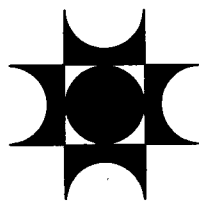
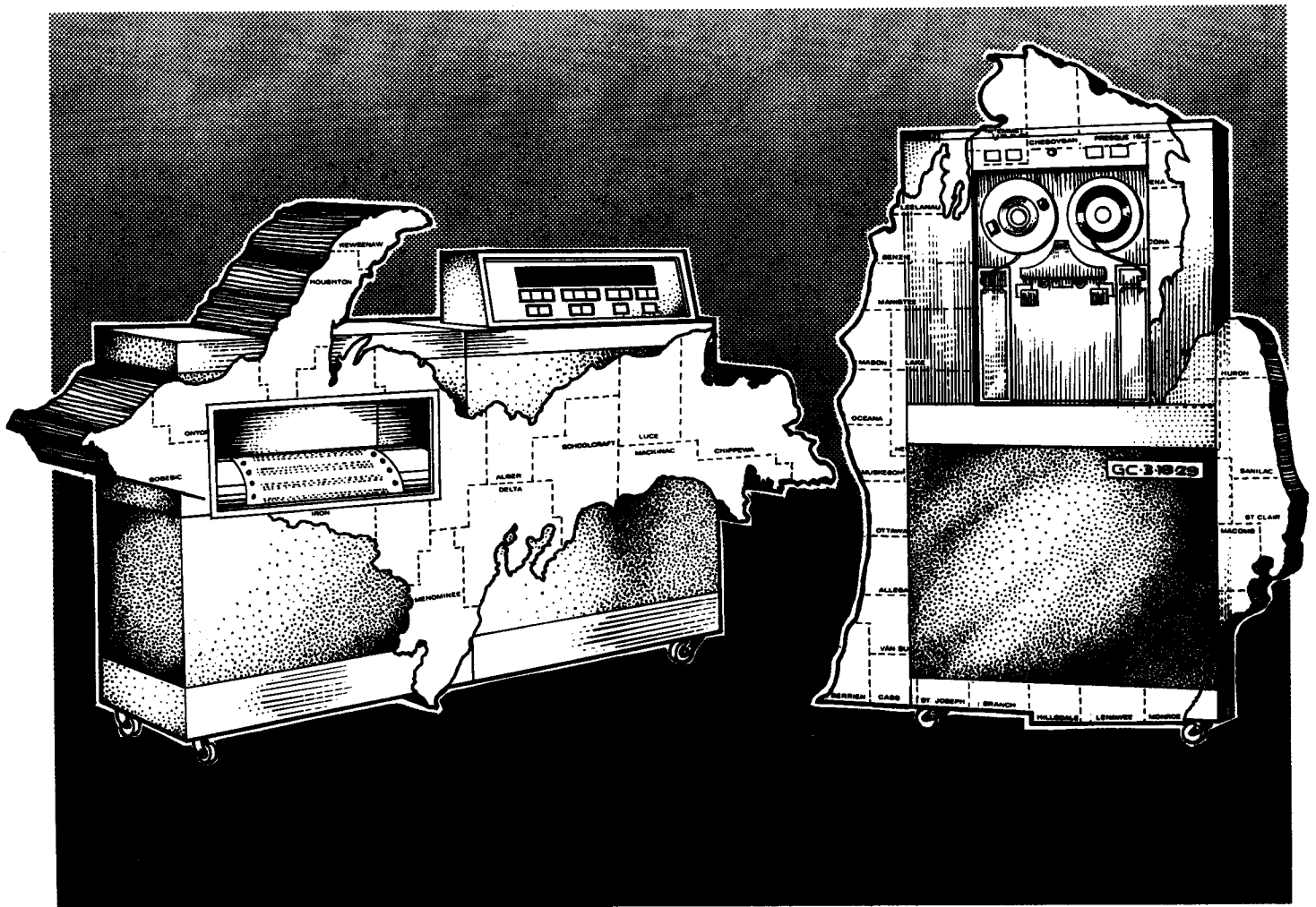


1976

MICHIGAN HEALTH STATISTICS



MICHIGAN DEPARTMENT OF PUBLIC HEALTH

SYMBOLS USED IN TABLES

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Quantity zero	-
Quantity more than zero but less than 0.05	0.0
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Expanded tabulations and improved data quality for this publication were made possible by participation in the Michigan Cooperative Health Information System through contract number HSM 110-73-406 with the National Center for Health Statistics.

Preface

This report is a continuation of a series of annual reports started in 1867, the first year of vital statistics registration. Terms used in the report and the types of tabulation presented allow for comparison of statistics over a long period of time. The 1976 report represents the last year in which there will be a section with tabulations of births by the legitimacy status of the child at the time of birth. Future issues will contain tabulations designed to yield the same information for health planning and analytical purposes, but without the reference to the legitimacy of the children involved.

Federal guidelines on the appropriate terminology for categorization of data by race have recently been issued. These guidelines are not followed in this annual report, but will be followed in future issues of this publication.



Table of Contents – TOPICAL

	PAGE
INTRODUCTION	9
TECHNICAL NOTES	
Definitions: Rates and Ratios	10
Qualifications and Limitations of Data and Calculations	12
SECTION I NATALITY	
Natality: An Overview	15
Fertility	17
Racial Composition	17
Age of Mother	18
Age—Specific Birth Rates	18
Illegitimate Live Births	19
Birth Weight	21
Prenatal Care	22
Birth Order	24
Interpregnancy Time Period	25
Attendant	25
Congenital Anomalies	25
Complications of Pregnancy and Labor	26
Place of Occurrence	27
Fetal Deaths	27
Causes of Fetal Death	28
Age of Mother and Race of Fetus	28
Birth Weight of Stillborn	29
Prenatal Care of Mothers Having Stillbirths	30
Interpregnancy Time Period Among Fetal Deaths	30
SECTION II MORTALITY	
Mortality: An Overview	33
Leading Causes of Death	35
Probability of Eventual Death Due to a Specified Cause	37
Diseases of the Heart	38
Cancer	41
Cerebrovascular Diseases	43
Accidents	46
Influenza and Pneumonia	49
Diabetes Mellitus	52
Cirrhosis of the Liver	54
Arteriosclerosis	56
Suicide	58
Homicide	60
Infant Deaths	62
Communicable Disease Deaths	65
Life Expectancy	66
Place of Occurrence	67

Table of Contents—TOPICAL

SECTION III MARRIAGE AND DIVORCE

Marriage and Divorce: An Overview	71
Marriages	71
Residence of Couples Marrying in Michigan	71
Age at Marriage	72
Order of Marriage	73
First Marriages	74
Age at First Marriage	76
Divorces and Annulments	76
Duration of Marriage at Divorce	77
Minor Children of Divorced Couples	78
Grounds for Divorce	78

SECTION IV REFERENCE APPENDIX

Table of Contents—TABULAR

SECTION I—NATALITY

	PAGE		PAGE
Table 1.1 Live Births and Crude Birth Rates, Michigan and the United States Residents, Selected Years, 1900-1976	16	Table 1.19 Total Live Births by Live Birth Order and Age of Mother, Michigan Residents, 1976	24
Table 1.2 Fertility Rates, Michigan and the United States, Selected Years, 1900-1976	17	Table 1.20 Live Births to Mothers Reporting Previous Pregnancy Terminations by Time Span Between Last and Current Termination, Michigan Residents, 1970 and 1976	25
Table 1.3 Live Births by Race, Michigan Residents, 1965-1976	18	Table 1.21 Live Births to Mothers Reporting Previous Pregnancy Terminations by Time Span Between Last and Current Termination and Whether Termination was a Live Birth or Fetal Death, Michigan Residents, 1976	25
Table 1.4 Crude Birth Rates and Fertility Rates by Race, Michigan Residents, 1970-1976	18	Table 1.22 Live Births by Type of Attendant, Michigan Residents, 1976	25
Table 1.5 Total Live Births and Percent Distribution by Age of Mother and Race of Child, Michigan Residents, 1976	19	Table 1.23 Congenital Anomalies by Type of Anomaly, Michigan Residents, 1976	26
Table 1.6 Age-Specific Live Birth Rates, Michigan Residents, 1966 and 1976	19	Table 1.24 Live Births Occurring Outside the Mother's State of Residence by State of Occurrence, Michigan Occurrences and Residents, 1976	27
Table 1.7 Age-Specific Live Birth Rates by Race, Michigan Residents, 1970 and 1976	19	Table 1.25 Fetal Deaths and Fetal Death Ratios, Michigan and United States Residents, Selected Years, 1900-1976	28
Table 1.8 Illegitimate Live Births and Illegitimacy Ratios by Age of Mother, Michigan Residents, 1966 and 1976	20	Table 1.26 Fetal Deaths by Cause of Death (Underlying) and Cause-Specific Ratios, Michigan Residents, 1976	28
Table 1.9 Illegitimate Live Births and Illegitimacy Ratios, Michigan and United States Residents, 1966-1976	20	Table 1.27 Fetal Deaths, Live Births, and Fetal Death Rates by Age of Mother and Race of Fetus, Michigan Residents, 1976	29
Table 1.10 Illegitimate Births by Selected Characteristics, Michigan Residents, 1976	20	Table 1.28 Fetal Deaths by Age of Mother and Race of Fetus, Michigan Residents, 1976	29
Table 1.11 Illegitimate Live Births and Ratios by Age of Mother and Race of Child, Michigan Residents, 1976	21	Table 1.29 Fetal Deaths by Fetal Weight and Plurality, Michigan Residents, 1976	29
Table 1.12 Live Births by Birth Weight and Legitimacy Status, Michigan Residents, 1976 ..	21	Table 1.30 Fetal Deaths by Month Prenatal Care Began and Number of Prenatal Visits, Michigan Residents, 1976	30
Table 1.13 Low Weight Live Births and Ratios by Age of Mother and Race of Child, Michigan Residents, 1976	21	Table 1.31 Fetal Deaths and Live Births to Mothers Reporting Prior Pregnancy Terminations by Time Span between Last and Current Termination, Michigan Residents, 1976	30
Table 1.14 Live Births with No Prenatal Care by Age of Mother and Race of Child, Michigan Residents, 1976	22	Table 1.32 Fetal Deaths to Mothers Reporting Previous Pregnancy Terminations by Time Span Between Last and Current Termination and Whether Termination was a Live Birth or Fetal Death, Michigan Residents, 1976	30
Table 1.15 Live Births by Month of Pregnancy Prenatal Care Began and Number of Prenatal Visits, Michigan Residents, 1976	23		
Table 1.16 Live Births with No Prenatal Care by Age of Mother and Race of Child, Michigan Residents, 1976	23		
Table 1.17 Total Live Births by Live Birth Order, Michigan Residents, 1966 and 1976	24		
Table 1.18 First Births, Michigan and United States Residents, 1966-1976	24		

SECTION II—MORTALITY

Table 2.1 Number of Deaths and Crude Death Rates, Michigan and United States Residents, 1965-1976	33
---	----

	PAGE		PAGE
Table 2.2 Number of Deaths by Age, Race and Sex, Michigan Residents, 1976	34	Table 2.23 Diabetes Mellitus Deaths by Presence of Acidosis or Coma, Michigan Residents, 1976	53
Table 2.3 Death Rates by Age and Sex, Michigan Residents, 1976	34	Table 2.24 Deaths Due to Cirrhosis of the Liver by Age, Race and Sex, Michigan Residents, 1976	54
Table 2.4 Leading Causes of Death and Cause-Specific Rates, Michigan and United States Residents, 1976	35	Table 2.25 Cirrhosis of the Liver Death Rates by Age and Sex, Michigan Residents, 1976	54
Table 2.5 Leading Causes of Death and Cause-Specific Rates by Age, Race and Sex, Michigan Residents, 1976	36	Table 2.26 Deaths Due to Cirrhosis of the Liver by Mention of Alcoholism, Michigan Residents, 1976	55
Table 2.6 Deaths Due to Diseases of the Heart by Age, Race and Sex, Michigan Residents, 1976	38	Table 2.27 Deaths Due to Arteriosclerosis by Age, Race and Sex, Michigan Residents, 1976	56
Table 2.7 Heart Disease Death Rates by Age and Sex, Michigan Residents, 1976	39	Table 2.28 Arteriosclerosis Death Rates by Age and Sex, Michigan Residents, 1976	56
Table 2.8 Deaths Due to Diseases of the Heart by Detailed Cause, Michigan Residents, 1976 ..	40	Table 2.29 Deaths Due to Arteriosclerosis by Detailed Cause, Michigan Residents, 1976	57
Table 2.9 Deaths Due to Cancer by Age, Race and Sex, Michigan Residents, 1976	41	Table 2.30 Deaths Due to Suicide by Age, Race and Sex, Michigan Residents, 1976	58
Table 2.10 Cancer Death Rates by Age and Sex, Michigan Residents, 1976	42	Table 2.31 Suicide Death Rates by Age and Sex, Michigan Residents, 1976	58
Table 2.11 Malignant Neoplasms by Site Affected, Michigan Residents, 1976	43	Table 2.32 Deaths Due to Suicide by Method, Michigan Residents, 1976	59
Table 2.12 Deaths Due to Cerebrovascular Disease by Age, Race and Sex, Michigan Residents, 1976	44	Table 2.33 Deaths Due to Homicide by Detailed Cause, Michigan Residents, 1976	60
Table 2.13 Cerebrovascular Disease Death Rates by Age and Sex, Michigan Residents, 1976	44	Table 2.34 Homicide Death Rates by Age and Sex, Michigan Residents, 1976	60
Table 2.14 Deaths Due to Cerebrovascular Disease by Detailed Cause, Michigan Residents, 1976	45	Table 2.35 Deaths Due to Homicide by Age, Race and Sex, Michigan Residents, 1976	61
Table 2.15 Deaths Due to Accidents by Age, Race and Sex, Michigan Residents, 1976	46	Table 2.36 Infant Deaths and Infant Mortality Rates, Michigan and United States Residents, 1966-1976	62
Table 2.16 Accident Death Rates by Age and Sex, Michigan Residents, 1976	47	Table 2.37 Infant Deaths, Live Births and Infant Mortality Rates by Age of Mother and Race of Infant, Michigan Residents, Infants Born in 1975	62
Table 2.17 Accidental Deaths by Type of Accident, Michigan Residents, 1976	48	Table 2.38 Infant Deaths and Mortality Rates by Infants Age at Death, Michigan Residents, 1970-1976	63
Table 2.18 Deaths Due to Influenza and Pneumonia by Age, Race and Sex, Michigan Residents, 1976	49	Table 2.39 Perinatal Deaths, Total Births, and Perinatal Death Rates by Age of Mother and Race of Infant, Michigan Residents Born in 1975	63
Table 2.19 Influenza and Pneumonia Death Rates by Age and Sex, Michigan Residents, 1976	50	Table 2.40 Infant Deaths by Cause of Death, Michigan Residents, 1976	64
Table 2.20 Influenza and Pneumonia Deaths by Detailed Cause, Michigan Residents, 1976	51	Table 2.41 Infant Deaths by Month Prenatal Care Began and Number of Prenatal Visits, Michigan Resident Infants Born in 1975	64
Table 2.21 Deaths Due to Diabetes Mellitus by Age, Race and Sex, Michigan Residents, 1976 ..	52		
Table 2.22 Diabetes Mellitus Death Rates by Age and Sex, Michigan Residents, 1976	52		

	PAGE
Table 2.42 Infant Deaths by Birth Weight and Mothers Age, Michigan Resident Infants Born in 1975	65
Table 2.43 Deaths from Selected Infective and Parasitic Diseases, Michigan Residents, 1976 ..	65
Table 2.44 Life Expectancy at Birth by Sex, Michigan and United States Residents, Selected Years, 1901-1976	66
Table 2.45 Life Expectancy at Birth by Sex and Race, Michigan Residents, Selected Years, 1950-1976	66
Table 2.46 Deaths Occurring Outside the State of Residence by State of Occurrence, Michigan Occurrences and Residents, 1976	67

SECTION III

MARRIAGE AND DIVORCE

Table 3.1 Marriages and Rates, Michigan and United States Occurrences, Selected Years, 1920-1976	70
Table 3.2 Marriages by Residence Status of Bride and Groom, Michigan Occurrences, 1966 and 1976	71
Table 3.3 State of Residence of Nonresident Brides and Grooms, Michigan Occurrences, 1976	71
Table 3.4 Number of Marriages and Rates by Age and Sex, Michigan Occurrences, 1970 and 1976	71
Table 3.5 Age at First Marriage and Remarriage: Bride, Michigan Occurrences, 1966 and 1976	72
Table 3.6 Age at First Marriage and Remarriage: Groom, Michigan Occurrences, 1966 and 1976	72
Table 3.7 Remarriages of Brides by Age and Order of Marriage, Michigan Occurrences, 1966 and 1976	73
Table 3.8 Remarriages of Grooms by Age and Order of Marriage, Michigan Occurrences, 1966 and 1976	73
Table 3.9 First Marriages by Age of Bride, Michigan Occurrences, 1970-1976	74
Table 3.10 First Marriages by Age of Groom, Michigan Occurrences, 1970-1976	74
Table 3.11 First Marriage Rates by Age of Bride, Michigan Occurrences, 1970-1976	75

	PAGE
Table 3.12 First Marriage Rates by Age of Groom, Michigan Occurrences, 1970-1976	75
Table 3.13 Divorces and Annulments Rates, Michigan and United States Occurrences, Selected Years, 1920-1976	75
Table 3.14 Divorces and Annulments by Duration of Marriage, Michigan Occurrences, 1966 and 1976	76
Table 3.15 Divorces and Annulments by Children Under 18 Present, Michigan Occurrences, 1966 and 1976	77
Table 3.16 Divorces and Annulments by Legal Grounds for Decree, Michigan Occurrences, 1966 and 1976	77

SECTION IV

REFERENCE APPENDIX

Table 4.1 Population; Live Births, Total and Illegitimate; Deaths, All Ages, Infant, Neonatal, Perinatal, Fetal, Maternal and Deaths Due to Immaturity; Marriages and Divorces, Michigan, 1900-1976	81
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, 1900-1976	82
Table 4.3 Number of Live Births by Age of Mother, Michigan Residents, 1920-1976	83
Table 4.4 Live Birth Rates by Five Year Age Groups of Mother, Michigan Residents, 1920-1976	84
Table 4.5 Reported Cases of Certain Communicable Diseases, Michigan Occurrences, 1900-1976	85
Table 4.6 Case Rates of Certain Reported Communicable Diseases, Michigan Occurrences, 1900-1976	86
Table 4.7 Number of Deaths and Death Rates for Certain Communicable Diseases, Michigan Residents, 1900-1976	87
Table 4.8 Number of Deaths and Death Rates by Specified Causes, Michigan Residents, 1900-1976	88
Table 4.9 Selected Vital Statistics by County, Michigan Residents, 1976	89

	PAGE
Table 4.10 Selected Vital Statistics Rates by County, Michigan Residents, 1976	90
Table 4.11 Vital Statistics by Selected Cities, Michigan Residents, 1976	91
Table 4.12 Selected Causes of Death by County, Michigan Residents, 1976	92
Table 4.13 Reported Cases of Certain Communicable Diseases by County, Michigan Residents, 1976	93
Table 4.14 Number of Deaths by Cause, Michigan Residents, 1976	94
Table 4.15 Population by Age and Sex, Michigan Residents, 1976	98
Table 4.16 Population Changes by County, Michigan Residents, 1976	99
Table 4.17 Abridged Life Table, Michigan Residents, 1976	100
Table 4.18 Abridged Life Table for Males, Michigan Residents, 1976	100
Table 4.19 Abridged Life Table for Females, Michigan Residents, 1976	100
Table 4.20 Abridged Life Table for Whites, Michigan Residents, 1976	101
Table 4.21 Abridged Life Table for White Males, Michigan Residents, 1976	101
Table 4.22 Abridged Life Table for White Females, Michigan Residents, 1976	101
Table 4.23 Abridged Life Table for Non-whites, Michigan Residents, 1976	102
Table 4.24 Abridged Life Table for Non-White Males, Michigan Residents, 1976	102
Table 4.25 Abridged Life Table for Non-White Females, Michigan Residents, 1976	102

Table of Contents—GRAPHICS

SECTION I—NATALITY

Figure 1.1 Live Births, Michigan Residents, 1900-1976	15
Figure 1.2 Live Births, Michigan Residents, 1900-1976	16
Figure 1.3 Live Birth Rates, Michigan Residents, 1900-1976 and United States Residents, 1909-1976	16

	PAGE
Figure 1.4 Illegitimate Live Birth Ratio, Michigan Residents, 1900-1976 and United States Residents, 1940-1976	19
Figure 1.5 Low Birth Weight Ratio, Michigan Residents, 1960-1976	22
Figure 1.6 Percent of Women Having Live Births Who Received No Care Prior to the 4th Month of Pregnancy, Michigan Residents, 1970-1976	23
Figure 1.7 Incidence of Congenital Anomalies Reported per 10,000 Live Births, Michigan Residents, 1970-1976	26
Figure 1.8 Incidence Rates of Complications Related to Pregnancy, any Complication Unrelated to Pregnancy, any Complication of Labor and any Birth Injury, per 10,000 Live Births, Michigan Residents, 1970-1976	26
Figure 1.9 Fetal Deaths, Michigan Residents, 1900-1976	27
Figure 1.10 Fetal Death Ratios, Michigan Residents, 1900-1976, and United States Residents, 1922-1973	27
Figure 1.11 Percent of Women Having Fetal Deaths who Received No Care, Received Care Prior to the 4th Month and the 6th Month of Pregnancy, Michigan Residents, 1970-1976	30

SECTION II—MORTALITY

Figure 2.1 Crude Death Rate, Michigan Residents, 1900-1976	33
Figure 2.2 Death Rates by Age and Sex, Michigan Residents, 1976	34
Figure 2.3 Leading Causes of Death, Michigan Residents, 1976	35
Figure 2.4 Heart Disease Death Rates by Age and Sex, Michigan Residents, 1976	39
Figure 2.5 Heart Disease Death Rates, Michigan and United States Residents, 1900-1976	39
Figure 2.6 Probability of Eventually Dying from Heart Disease by Age and Sex, Michigan Residents, 1974 through 1976	40
Figure 2.7 Cancer Death Rates by Age and Sex, Michigan Residents, 1976	42
Figure 2.8 Cancer Death Rates, Michigan and United States Residents, 1900-1976	42

