?

**DETACH INSTRUCTIONS BEFORE FILING CERTIFICATE WITH REGISTRAR**

**TYPE OR PRINT (EXCEPT SIGNATURES) IN BLACK INK—THIS IS A PERMANENT RECORD**

Michigan Public Act 343 of 1925, as amended, requires that the attending physician, or in the absence of an attending physician, a coroner shall fill out and sign the medical certificate of fetal death (stillbirth) within 24 hours after death.

The funeral director is responsible for completing all other portions of the certificate and obtaining a burial or removal permit prior to disposing of the body, or removing from the registration district where the death occurred.

Many important legal, personal, public health, and social welfare interests require complete and accurate registration of all fetal deaths. Social and health agencies need medical and social information concerning the child and his parents for administrative and statistical purposes. In order to protect the privacy of the individual to whom this certificate applies, most of the information of this type has been placed in a section of the certificate labeled: "Confidential Information for Medical and Health Use Only."



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# CERTIFICATE OF DEATH

LOCAL FILE NUMBER

Michigan Department of Public Health

STATE FILE NUMBER

|   |  |  |  |   |                                    |   |                                  |
|---|--|--|--|---|------------------------------------|---|----------------------------------|
| <b>DECEASED — NAME</b>  |  | FIRST  | MIDDLE                                   | LAST  | SEX                                | DATE OF DEATH ( MONTH, DAY, YEAR )  |                                  |
| 1.  |  | 2.   |  |   | 3.                                 |   |                                  |
| <b>DECEASED</b>   | RACE WHITE, NEGRO, AMERICAN INDIAN, ETC. ( SPECIFY ) | AGE — LAST BIRTHDAY ( YEARS )  | UNDER 1 YEAR<br>MOS.    DAYS             | UNDER 1 DAY<br>HOURS    MIN.  | DATE OF BIRTH ( MONTH, DAY, YEAR ) |   | COUNTY OF DEATH                  |
|   | 4.   | 5a.  | 5b.                                      | 5c.   | 6.                                 |   | 7a.                              |
| CITY, VILLAGE, OR TOWNSHIP OF DEATH   |  |  | INSIDE CITY LIMITS ( SPECIFY YES OR NO ) | HOSPITAL OR OTHER INSTITUTION — NAME ( IF NOT IN EITHER, GIVE STREET AND NUMBER ) |                                    |   |                                  |
| 7b.   |  |  | 7c.                                      | 7d.   |                                    |   |                                  |
| STATE OF BIRTH ( IF NOT IN U.S.A., NAME COUNTRY )   |  | CITIZEN OF WHAT COUNTRY  |  | MARRIED, NEVER MARRIED, WIDOWED, DIVORCED ( SPECIFY )                             |                                    | SURVIVING SPOUSE ( IF WIFE, GIVE MAIDEN NAME )  |                                  |
| 8.  |  | 9.   |  | 10.   |                                    | 11.   |                                  |
| SOCIAL SECURITY NUMBER  |  | USUAL OCCUPATION ( GIVE KIND OF WORK DONE DURING MOST OF WORKING LIFE, EVEN IF RETIRED ) |  |   | KIND OF BUSINESS OR INDUSTRY       |   |                                  |
| 12.   |  | 13a.   |  |   | 13b.                               |   |                                  |
| RESIDENCE — STATE   | COUNTY   | CITY, VILLAGE OR TOWNSHIP  |  | INSIDE CITY LIMITS ( SPECIFY YES OR NO )  | STREET AND NUMBER                  |   |                                  |
| 14a.  | 14b.   | 14c.   |  | 14d.  | 14e.                               |   |                                  |
| <b>PARENTS</b>  |  | FATHER — NAME  |  |   | MOTHER — MAIDEN NAME               |   |                                  |
| 15.   |  | 16.  |  |   | 17.                                |   |                                  |
| INFORMANT — NAME  |  |  |  | MAILING ADDRESS ( STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP )                |                                    |   |                                  |
| 17a.  |  |  |  | 17b.  |                                    |   |                                  |
| <b>PART I. DEATH WAS CAUSED BY:</b> ( ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), AND (c) )   |  |  |  |   |                                    |   |                                  |
| 18. IMMEDIATE CAUSE   |  |  |  |   |                                    |   |                                  |
| (a) DUE TO, OR AS A CONSEQUENCE OF:   |  |  |  |   |                                    |   |                                  |
| CONDITIONS, IF ANY, WHICH GAVE RISE TO IMMEDIATE CAUSE (a), STATING THE UNDERLYING CAUSE LAST   |  |  |  |   |                                    |   |                                  |
| (b) DUE TO, OR AS A CONSEQUENCE OF:   |  |  |  |   |                                    |   |                                  |
| (c) DUE TO, OR AS A CONSEQUENCE OF:   |  |  |  |   |                                    |   |                                  |
| <b>PART II. OTHER SIGNIFICANT CONDITIONS:</b> ( CONDITIONS CONTRIBUTING TO DEATH, BUT NOT RELATED TO CAUSE GIVEN IN PART I (a) )  |  |  |  |   |                                    |   |                                  |
| ACCIDENT, SUICIDE, HOMICIDE, ( SPECIFY )  |  | DATE OF INJURY ( MONTH, DAY, YEAR )  | HOUR                                     | HOW INJURY OCCURRED ( ENTER NATURE OF INJURY IN PART I OR PART II, ITEM 18 )      |                                    |   |                                  |
| 20a.  |  | 20b.   | 20c.                                     | 20d.  |                                    |   |                                  |
| INJURY AT WORK ( SPECIFY YES OR NO )  |  | PLACE OF INJURY AT HOME, FARM, STREET, FACTORY, OFFICE BLDG., ETC. ( SPECIFY )           |  | LOCATION ( STREET OR R.F.D. NO., CITY OR TOWN, STATE )                            |                                    |   |                                  |
| 20e.  |  | 20f.   |  | 20g.  |                                    |   |                                  |
| CERTIFICATION — PHYSICIAN:  |  | MONTH  | DAY                                      | YEAR  | MONTH                              | DAY   | YEAR                             |
| 21a. DECEASED FROM  |  | 21b. TO  |  | 21c. AND LAST SAW HIM/HER ALIVE ON  |                                    | 21d. I DID/DID NOT VIEW THE BODY AFTER DEATH.   |                                  |
| 21e. CERTIFICATION — MEDICAL EXAMINER OR CORONER: ON THE BASIS OF THE EXAMINATION OF THE BODY AND/OR THE INVESTIGATION, IN MY OPINION, DEATH OCCURRED ON THE DATE AND DUE TO THE CAUSE(S) STATED. |  | HOUR OF DEATH  |  | THE DECEDENT WAS PRONOUNCED DEAD  |                                    | DEATH OCCURRED AT THE PLACE, ON THE DATE, AND, TO THE BEST OF MY KNOWLEDGE, DUE TO THE CAUSE(S) STATED. |                                  |
| 22a.  |  | 22b.   |  | 22c.  |                                    | 22d.  |                                  |
| CERTIFIER — NAME ( TYPE OR PRINT )  |  | SIGNATURE  |  |   | DEGREE OR TITLE                    |   | DATE SIGNED ( MONTH, DAY, YEAR ) |
| 23a.  |  | 23b.   |  |   | 23c.                               |   | 23d.                             |
| MAILING ADDRESS — CERTIFIER   |  | STREET OR R.F.D. NO.   |  | CITY OR TOWN  |                                    | STATE    ZIP  |                                  |
| 23a.  |  | 23b.   |  | 23c.  |                                    | 23d.  |                                  |
| <b>BURIAL</b>   |  | BURIAL, CREMATION, REMOVAL ( SPECIFY )   |  | CEMETERY OR CREMATORY — NAME  |                                    | LOCATION    CITY, VILLAGE, TWP. OR COUNTY    STATE  |                                  |
| 24a.  |  | 24b.   |  | 24c.  |                                    |   |                                  |
| DATE ( MONTH, DAY, YEAR )   |  | FUNERAL HOME — NAME AND ADDRESS ( STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP )       |  |   |                                    |   |                                  |
| 24d.  |  | 24e.   |  |   |                                    |   |                                  |
| FUNERAL DIRECTOR — SIGNATURE  |  |  | REGISTRAR — SIGNATURE                    |   |                                    | DATE RECEIVED BY LOCAL REGISTRAR  |                                  |
| 25a.  |  |  | 25b.                                     |   |                                    | 25c.  |                                  |

SAMPLE COPY

USUAL RESIDENCE WHERE DECEASED LIVED. IF DEATH OCCURRED IN INSTITUTION, GIVE RESIDENCE BEFORE ADMISSION.

**DETACH INSTRUCTIONS BEFORE FILING CERTIFICATE WITH REGISTRAR**

**TYPE OR PRINT (EXCEPT SIGNATURES) IN BLACK INK—THIS IS A PERMANENT RECORD**

Michigan Public Act 343 of 1925, as amended, requires that the attending physician, or in the absence of an attending physician, a coroner shall fill out and sign the medical certificate of death within 24 hours after death.