	PAGE		PAGE
Figure 2.9 Probability of Eventually Dying from Cancer by Age and Sex, Michigan Residents, 1974 through 1976	43	Figure 2.28 Suicide Death Rates by Age and Sex, Michigan Residents, 1976	59
Figure 2.10 Cerebrovascular Disease Rates by Age and Sex, Michigan Residents, 1976	45	Figure 2.29 Suicide Death Rates, Michigan and United States Residents, 1900-1976	59
Figure 2.11 Cerebrovascular Disease Death Rates, Michigan and United States Residents, 1900-1976	45	Figure 2.30 Probability of Eventually Dying from Suicide by Age and Sex, Michigan Residents, 1974 through 1976	59
Figure 2.12 Probability of Eventually Dying from Cerebrovascular Disease by Age and Sex, Michigan Residents, 1974 through 1976	45	Figure 2.31 Homicide Death Rates by Age and Sex, Michigan Residents, 1976	61
Figure 2.13 Accident Death Rates by Age and Sex, Michigan Residents, 1976	47	Figure 2.23 Homicide Death Rates, Michigan and United States Residents, 1900-1976	61
Figure 2.14 Accident Death Rates, Michigan and United States Residents, 1900-1976	47	Figure 2.33 Probability of Eventually Dying from Homicide by Age and Sex, Michigan Residents, 1974 through 1976	61
Figure 2.15 Probability of Eventually Dying from Accidental Causes by Age and Sex, Michigan Residents, 1974 through 1976	48	Figure 2.34 Infant Mortality Rates, Michigan and United States Residents, 1900-1976 and United States Residents, 1915-1976	62
Figure 2.16 Influenza and Pneumonia Death Rates by Age and Sex, Michigan Residents, 1976	50	Figure 2.35 Remaining Years of Life by Age, Sex and Race, Michigan Residents, 1976	66
Figure 2.17 Influenza and Pneumonia Death Rates, Michigan and United States Residents, 1900-1976	50		
Figure 2.18 Probability of Eventually Dying from Influenza and Pneumonia by Age and Sex, Michigan Residents, 1974 through 1976	51	SECTION III	
Figure 2.19 Diabetes Mellitus Death Rates by Age and Sex, Michigan Residents, 1976	53	MARRIAGE AND DIVORCE	
Figure 2.20 Diabetes Mellitus Death Rates, Michigan and United States Residents, 1900-1976	53	Figure 3.1 Marriage Rates, Michigan and United States Occurrences, 1900-1976	71
Figure 2.21 Probability of Eventually Dying from Diabetes Mellitus by Age and Sex, Michigan Residents, 1974 through 1976	53	Figure 3.2 Percent of All Marriages That Are First Marriages, Michigan Occurrences, 1960-1976	75
Figure 2.22 Cirrhosis of the Liver Death Rates by Age and Sex, Michigan Residents, 1976	55	Figure 3.3 Median Age of First Marriage by Sex, Michigan Occurrences, 1960-1976	76
Figure 2.23 Cirrhosis of the Liver Death Rates, Michigan and United States Residents, 1900-1976	55	Figure 3.4 Divorce Rates, Michigan and United States Occurrences, 1900-1976	77
Figure 2.24 Probability of Eventually Dying from Cirrhosis of the Liver by Age and Sex, Michigan Residents, 1974 through 1976	55	Figure 3.5 Median Duration of Divorced and Annulled Marriages, Michigan Occurrences, 1960-1976	78
Figure 2.25 Arteriosclerosis Death Rates by Age and Sex, Michigan Residents, 1976	57		
Figure 2.26 Arteriosclerosis Death Rates, Michigan and United States Residents, 1900-1976	57	SECTION IV	
Figure 2.27 Probability of Eventually Dying from Arteriosclerosis by Age and Sex, Michigan Residents, 1974 through 1976	57	REFERENCE APPENDIX	
		Figure 4.1 Rate of Natural Increase, Michigan 1900-1976 and United States, 1909-1976	103
		Figure 4.2 Total Population, Percent Under Age 20 and Percent Age 65 and Over by Region, Michigan, 1976	104

	PAGE		PAGE
Figure 4.3 Population Density, Live Birth Rates, Illegitimate Live Birth Ratios, Fetal Death Ratio, Death Rates and Infant Death Rates by Region, Michigan Residents, 1976	105	Figure 4.7 Life Expectancy at Birth by Sex, by Region, Michigan Residents, 1975-1976	109
Figure 4.4 Leading Causes of Death; Number of Deaths by Region, Michigan Residents, 1976	106	Figure 4.8 Michigan Live Birth Certificate ...	110
Figure 4.5 Leading Causes of Death; Death Rates by Region, Michigan Residents, 1976	107	Figure 4.9 Michigan Fetal Death Certificate ..	111
Figure 4.6 Marriages and Marriage Rates, Divorces and Divorce Rates by Region, Michigan Residents, 1976	108	Figure 4.10 Michigan Death Certificate	112
		Figure 4.11 Michigan Marriage License	113
		Figure 4.12 Michigan Divorce Record	114

Introduction

The 1976 edition of Michigan Health Statistics is a statistical summary of vital events for calendar year 1976. 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 1976, 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.

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, 1977, and all in-state certificates and records received prior to March 15, 1977. Although a few records for calendar year 1976 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 1976 and thus the 1976 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. More detailed population data are available in the Bureau of Management and Budget publication "Population Projections" and in the U.S. Census Bureau P-26 series.

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. A summary of prepared vital statistics tabulations, *Index to Michigan Vital Statistics 1960 to Present*, is also available. This index lists the type of tabulations and data available. The Office will make every attempt to comply with requests for data within the limitation of staff and resources.

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Technical Notes, Definitions, Rates and Ratios

Definitions

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

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. (Note: This includes both spontaneous and induced terminations.)

FIRST BIRTH—A live birth where the maternal medical history indicates there were no prior live births to the mother.

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

HEBDOMADAL DEATH—Death occurring to an individual less than 7 days of age.

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

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

INTERPREGNANCY TIME PERIOD—Birth date minus date of last termination, whether a live birth or fetal death, in months. Time periods of zero length are dropped to exclude 2nd or higher births of multiple deliveries.

LEADING CAUSES OF DEATH—Deaths are grouped into 111 categories dependent upon the underlying cause of death. Ranks are assigned by organizing these categories according to the number of deaths in each category from most frequent to least.

LIFE EXPECTANCY—A hypothetical calculation of the average age at death for a cohort of persons subject to the age-specific mortality rates observed over a given time period.

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

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

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.

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

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

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

MEAN—The average of a set of values, equal to the sum of the values divided by the number of values.

MEDIAN—The central value of a distribution of values wherein the same percentage of observations are above this point as are below.

MINOR CIVIL DIVISION—City, Village or Township.

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

OCCURRENCE—Place where the event actually occurred.

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

PROBABILITY OF EVENTUALLY DYING FROM A GIVEN CAUSE OF DEATH—The chance of death due to a given cause rather than some competitive cause over the course of a lifetime based on current mortality data and life expectancy techniques.

RACE—Race for mother, father, or decedent is as stated on certificate. Race of child is determined from the race of the parents. Nonwhite includes all noncaucasian races.

REMAINING YEARS OF LIFE—A hypothetical calculation of the average number of years a cohort of persons will live given that they have reached a specific age and assuming they are subject to the age-specific mortality rates observed over a given time period.

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.

TOTAL BIRTHS—Live Births and Fetal Deaths.

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

Rates and Ratios

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

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

AGE-SPECIFIC DEATH RATE BY CAUSE OF DEATH = No. of Deaths in Specific Age Group and From a Specific Cause divided by Total Resident Population in Specific Age Group $\times 100,000$

AGE-SPECIFIC MARRIAGE RATE = No. of Marriages in Specific Age Group by Sex divided by Total Resident Population in Specific Age and Sex Group $\times 1,000$

CAUSE-SPECIFIC RATE = No. of Deaths due to a Specific Cause divided by Total Resident Population $\times 100,000$

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

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 $\times 1,000$

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

FERTILITY RATE = No. of Resident Live Births divided by Total Female Population (Ages 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 $\times 1,000$

FIRST MARRIAGE RATE = No. of Marriages to Persons not Previously Married by Sex divided by Total Resident Population by Sex $\times 1,000$

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

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

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

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

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

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

NO PRENATAL CARE RATIO = No. of Live Births to Mothers With No Prenatal Care 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 $\times 1,000$

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

TOTAL FERTILITY RATE = Sum of (Age-Specific Birth Rates) \times (Number of Years in Age Group) for each Age Group from ages 10-14 through 45-49 years

RELIABILITY OF 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 has been 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



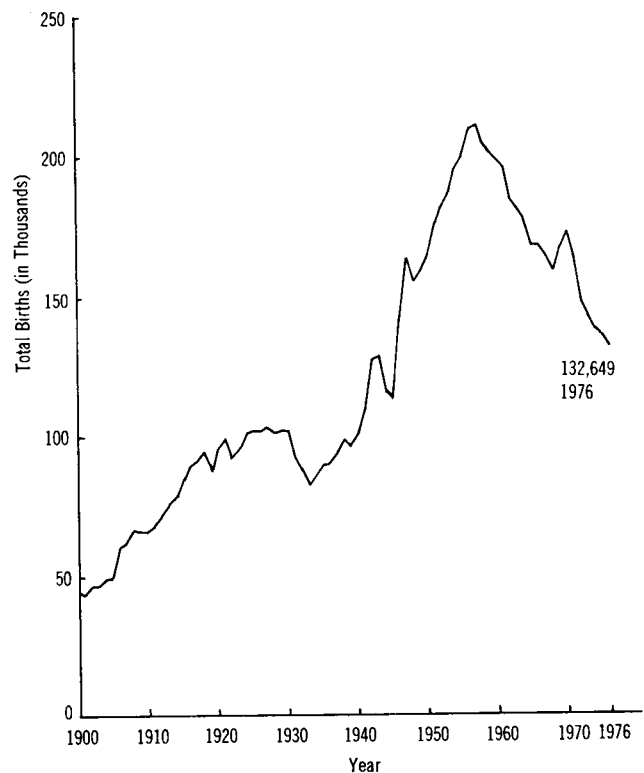
Natality

An Overview 1976

TOTAL BIRTHS	132,649
TOTAL RESIDENT LIVE BIRTHS	131,378
RESIDENT LIVE BIRTHS PER DAY	359.9
TOTAL RESIDENT FETAL DEATHS	1,271
RESIDENT FETAL DEATHS PER DAY	3.5
CRUDE BIRTH RATE	14.4
FETAL DEATH RATIO	9.7
FERTILITY RATE	68.7
ILLEGITIMACY RATIO—LIVE BIRTHS	151.0
ILLEGITIMACY RATIO—FETAL DEATHS	265.1
FIRST ORDER BIRTHS (PERCENT OF TOTAL LIVE BIRTHS)	41.1
NO PRENATAL CARE RATIO	70.2
NONWHITE BIRTHS (PERCENT OF TOTAL LIVE BIRTHS)	17.9
MEDIAN AGE OF MOTHER (LIVE BIRTHS)	24
MEDIAN AGE OF MOTHER (FETAL DEATHS)	24
OLDEST MOTHER (LIVE BIRTHS)	51
YOUNGEST MOTHER (LIVE BIRTHS)	12
MEDIAN BIRTH WEIGHT IN GRAMS (LIVE BIRTHS)	3,356
MEDIAN BIRTH WEIGHT IN GRAMS (FETAL DEATHS)	1,614
HEAVIEST LIVE BORN INFANT IN GRAMS	6,350
LIGHTEST LIVE BORN INFANT IN GRAMS	28
LIVE BORN SETS OF TWINS	1,342
LIVE BORN SETS OF TRIPLETS	14
LIVE BORN MULTIPLE BIRTHS OF FOUR OR MORE	1

Between 1900 and 1976 the number of total births, which included both live births and fetal deaths, occurring each year has varied considerably. The general trend has been increasing numbers of total births from 1900 through 1957 and declining numbers since that time. In 1900 there were 45,024 total births in Michigan. This figure dropped slightly to 44,722 in 1901 for the lowest total in this century. Total births increased through the teens and early twenties to a temporary plateau of just over 100,000 during the years 1924-1930. Natality declined from a total of 102,596 in 1930 to 83,258 in 1933. Then from 1933 to 1956, excluding the war years of 1944 and 1945,

**FIGURE 1.1—Total Births,¹
Michigan Residents, 1900-1976**



¹Live births and fetal deaths.

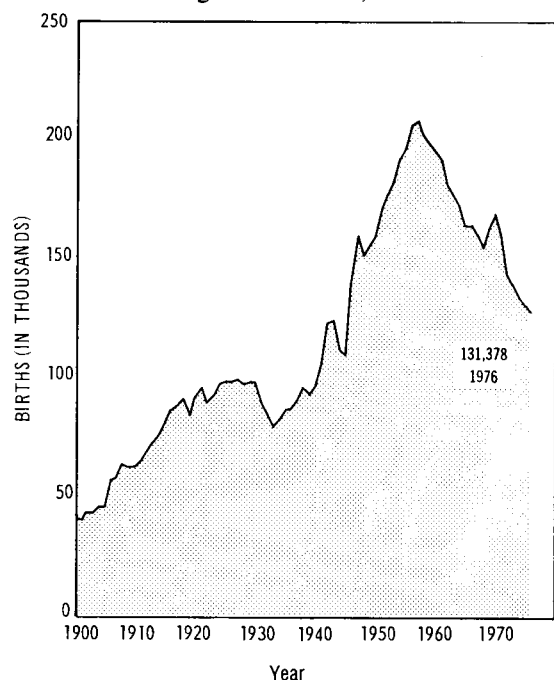
total births increased persistently to a century high peak of 211,642 in 1957. Since 1957 total births have dropped sharply to 132,649 in 1976 (Figure 1.1).

LIVE BIRTHS

Between 1900 and 1976, the number of live births occurring each year has varied considerably. The smallest number of live births recorded in this century was 43,221. This occurred in 1901. The greatest

number was 208,488 in 1957. Figure 1.2 portrays the number of live births for Michigan from 1900 through 1976. Live births increased steadily and appreciably from 43,699 in 1900 to 208,488 in 1957, the peak year for this century. This is a 477 percent increase, an average eight percent annual increase. Since 1957, live births have decreased by 37 percent to 131,378 in 1976. The figure for 1976 is the lowest observed in 31 years.

FIGURE 1.2—Live Births, Michigan Residents, 1900-1976



The national pattern of live birth frequency has been similar to that observed in Michigan. Live births increased from an estimated 2,718,000 in 1909 to an estimated 4,300,000 in 1957. By 1975 the number of

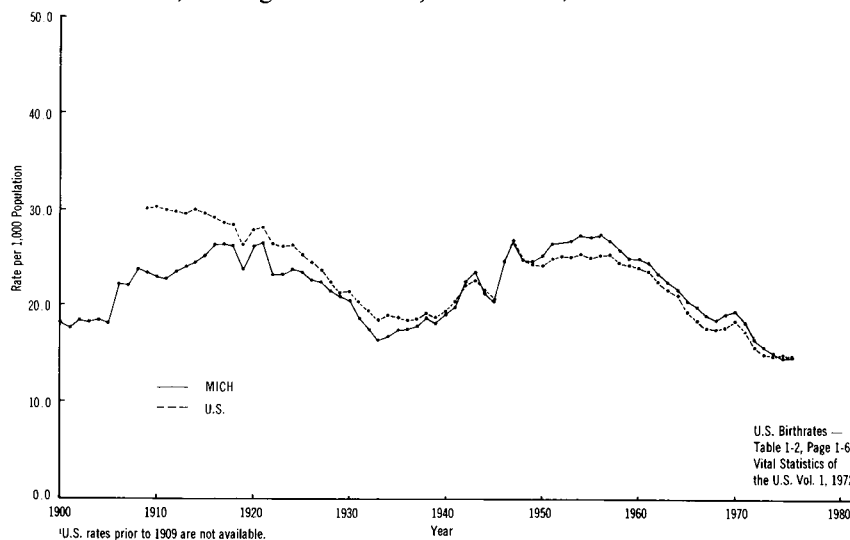
live births to United States residents had decreased to 3,144,198. National data for 1976 indicates a slight increase in live births, to 3,167,788. Note that United States figures also showed an increase between 1973 and 1974, while Michigan resident live births have declined each year since 1970 (Table 1.1).

TABLE 1.1—Live Births and Crude Birth Rates, Michigan and United States Residents, Selected Years, 1900-1976

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
3,144,198	14.8	1975	133,931	14.6
3,167,788	14.8	1976	131,378	14.4

Another view of the historic pattern in live births may be obtained through examination of changes in the crude birth rate. By considering population size, the historic pattern of live births is greatly stabilized (Figure 1.3). The crude birth rate in Michigan has ranged from a low of 14.4 in 1976 to a high of 27.4 in 1956. The crude birth rate in 1900 was 18.1. By 1916 the rate was 26.2. During the period 1917 to 1933 Michigan's crude birth rate declined steadily,

FIGURE 1.3—Live Birth Rates, Michigan Residents, 1900-1976, and United States Residents,¹ 1909-1976



U.S. Birthrates —
Table 1-2, Page 1-6
Vital Statistics of
the U.S. Vol. 1, 1972

¹U.S. rates prior to 1909 are not available.

reaching 16.2. The birth rate rose in 1934 and generally continued increasing to a peak in 1956 (27.4). Since 1956, Michigan's crude birth rate has been declining. In 1973, a century low rate was observed, replacing the 1933 rate as the lowest recorded for the state. The next three years, in succession, replaced the prior year figure as the lowest birth rate on record. The crude birth rate in 1976 (14.4) is 1.4 percent below that for 1975.

National statistics follow the same general pattern of rising and falling rates as has been observed in Michigan. The highest rate observed nationally over the period 1909 through 1976, was 30.0 in 1909, while the lowest is 14.7 as estimated for 1976. United States live births were above those observed in Michigan without exception from 1909 to 1941. Between 1942 and 1947, national rates were above those for the state two times and below four. National birth rates were then below Michigan rates from 1948 through 1974. In 1975 and 1976, the United States rate has been just above that observed in Michigan (Table 1.1).

FERTILITY

The crude birth rates examined above are useful statistics for gauging the overall trends in live births for specific geographic areas. Where attempts are made to interpret such trends, however, crude birth rates can be misleading. These rates do not incorporate specifically the size of the population at risk.

TABLE 1.2—Fertility Rates, Michigan and United States Residents, Selected Years, 1900-1976

FERTILITY RATE UNITED STATES	YEAR	FERTILITY RATE MICHIGAN
- - -	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
117.2	1961	119.0
112.2	1962	110.8
108.5	1963	106.6
105.0	1964	102.6
96.6	1965	95.9
91.3	1966	94.0
87.6	1967	90.8
85.7	1968	87.3
86.5	1969	89.6
87.9	1970	91.7
81.8	1971	84.7
73.4	1972	76.5
69.2	1973	72.1
68.4	1974	70.0
66.7	1975	67.1
65.8	1976	68.7

Should this population subset, generally considered to be women between the ages of 15 through 44, not maintain a stable relationship with the total population, the crude rate may resultantly vary. A measure for analyzing changing birth patterns that is more exacting is the fertility rate. Since the fertility rate relates the number of live births to the female population of childbearing age, comparisons for various periods of time and various locations can be made with less regard for population structure.

A comparison of fertility rates for Michigan and the United States for selected years is presented in Table 1.2. Some interesting contrasts can be seen between fertility rates and the crude birth rates as presented in Table 1.1. In both the state and the country the crude birth rate dropped from 1950 to 1960 while the fertility rate rose between these two years. While Michigan's crude birth rate was below the United States rate in 1975 and 1976, after being above the national rate for 26 consecutive years. The fertility rate for the state was above the national rate in 1976 but has been below that for the country as recently as 1965. Between 1975 and 1976, Michigan's crude birth rate declined while the fertility rate for the state increased by 2.3 percent. Nationally, both rates declined in 1976. These differences point to the importance of the fertility rate in making comparisons and drawing conclusions. The crude birth rate changes observed understate the decline in fecundity for both regions. Since 1960 the crude birth rate in Michigan had dropped 42.2 percent, while the fertility rate in 1976 is 44.2 percent below the 1960 rate. For the United States over this same period the crude birth rate declined 38.0 percent and the fertility rate fell by 44.5 percent. Thus, the childbearing population has been increasing in proportion relative to the total population over this 15 year period.

RACIAL COMPOSITION

During the eleven year period from 1966 through 1976, the racial composition of live births in Michigan was also changing. As can be seen from Table 1.3, the number of nonwhite births has increased since 1966, while white births have steadily and substantially decreased. It should be noted, however, that nonwhite live births have been decreasing since 1971. Since 1970, the number of white live births has declined 25.0 percent while nonwhite live births are 15.6 percent lower in 1976.

Inspection of Table 1.3 indicates that in 1966 nonwhite live births accounted for 13.2 percent of all live births to Michigan residents. This percentage rose steadily through 1973 when 18.8 percent of all live births were nonwhite. By 1976 this percentage had dropped to 17.9.

TABLE 1.3—Live Births by Race, Michigan Residents, 1966-1976

YEAR	TOTAL BIRTHS		WHITE BIRTHS		NON-WHITE BIRTHS	
	Number	% of all Births	Number	% of all Births	Number ¹	% of all Births
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
1975.....	133,931	100.0	109,718	81.9	24,213	18.1
1976.....	131,378	100.0	107,907	82.1	23,471	17.9

¹ Non-White includes race not stated.