The funeral director is responsible for completing all other portions of the certificate and obtaining a burial or removal permit prior to disposing of the body or removing from the registration district where the death occurred.

Many important legal, personal, public health and social welfare interests require complete and accurate registration of all deaths. Individuals need certification of the facts of death for insurance claims, liquidation of estates, to prove name of spouse and parents and other general legal use. Social and health agencies need information on the causes of death for purposes of planning health programs; they need information on the number of births and deaths in making population estimates; and they need birth and death statistics to measure the fertility and mortality of various racial, economic or social groups.



# Marriage License

State File No. \_\_\_\_\_  
County, MICHIGAN

To any person legally authorized to solemnize marriage in the State of Michigan,  
I hereby certify:  
Marriage must be solemnized within 30 days of date of issue in the State of Michigan between

Full name of male \_\_\_\_\_ and \_\_\_\_\_ Full name of female \_\_\_\_\_  
Age at last birthday \_\_\_\_\_ Date of birth \_\_\_\_\_ Age at last birthday \_\_\_\_\_ Date of birth \_\_\_\_\_  
Residence No. \_\_\_\_\_ Street \_\_\_\_\_ Residence No. \_\_\_\_\_ Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
Birthplace—city and state \_\_\_\_\_  
Occupation \_\_\_\_\_  
Number of times previously married \_\_\_\_\_  
Father's full name \_\_\_\_\_  
Mother's maiden name \_\_\_\_\_  
Maiden name (if a widow) \_\_\_\_\_ and whose parent's or guardian's consent, in case she has not attained the age of eighteen years, has been filed in my office. An affidavit has been filed in this office, as provided by Public Act No. 128, Laws of 1937, as amended, by which it appears that said statements are true.

In witness whereof, I have signed and sealed these presents, this \_\_\_\_\_ day of \_\_\_\_\_ A. D. 19 \_\_\_\_\_

L.S.

County Clerk \_\_\_\_\_  
Deputy County Clerk \_\_\_\_\_

This marriage license VOID 30 days after date of issue.

## Certificate of Marriage

Between Mr. \_\_\_\_\_ and M. \_\_\_\_\_  
I hereby certify that, in accordance with the above license, the persons herein mentioned were joined in marriage by me, at \_\_\_\_\_ county of \_\_\_\_\_ MICHIGAN, on the \_\_\_\_\_ day of \_\_\_\_\_ A. D. 19 \_\_\_\_\_. In the presence of \_\_\_\_\_ and \_\_\_\_\_ of \_\_\_\_\_ Residence—city and state \_\_\_\_\_ and \_\_\_\_\_ of \_\_\_\_\_ Residence—city and state \_\_\_\_\_ as witnesses. Signature of magistrate or clergyman \_\_\_\_\_ Official title \_\_\_\_\_

Post office address \_\_\_\_\_  
THIS ORIGINAL must be returned, WITHIN TEN DAYS AFTER THE MARRIAGE, to the COUNTY CLERK, who issued the same, under severe penalty. This provision must be complied with to insure a PROPER LEGAL RECORD of the marriage.

This space reserved for binding.

Except for signature, spaces left blank must be completed by typewriter or printed legibly. Act 94, P.A. 1935

B138

ORIGINAL

No. \_\_\_\_\_ 19 \_\_\_\_\_

### LICENSE AND CERTIFICATE OF MARRIAGE

and

CLERK'S OFFICE

County of \_\_\_\_\_

Received for record the \_\_\_\_\_ day of \_\_\_\_\_

A. D. 19 \_\_\_\_\_ and recorded

in liber \_\_\_\_\_ of marriages, on page \_\_\_\_\_

Clerk

\*THIS ORIGINAL must be returned WITHIN TEN DAYS AFTER THE MARRIAGE, to the County Clerk who issued the same, under severe penalty. This provision must be complied with to insure a PROPER LEGAL RECORD of the marriage. THE DUPLICATE must be delivered to one of the parties joined in marriage.



# RECORD OF DIVORCE OR ANNULMENT

MICHIGAN DEPARTMENT OF PUBLIC HEALTH  
VITAL RECORDS SECTION

STATE FILE NO.

DOCKET NO.