Table 1.4 examines the racial composition of Michigan live births more carefully. In 1970 the crude birth rate for nonwhites was 44.6 percent above that for whites. By 1975, this percentage had increased to 48.6 percent. In 1976, this ratio was 45.5 percent. Declines in crude birth rates for both groups are evident over these six years. The decline in crude rates since 1970 is nearly the same for both groups. The crude birth rate for whites in 1976 is 26.1 percent below that observed in 1970, while the rate displayed by nonwhites declined 25.6 percent over the same period. These rates dropped 1.5 percent for whites and 3.5 percent for nonwhites from 1975 to 1976.

The fertility rates contained in Table 1.4 reveal that there are important differences in population structure between whites and nonwhites. By comparing white and nonwhite live births to the respective numbers of women aged 15-44 for these two groups, the relative differences in rates are decreased. The fertility rate for nonwhites was 33.6 percent above the rate for whites in 1970 and 36.6 percent higher in 1976. Since 1970 the nonwhite fertility rate has declined 24.2 percent compared with a 25.8 percent drop for whites. From 1975 to 1976, the fertility rate for whites rose by 2.9 percent, after declining through the first half of the 70's. The rate for nonwhites declined for the fifth straight year in 1976 by 1.5 percent.

AGE OF MOTHER

In 1976, 53.4 percent of all live births were to mothers less than 25 years of age. Only 0.6 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 children. Approximately 64 percent of the nonwhite infants were born to mothers age 24 or

TABLE 1.4—Crude Birth Rates and Fertility Rates by Race, Michigan Residents, 1970-1976

WHITE RACE		YEAR	NON-WHITE RACES	
CRUDE BIRTH RATE	FERTILITY RATE		CRUDE BIRTH RATE	FERTILITY RATE
18.4	88.0	1970	26.6	117.6
17.0	80.5	1971	26.1	119.4
15.1	71.7	1972	24.6	112.4
14.5	68.5	1973	23.8	107.0
14.1	66.0	1974	21.7	96.5
13.8	63.4	1975	20.5	90.5
13.6	65.3	1976	19.8	89.2

less compared to 51 percent of the white infants. This differential is primarily the result of the large percentage of nonwhite live births to mothers ages 15-19 (Table 1.5).

AGE-SPECIFIC LIVE BIRTH RATES

In 1966, the fertility rate in Michigan was 94.0. The fertility rate was 68.1 or 26.9 percent less in 1976.

As shown in Table 1.6, a substantial reduction has occurred over the last eleven years in the age-specific birth rates for Michigan females across all age groups.

The least relative changes in rates were observed for women under 30, with the 25-29 age-specific rate declining least of all. Still, this rate dropped by 14.1 percent. The greatest decrease was for women 40 years of age and over, where the rate per 1,000 women fell by 67.6 percent.

TABLE 1.5—Total Live Births and Percent Distribution by Age of Mother and Race of Child, Michigan Residents, 1976

AGE OF MOTHER	TOTAL		RACE OF CHILD					
			WHITE		NON-WHITE		NOT STATED	
	No.	%	No.	%	No.	%	No.	%
Under 15 Years.....	404	0.3	171	0.2	233	1.0	—	—
15-19 Years.....	22,593	17.2	15,911	14.7	6,654	28.6	28	15.9
20-24 Years.....	47,161	35.9	38,999	36.1	8,123	34.9	39	22.2
25-29 Years.....	41,412	31.5	36,041	33.4	5,300	22.8	71	40.3
30-39 Years.....	18,946	14.4	16,110	14.9	2,800	12.0	36	20.5
40 Years and Over.....	846	0.6	663	0.6	181	0.8	1	0.6
Not Stated.....	16	0.0	12	0.0	4	0.0	1	0.6
Total.....	131,378	99.9	107,907	99.9	23,295	100.1	176	100.1
Median Age of Mother.....	24	000	24	000	22	000	000	000

TABLE 1.6—Age-Specific Live Birth Rates, Michigan Residents, 1966 and 1976

AGE GROUP	LIVE BIRTHS		BIRTH RATE		% CHANGE IN BIRTH RATE
	1966	1976	1966	1976	
Under 20 ¹ Years..	29,000	22,997	76.2	48.6	(36.2)
20-24 Years.....	60,711	47,161	187.9	122.1	(35.0)
25-29 Years.....	39,225	41,412	140.7	120.8	(14.1)
30-34 Years.....	21,205	14,893	82.1	48.7	(40.7)
35-39 Years.....	11,846	4,053	45.8	18.4	(59.8)
40 and Over ²	3,770	846	14.2	4.6	(67.6)
Not Stated.....	37	16	000	000	000
TOTAL ³	165,794	131,378	94.0	68.7	(26.9)

¹Age-Specific Birth Rates for Under 20 Based on Female Population 15-19.
²Age-Specific Birth Rates for 40 and Over Based on Female Population 40-44.
³Total Birth Rate (Fertility Rate) Based on Female Population 15-44.

Table 1.7 displays age-specific live birth rates for whites and nonwhites in the years 1970 and 1976. Nonwhite rates are generally above those of whites. The exception to this is the age group 25-29. In both 1970 and 1976 the nonwhite live birth rate for this age group was slightly below that for whites. Live birth rates declined significantly over these seven years across all ages for both racial categories. White rates have declined more steeply than those of nonwhites for age groups of 20 years or over. The under 20 age group decline for whites was 29.7 percent compared to 37.7 percent for nonwhites. The greatest decline observed was 49.4 percent for white females aged 40 years and over, while the smallest percentage change

TABLE 1.7—Age-Specific Live Birth Rates by Race, Michigan Residents, 1970 and 1976

AGE GROUP	RACE					
	WHITE			NON-WHITE		
	1970	1976	% CHANGE IN RATE	1970	1976	% CHANGE IN RATE
Under 20 ¹ Years..	56.9	40.0	(29.7)	154.3	96.1	(37.7)
20-24 Years.....	172.9	117.5	(32.0)	198.1	149.1	(24.7)
25-29 Years.....	156.0	121.1	(22.4)	141.4	117.2	(17.1)
30-34 Years.....	75.6	48.1	(36.4)	80.5	52.5	(34.8)
35-39 Years.....	31.2	17.4	(44.2)	41.1	25.4	(38.2)
40 and Over ²	8.1	4.1	(49.4)	13.0	8.6	(33.8)
TOTAL ³	88.0	65.3	(25.8)	117.6	89.2	(24.1)

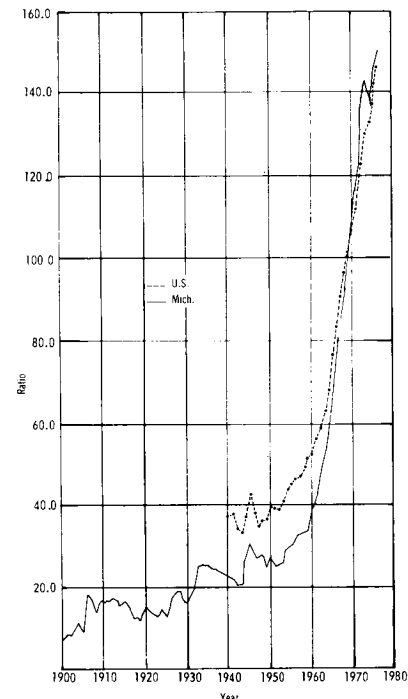
¹Age-Specific Birth Rates for Under 20 Based on Female Population 15-19.
²Age-Specific Birth Rates for 40 and Over Based on Female Population 40-44.
³Total Birth Rate (Fertility Rate) Based on Female Population 15-44.

was the 17.1 percent drop for non-white females aged 25-29.

ILLEGITIMATE LIVE BIRTHS

In 1900 illegitimate live births for Michigan residents numbered 332 for an illegitimacy ratio of 7.6 per 1,000 live births. By 1906 that ratio had more than doubled to 18.6. Then, for more than twenty years, the ratio fluctuated between 12.3 and 19.9. It was not until 1933 that the ratio became greater than 20.0. In 1960, the ratio had reached 36.9. Between 1960 and 1976 the illegitimacy ratio increased to 151.0, an increase of 409 percent (Figure 1.4).

FIGURE 1.4—Illegitimate Live Birth Ratios, Michigan Residents, 1900-1976 and United States Residents, 1940-1976



Over the last twenty-five years the illegitimacy ratio has increased twenty-four times over the prior year. The single exception was in 1974, when the ratio declined 3.9 percent to 136.3. In the succeeding years, record high ratios of 146.9 in 1975 and 151.0 in 1976 were observed. The ratio for 1976 increased 2.8 percent over the 1975 figure.

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 acknowledgment at the time of birth. The number of births affected by this change have increased annually, as follows:

Year	Paternity Acknowledgments
1972	935
1973	1,159
1974	1,458
1975	1,953
1976	2,207

This modification of legitimacy determination and the increasing numbers of births affected must be considered when evaluating the trends in illegitimate births and ratios since 1971. The ratios presented since 1972 are consistently lower than what would otherwise have occurred.

The illegitimacy ratio for mothers under 20 years of age is three times greater than the illegitimacy ratio for all mothers. Between 1966 and 1976, the illegitimacy ratio has increased least for mothers between 25 and 34 years old (Table 1.8).

Illegitimacy ratios for the United States since 1940 indicate strong similarity between the trend in national data and in Michigan (Figure 1.4). The national statistic in 1940 was 37.9, 65 percent above that for the state. United States ratios remained consistently above those observed in Michigan through

1969. The relative difference between the statistics for these two areas began decreasing in 1959. By 1970, the national statistic was just below that for Michigan. The illegitimacy ratio for the United States was 142.5 in 1975, three percent below the ratio for Michigan (Table 1.8).

TABLE 1.8—Illegitimate Live Births and Illegitimacy Ratios by Age of Mother, Michigan Residents, 1966-1976

AGE GROUP	ILLE-GITIMATE LIVE BIRTHS		ILLE-GITIMACY RATIO		% CHANGE IN ILLE-GITIMACY RATIO
	1966	1976	1966	1976	
Under 20 Years.....	6,637	10,489	228.9	456.1	99.3
20-24 Years.....	3,472	6,228	57.2	132.1	130.9
25-29 Years.....	1,202	2,135	30.6	51.6	68.6
30-34 Years.....	574	676	27.1	45.4	67.5
35-39 Years.....	310	243	26.2	60.0	129.0
40 and Over.....	93	68	24.7	80.4	225.5
Not Stated.....	11	4	000	000	000
Total.....	12,299	19,843	74.2	151.0	103.5

TABLE 1.9—Illegitimate Live Births and Illegitimacy Ratios, Michigan and United States Residents, 1966-1976

UNITED STATES		YEAR	MICHIGAN	
NO. OF ILLEGITIMATE BIRTHS	RATIO		NO. OF ILLEGITIMATE BIRTHS	RATIO
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
418,100	132.3	1974	18,733	136.3
447,900	142.5	1975	19,674	146.9
468,100	147.8	1976	19,843	151.0

Table 1.10 presents a comparison of legitimate and illegitimate live births with respect to several social and

TABLE 1.10—Illegitimate Live Births by Selected Characteristics, Michigan Residents, 1976

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).....	9,784	7.4	2,600	13.1	7,184	6.4
Mother's Age <20 Years.....	22,997	17.5	10,489	52.9	12,508	11.2
Mother's Education—8th Grade or less.....	3,642	2.8	1,152	5.8	2,490	2.2
Complications of Labor.....	23,487	17.9	3,952	19.9	19,535	17.5
Complications Related to Pregnancy.....	12,465	9.5	2,326	11.7	10,139	9.1
Complications Not Related to Pregnancy.....	3,851	2.9	996	5.0	2,855	2.6
Total.....	131,378	100.0	19,843	100.0	111,535	100.0

TABLE 1.11—Illegitimate Live Births and Ratios by Age of Mother and Race of Child, Michigan Residents, 1976

AGE OF MOTHER	TOTAL		RACE OF CHILD					
			WHITE		NON-WHITE		NOT STATED	
	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio
Under 15 Years.....	370	915.8	143	836.3	227	974.2	—	—
15-19 Years.....	10,119	447.9	4,854	305.1	5,245	788.2	20	000
20-24 Years.....	6,228	132.1	2,554	65.5	3,668	451.6	6	000
25-29 Years.....	2,135	51.6	835	23.2	1,298	244.9	2	000
30-39 Years.....	919	48.5	393	24.4	524	187.1	2	000
40 Years and Over.....	68	80.4	27	40.7	41	226.5	—	—
Not Stated.....	4	*	2	*	2	*	—	—
Total.....	19,843	151.0	8,808	81.6	11,005	472.4	30	000
Median Age of Mother.....	19	000	19	000	20	000	*	000

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 have had less than nine years of education as compared to mothers having legitimate children (5.8 and 2.2 percent, respectively). A majority (52.9 percent) of illegitimate live births are to women less than twenty years of age. The comparable figure for legitimate live births is 11.2 percent. The median age of mothers having illegitimate births is 19 compared to a median age of 24 for all live births (Table 1.11). The median age for nonwhite mothers who have illegitimate births was 20 compared to an overall nonwhite median age of 22. The age differential for whites is 5 years, with median ages of 19 for illegitimates and 24 for all births.

BIRTH WEIGHT

The mean weight for all live births was 3,329 grams or approximately 7 lbs. 5 oz. The median weight was 3,356 or approximately 7 lbs. 6 oz. (Table 1.12). As was alluded to previously, birth weights among illegitimate live births are slightly lower. The mean and

median weights for illegitimate births are 3,107 grams (6 lbs. 14 oz.) and 3,176 grams (7 lbs. 0 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. Such infants have historically experienced higher mortality in their first year than those born at higher weights. In 1976, approximately 75 of every 1,000 live births were below 2,500 grams (Table 1.12).

TABLE 1.12—Live Births by Birth Weight and Legitimacy Status, Michigan Residents, 1976

WEIGHT AT BIRTH	LEGITIMACY STATUS		
	TOTAL	LEGITIMATE	ILLEGITIMATE
500 Grams or Less.....	186	132	54
501-1,000 Grams.....	642	460	182
1,001-1,500 Grams.....	877	622	255
1,501-2,000 Grams.....	1,974	1,417	557
2,001-2,500 Grams.....	6,105	4,553	1,552
2,501-3,000 Grams.....	21,761	17,052	4,709
3,001-3,500 Grams.....	48,018	40,473	7,545
3,501-4,000 Grams.....	37,577	33,573	4,004
4,001-4,500 Grams.....	11,657	10,822	835
4,501 Grams and Over..	2,501	2,373	128
Not Stated.....	80	58	22
Total.....	131,378	111,535	19,843
Mean Weight.....	3,329	3,368	3,107
Median Weight.....	3,356	3,390	3,176

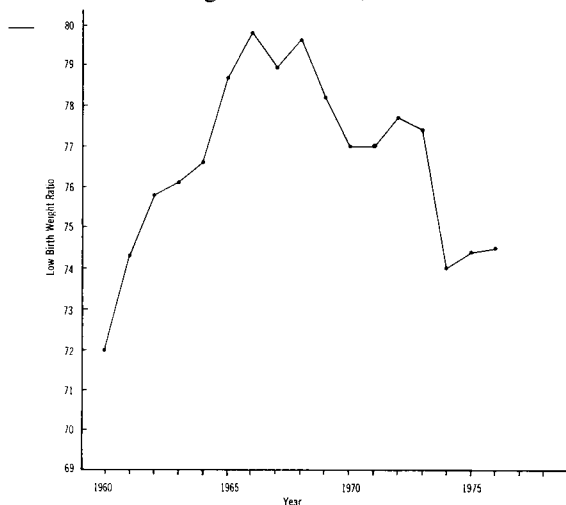
TABLE 1.13—Low Weight Live Births and Ratios by Age of Mother and Race of Child, Michigan Residents, 1976

AGE OF MOTHER	TOTAL		RACE OF CHILD					
			WHITE		NON-WHITE		NOT STATED	
	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio
Under 15 Years.....	63	155.9	22	128.7	41	176.0	—	—
15-19 Years.....	2,324	102.9	1,316	82.7	1,003	150.7	5	000
20-24 Years.....	3,447	73.1	2,341	60.0	1,105	136.0	1	000
25-29 Years.....	2,570	62.1	1,899	52.7	666	125.7	5	000
30-39 Years.....	1,306	68.9	962	59.7	344	122.9	—	—
40 Years and Over.....	74	87.5	59	89.0	15	82.9	—	—
Total.....	9,784	74.5	6,599	61.2	3,174	136.3	11	000
Median Age of Mother.....	23	000	24	000	22	000	*	000

Higher proportions of low birth weight infants have been demonstrated to relate with the age of the mother, the race of the child and legitimacy status. Note that as these three characteristics are interrelated, (i.e. illegitimate births are more frequent among younger women, nonwhites display higher birth rates in the younger age groups, etc.) the association between these characteristics and the frequency of low weight births becomes complex. Data in Tables 1.12 and 1.13 examine these three variables with respect to birth weight. Low birth weight was observed in 13.1 percent of all illegitimate live births, compared to 6.4 percent of legitimate infants. The lowest frequency of low birth weight occurred among infants to mothers 25 to 29 years of age. Children of older and younger women were more frequently below 2,500 grams. The age groups with the highest low birth weight ratios were less than 15, 15 to 19, and 40 years and over, in that order. Low weight ratios for white infants followed this relationship to mothers age. Among nonwhite births the ratio declined persistently through the older

age groups in 1976. Note that in 1975, nonwhite ratios followed the general pattern for all live births, though the rise in ratio for the older age groups was less pronounced. The nonwhite ratio for all ages was 123 percent above that for whites. An examination of each age group between the ages of 20 and 39 reveals the greatest ratio differentials between whites and nonwhites. Nonwhite mothers at these ages had more than double the frequency of low weight infants. The nonwhite ratio at ages 15-19 is 82 percent higher than that for whites. By contrast, the differential for ages under 15 was only 37 percent and for over 40 years the nonwhite ratio was eight percent below that of whites in 1976. This latter comparison (over 40) should be interpreted carefully because of the low frequency of events. The low birth weight ratio in 1976 was essentially the same as that observed in 1975. Figure 1.5 displays the low birth weight ratio for Michigan over the period 1960 through 1976. An examination of this graph reveals that this ratio has varied considerably over the time period examined. Only a small portion of this variance can be explained by changes in the proportion of the three characteristics; mothers age, race of child, and legitimacy status. The ratio in 1960 was 72.0. Over the next five years, this statistic rose rapidly, reaching 79.8 in 1966, whereupon it stabilized through 1968. The ratio declined from 79.6 in 1968 to 77.0 in 1970, held stable through 1973 (77.4), then dropped in 1974 to 74.0. Since 1974, the ratio has risen only slightly. In 1976, the ratio was 74.5.

FIGURE 1.5—Low Birth Weight Ratio, Michigan Residents, 1960-1976



PRENATAL CARE

For mothers delivering live births in 1976 prenatal care began most frequently in the second month of pregnancy. About 37 percent (37.1) of all women having live births obtained care in that month. The most common number of prenatal visits was within the interval 10-14 (54.1 percent of all live births). Table 1.14 shows the relationship between the month of pregnancy prenatal care begins and the number of

TABLE 1.14—Live Births by Month Prenatal Care Began and Number of Prenatal Visits, Michigan Residents, 1976

MONTH CARE BEGAN	TOTAL	NUMBER OF VISITS						
		NONE	UNDER 5	5-9	10-14	15-19	20 AND OVER	NOT STATED
TOTAL.....	131,378	923	6,993	36,670	71,075	9,377	2,273	4,067
No Care.....	923	923	—	—	—	—	—	—
1st Month.....	11,689	—	146	1,483	7,232	1,923	522	383
2nd Month.....	48,747	—	489	8,753	32,884	4,785	928	908
3rd Month.....	37,590	—	807	11,195	22,384	2,055	480	669
4th Month.....	14,763	—	916	7,108	5,926	394	169	250
5th Month.....	7,443	—	1,129	4,298	1,689	117	78	132
6th Month.....	4,000	—	1,105	2,207	523	36	49	80
7th Month.....	2,389	—	1,045	1,114	159	12	22	37
8th Month.....	1,294	—	878	360	34	—	10	12
9th Month.....	443	—	375	36	12	2	—	18
Unknown.....	2,097	—	103	116	232	53	15	1,578

TABLE 1.15—Total Live Births by Month of Pregnancy Prenatal Care Began and Live Birth Order, Michigan Residents, 1976

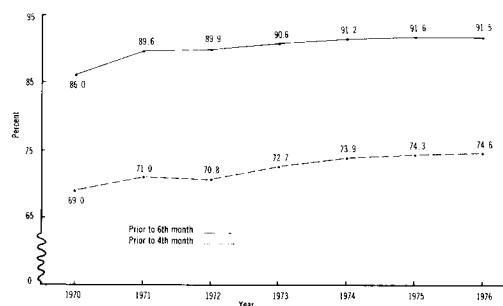
MONTH OF PREGNANCY CARE BEGAN	TOTAL	LIVE BIRTH ORDER					
		1ST	2ND	3RD	4TH	5TH OR GREATER	NOT STATED
TOTAL.....	131,378	54,003	42,389	20,032	7,685	5,901	1,368
No Care.....	923	399	224	117	71	99	13
1st Month.....	11,689	4,876	3,967	1,732	620	422	72
2nd Month.....	48,747	19,764	16,989	7,490	2,587	1,614	303
3rd Month.....	37,590	14,976	12,460	6,052	2,251	1,580	271
4th Month.....	14,763	6,230	4,313	2,185	980	875	180
5th Month.....	7,443	3,394	1,880	1,023	527	506	113
6th Month.....	4,000	1,818	961	555	273	310	83
7th Month.....	2,389	1,083	593	299	153	213	48
8th Month.....	1,294	571	317	194	78	103	31
9th Month.....	443	182	111	58	24	45	23
Not Stated.....	2,097	710	574	327	121	134	231
Median Months of Prenatal Care....	6.9	6.9	7.0	6.9	6.7	6.5	000

prenatal visits. Where care begins in the first trimester, the mode for the number of visits is 10-14. If care was obtained first in months 4, 5, 6, or 7, the mode for visits is 5-9, while the mode for care beginning in the eighth or ninth month is under five visits.

Of the women having live births in 1976, 50 percent began prenatal care 2.1 or more months from conception, for a median of 6.9 months of care. The length of prenatal care varied somewhat with live birth order (Table 1.15). Women with second order live births displayed a median of 7.0 months, the longest length of prenatal care. Higher order live births received progressively shorter lengths of time. Women having their fifth or greater live birth had the shortest median prenatal care period (6.5 months).

In 1976, 923 resident live births or seven of every 1,000 live births occurred without the mother having had any prenatal care. These include only those where no prenatal care was specified. The comparative statistic in 1975 was eight and in 1970 was 23. Those who received no prenatal care are for the most part

FIGURE 1.6—Percent of Women Having Live Births Who Received Care Prior to the 4th Month and the 6th Month of Pregnancy, Michigan Residents, 1970-1976



younger mothers (median age of 21). Also, the lack of prenatal care is disproportionately high among nonwhites. The relative percentage of nonwhites receiving no prenatal care was 4.3 times as large as among whites in 1976 (Table 1.16).

A total of 98,026 women (74.6 percent) having live

TABLE 1.16—Live Births With No Prenatal Care by Age of Mother and Race of Child, Michigan Residents, 1976

AGE OF MOTHER	TOTAL		RACE OF CHILD					
			WHITE		NON-WHITE		NOT STATED	
	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio
Under 15 Years.....	14	34.7	3	17.5	11	4.7	—	000
15-19 Years.....	364	16.1	183	11.5	181	27.1	—	000
20-24 Years.....	307	6.5	157	4.0	150	18.4	—	000
25-29 Years.....	149	3.6	78	2.2	71	13.2	—	000
30-39 Years.....	85	4.5	53	3.3	32	11.3	—	000
40 Years and Over.....	4	4.7	4	6.0	—	—	—	000
Total.....	923	7.0	478	4.4	445	19.0	—	000
Median Age of Mother.....	21	000	21	000	21	000	—	000
TOTAL LIVE BIRTHS.....	131,378	000	107,907	000	23,471	000	—	000

births started their prenatal care prior to the fourth month of pregnancy. This is about the same as the 74.3 percent figure recorded in 1975. The percentage of women receiving care prior to the fourth month has increased steadily since 1970 (Figure 1.6). In that year the percentage obtaining care in the first three months of the pregnancy was 69.0 percent. There has been small, but steady increases in the proportion of women receiving care prior to the sixth month of pregnancy over the period 1970-1975. In 1970, 86.0 percent of women delivering live borns received care prior to the sixth month of pregnancy. By 1975, this percentage had risen to 91.6. The percentage in 1976 was 91.5.

BIRTH ORDER

The relative distribution of Michigan resident live births by live birth order is displayed in Table 1.17. There has been a considerable shift of this distribution in recent years. First births comprised 33.2 percent of all live births in 1966 and 41.1 percent in 1976. The proportion for second order live births also register increases. Third and higher live birth orders comprised a smaller proportion of live births in 1976 than in 1966. In all, 42.6 percent of all live births were third order or higher in 1966, but comprised only 25.5 of all live births in 1976. The greatest decline in proportion pertains to fifth or greater live births. This proportion in 1976 is 72.0 percent below the 16.1 percent observed in 1966.

TABLE 1.17—Total Live Births by Live Birth Order, Michigan Residents, 1966 and 1976

LIVE BIRTH ORDER	NO. OF BIRTHS		PERCENT	
	1966	1976	1966	1976
First Birth.....	55,100	54,003	33.2	41.1
Second Birth.....	40,067	42,389	24.2	32.3
Third Birth.....	26,652	20,032	16.1	15.2
Fourth Birth.....	17,255	7,685	10.4	5.8
Fifth Birth or >.....	26,640	5,901	16.1	4.5
Not Stated.....	80	1,368	0.0	1.0
Total.....	165,794	131,378	100.0	99.9

First births in Michigan have increased substantially their relative proportion of all live births. This trend

TABLE 1.19—Total Live Births by Live Birth Order and Age of Mother, Michigan Residents, 1976

LIVE BIRTH ORDER	AGE OF MOTHER						N/A	TOTAL	MEDIAN AGE
	<20 YEARS	20-24 YEARS	25-29 YEARS	30-39 YEARS	40+ YEARS				
First Birth.....	17,935	21,786	11,670	2,555	51	6	54,003	22	
Second Birth.....	4,057	17,575	15,814	4,871	68	4	42,389	24	
Third Birth.....	550	5,721	8,855	4,809	97	—	20,032	27	
Fourth Birth.....	64	1,282	3,186	3,028	124	1	7,685	28	
Fifth Birth or >.....	9	360	1,519	3,515	497	1	5,901	33	
Not Stated.....	382	437	368	168	9	4	1,368	000	
TOTAL.....	22,997	47,161	41,412	18,946	846	16	131,378	24	

is not unique to the state. As can be observed from Table 1.18, the percentage of first order births is increasing nationwide through 1975. The relative proportion of first order births was lower in Michigan than the United States throughout the period 1966-1975, excepting only 1973. In that year, the Michigan rate of 40.6 was 2.5 percent above the same proportion nationally. The Michigan proportion in 1976, of 41.1, is just below the similar figure for 1975, marking the first decline in percent since 1971. Also of interest is that the total occurrence of first births in Michigan has declined persistently from 64,222 in 1970 to 54,003

TABLE 1.18—First Births, Michigan and United States Residents, 1966-1976

UNITED STATES		YEAR	MICHIGAN	
FIRST BIRTHS	% OF ALL BIRTHS		FIRST BIRTHS	% OF ALL BIRTHS
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
1,314,194	41.6	1974	56,233	40.9
1,319,126	42.0	1975	55,348	41.3
1,324,811	41.8	1976	54,003	41.1

in 1976. Nationally, first births declined from 1970 to 1973. In 1974 and 1975, the number of first births have risen by 5.7 percent and 0.4 percent, respectively.

Live birth order for women having live births will generally vary with age. Table 1.9 reveals that as live birth order increases from first to fifth or greater, the median age of the mothers increases from 22 to 33. Trends in the relative distribution of live birth order are, thus, affected, in part by trends in age-specific birth rates, (discussed earlier). The existence of a general relationship between birth order and mothers age is not contradicted by the fact that in 1976, there were nine mothers under 20 who had a fifth or higher live birth, nor by the 51 women 40 and over had their first live birth.

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 of all live births to women with prior terminations were reported as being spaced 2.59 years apart or longer. The median value in 1976 was 2.75 years, 6.2 percent greater than in 1970 (Table 1.20). The relative percents for spacings of less than one year, 1 to 2 years and 2 to 3 years have declined over this period. While a 1 to 2 year spacing was the most common in both years examined, this interval displayed the largest relative decline. The effect of a lengthened interval between terminations is a shortrun reduction in live births. Long range decreases in fertility can only result from a sustained decrease in the average number of children born per woman, through her lifetime.

TABLE 1.20—Live Births to Mothers Reporting Previous Pregnancy Terminations by Time Span Between Last and Current Termination, Michigan Residents, 1970 and 1976

TIME SPAN IN YEARS	1970		1976	
	NUMBER	PERCENT	NUMBER	PERCENT
Total.....	108,516	100.0	78,472	100.1
Less than One.....	3,960	3.6	2,639	3.4
1 < 2.....	34,715	32.0	22,432	28.6
2 < 3.....	26,589	24.5	18,960	24.2
3 < 5.....	25,784	23.8	20,159	25.7
5 or More.....	17,468	16.1	14,282	18.2
Median Time Span.....	2.59	000	2.75	000

The spacing of pregnancy is greatly affected by the outcome of the most recent prior pregnancy (Table 1.21). In 1976, 50 percent of those women having live births whose prior termination was a fetal death had a median time span of 1.75 years between the fetal death and the live birth. Fetal death, as defined for the pregnancy history on the birth record, is a fetal death of any gestational age. This compares to a median of 2.92 years for prior live births. The modal time span for women with prior fetal deaths is 1 to 2 years while that for prior live births is

TABLE 1.21—Live Births to Mothers Reporting Previous Pregnancy Terminations by Time Span Between Last and Current Termination and Whether Termination Was a Live Birth or Fetal Death, Michigan Residents, 1976

TIME SPAN IN YEARS	LIVE BIRTHS		PRIOR FETAL DEATHS		PRIOR LIVE BIRTHS	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
TOTAL.....	78,472	100.1	10,925	100.0	67,547	100.0
Less than One.....	2,639	3.4	1,435	13.1	1,204	1.8
1 < 2.....	22,432	28.6	5,397	49.4	17,035	25.2
2 < 3.....	18,960	24.2	1,989	18.2	16,971	25.1
3 < 5.....	20,159	25.7	1,372	12.6	18,787	27.8
5 or More.....	14,282	18.2	732	6.7	13,550	20.1
Median Time Span.....	2.75	000	1.75	000	2.92	000

3 to 5 years. A spacing of five or more years was exactly three times more prevalent, in a relative sense, among prior live births than prior fetal deaths. The greatest comparative difference is associated with time spans of less than one year. This spacing was experienced by 13.1 percent of all women reporting their most recent prior pregnancy was a fetal death. This is 7.3 times the 1.8 percent of all women reporting their most recent prior pregnancy was a live birth.

TABLE 1.22—Live Births by Type of Attendant, Michigan Residents, 1976

ATTENDANT	NUMBER	PERCENT
Total.....	131,378	100.0
Physician, M.D.....	111,096	84.6
Physician, D.O.....	20,047	15.3
Registered Nurse.....	11	0.0
Physician's Assistant.....	6	0.0
Midwife.....	19	0.0
Husband.....	85	0.1
Other Attendant.....	60	0.0
No Attendant.....	43	0.0
Unknown.....	11	0.0

ATTENDANT AT BIRTH

Data in Table 1.22 reveals that 99.8 of the live births were attended by a physician, either an M.D. or D.O. There were 19 live births attended by midwives, while husbands delivered 85 infants in 1976. There were 43 birth records with no attendant at delivery reported.

CONGENITAL ANOMALIES

One or more congenital anomaly was reported for 1,241 of the 131,378 resident live births in 1976 (Table 1.23). This translates to a rate of 94.5 per 10,000 live births. Congenital anomalies of the limbs was the most frequently reported condition, occurring at a rate of 260.3 per 100,000 live births and comprising about 25 percent of all anomalies mentioned. The frequency of reporting specific anomalies is affected by the reporting cycle. Many conditions may or may not be apparent at birth, when the birth certificate is usually completed.

TABLE 1.23—Congenital Anomalies¹ Reported by Type of Anomaly, Michigan Residents, 1976

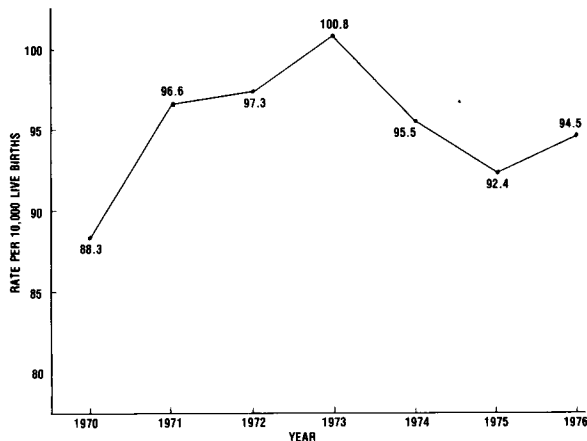
Type of Anomaly	ICDA No.	Number of Conditions	Rate per 100,000 Live Births
Other Congenital Anomalies of Limbs	755	342	260.3
Congenital Anomalies of Genital Organs	752	166	126.4
Cleft Palate and Cleft Lip	749	132	100.5
Clubfoot Congenital	754	120	91.3
Congenital Syndromes Affecting Multiple Systems	759	91	69.3
Congenital Anomalies of the Heart	746	76	57.8
Spina Bifida	741	72	54.8
Other Congenital Anomalies of Musculoskeletal System	756	55	41.9
Congenital Anomalies of Skin, Hair, and Nails	757	55	41.9
Other Congenital Anomalies of Digestive System	751	40	30.4
Other Congenital Anomalies of Upper Alimentary Tract	750	37	28.2
Congenital Anomalies of Ear, Face, and Neck	745	34	25.9
Congenital Hydrocephalus	742	28	21.3
Anencephalus	740	26	19.8
Congenital Anomalies of Respiratory System	748	21	16.0
Other and Unspecified Congenital Anomalies	758	20	15.2
Other Congenital Anomalies of Circulatory System	747	19	14.5
Congenital Anomalies of Urinary System	753	18	13.7
Other Congenital Anomalies of Nervous System	743	13	9.9
Congenital Anomalies of Eye	744	7	5.3
At Least One Anomaly ²		1,241	944.6

¹Indicates anomalies apparent soon after a live birth.

²Does not equal the sum of anomalies specified because of the occurrence of multiple anomalies.

Figure 1.7 displays the incidence of congenital anomalies reported for Michigan resident live births over the period 1970-1976. Reporting of anomalies rose appreciably from 1970 to 1971, then gradually through 1973. This increase was undoubtedly due, in large measure, to an increased emphasis on the

FIGURE 1.7—Incidence of Congenital Anomalies Reported per 10,000 Live Births, Michigan Residents, 1970-1976

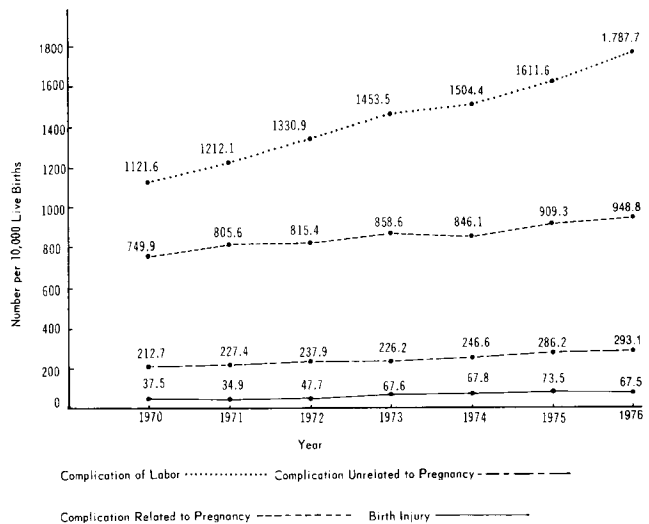


reporting of this information which began in 1971. The incidence has held fairly stable over the last three years below 1973 levels. The rate in 1976 was 2.3 percent above that observed in 1975.

COMPLICATIONS OF PREGNANCY AND LABOR

The frequencies of all four categories of complications reported on birth certificates have increased during the 1970's (Figure 1.8). "Complications Unrelated to Pregnancy" is designed to include conditions of the mother that are not related to the pregnancy, but can contribute to a difficult pregnancy. In 1970,

FIGURE 1.8—Incidence Rates for any Complication Related to Pregnancy, any Complication Unrelated to Pregnancy, any Complication of Labor, and any Birth Injury, per 10,000 Live Births, Michigan Residents, 1970-1976



physicians reported 212.7 such complications for every 10,000 live births. By 1976, the rate of reporting had risen to 293.1, 2.4 percent above the rate in 1975, "Complications Related to Pregnancy", or conditions associated with the pregnancy itself, has risen from 749.9 reported occurrences per 10,000 live births in 1970 to a rate of 948.8 in 1976. This rate increased by 4.3 percent between 1975 and 1976. "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 96 percent to 73.5 in 1975. The 1976 rate of 67.5 represents an 8.2 percent decline from 1975. This is the only rate of the four to decline from 1975 to 1976. The most frequently reported problem of pregnancy and labor is "Complications of Labor" or problems that arise during labor and delivery. In 1976, such complications were reported for about 18 percent of all live births, with a rate of 1,787.7. This is 59.4 percent greater than in 1970 (1,121.6) and 10.9 percent greater than in 1975. It

is important to note when reviewing changes in these rates that these items are under-reported on birth certificates. Increases in reporting can be a reflection of better reporting and/or increases in incidence.

PLACE OF OCCURRENCE

A source of confusion to persons not familiar with vital records data is the difference between occurrence and resident figures. Information on events to residents of Michigan that occur throughout the country and, in some instances, outside its boundaries is collected in order to obtain the full scope of activity for the state population. Of the total 131,378 resident live births, 1,698 occurred outside the state. Information on these events is forwarded to the State of Michigan for statistical purposes only. While only 1.3 percent of the total for the state is involved, data for the counties on Michigan's southern most and northwestern borders would be strongly affected were this information not available.

Table 1.24 shows the four major geographic areas where resident live births occur. These four border areas comprise 88.3 percent of all resident events that occurred out of state. Resident births occurred in 32 of the 50 states in 1976.

The number of nonresident live births occurring in Michigan in 1976 is 573. Information about those events was shared with the appropriate states by the State of Michigan under specific confidentiality guidelines, so that they might have a complete statistical file on their residents. The border areas comprised 70.3 percent of these events, as shown in Table 1.24. There were live births in Michigan to residents from 34 states and at least three foreign countries.

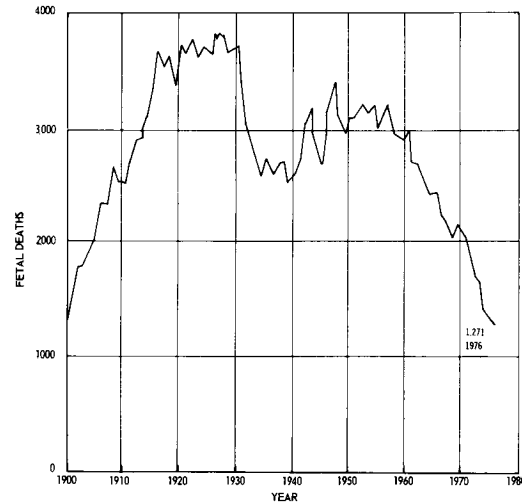
TABLE 1.24—Live Births Occurring Outside the Mother's State of Residence by State of Occurrence, Michigan Occurrences and Residents, 1976

Geographic Area	Live Births To Residents Occurring Outside Michigan		Live Births To Nonresidents Occurring In Michigan	
	Number	Percent	Number	Percent
TOTAL.....	1,698	100.0	573	100.0
Indiana.....	559	32.9	144	25.1
Ohio.....	494	29.1	98	17.1
Wisconsin.....	337	19.8	149	26.0
Canada.....	110	6.5	12	2.1
Other Areas.....	198	11.7	170	29.7

FETAL DEATHS

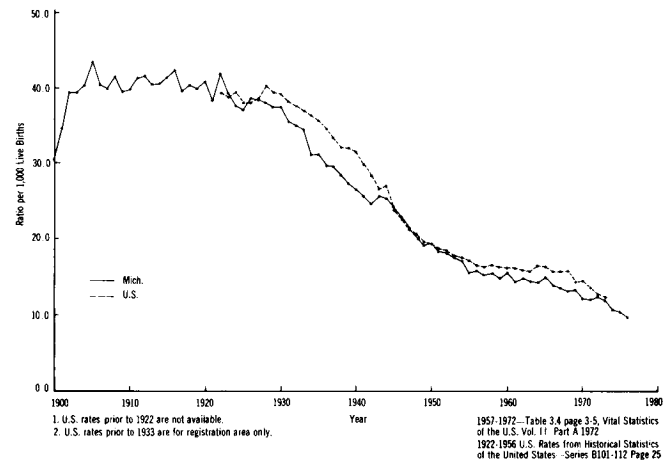
There were 1,325 fetal deaths in 1900. The number of fetal deaths rose markedly from 1900 through 1916. In 1916 there were 3,689 fetal deaths recorded (Figure 1.9). The numbers of such deaths were relatively stable from 1916 through 1930, with the peak year for the period 1927 being the peak for the century with 3,834 fetal deaths. Over the period 1930 through 1939, fetal deaths declined in frequency, reaching

FIGURE 1.9—Fetal Deaths, Michigan Residents, 1900-1976



2,572. Occurrences then increased through 1943, decreased in 1944 and 1945, and increased again to peak at 3,422 in 1947. Fetal deaths numbered between 3,000 to 3,250 in the period 1948 to 1958. In the 60's and 70's fetal deaths decreased. By 1976, there were only 1,271. The 1976 figure is the lowest number reported in this century. The previous low frequency was in 1900 (1,325).

FIGURE 1.10—Fetal Death Ratios, Michigan Residents, 1900-1976 and United States Residents, 1922-1973



1. U.S. rates prior to 1922 are not available.
2. U.S. rates prior to 1933 are for registration area only.
1967-1972—Table 3.4 page 3-5; Vital Statistics of the U.S., Vol. 11 Part A 1972
1922-1956 U.S. Rates from Historical Statistics of the United States—Series B101-112 Page 25

The fetal death ratio for Michigan, which relates fetal death figures to live births, has been declining at varying rates through most of the twentieth century (Figure 1.10). The ratio rose from 30.3 in 1900 to 43.5 in 1905. Through the teens and early twenties, this ratio fluctuated between 38 and 42 but never reaching the peak ratio observed in 1905. In 1922, Michigan's fetal death ratio was 42.0. This year marks a turning point, as fetal death ratio's have been gen-

TABLE 1.25—Fetal Deaths and Fetal Death Ratios, Michigan and United States Residents, 1900-1976

UNITED STATES		YEAR	MICHIGAN	
FETAL DEATHS ¹	FETAL DEATH RATIOS ¹		FETAL DEATHS	FETAL DEATH RATIOS
—	—	1900	1,325	30.3
—	—	1910	2,559	39.9
70,010 ²	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
36,281	11.5	1974	1,451	10.6
33,796	10.7	1975	1,373	10.3
—	—	1976	1,271	9.7

¹ After 1944, includes only deaths of twenty or more weeks gestation.
² Data for 1922.

erally declining ever since. The low ratio of 1900 was first succeeded as the lowest ratio observed in 1936 (29.7). Over the next 40 years, new lows have been established repeatedly, as the fetal death ratio for Michigan continued to decline. The ratio in 1976 was 9.7, the lowest rate observed in this century.