COUNTY

|                |   |  |  |  |  |                                    |  |   |
|----------------|---|--|--|--|--|------------------------------------|--|---|
|                | HUSBAND — NAME  |  |  | FIRST  | MIDDLE   | LAST                               |  |   |
| <b>HUSBAND</b> | 1 RESIDENCE — STATE   |  | COUNTY                                   |  | CITY, VILLAGE, OR TOWNSHIP                         |                                    |  | INSIDE CITY LIMITS<br>(SPECIFY YES OR NO) |
|                | 2a STREET AND NUMBER  |  | 2b                                       | 2c STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)       |  | 4 DATE OF BIRTH (MONTH, DAY, YEAR) |  |   |
|                | 2e  |  | 3  |  | 4  |                                    |  |   |
|                | WIFE — NAME   |  |  | FIRST  | MIDDLE   | LAST                               | MAIDEN NAME                                      |   |
| <b>WIFE</b>    | 5a RESIDENCE STATE  |  | COUNTY                                   |  | CITY, VILLAGE, OR TOWNSHIP                         |                                    |  | INSIDE CITY LIMITS<br>(SPECIFY YES OR NO) |
|                | 6a STREET AND NUMBER  |  | 6b                                       | 6c STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)       |  | 8 DATE OF BIRTH (MONTH, DAY, YEAR) |  |   |
|                | 6e  |  | 7  |  | 8  |                                    |  |   |
|                | 9a PLACE OF THIS MARRIAGE (COUNTY STATE (IF NOT IN U.S.A., NAME COUNTRY))                 |  | DATE OF THIS MARRIAGE (MONTH, DAY, YEAR) |  | 10 APPROXIMATE DATE COUPLE SEPARATED (MONTH, YEAR) |                                    |  |   |
|                | 11a LIVING CHILDREN — TOTAL NUMBER UNDER 18 YEARS OF AGE                                  |  | PLAINTIFF                                |  | HUSBAND, WIFE, OTHER (SPECIFY)                     |                                    |  |   |
|                | 12a ATTORNEY FOR PLAINTIFF (NAME)   |  | 12b ADDRESS                              |  | (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)   |                                    |  |   |
|                | 13a   |  | 13b                                      |  |  |                                    |  |   |
| <b>DECREE</b>  | 14a CERTIFY THAT THE MARRIAGE OF THE ABOVE NAMED PERSONS WAS DISSOLVED ON: MONTH DAY YEAR |  |  | TYPE OF DECREE — ABSOLUTE DIVORCE OR ANNULMENT (SPECIFY) |  |                                    | DECREE GRANTED TO HUSBAND, WIFE, OTHER (SPECIFY) |   |
|                | 14b LEGAL GROUNDS FOR DECREE (SPECIFY)  |  |  | 14c COUNTY OF DECREE                                     |  |                                    | 14d DATE OF RECORDING (MONTH, DAY, YEAR)         |   |
|                | 14e COURT OFFICIAL — SIGNATURE  |  |  | 14f TITLE OF COURT OFFICIAL                              |  |                                    | 14g COURT — NAME                                 |   |
|                | 14h   |  |  | 14i  |  |                                    | 14j  |   |

SAMPLE COPY

### CONFIDENTIAL INFORMATION

|                |                               |   |  |   |                             |                              |
|----------------|-------------------------------|---|--|---|-----------------------------|------------------------------|
| <b>HUSBAND</b> | NUMBER OF THIS MARRIAGE       | IF PREVIOUSLY MARRIED HOW MANY ENDED BY |  | EDUCATION — SPECIFY HIGHEST GRADE COMPLETED |                             |                              |
|                | FIRST, SECOND, ETC. (SPECIFY) | DEATH                                   | DIVORCE OR ANNULMENT (SPECIFY IF NONE) | ELEMENTARY (0, 1, 2, 3, 4, . . . OR 8)      | HIGH SCHOOL (1, 2, 3, OR 4) | COLLEGE (1, 2, 3, 4, OR 5 +) |
| 15.            |                               | 16.                                     |  | 17.   |                             |                              |
| <b>WIFE</b>    | NUMBER OF THIS MARRIAGE       | IF PREVIOUSLY MARRIED HOW MANY ENDED BY |  | EDUCATION — SPECIFY HIGHEST GRADE COMPLETED |                             |                              |
|                | FIRST, SECOND, ETC. (SPECIFY) | DEATH                                   | DIVORCE OR ANNULMENT (SPECIFY IF NONE) | ELEMENTARY (0, 1, 2, 3, 4, . . . OR 8)      | HIGH SCHOOL (1, 2, 3, OR 4) | COLLEGE (1, 2, 3, 4, OR 5 +) |
| 18.            |                               | 19.                                     |  | 20.   |                             |                              |

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### Names and Ages of All Children in Family

Name ..... Age .....

Name ..... Age .....

Name ..... Age .....

Name ..... Age .....

Name ..... Age .....

Name ..... Age .....