National fetal death data are presented in Figure 1.10 and Table 1.25. Michigan's fetal death ratio has generally been below national ratios. In fact, the United States ratio has been below that for Michigan in only six of the 52 years for which national data are available. The last time the United States ratio was below the Michigan ratio was in 1947. In 1973, the Michigan ratio was 2.5 percent below the national rate of 12.2.

CAUSES OF FETAL DEATH

A classification of fetal deaths by underlying cause of death is contained in Table 1.26. Due to a relatively large number of deaths allocated to unspecified causes, the reader should exercise caution in attempting to draw specific inferences regarding cause of death among fetal deaths.

In 1976, 220 of the total 1,271 fetal deaths were due to unknown causes. Of the remainder, nearly half (46.7 percent) were attributed to one of two general conditions. Conditions of the placenta, which would include such things as placental insufficiency, placenta previa, premature separation of the placenta and abnormalities of the placenta, caused 282 fetal deaths (26.8 percent of all fetal deaths attributed to a certain cause). There were 215 fetal deaths due to conditions of the placenta for every 100,000 live births in 1976. Second in prevalence was conditions of the umbilical cord, causing 209 fetal deaths (19.9 percent). Death due to this cause results from compressed and/or prolapsed, knotted, ruptured, torn or otherwise restricted umbilical cord. Another 129 fetal deaths were caused by difficulties in labor, while 154 were due to maternal conditions.

TABLE 1.26—Fetal Deaths by Cause of Death (Underlying) and Cause-Specific Ratios, Michigan Residents, 1976

ICDA LIST NO.	CAUSE OF DEATH	FRE-QUENCY	RATIO ¹
740	Anencephalus	23	17.5
741	Spina Bifida	1	0.8
742	Congenital Hydrocephalus	7	5.3
743	Other Congenital Anomalies of Nervous System	2	1.5
746	Congenital Anomalies of Heart	1	0.8
747	Other Congenital Anomalies of Circulatory System	3	2.3
748	Congenital Anomalies of Respiratory System	1	0.8
751	Other Congenital Anomalies of Digestive System	1	0.8
752	Congenital Anomalies of Genital Organs	1	0.8
756	Other Congenital Anomalies of Musculoskeletal System	2	1.5
758	Other and Unspecified Congenital Anomalies	5	3.8
759	Congenital Syndromes Affecting Multiple System	28	21.3
760	Chronic Circulatory and Genitourinary Diseases of Mother	1	0.8
761	Other Maternal Conditions Unrelated to Pregnancy	62	47.2
762	Toxemia of Pregnancy	68	51.8
763	Maternal ante- and Intrapartum Infection	23	17.5
764	Difficult Labor with Abnormality of Bone, Organs, or Tissues of pelvis	1	0.8
765	Difficult Labor with Disproportion but no Mention of abnormality of pelvis	3	2.3
766	Difficult Labor with Malposition of Fetus	10	7.6
767	Difficult Labor with Abnormality of Forces of Labor	4	3.0
768	Difficult Labor with Other and Unspecified Complications	5	3.8
769	Other Complications of Pregnancy and Childbirth	106	80.7
770	Conditions of Placenta	282	214.6
771	Conditions of Umbilical Cord	209	159.1
772	Birth Injury without Mention of Cause	4	3.0
773	Termination of Pregnancy	1	0.8
775	Hemolytic Disease of Newborn without Mention of Kernicterus	16	12.2
776	Anoxic and Hypoxic Conditions not Elsewhere Classifiable	99	75.4
777	Immaturity, Unqualified	64	48.7
778	Other Conditions of Fetus or Newborn	18	13.7
779	Fetal Death of Unknown Cause	220	167.5

¹Ratios per 100,000 resident live births.

AGE OF MOTHER AND RACE OF FETUS

It appears that the younger, the older, and the non-white mothers have a greater risk of fetal mortality. The rates of fetal loss for the under 15 mother, the over 40 mother, and the nonwhite fetus are higher than those for other groups (Table 1.27 and Table 1.28).

The overall fetal death rate per 1,000 total births (live births plus fetal deaths) was 9.6 in 1976. The rate associated with white fetuses was 8.3, while the nonwhite fetal death rate was 55.4 percent higher at 12.9. The association of maternal age with fetal death rate is apparent from Table 1.27. The age group with the lowest rate was 25-29 (7.1). Progressively older and younger age groups displayed increasingly higher rates. This pattern was mirrored by whites. Nonwhites differed slightly in 1976, as the rate for 15-19 year old mothers of nonwhites experienced slightly lower fetal

TABLE 1.27—Fetal Deaths, Live Births, and Fetal Death Rates by Age of Mother and Race of Fetus, Michigan Residents, 1976

AGE OF MOTHER AND RACE OF FETUS	FETAL DEATHS	LIVE BIRTHS	TOTAL BIRTHS	RATE PER 1,000 TOTAL BIRTHS
Under 15 Years.....	7	404	411	17.0
White.....	3	171	174	17.2
Nonwhite.....	4	233	237	16.9
Not Stated.....	—	—	—	000
15-19 Years.....	253	22,593	22,846	11.1
White.....	162	15,911	16,073	10.1
Nonwhite.....	77	6,682	6,759	11.4
Not Stated.....	14	—	14	000
20-24 Years.....	462	47,161	47,623	9.7
White.....	330	38,999	39,329	8.4
Nonwhite.....	111	8,162	8,273	13.4
Not Stated.....	21	—	21	000
25-29 Years.....	298	41,412	41,710	7.1
White.....	223	36,041	36,264	6.1
Nonwhite.....	59	5,371	5,430	10.9
Not Stated.....	16	—	16	000
30-39 Years.....	227	18,946	19,173	11.8
White.....	171	16,110	16,281	10.5
Nonwhite.....	51	2,836	2,887	17.7
Not Stated.....	5	—	5	000
40 and Over.....	20	846	866	23.1
White.....	13	663	676	19.2
Nonwhite.....	4	183	187	21.4
Not Stated.....	3	—	3	000
Not Stated.....	4	16	20	*
White.....	1	12	13	*
Nonwhite.....	1	4	5	*
Not Stated.....	2	—	2	000
Total.....	1,271	131,378	132,649	9.6
White.....	903	107,907	108,810	8.3
Nonwhite.....	307	23,471	23,778	12.9
Not Stated.....	61	—	61	000

mortality than those 20-24 years of age. Also evident is that the rates for nonwhites did not rise as rapidly with progressively younger mothers of nonwhites.

The median age of women having fetal deaths was identical to the same statistic for live births in 1976 (Table 1.5 and Table 1.28). The median age of non-

TABLE 1.28—Fetal Deaths by Age of Mother and Race of Fetus, Michigan Residents, 1976

AGE GROUP	RACE OF FETUS							
	TOTAL	%	WHITE	%	NON WHITE	%	NOT STATED	%
Under 15 Years.....	7	0.6	3	0.3	4	1.3	—	—
15-19 Years.....	253	19.9	162	17.9	77	25.1	14	23.0
20-24 Years.....	462	36.3	330	36.5	111	36.2	21	34.4
25-29 Years.....	298	23.4	223	24.7	59	19.2	16	26.2
30-34 Years.....	140	11.0	109	12.1	28	9.1	3	4.9
35-39 Years.....	87	6.8	62	6.9	23	7.5	2	3.3
40-44 Years.....	19	1.5	12	1.3	4	1.3	3	4.9
45 Years and Over.....	1	0.1	1	0.1	—	—	—	—
Not Stated.....	4	0.3	1	0.1	1	0.3	2	3.3
Total.....	1,271	99.9	903	99.9	307	100.0	61	100.0
Median Age.....	24	000	24	000	23	000	000	000

*Not computed due to the limited number of occurrences.

white mothers having fetal deaths was one year above that for those having live births. As suggested by the fetal death rates in Table 1.27, the distribution of fetal deaths and live births by mothers age are not identical. Higher percentage of fetal deaths occurred to women under 20 and over 30 than was the case with live births. Of all fetal deaths, 20.5 percent were to women under 20, compared to 17.5 percent of all live births. Similarly, 15.0 percent of all live births were to women 30 or more years of age while this group accounted for 19.4 percent of all fetal deaths.

BIRTH WEIGHT OF STILLBORN

Among live births, the percentage of infants weighing 5 lbs., 8 oz. or less at birth was 7.5 percent. The comparable percentage among fetal deaths was 55.5 percent. The distribution of birth weight by plurality for fetal deaths is presented in Table 1.29. Note that twins and triplets deliveries are not sets, but are total occurrences and that any given set may have included live births. The percentage of single delivery births weighing 2,500 grams or less was 55.2 percent. This same percentage for twin deliveries was 58.8 percent.

TABLE 1.29—Fetal Deaths by Fetal Weight and Plurality, Michigan Residents, 1976

WEIGHT	FETAL DEATHS	CUM. %	SINGLE DELIVERY	TWIN DELIVERY	TRIPLET DELIVERY
500 Grams or Less.....	118	9.3	101	16	1
501-1,000 Grams.....	215	26.2	200	14	1
1,001-1,500 Grams.....	133	36.7	120	13	—
1,501-2,000 Grams.....	121	46.2	113	8	—
2,001-2,500 Grams.....	118	55.5	112	6	—
2,501-3,000 Grams.....	89	62.5	78	11	—
3,001-3,500 Grams.....	92	69.7	89	3	—
3,501-4,000 Grams.....	67	75.0	66	1	—
4,001-4,500 Grams.....	17	76.3	17	—	—
4,501-5,000 Grams.....	8	77.0	8	—	—
5,001 Grams and Over.....	9	77.7	9	—	—
Not Stated.....	284	100.0	258	25	—
TOTAL.....	1,271 ¹	000	1,171	97	2

¹Does not add to total due to one unknown.

PRENATAL CARE OF MOTHERS HAVING STILLBIRTHS

Of the 1,271 fetal deaths recorded for 1976, 49 or 3.9 percent of the records indicated that the mothers had no prenatal visits. The comparable percentage of live births was 0.7 percent. Incomplete reporting occurred on 314 certificates or 24.7 percent of the data file.

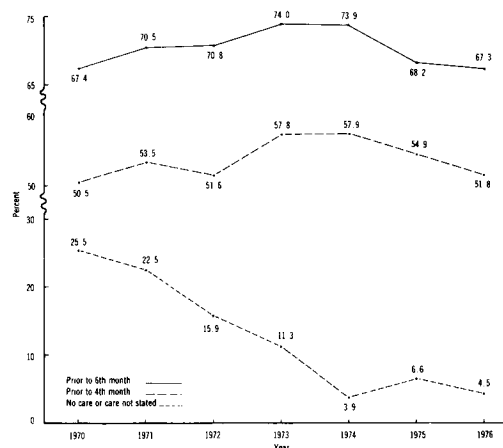
The month of pregnancy that prenatal care began was most frequently the second month (Table 1.30). Of those reporting a relatively large percentage (51.8 percent) had received care prior to the fourth month of pregnancy, with 67.3 percent receiving care prior to the sixth month. From 1970 through 1973 there was a general increase in the percentage of women having stillbirths who received care prior to the fourth and

TABLE 1.30—Fetal Deaths by Month Prenatal Care Began and by Number of Prenatal Visits, Michigan Residents, 1976

MONTH OF PREGNANCY PRENATAL CARE BEGAN	NUMBER OF VISITS							
	TOTAL	NONE	<5	5-9	10-14	15-19	20 AND OVER	NOT STATED
TOTAL	1,271	49	218	378	260	41	17	308
No Care	49	49	—	—	—	—	—	—
1st Month	95	—	5	40	34	5	6	5
2nd Month	289	—	40	118	103	17	6	5
3rd Month	275	—	49	129	78	12	2	5
4th Month	124	—	49	45	20	3	2	5
5th Month	73	—	32	22	14	1	1	3
6th Month	33	—	18	9	4	1	—	1
7th Month	21	—	13	5	1	1	—	1
8th Month	8	—	5	2	—	—	—	1
9th Month	296	—	4	8	3	—	—	281
Unknown	8	—	3	—	3	1	—	1

sixth month. Since 1974, these percentages have declined. The percentage receiving care prior to the sixth month was lower in 1976 than any other time in the 70's (Figure 1.11).

FIGURE 1.11—Percent of Women Having Fetal Deaths Who Received No Care, Received Care Prior to the 4th Month and the 6th Month of Pregnancy, Michigan Residents, 1970-1976



INTERPREGNANCY TIME PERIOD AMONG FETAL DEATHS

Prior pregnancies were reported for 596 of the 1,271 resident fetal deaths or 46.9 percent of the women terminating. This compares to 59.7 percent of all live births. For these women, the interpregnancy time periods reported on fetal death certificates in 1976 have a median length of 2.68 years. This is nearly the same as live births (Table 1.31). Terminations resulting in fetal deaths were relatively frequent following less than a one year or a five year or greater time span between terminations. The most frequent interval was 1 to 2 years paralleling the mode for live births.

TABLE 1.31—Fetal Deaths and Live Births to Mothers Reporting Prior Pregnancy Terminations by Time Span Between Last and Current Termination, Michigan Residents, 1976

TIME SPAN IN YEARS	LIVE BIRTHS		FETAL DEATHS	
	NUMBER	PERCENT	NUMBER	PERCENT
Total	78,472	100.1	596	100.0
Less than One	2,639	3.4	58	9.7
1 <2	22,432	28.6	165	27.7
2 <3	18,960	24.2	110	18.5
3 <5	20,159	25.7	136	22.8
5 or More	14,282	18.2	127	21.3
Median Time Span	2.75	000	2.68	000

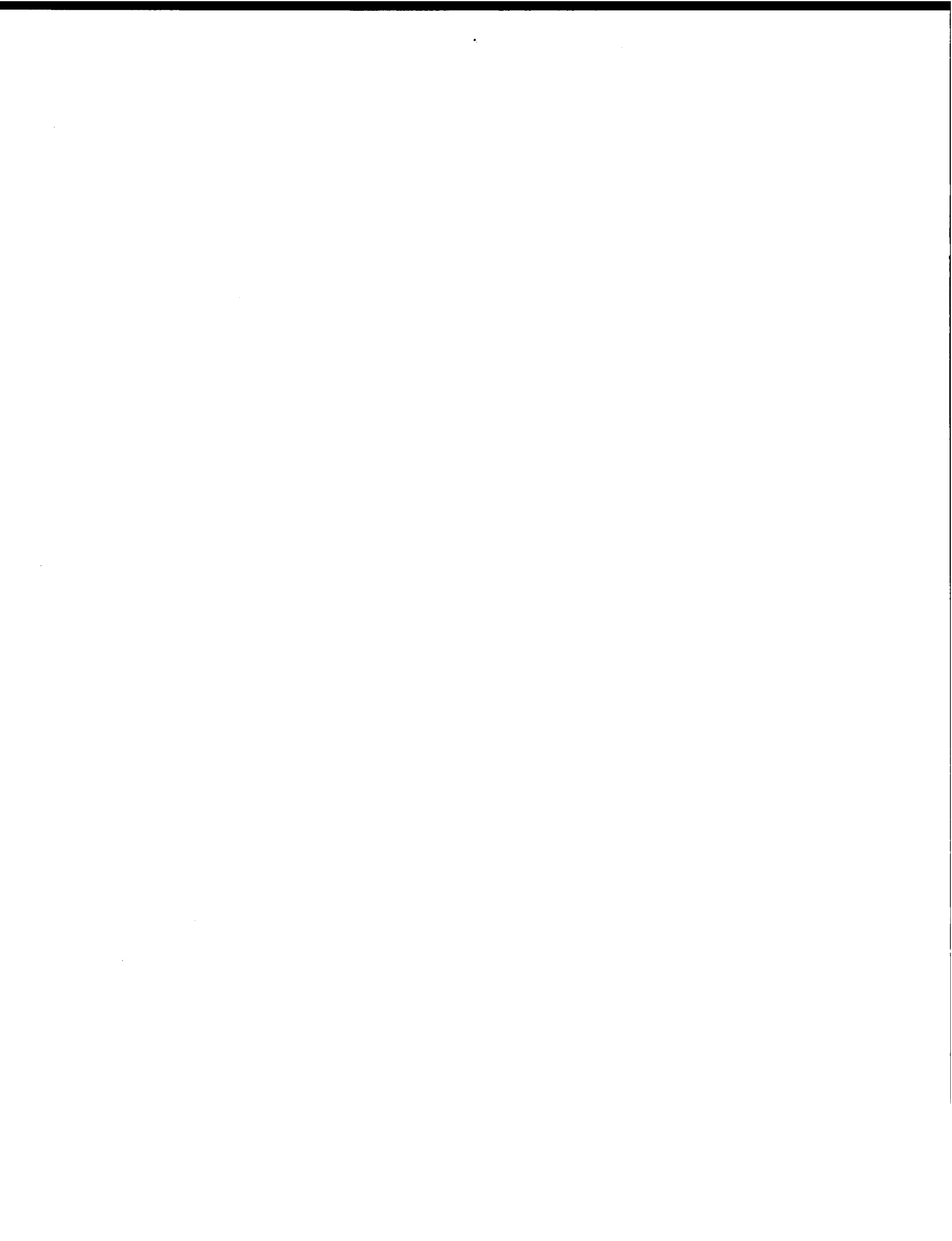
Table 1.32 shows that, as with live births (Table 1.21), the outcome of the prior termination has a strong influence on the interval between pregnancies. Of the 596 women having prior terminations, 113 had a prior fetal death most recently and had a median interval of 1.60 years. The remaining 483 had a prior live birth most recently and a median interval of 2.92 years. In relative terms, spans of less than one year were more frequent for fetal deaths than for live births in both groups. Spans of five years or more were more frequent for prior live births among women having fetal deaths than those having live births. This was not the case among women with prior fetal deaths.

TABLE 1.32—Fetal Deaths to Mothers Reporting Previous Pregnancy Terminations by Time Span Between Last and Current Termination and Whether Termination Was a Live Birth or Fetal Death, Michigan Residents, 1976

TIME SPAN IN YEARS	FETAL DEATHS		PRIOR FETAL DEATHS		PRIOR LIVE BIRTHS	
	No.	%	No.	%	No.	%
TOTAL	596	100.0	113	99.9	483	100.1
Less than One Year	58	9.7	33	29.2	25	5.2
1 <2 Years	165	27.7	39	34.5	126	26.1
2 <3 Years	110	18.5	17	15.0	93	19.3
3 <5 Years	136	22.8	19	16.8	117	24.2
5 or More Years	127	21.3	5	4.4	122	25.3
Median Time Span	2.68	000	1.60	000	2.97	000

MORTALITY

SECTION II



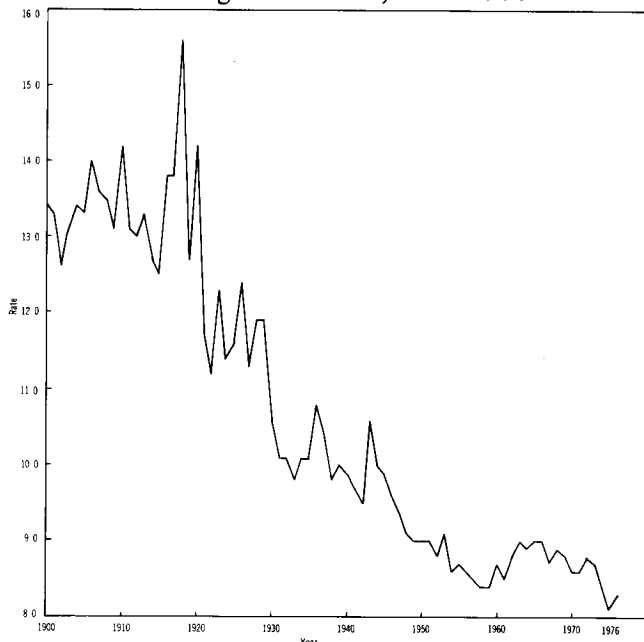
Mortality

An Overview 1976

RESIDENT DEATHS	75,801
CRUDE DEATH RATE	8.3
INFANT DEATHS	1,978
INFANT DEATH RATE	15.1
NEONATAL DEATHS	1,424
NEONATAL DEATH RATE	10.8
PERINATAL DEATHS	2,502
PERINATAL DEATH RATE	18.9
MATERNAL DEATHS	14
MATERNAL DEATH RATE	1.1
DEATHS FROM HEART DISEASE PER DAY	79.9
DEATHS FROM CANCER PER DAY	40.7
DEATHS FROM STROKE PER DAY	20.1
DEATHS FROM ACCIDENTS PER DAY	10.7
MEDIAN AGE AT DEATH	71 Years
MEDIAN AGE AT DEATH FOR MALES	68 Years
MEDIAN AGE AT DEATH FOR FEMALES	75 Years

Between 1900 and 1976 the number of deaths occurring to Michigan residents increased from 32,453 to 75,801. 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 1976, the crude death rate decreased. The crude death rate in 1900 was 13.4 while the rate in 1976 was 8.3. The lowest crude death rate ever recorded for Michigan was 8.1 in 1975. The highest death rate (15.6) was observed in 1918.

FIGURE 2.1—Crude Death Rate, Michigan Residents, 1900-1976



Heart, cancer, and stroke deaths numbered 2,836, 1,460, and 2,136 respectively in 1900, whereas in 1976 heart, cancer, and stroke deaths numbered

29,233, 14,880 and 7,354, 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 1976 are 321.1, 163.4, and 80.8.

In 1976, 75,801 deaths were recorded as having occurred to residents of Michigan. The crude death rate for 1976 was 8.3. The number of Michigan resident deaths had declined from 79,210 in 1972 to 74,522 in 1975. The crude death rate observed in 1976 is above that observed in 1975 (8.1), but constitutes the second lowest rate observed in this century. The provisional national crude death rate was 8.9 in 1976, as it was in 1975. A comparison of deaths and crude death rates for Michigan and the United States for the period 1966-1976 is presented in Table 2.1.

TABLE 2.1—Number of Deaths and Crude Death Rates, Michigan and United States Residents, 1966-1976

UNITED STATES		YEAR	MICHIGAN	
NO.	RATE		NO.	RATE
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
1,892,879	8.9	1975	74,522	8.1
1,909,440	8.9	1976	75,801	8.3

The stable pattern of deaths in the 60's and early 70's had often been attributed to the lack of change in the numbers of deaths in the major disease categories. The crude rate decline observed both in 1974 and 1975 was the result of consecutive declines in the major cause of death groupings including heart disease and stroke. In 1976, there was a significant increase in deaths due to these causes. It should be noted that influenza and pneumonia deaths also rose in 1976 and that heart disease and stroke deaths tend to increase in the presence of high influenza case rates.

Of the 75,801 resident deaths that occurred in 1976, 42,494 occurred to males and 33,307 occurred to females. The median age at death for males was 68, compared to a significantly higher figure for females of 75. White deaths numbered 66,334 and accounted for 87.5 percent of all deaths. Deaths to blacks numbered 9,146 while 321 deaths occurred to members of other races (Table 2.2).

The greatest number of deaths occurred to persons 80-84 years of age and the least number to persons aged 10-14. The greatest number of deaths for black persons occurred to persons 65-69 years of age, while

TABLE 2.2—Number of Deaths by Age, Race, and Sex, Michigan Residents, 1976

AGE	ALL RACES			WHITE			BLACK			OTHER		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
Under 1 Year..	1,978	1,088	890	1,383	752	631	575	320	255	20	16	4
1-4 Years....	360	199	161	269	143	126	83	53	30	8	3	5
5-9 Years....	295	180	115	235	146	89	57	31	26	3	3	—
10-14 Years..	289	184	105	231	144	87	55	37	18	3	3	—
15-19 Years..	964	698	266	799	573	226	154	116	38	11	9	2
20-24 Years..	1,235	929	306	906	687	219	317	232	85	12	10	2
25-29 Years..	1,045	731	314	707	499	208	329	226	103	9	6	3
30-34 Years..	853	567	286	587	383	204	257	178	79	9	6	3
35-39 Years..	946	589	357	674	415	259	266	171	95	6	3	3
40-44 Years..	1,387	855	532	1,033	630	403	342	215	127	12	10	2
45-49 Years..	2,415	1,504	911	1,895	1,180	715	502	311	191	18	13	5
50-54 Years..	3,871	2,430	1,441	3,138	1,971	1,167	708	443	265	25	16	9
55-59 Years..	5,287	3,395	1,892	4,487	2,889	1,598	783	497	286	17	9	8
60-64 Years..	6,907	4,517	2,390	5,942	3,909	2,033	927	584	343	38	24	14
65-69 Years..	8,037	5,033	3,004	7,069	4,458	2,611	933	552	381	35	23	12
70-74 Years..	9,013	5,374	3,639	8,071	4,815	3,256	924	548	376	18	11	7
75-79 Years..	9,477	5,045	4,432	8,644	4,612	4,032	803	414	389	30	19	11
80-84 Years..	9,731	4,689	5,042	9,145	4,396	4,749	560	273	287	26	20	6
85-89 Years..	7,220	2,970	4,250	6,870	2,806	4,064	340	157	183	10	7	3
90 and Over..	4,472	1,506	2,966	4,232	1,419	2,813	229	84	145	11	3	8
Not Stated...	19	11	8	17	10	7	2	1	1	—	—	—
Total.....	75,801	42,494	33,307	66,334	36,837	29,497	9,146	5,443	3,703	321	214	107
Median Age..	71	68	75	72	69	76	60	58	63	60	60	62

deaths to whites were most frequent at ages 80-84. Differences in the mode for age at death are also evident in relation to sex. The most frequent age group at death was 70-74 for white males, 80-84 for white females, 60-64 for black males and 75-79 for black females. While these modal ages at death do not take into consideration differences in age structure of each subgroup population, they do reflect differences in the mortality patterns of each subgroup.

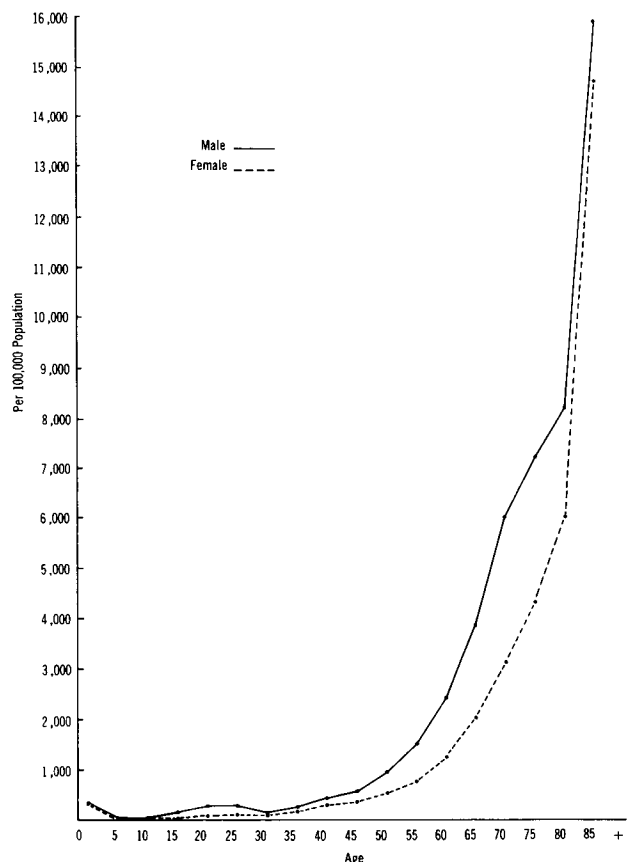
In 1976, 27,832 deaths occurred to persons under the age of 65. This constitutes 36.7 percent of all deaths. The percentage of all deaths to white males that involved persons under 65 years of age is 38.9. The corresponding figure for black males is 62.7. Sim-

TABLE 2.3—Death Rates¹ by Age and Sex, Michigan Residents, 1976

AGE	TOTAL	MALE	FEMALE
All Ages.....	832.6	947.5	721.1
0-4 Years.....	321.5	346.1	295.8
5-9 Years.....	33.0	39.5	26.3
10-14 Years....	30.3	37.9	22.4
15-19 Years....	102.6	149.7	56.2
20-24 Years....	167.9	266.0	79.2
25-29 Years....	171.0	272.4	91.6
30-34 Years....	132.6	168.1	93.5
35-39 Years....	198.2	229.2	162.1
40-44 Years....	355.2	414.7	288.6
45-49 Years....	484.9	594.0	372.2
50-54 Years....	739.4	950.7	537.9
55-59 Years....	1,146.8	1,527.7	792.3
60-64 Years....	1,821.5	2,454.7	1,224.5
65-69 Years....	2,904.4	3,892.2	2,037.9
70-74 Years....	4,410.0	6,059.9	3,145.4
75-79 Years....	5,506.9	7,211.0	4,339.5
80-84 Years....	6,928.8	8,230.6	6,040.3
85 and Over....	15,174.8	15,932.2	14,740.1

¹Rates per 100,000 population.

FIGURE 2.2—Death Rates by Age and Sex, Michigan Residents, 1976¹



¹NOTE: 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.

ilarly for black females, 52.4 percent were deaths before age 65; whereas, white females displayed the smallest percentage of deaths prior to age 65 with 27.0 percent.

Data in Table 2.3 and Figure 2.2 illustrate that males experience higher death rates at every age group than do females. The most significant differences occur in the age groups of 15-19, 20-24, and 25-29. The high death rates for age 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. The value of these age-specific rates for comparison is that they compensate for differences in population structure. A good example of the effect this has is displayed by the age groups of 80-84 and 85 and over. In both these age intervals fewer male deaths were recorded than female deaths in 1976 (Table 2.2), yet male death rates for these ages are higher than those for females. This apparent paradox is the result of far fewer males at ages of 80 years and over than there are females.

LEADING CAUSES OF DEATH

In 1976, 84.7 percent of all deaths were caused by disease in one of ten cause of death categories. The number of deaths and the death rates for the 10 leading causes are shown in Table 2.4. The percentage of the total deaths resulting from each of the 10 principal causes is illustrated in Figure 2.3.

These leading causes of death in Michigan in 1976 remained much the same as they have in the recent past.

These principal cases of death in Michigan in 1976

FIGURE 2.3—Leading Causes of Death, Michigan Residents, 1976

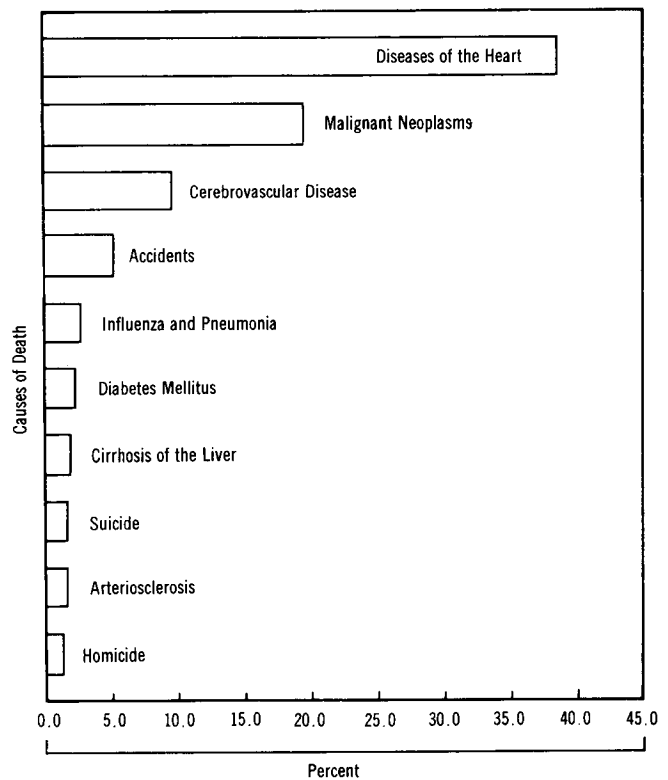


TABLE 2.4—Leading Causes of Death and Cause-Specific Rates, Michigan and United States Residents, 1976

RANK	CAUSE OF DEATH	NUMBER OF DEATHS		RATE	
		MICHIGAN	U.S.	MICHIGAN	U.S.
1	Diseases of the Heart	29,233	723,878	321.1	337.2
2	Malignant Neoplasms	14,880	377,312	163.4	175.8
3	Cerebrovascular Diseases	7,354	188,623	80.8	87.9
4	Accidents	3,912	100,761	43.0	46.9
5	Influenza and Pneumonia	2,106	61,866	23.1	28.8
6	Diabetes Mellitus	1,719	34,508	18.9	16.1
7	Cirrhosis of the Liver	1,486	31,453	16.3	14.7
8	Arteriosclerosis	1,207	29,366	13.3	13.7
9	Suicide	1,182	26,832	13.0	12.5
10	Homicide	1,092	19,554	12.0	9.1
	Sub Total	64,171	1,593,153	704.9	742.7
	All Other Causes	11,630	316,287	127.7	146.9
	Total	75,801	1,909,440	832.6	889.6

Note: A detailed tabulation of deaths by specific conditions for 1976 is included in Section IV. Also included in Section IV 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, 1976

Age	TOTAL				White Male				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			
All Ages	1. Diseases of the Heart	29,233	321.1	1. Diseases of the Heart	14,974	383.3	1. Diseases of the Heart	11,537	286.9	1. Diseases of the Heart	1,497	258.9	1. Diseases of the Heart	1,190	198.9	1. Diseases of the Heart	1,990	198.9			
	2. Malignant Neoplasms	14,880	163.4	2. Malignant Neoplasms	7,171	183.6	2. Malignant Neoplasms	5,952	148.0	2. Malignant Neoplasms	1,051	181.8	2. Malignant Neoplasms	683	114.2	2. Malignant Neoplasms	399	66.7			
	3. Cerebrovascular Disease	7,354	80.8	3. Cerebrovascular Disease	2,842	72.7	3. Cerebrovascular Disease	3,751	93.3	3. Cerebrovascular Disease	573	88.8	3. Cerebrovascular Disease	399	66.7	3. Cerebrovascular Disease	137	22.9			
	4. Accidents	3,912	43.0	4. Accidents	2,322	59.7	4. Accidents	1,103	27.4	4. Accidents	353	61.1	4. Accidents	128	21.4	4. Accidents	128	21.4			
	5. Influenza and Pneumonia	2,106	23.1	5. Influenza and Pneumonia	982	25.1	5. Influenza and Pneumonia	875	21.8	5. Accidents	325	53.5	5. Accidents	128	21.4	5. Accidents	128	21.4			
	All Causes	75,801	832.6	All Causes	36,837	942.9	All Causes	29,484	733.5	All Causes	5,378	584.8	All Causes	3,762	628.8	All Causes	3,762	628.8			
Under 1 Year	1. Certain Diseases of Early Infancy (Birth Injury—50)	1,017	758.3	1. Certain Diseases of Early Infancy (Birth Injury—18)	371	652.9	1. Certain Diseases of Early Infancy (Birth Injury—16)	323	602.3	1. Certain Diseases of Early Infancy (Birth Injury—12)	183	1,549.3	1. Certain Diseases of Early Infancy (Birth Injury—2)	138	1,164.4	1. Certain Diseases of Early Infancy (Birth Injury—2)	138	1,164.4	1. Certain Diseases of Early Infancy (Birth Injury—2)	138	1,164.4
	2. Malignant Neoplasms (Immaturity Unqualified—182)			2. Malignant Neoplasms (Immaturity Unqualified—65)			2. Malignant Neoplasms (Immaturity Unqualified—53)			2. Malignant Neoplasms (Immaturity Unqualified—30)			2. Malignant Neoplasms (Immaturity Unqualified—30)			2. Malignant Neoplasms (Immaturity Unqualified—30)			2. Malignant Neoplasms (Immaturity Unqualified—30)		
	3. Congenital Anomalies (Other—640)	387	288.6	3. Congenital Anomalies (Other—244)	164	288.6	3. Congenital Anomalies (Other—205)	141	262.9	3. Congenital Anomalies (Other—107)	53	448.7	3. Congenital Anomalies (Other—82)	40	337.5	3. Congenital Anomalies (Other—82)	40	337.5	3. Congenital Anomalies (Other—82)	40	337.5
	4. Sudden Infant Death	221	164.9	4. Sudden Infant Death	75	132.0	4. Sudden Infant Death	53	98.8	4. Sudden Infant Death	41	347.1	4. Sudden Infant Death	37	312.2	4. Sudden Infant Death	37	312.2	4. Sudden Infant Death	37	312.2
	5. Influenza and Pneumonia	160	44.2	5. Influenza and Pneumonia	40	44.2	5. Influenza and Pneumonia	21	39.2	5. Influenza and Pneumonia	10	84.7	5. Influenza and Pneumonia	7	59.1	5. Influenza and Pneumonia	7	59.1	5. Influenza and Pneumonia	7	59.1
	All Causes	1,978	1,474.3	All Causes	139	334.4	All Causes	116	29.8	All Causes	6	50.8	All Causes	5	42.8	All Causes	5	42.8	All Causes	5	42.8
1-4 Years	1. Accidents	146	24.6	1. Accidents	58	22.8	1. Accidents	58	24.0	1. Accidents	16	32.9	1. Accidents	13	27.2	1. Accidents	25	41.6	1. Accidents	25	41.6
	2. Congenital Anomalies	40	6.7	2. Congenital Anomalies	12	4.7	2. Congenital Anomalies	23	9.5	2. Congenital Anomalies	8	16.4	2. Congenital Anomalies	7	14.6	2. Congenital Anomalies	7	14.6	2. Congenital Anomalies	7	14.6
	3-4. Malignant Neoplasms	28	4.7	3-4. Malignant Neoplasms	12	4.7	3-4. Malignant Neoplasms	12	5.0	3-4. Malignant Neoplasms	4	8.2	3-4. Malignant Neoplasms	4	8.4	3-4. Malignant Neoplasms	4	8.4	3-4. Malignant Neoplasms	4	8.4
	5. Influenza and Pneumonia	28	4.7	5. Influenza and Pneumonia	8	3.1	5. Influenza and Pneumonia	8	3.3	5. Influenza and Pneumonia	3	6.2	5. Influenza and Pneumonia	2	4.2	5. Influenza and Pneumonia	2	4.2	5. Influenza and Pneumonia	2	4.2
	All Causes	15	2.5	All Causes	4	1.6	All Causes	3	1.2	All Causes	3	3.2	All Causes	2	4.2	All Causes	2	4.2	All Causes	2	4.2
	All Causes	360	60.7	All Causes	143	56.2	All Causes	126	52.1	All Causes	53	108.9	All Causes	35	73.1	All Causes	35	73.1	All Causes	35	73.1
	Diseases of the Heart and Homicide are both tied for 5th rank.																				
5-14 Years	1. Accidents	278	15.0	1. Accidents	149	18.4	1. Accidents	77	9.9	1. Accidents	32	24.1	1. Accidents	17	12.9	1. Accidents	17	12.9	1. Accidents	17	12.9
	2. Malignant Neoplasms	104	5.6	2. Malignant Neoplasms	59	7.3	2. Malignant Neoplasms	36	4.6	2. Malignant Neoplasms	13	9.8	2. Malignant Neoplasms	5	3.8	2. Malignant Neoplasms	5	3.8	2. Malignant Neoplasms	5	3.8
	3. Congenital Anomalies	37	2.0	3. Congenital Anomalies	19	2.1	3. Congenital Anomalies	11	1.4	3. Congenital Anomalies	4	3.0	3. Congenital Anomalies	3	3.6	3. Congenital Anomalies	3	3.6	3. Congenital Anomalies	3	3.6
	4. Homicide	33	1.8	4. Homicide	9	1.1	4. Homicide	8	1.0	4. Homicide	4	5.0	4. Homicide	4	5.0	4. Homicide	4	5.0	4. Homicide	4	5.0
	5. Diseases of the Heart	14	0.8	5. Diseases of the Heart	4	0.7	5. Diseases of the Heart	9	1.0	5. Diseases of the Heart	3	2.3	5. Diseases of the Heart	2	1.1	5. Diseases of the Heart	2	1.1	5. Diseases of the Heart	2	1.1
	All Causes	584	31.6	All Causes	290	35.9	All Causes	176	22.7	All Causes	71	53.4	All Causes	44	33.4	All Causes	44	33.4	All Causes	44	33.4
	Injuries Undetermined and Suicide are both tied for 5th rank.																				
15-24 Years	1. Accidents	1,038	62.0	1. Accidents	735	105.9	1. Accidents	215	29.3	1. Accidents	170	140.4	1. Accidents	29	30.9	1. Accidents	29	30.9	1. Accidents	29	30.9
	2. Homicide	325	19.4	2. Homicide	180	25.7	2. Homicide	46	6.3	2. Homicide	63	52.0	2. Homicide	30	31.5	2. Homicide	30	31.5	2. Homicide	30	31.5
	3. Suicide	263	15.7	3. Suicide	88	12.7	3. Suicide	45	6.1	3. Suicide	29	24.0	3. Suicide	17	13.5	3. Suicide	17	13.5	3. Suicide	17	13.5
	4. Malignant Neoplasms	123	7.3	4. Malignant Neoplasms	60	8.6	4. Malignant Neoplasms	28	3.8	4. Malignant Neoplasms	14	11.6	4. Malignant Neoplasms	9	7.1	4. Malignant Neoplasms	9	7.1	4. Malignant Neoplasms	9	7.1
	5. Mental Disorders	86	5.1	5. Mental Disorders	32	4.6	5. Mental Disorders	11	1.5	5. Mental Disorders	14	11.6	5. Mental Disorders	6	4.8	5. Mental Disorders	6	4.8	5. Mental Disorders	6	4.8
	All Causes	2,199	131.3	All Causes	1,260	181.5	All Causes	445	60.7	All Causes	363	259.8	All Causes	125	59.1	All Causes	125	59.1	All Causes	125	59.1
25-34 Years	1. Accidents	503	40.1	1. Accidents	351	65.7	1. Accidents	87	15.4	1. Accidents	170	237.6	1. Accidents	29	33.9	1. Accidents	29	33.9	1. Accidents	29	33.9
	2. Homicide	296	23.6	2. Homicide	150	28.1	2. Homicide	79	14.0	2. Homicide	49	68.5	2. Homicide	26	30.4	2. Homicide	26	30.4	2. Homicide	26	30.4
	3. Suicide	228	18.2	3. Suicide	77	14.4	3. Suicide	46	8.2	3. Suicide	45	62.9	3. Suicide	18	21.1	3. Suicide	18	21.1	3. Suicide	18	21.1
	4. Malignant Neoplasms	185	14.7	4. Malignant Neoplasms	72	13.5	4. Malignant Neoplasms	24	4.3	4. Malignant Neoplasms	23	32.1	4. Malignant Neoplasms	16	18.7	4. Malignant Neoplasms	16	18.7	4. Malignant Neoplasms	16	18.7
	5. Mental Disorders	102	8.1	5. Mental Disorders	55	10.3	5. Mental Disorders	18	3.2	5. Mental Disorders	19	26.6	5. Mental Disorders	13	15.2	5. Mental Disorders	13	15.2	5. Mental Disorders	13	15.2
	All Causes	1,898	151.3	All Causes	882	165.1	All Causes	412	73.1	All Causes	413	577.2	All Causes	186	217.7	All Causes	186	217.7	All Causes	186	217.7
35-49 Years	1. Diseases of the Heart	1,157	84.7	1. Diseases of the Heart	730	115.2	1. Diseases of the Heart	532	92.7	1. Diseases of the Heart	141	170.2	1. Diseases of the Heart	93	123.3	1. Diseases of the Heart	93	123.3	1. Diseases of the Heart	93	123.3
	2. Malignant Neoplasms	1,141	83.5	2. Malignant Neoplasms	432	68.2	2. Malignant Neoplasms	218	38.0	2. Malignant Neoplasms	116	140.0	2. Malignant Neoplasms	65	86.2	2. Malignant Neoplasms	65	86.2	2. Malignant Neoplasms	65	86.2
	3. Accidents	477	34.9	3. Accidents	282	44.5	3. Accidents	110	19.2	3. Accidents	86	103.8	3. Accidents	47	62.3	3. Accidents	47	62.3	3. Accidents	47	62.3
	4. Cirrhosis of the Liver	357	26.1	4. Suicide	164	25.9	4. Suicide	86	15.0	4. Suicide	80	96.9	4. Suicide	35	46.4	4. Suicide	35	46.4	4. Suicide	35	46.4
	5. Suicide	274	20.1	5. Cirrhosis of the Liver	149	23.5	5. Cirrhosis of the Liver	84	14.6	5. Cirrhosis of the Liver	62	76.9	5. Cirrhosis of the Liver	30	39.8	5. Cirrhosis of the Liver	30	39.8	5. Cirrhosis of the Liver	30	39.8
	All Causes	4,748	347.7	All Causes	2,225	351.2	All Causes	1,377	239.9	All Causes	713	860.5	All Causes	419	555.4	All Causes	419	555.4	All Causes	419	555.4
50-64 Years	1. Diseases of the Heart	6,033	442.4	1. Diseases of the Heart	3,832	549.7	1. Diseases of the Heart	1,835	293.1	1. Diseases of the Heart	519	722.0	1. Diseases of the Heart	294	387.5	1. Diseases of the Heart	294	387.5	1. Diseases of the Heart	294	387.5
	2. Malignant Neoplasms	4,761	349.1	2. Malignant Neoplasms	2,417	378.7	2. Malignant Neoplasms	1,377	220.0	2. Malignant Neoplasms	424	589.8	2. Malignant Neoplasms	258	340.0	2. Malignant Neoplasms	258	340.0	2. Malignant Neoplasms	258	340.0
	3. Cerebrovascular Disease	955	70.0	3. Cerebrovascular Disease	387	69.8	3. Cerebrovascular Disease	356	56.9	3. Cerebrovascular Disease	93	129.4	3. Cerebrovascular Disease	94	123.9	3. Cerebrovascular Disease	94	123.9	3. Cerebrovascular Disease	94	123.9
	4. Cirrhosis of the Liver	668	49.0	4. Cirrhosis of the Liver	367	69.6	4. Cirrhosis of the Liver	153	24.4	4. Cirrhosis of the Liver	92	128.0	4. Cirrhosis of the Liver	38	50.1	4. Cirrhosis of the Liver	38	50.1	4. Cirrhosis of the Liver	38	50.1
	5. Accidents	537	39.4	5. Accidents	314	53.2	5. Accidents	140	22.4	5. Accidents	70	97.4	5. Accidents	44	58.4	5. Accidents	44	58.4	5. Accidents	44	58.4
	All Causes	1,606	1,178.0	All Causes	8,789	1,486.3	All Causes	4,798	766.4	All Causes	1,554	2,161.8	All Causes	908	1,196.7	All Causes	908	1,196.7	All Causes	908	1,196.7
65 and Over	1. Diseases of the Heart	21,863	2,511.0	1. Diseases of the Heart	10,316	3,073.9	1. Diseases of the Heart	9,901	2,181.6	1. Diseases of the Heart	811	2,167.4	1. Diseases of the Heart	813	1,555.8	1. Diseases of the Heart	813	1,555.8	1. Diseases of the Heart	813	1,555.8
	2. Malignant Neoplasms	8,536	980.4	2. Malignant Neoplasms	4,297	1,280.4	2. Malignant Neoplasms	3,470	751.3	2. Malignant Neoplasms	516	1,379.0	2. Malignant Neoplasms	304	693.9	2. Malignant Neoplasms	304	693.9	2. Malignant Neoplasms	304	693.9
	3. Cerebrovascular Disease	6,091	695.6	3. Cerebrovascular Disease	2,326	693.1	3. Cerebrovascular Disease	3,218	722.3	3. Cerebrovascular Disease	220	588.0	3. Cerebrovascular Disease	260	593.5	3. Cerebrovascular Disease	260	593.5	3. Cerebrovascular Disease	260	593.5
	4. Influenza and Pneumonia	1,565	179.7	4. Influenza and Pneumonia	746	222.3	4. Influenza and Pneumonia	717	158.0	4. Influenza and Pneumonia	68	181.7	4. Influenza and Pneumonia	84	191.7	4. Influenza and Pneumonia	84	191.7	4. Influenza and Pneumonia	84	191.7
	5. Diabetes Mellitus	1,281	147.1	5. Diabetes Mellitus	473	140.9	5. Diabetes Mellitus	694	152.9	5. Diabetes Mellitus	59	157.7	5. Diabetes Mellitus	59	125.5	5. Diabetes Mellitus	59	125.5	5. Diabetes Mellitus	59	125.5

remained much the same as they have in the recent past. There has been no change in the first four rankings over the 26 years since 1950. The ranking of 5th and 6th have been held by diabetes mellitus and influenza and pneumonia, with influenza and pneumonia ranking 5th in 17 of the 27 years from 1950 through 1976. Cirrhosis of the liver was not among the ten leading causes of death in 1950. This cause ranked 10th in 1954 and has been among the ten most frequent causes consistently since 1960, gradually moving from 10th to 7th. The ranking of homicide and suicide in the top ten is also fairly recent. Homicide rose to the 9th leading cause in 1972 and is 10th in 1976. Suicide first ranked in the top ten in 1964 when it was the 10th leading cause. Arteriosclerosis has consistently been ranked since 1950. This cause ranked 7th in 1950, declined to the rank of tenth in 1974 and 1975, then rose to 8th in 1976. In 1976, six of the ten leading causes of death are chronic conditions, one is an acute disease category and three are external nondisease groupings.

While the four leading causes of death have not changed since 1950, influenza and pneumonia, and diabetes mellitus have alternately ranked 5th and 6th over the last five years with influenza and pneumonia ranking 5th in 1976. Cirrhosis of the liver has ranked 7th since 1969. Arteriosclerosis replaced homicide as the 8th leading cause in 1976, while suicide remained 9th and homicide dropped to 10th.

No major changes in the order of the ten leading causes for the United States occurred in 1976. Certain 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. Some cause-specific rates are, however, higher than comparative national rates. These causes are diabetes mellitus, cirrhosis of the liver, suicide, and homicide.

The five most frequent causes of death among all Michigan resident deaths has changed little in recent years. This does not imply similarity in the leading causes of death among residents at different ages, of different sexes or different races. Table 2.5 contains the five most frequent causes of death by age, sex, and race. Careful examination of this table will disclose that major differences in the leading causes of death are associated with these three characteristics. No single cause of death is among the most frequent causes in all categories. Malignant neoplasms have the most widespread significance of any condition as it is present in 25 of the 32 cells. Accidental deaths are ranked in 24 cells. Heart disease, the most frequent cause of death in the state, is one of the five leading causes of death in 16 of the 32 individual cross classifications. The variation in leading causes of death by age is most evident among deaths to infants under one year. This category has little similarity to any other age group. External causes of death, including homicide, suicide and accidents, are predominant killers

among persons 1 through 34 years of age. At ages 35 years and over, chronic conditions are responsible for the largest percentage of deaths.

THE PROBABILITY OF EVENTUAL DEATH DUE TO A SPECIFIED CAUSE

While cause-specific death rates are useful in gauging the frequency of death due to certain causes and in making comparisons between areas or populations, they do not relate the risk that the condition imposes on the population with clarity. Mortality data can be used to develop this risk in probabilistic terms. Through the application of life expectancy techniques, a probability of death due to a given cause can be estimated. Such probabilities represent the average risk of eventual death being caused by a specified condition under an assumption that the mortality across all ages that was observed in a time period will remain unchanged through the remaining life of the population. These probabilities can be estimated for any given age attained. The following list relates the probability at birth of dying from the ten leading causes of death based upon Michigan mortality experience for the years 1974 through 1976.

<i>Disease Category</i>	<i>Probability at Birth of Eventual Death Due to Condition for:</i>	
	<i>Males</i>	<i>Females</i>
Heart Disease	.411	.425
Malignant Neoplasms	.190	.171
Cerebrovascular Disease	.088	.142
Accidents	.047	.028
Diabetes Mellitus	.019	.033
Influenza and Pneumonia	.027	.028
Cirrhosis of the Liver	.021	.011
Arteriosclerosis	.015	.028
Suicide	.015	.006
Homicide	.015	.004
All Other Causes	.152	.124

The 1974 through 1976 data would indicate that 84.8 percent of all males and 87.6 percent of all females in Michigan will die from one of the ten leading causes if all things remain constant. Approximately four of every ten people will die from heart disease. Women face higher risks of death due to the chronic conditions of cerebrovascular disease, diabetes mellitus and arteriosclerosis than do males. At the same time, males are more likely to die from accidents, cirrhosis of the liver, homicide, suicide or cancer, according to the mortality experience in Michigan during 1974 through 1976.

DISEASES OF THE HEART

In 1976, 29,233 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; namely cancer, stroke, accidents and diabetes mellitus.

Of the 29,233 deaths due to diseases of the heart in 1976, 16,495 were to males and 12,738 to females.

The median age at death for males was 71 years compared to a figure of 79 for females. The median age at death for all heart deaths was 74 (Table 2.6).

The white male median age of 71 years exceeded the black male median by 5 years. The median age at death for white females was 79, 7 years above that for black females.

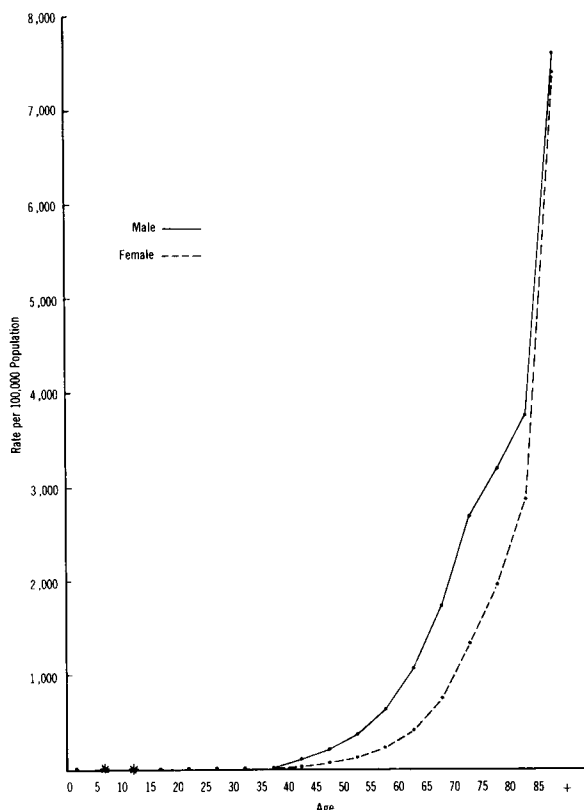
Examination of Table 2.7 reveals that the heart disease death rate for males is substantially higher than that for females (367.8 as compared to 275.8). Age-

TABLE 2.6—Deaths Due to diseases of the Heart by Age, Race, and Sex, Michigan Residents, 1976

AGE	ALL RACES			WHITE			BLACK			OTHER		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
Under 1 Year.	17	11	6	12	7	5	4	3	1	1	1	—
1-4 Years . . .	6	4	2	6	4	2	—	—	—	—	—	—
5-9 Years . . .	7	1	6	4	—	4	3	1	2	—	—	—
10-14 Years . .	7	3	4	6	2	4	1	1	—	—	—	—
15-19 Years . .	19	13	6	17	12	5	2	1	1	—	—	—
20-24 Years . .	25	20	5	19	15	4	6	5	1	—	—	—
25-29 Years . .	38	28	10	27	20	7	11	8	3	—	—	—
30-34 Years . .	61	41	20	45	35	10	16	6	10	—	—	—
35-39 Years . .	139	101	38	103	77	26	35	23	12	1	1	—
40-44 Years . .	313	247	66	260	205	55	50	40	10	3	2	1
45-49 Years . .	705	526	179	585	448	137	114	73	41	6	5	1
50-54 Years . .	1,313	975	338	1,110	845	265	196	123	73	7	7	—
55-59 Years . .	1,940	1,398	542	1,673	1,238	435	265	159	106	2	1	1
60-64 Years . .	2,780	1,985	795	2,427	1,750	677	342	227	115	11	8	3
65-69 Years . .	3,362	2,235	1,127	3,001	2,030	971	350	198	152	11	7	4
70-74 Years . .	3,933	2,393	1,540	3,576	2,188	1,388	348	199	149	9	6	3
75-79 Years . .	4,257	2,235	2,022	3,879	2,057	1,822	364	168	196	14	10	4
80-84 Years . .	4,545	2,140	2,405	4,293	2,019	2,274	243	115	128	9	6	3
85-89 Years . .	3,490	1,402	2,088	3,312	1,327	1,985	173	71	102	5	4	1
90 and Over . .	2,276	737	1,539	2,156	695	1,461	112	40	72	8	2	6
Not Stated . . .	—	—	—	—	—	—	—	—	—	—	—	—
Total	29,233	16,495	12,738	26,511	14,974	11,537	2,635	1,461	1,174	87	60	27
Median Age . .	74	71	79	75	71	79	68	66	72	70	68	75

specific heart disease death rates for males and females are similar below the age of 25. For all older ages the male rates are substantially above those of females, with the greatest differential noted for the age groups 40-44, 45-49, 50-54, and 55-59. Male rates in these age groups range about three times the corresponding rates for females.

FIGURE 2.4—Heart Disease Death Rates by Age and Sex, Michigan Residents, 1976¹



¹NOTE: 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.

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 23 deaths in the age group 0-4 or about 1.0 percent of all deaths in this age group. In contrast 49.3 percent of all deaths in the age group 85 and over were attributed to this cause in 1976. The heart disease death rate was 7,483.5 in the 85 and over age group.

In 1900 the crude heart disease death rate in Michigan was 117.1, the lowest rate of this century. In 1976, this rate was 321.1. 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

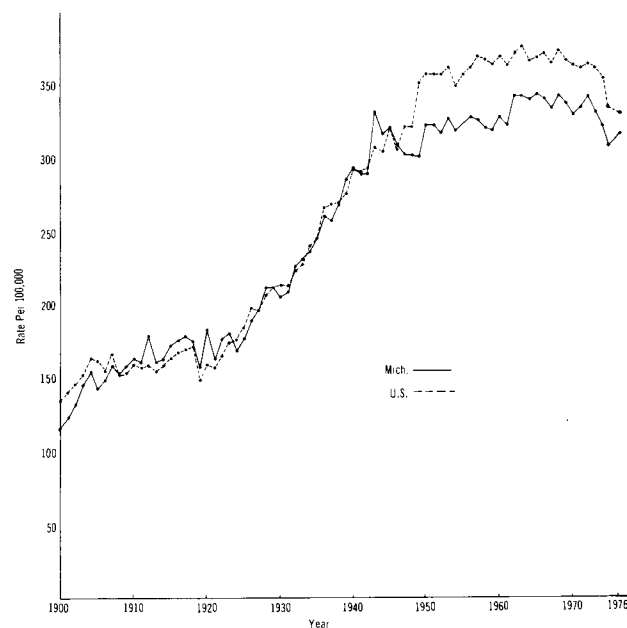
TABLE 2.7—Heart Disease Death Rates by Age and Sex, Michigan Residents, 1976

AGE	TOTAL	MALE	FEMALE
All Ages	321.1	367.8	275.8
0-4 Years	3.2	4.0	2.3
5-9 Years	0.8	*	1.4
10-14 Years	0.7	*	*
15-19 Years	2.0	2.8	1.3
20-24 Years	3.4	5.7	*
25-29 Years	6.2	10.4	2.9
30-34 Years	9.5	12.2	6.5
35-39 Years	29.1	39.3	17.3
40-44 Years	80.2	119.8	35.8
45-49 Years	141.6	207.7	73.1
50-54 Years	250.8	381.4	126.2
55-59 Years	420.8	629.1	227.0
60-64 Years	733.1	1,078.7	407.3
65-69 Years	1,215.0	1,728.4	764.6
70-74 Years	1,924.4	2,698.4	1,331.1
75-79 Years	2,473.6	3,194.5	1,979.8
80-84 Years	3,236.2	3,756.4	2,881.2
85 and Over	7,483.5	7,613.7	7,408.8

1900-1950. This rate has remained relatively stable over the last twenty-five years. The annual rate declined in three consecutive years to 309.0 in 1975. The 1976 rate represents a 3.9 percent increase over 1975 rate. 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 1976, the national rate was 338.5, 5.4 percent above the Michigan rate of death due to heart disease.

The most prevalent condition of heart disease death is acute myocardial infarction (14,105 deaths in 1976) commonly referred to as a "coronary" (Table 2.8).

FIGURE 2.5—Heart Disease Death Rates, Michigan and United States Residents,¹ 1900-1976²



¹National rates are from death registration states for 1900-1932 and the United States for 1933-1976.

²Heart 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.

Almost as frequent is chronic ischemic heart disease. In 1976, there were 12,338 deaths attributed to this cause. Together, acute myocardial infarction and chronic ischemic heart disease are the underlying cause in 90.5 percent of all Michigan heart disease deaths. The remaining 9.5 percent of the deaths, if considered separately, would comprise the 5th leading cause of death. These deaths are distributed among 21 other categories of heart disease. Just over half of the remaining 2,790 deaths can be attributed to two causes: symptomatic heart disease and hypertensive heart disease (1,303 and 299 deaths, respectively).

The probability of eventually dying from heart disease, based on death data from 1974, 1975, and 1976, is 0.41 for males and 0.43 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.

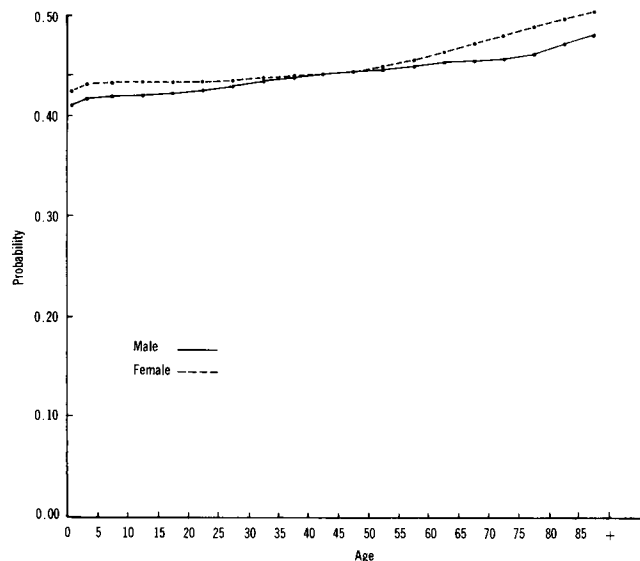
TABLE 2.8—Deaths Due to Diseases of the Heart by Detailed Cause, Michigan Residents, 1976

ICDA LIST NO.	CAUSE OF DEATH	NO. OF DEATHS	PER-CENT
410	Acute Myocardial Infarction	14,105	48.3
412	Chronic Ischemic Heart Disease	12,338	42.2
427	Symptomatic Heart Disease	1,303	4.5
402	Hypertensive Heart Disease	299	1.0
425	Cardiomyopathy	159	0.5
395	Disease of Aortic Valve	155	0.5
398	Other Heart Disease, Specified as Rheumatic	135	0.5
394	Disease of Mitral Valve	120	0.4
404	Hypertensive Heart and Renal Disease	107	0.4
429	Ill-Defined Heart Disease	95	0.3
426	Pulmonary Heart Disease	88	0.3
411	Other Acute and Subacute Forms of Ischemic Heart Disease	79	0.3
428	Other Myocardial Insufficiency	79	0.3
396	Diseases of Mitral and Aortic Valves	38	0.1
424	Chronic Disease of Endocardium	32	0.1
421	Acute and Subacute Endocarditis	30	0.1
397	Diseases of Other Endocardial Structures	27	0.1
423	Chronic Disease of Pericardium, Non-Rheumatic	18	0.1
391	Rheumatic Fever with Heart Involvement	11	0.0
422	Acute Myocarditis	8	0.0
413	Angina Pectoris	4	0.0
390	Rheumatic Fever without Heart Involvement	1	0.0
393	Diseases of Pericardium	1	0.0
420	Acute Pericarditis, Non-Rheumatic	1	0.0
	TOTAL	29,233	100.0

By age 85, the observed probability was 0.48 for males and 0.51 for females in 1974-1976. Males are generally less likely to die from heart disease, however, in the ages of 35 through about 55 the probabilities demonstrated by each sex are quite similar. The higher risk for females across most age intervals reflects smaller 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 to the frequency of death not from that cause.

FIGURE 2.6—Probability of Eventually dying from Heart Disease by Age and Sex, Michigan Residents, 1974-1976¹



¹NOTE: 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.

CANCER

Of 75,801 resident deaths, 14,880 persons died from cancer in 1976. Although not the leading cause of death in Michigan or the United States, cancer affects all the human body's major systems and persons of all ages.

Of the 14,880 cancer deaths in 1976 occurring to Michigan residents, 8,233 were males while 6,647

occurred to females. The median age at death for both sexes was 67 years (Table 2.9). Median ages for males by race are slightly older than females of the same race category. White male median age observed in 1976 was 68 years compared to 67 years for white females. Black males with a median of 64 years exceeded black female median age by one year.

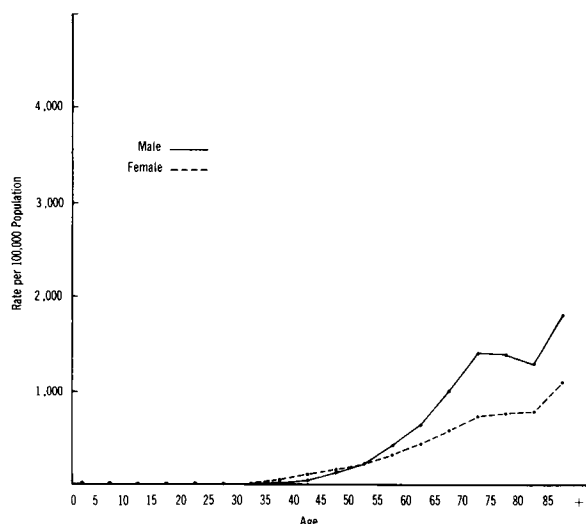
Cancer death rates are higher overall for males (183.6) than for females (143.9). Age-specific rates

TABLE 2.9—Deaths Due to Cancer by Age, Race, and Sex,
Michigan Residents, 1976

AGE	ALL RACES			WHITE			BLACK			OTHER		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
Under 1 Year.	2	—	2	2	—	2	—	—	—	—	—	—
1-4 Years . . .	28	15	13	24	12	12	4	3	1	—	—	—
5-9 Years . . .	60	39	21	55	37	18	5	2	3	—	—	—
10-14 Years . .	44	24	20	40	22	18	3	1	2	1	1	—
15-19 Years . .	50	35	15	46	31	15	3	3	—	1	1	—
20-24 Years . .	73	36	37	60	29	31	13	7	6	—	—	—
25-29 Years . .	89	50	39	72	40	32	17	10	7	—	—	—
30-34 Years . .	96	40	56	84	37	47	12	3	9	—	—	—
35-39 Years . .	173	66	107	152	61	91	20	5	15	1	—	1
40-44 Years . .	312	120	192	260	101	159	50	18	32	2	1	1
45-49 Years . .	656	327	329	552	270	282	100	56	44	4	1	3
50-54 Years . .	1,146	594	552	958	482	476	183	109	74	5	3	2
55-59 Years . .	1,622	900	722	1,396	750	646	222	150	72	4	—	4
60-64 Years . .	1,993	1,168	825	1,715	1,002	713	268	161	107	10	5	5
65-69 Years . .	2,165	1,296	869	1,893	1,115	778	261	172	89	11	9	2
70-74 Years . .	2,105	1,271	834	1,867	1,118	749	236	152	84	2	1	1
75-79 Years . .	1,791	988	803	1,630	889	741	156	95	61	5	4	1
80-84 Years . .	1,414	754	660	1,324	704	620	88	48	40	2	2	—
85-89 Years . .	778	381	397	735	353	382	42	27	15	1	1	—
90 and Over . .	283	129	154	258	118	140	25	11	14	—	—	—
Not Stated . . .	—	—	—	—	—	—	—	—	—	—	—	—
Total	14,880	8,233	6,647	13,123	7,171	5,952	1,708	1,033	675	49	29	20
Median Age . .	67	67	67	68	68	67	64	64	63	63	66	58

for males are higher than females in thirteen of the eighteen age groups. The male mortality rate due to cancer is 60 to 90 percent higher than female rates at ages 65 and over. Only in the age groups 30-34, 35-39, 40-44, and 45-49 are female cancer rates appreciably higher. In the first of these age groups (30-34), female cancer mortality is 54 percent above

FIGURE 2.7—Cancer Death Rates by Age and Sex, Michigan Residents, 1976¹



¹NOTE: 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.

the 11.9 rate for males. The relative differences of male and female rates for ages 35-39 and 40-44 are 89 percent and 79 percent, respectively.

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 those for females and rise much faster from 50 years of age through to age 80.

Cancer death rates have risen steadily since 1900 (Figure 2.8). In 1976 the rate was 163.4, the highest observed in this century. The 1976 rate surpassed the previous high rate of 157.7 in 1975. 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 11 years, the national rate has been rising faster than the rate observed in Michigan. The national cancer death rate in 1976 was 174.9. This is 7.0 percent above the state rate.

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 1976, 22.7

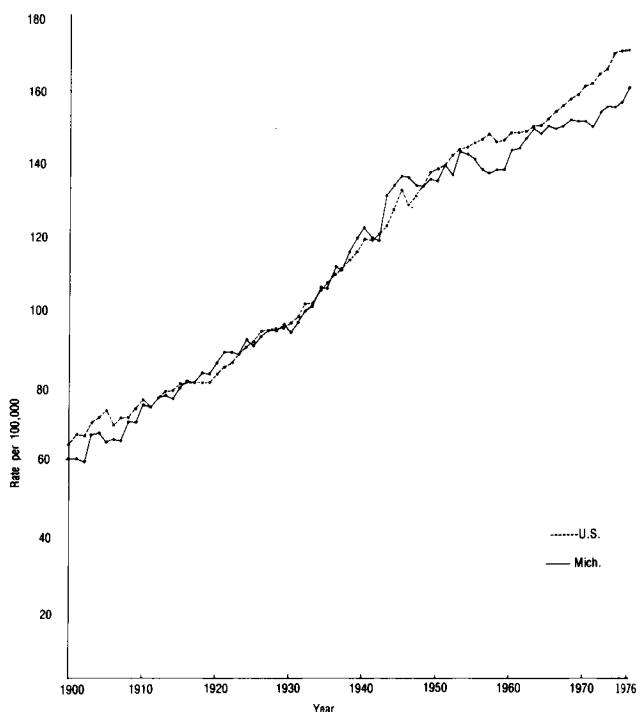
TABLE 2.10—Cancer Death Rates by Age and Sex, Michigan Residents, 1976

AGE	TOTAL	MALE	FEMALE
All Ages.....	163.4	183.6	143.9
0-4 Years.....	4.1	4.0	4.2
5-9 Years.....	6.7	8.6	4.8
10-14 Years.....	4.6	4.9	4.3
15-19 Years.....	5.3	7.5	3.2
20-24 Years.....	9.9	10.3	9.6
25-29 Years.....	14.6	18.6	11.4
30-34 Years.....	14.9	11.9	18.3
35-39 Years.....	36.3	25.7	48.6
40-44 Years.....	79.9	58.2	104.2
45-49 Years.....	131.7	129.1	134.4
50-54 Years.....	218.9	232.4	206.0
55-59 Years.....	351.8	405.0	302.3
60-64 Years.....	525.6	634.7	422.7
65-69 Years.....	782.4	1,002.2	589.5
70-74 Years.....	1,030.0	1,433.2	720.9
75-79 Years.....	1,040.7	1,412.2	786.2
80-84 Years.....	1,006.8	1,323.5	790.7
85 and Over.....	1,377.0	1,815.3	1,125.5

percent of all cancer deaths are attributed to this cause. The second most frequent cause of cancer mortality is cancer of the large intestine (1,595 deaths). Breast cancer (1,289 deaths) is 3rd while malignant neoplasms of the prostate and the pancreas are 4th and 5th. These first five of the 59 causes listed constitute 52.6 percent of all cancer deaths in Michigan. Of the remaining 54 causes, 22 resulted in 100 or more deaths in 1976.

Based upon 1974 through 1976 death data, the probability of death due to malignant neoplasm is

FIGURE 2.8—Cancer Death Rates, Michigan and United States Residents,¹ 1900-1976²



¹National rates are from Death Registration States for 1900-1932 and the United States for 1933-1976.

²Cancer death rates since 1900 are suitable for general comparison over time but detailed study (such as time series) requires special consideration. See Technical notes.

0.190 for males and 0.171 for females at birth (Figure 2.9). The male probability rises slowly to a peak of 0.202 for ages 45-49 and 50-54 then drops rapidly to 0.115 at ages 85 and over. Female probabilities are more stable, displaying little change from birth to ages 45-49 then diminishing to 0.078 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.

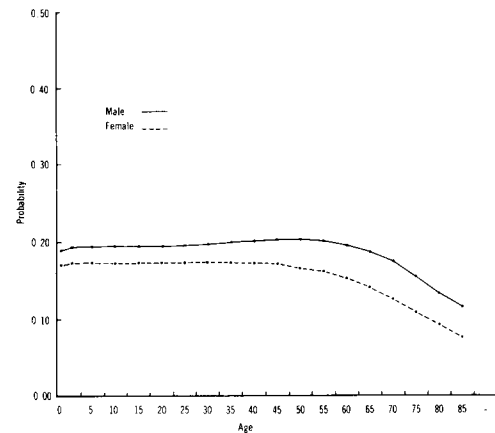
CEREBROVASCULAR DISEASE

Deaths due to cerebrovascular diseases (stroke) numbered 7,354 among Michigan resident deaths in 1976 or 9.7 percent of the 75,801 total resident deaths. This is 1.3 percent more stroke deaths than were observed in 1975 (7,262 deaths). Of the total in 1976, 3,200 were male deaths and 4,154 were female.

TABLE 2.11—Malignant Neoplasms by Site Affected, Michigan Residents, 1976

ICDA LIST NO.	CAUSE AND SITE	NO. OF DEATHS	PER-CENT
162	Malignant Neoplasm of Trachea, Bronchus and Lung	3,375	22.7
153	Malignant Neoplasm of Large Intestine, Except Rectum	1,595	10.7
174	Malignant Neoplasm of Breast	1,289	8.7
185	Malignant Neoplasm of Prostate	820	5.5
157	Malignant Neoplasm of Pancreas	741	5.0
199	Malignant Neoplasm without Specification of Site	672	4.5
151	Malignant Neoplasm of Stomach	517	3.5
183	Malignant Neoplasm of Ovary, Fallopian Tube, and Broad Ligament	434	2.9
188	Malignant Neoplasm of Bladder	394	2.6
154	Malignant Neoplasm of Rectum and Rectosigmoid Junction	346	2.3
191	Malignant Neoplasm of Brain	341	2.3
150	Malignant Neoplasm of Esophagus	338	2.3
189	Malignant Neoplasm of Other and Unspecified Urinary Organs	311	2.1
205	Myeloid Leukemia	252	1.7
203	Multiple Myeloma	248	1.7
202	Other Neoplasms of Lymphoid Tissue	247	1.7
180	Malignant Neoplasm of Cervix Uteri	244	1.6
197	Secondary Malignant Neoplasm of Respiratory and Digestive Systems	240	1.6
200	Lymphosarcoma and Reticulum-Cell Sarcoma	233	1.6
182	Other Malignant Neoplasm of Uterus	211	1.4
207	Other and Unspecified Leukemia	180	1.2
156	Malignant Neoplasm of Gall Bladder and Bile Ducts	172	1.2
204	Lymphatic Leukemia	154	1.0
161	Malignant Neoplasm of Larynx	134	0.9
172	Malignant Neoplasm of Skin	129	0.9
195	Malignant Neoplasm of Ill-Defined Sites	115	0.8
201	Hodgkin's Disease	106	0.7
155	Malignant Neoplasm of Liver and Intra-Hepatic Bile Ducts, Specified as Primary	95	0.6
198	Other Secondary Malignant Neoplasm	83	0.6
141	Malignant Neoplasm of Tongue	80	0.5
171	Malignant Neoplasm of Connective and Other Soft Tissue	65	0.4
170	Malignant Neoplasm of Bone	64	0.4
192	Malignant Neoplasm of Other Parts of Nervous System	51	0.3

FIGURE 2.9—Probability of Eventually Dying from Cancer by Age and Sex, Michigan Residents, 1974-1976¹



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 2.11—Malignant Neoplasms by Site Affected, Michigan Residents, 1976 (Continued)

ICDA LIST NO.	CAUSE AND SITE	NO. OF DEATHS	PER-CENT
173	Other Malignant Neoplasm of Skin	48	0.3
193	Malignant Neoplasm of Thyroid Gland	48	0.3
149	Malignant Neoplasm of Pharynx, Unspecified	43	0.3
145	Malignant Neoplasm of Other and Unspecified Parts of the Mouth	42	0.3
146	Malignant Neoplasm of Oropharynx	41	0.3
186	Malignant Neoplasm of Testis	41	0.3
209	Myelofibrosis	39	0.3
184	Malignant Neoplasm of Other and Unspecified Female Genital Organs	38	0.3
163	Malignant Neoplasm of Other and Unspecified Respiratory Organs	27	0.2
152	Malignant Neoplasm of Small Intestine, Including Duodenum	26	0.2
148	Malignant Neoplasm of Hypopharynx	23	0.2
159	Malignant Neoplasm of Unspecified Digestive Organs	23	0.2
194	Malignant Neoplasm of Other Endocrine Glands	20	0.1
147	Malignant Neoplasm of Nasopharynx	19	0.1
158	Malignant Neoplasm of Peritoneum and Retroperitoneal Tissue	18	0.1
160	Malignant Neoplasm of Nose, Nasal Cavities, Middle Ear, and Accessory Sinuses	17	0.1
206	Monocytic Leukemia	16	0.1
144	Malignant Neoplasm of Floor of Mouth	14	0.1
208	Polycythemia Vera	14	0.1
142	Malignant Neoplasm of Salivary Gland	12	0.1
190	Malignant Neoplasm of Eye	10	0.1
196	Secondary and Unspecified Malignant Neoplasm of Lymph Nodes	9	0.1
187	Malignant Neoplasm of Other and Unspecified Male Genital Organs	8	0.1
140	Malignant Neoplasm of Lip	5	0.0
143	Malignant Neoplasm of Gum	2	0.0
181	Chorionepithelioma	1	0.0
	TOTAL	14,880	100.2

The median age at death for stroke victims was 78. The median age for females was 80 years or 4 years higher than that for males. Deaths to whites that were due to cerebrovascular diseases displayed median ages several years higher than those for black persons. The median age for black males of 69 years contrasts with the white male median of 77. The black female median of 72 years is 8 years less than that of white females (Table 2.12).

The cerebrovascular disease death rate was 80.8 in 1976. The female rate of 89.9 was significantly higher than the rate for males (71.4). The age-specific death rates in Table 2.13 shows male and female rates reasonably similar prior to age 55. Male rates were above those of females from the 55-59 age group through age group 80-84. In the 85 and over age interval the female rate is 21 percent above the male rate.

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 above age 55. Female rates were just below male rates in seven of the 14 age intervals with a sufficient number of deaths for rate calculations.

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

TABLE 2.13—Cerebrovascular Disease Death Rates by Age and Sex, Michigan Residents, 1976

AGE	TOTAL	MALE	FEMALE
All Ages.....	80.8	71.4	89.9
0-4 Years.....	1.9	2.2	1.7
5-9 Years.....	*	*	*
10-14 Years.....	*	*	*
15-19 Years.....	1.0	*	1.3
20-24 Years.....	1.1	*	*
25-29 Years.....	3.8	3.7	3.8
30-34 Years.....	2.6	2.1	3.3
35-39 Years.....	9.2	7.4	11.4
40-44 Years.....	16.1	14.5	17.9
45-49 Years.....	25.1	24.5	25.7
50-54 Years.....	42.4	42.3	42.6
55-59 Years.....	65.1	77.4	53.6
60-64 Years.....	114.2	122.3	106.6
65-69 Years.....	216.5	242.8	193.3
70-74 Years.....	446.2	537.9	376.0
75-79 Years.....	710.1	770.4	668.7
80-84 Years.....	1,043.8	1,069.0	1,026.7
85 and Over.....	2,455.6	2,171.3	2,618.7

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 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 eight 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 Mich-

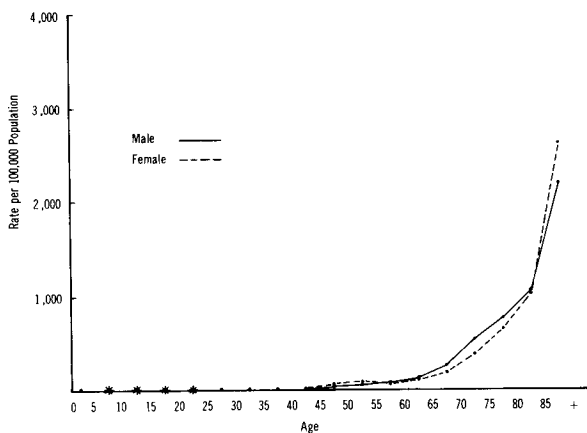
TABLE 2.12—Deaths Due to Cerebrovascular Disease by Age, Race, and Sex, Michigan Residents, 1976

AGE	ALL RACES			WHITE			BLACK			OTHER		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
Under 1 Year..	9	5	4	9	5	4	—	—	—	—	—	—
1-4 Years....	5	3	2	4	2	2	1	1	—	—	—	—
5-9 Years....	1	—	1	1	—	1	—	—	—	—	—	—
10-14 Years..	4	2	2	2	1	1	2	1	1	—	—	—
15-19 Years..	9	3	6	7	3	4	2	—	2	—	—	—
20-24 Years..	8	5	3	7	5	2	1	—	1	—	—	—
25-29 Years..	23	10	13	16	6	10	7	4	3	—	—	—
30-34 Years..	17	7	10	9	2	7	7	4	3	1	1	—
35-39 Years..	44	19	25	29	13	16	15	6	9	—	—	—
40-44 Years..	63	30	33	38	18	20	24	11	13	1	1	—
45-49 Years..	125	62	63	99	49	50	26	13	13	—	—	—
50-54 Years..	222	108	114	159	82	77	62	25	37	1	1	—
55-59 Years..	300	172	128	245	140	105	55	32	23	—	—	—
60-64 Years..	433	225	208	364	190	174	68	34	34	1	1	—
65-69 Years..	599	314	285	515	268	247	82	44	38	2	2	—
70-74 Years..	912	477	435	799	416	383	113	61	52	—	—	—
75-79 Years..	1,222	539	683	1,128	503	625	89	34	55	5	2	3
80-84 Years..	1,466	609	857	1,365	563	802	94	40	54	7	6	1
85-89 Years..	1,173	399	774	1,119	378	741	53	20	33	1	1	—
90 and Over..	719	211	508	678	198	480	41	13	28	—	—	—
Not Stated...	—	—	—	—	—	—	—	—	—	—	—	—
Total.....	7,354	3,200	4,154	6,593	2,842	3,751	742	343	399	19	15	4
Median Age..	78	76	80	79	77	80	70	69	72	*	*	*

igan has ranged from 102.8 in 1958 to 79.3 in 1975. Recent rates over the last twelve years have shown a clear downward tendency both nationally and in Michigan. In 1976, the Michigan rate was 8.4 percent less than the United States rate of 88.2 (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 2,090 deaths in 1976. These two cause of death categories comprise 61.5 percent of all stroke deaths. Generalized ischemic cerebrovascular disease and cerebral

FIGURE 2.10—Cerebrovascular Disease Death Rates by Age and Sex, Michigan Residents, 1976¹



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

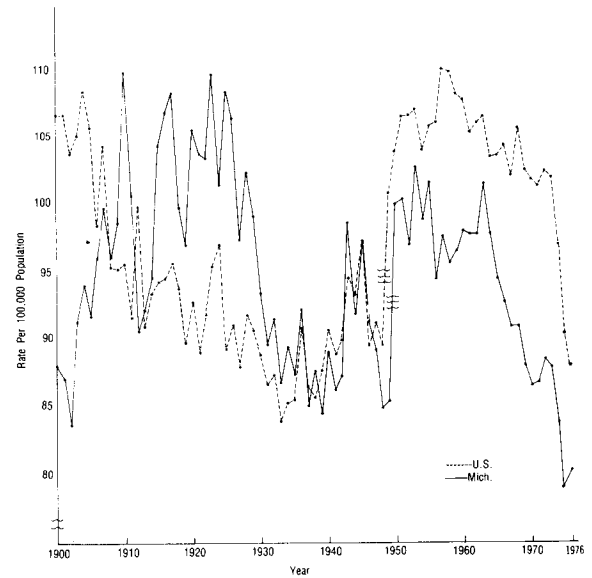
hemorrhage are the 3rd and 4th most frequent conditions causing these deaths. Together the top four causes of cerebrovascular disease deaths accounted for 91.5 percent of all such deaths in Michigan.

At birth, a Michigan male faces a 0.088 chance of dying from cerebrovascular disease while the probability associated with a female at birth is 0.142, based upon the mortality experience of 1974 through 1976 in Michigan. Females are consistently more likely to

TABLE 2.14—Deaths Due to Cerebrovascular Disease by Detailed Cause, Michigan Residents, 1976

ICDA LIST NO.	CAUSE OF DEATH	NO. OF DEATHS	PER-CENT
436	Acute but Ill-Defined Cerebrovascular Disease	2,430	33.0
433	Cerebral Thrombosis	2,090	28.4
437	Generalized Ischemic Cerebrovascular Disease	1,245	16.9
431	Cerebral Hemorrhage	963	13.1
430	Subarachnoid Hemorrhage	341	4.6
432	Occlusion of Precerebral Arteries	125	1.7
438	Other and Ill-Defined Cerebrovascular Disease	117	1.6
434	Cerebral Embolism	41	0.6
435	Transient Cerebral Ischemia	2	0.0
	TOTAL	7,354	99.9

FIGURE 2.11—Cerebrovascular Disease Death Rates, Michigan and United States Residents, 1900-1976²

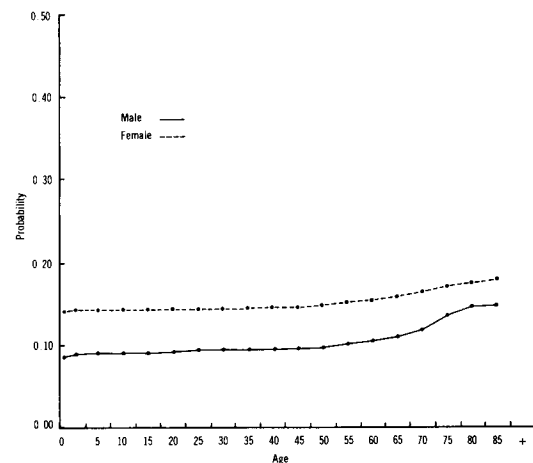


²National rates are from death registration states for 1900-1932 and the United States for 1933-1976.

The comparability of cerebrovascular disease death rates from the 5th revision of ICDA coding procedures with those of the 8th 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 5th, 7th, and 8th revisions (1949 to date nationally and 1950 to date in Michigan) is high.

die from this cause than males through all age intervals, according to the 1974-1976 data (Figure 2.12). This results primarily from the higher risk of competing causes for males. At age 60 male chances start rising appreciably with advancing age, reaching 0.137 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 0.180 for the age interval 85 and over.

FIGURE 2.12—Probability of Eventually Dying from Cerebrovascular Disease by Age and Sex, Michigan Residents, 1974-1976¹



¹NOTE: 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 5.2 percent of all Michigan resident deaths were caused by accidents. Of the total 3,912 accidental deaths, 2,675 were to males while 1,237 were to females.

The median age at death among accident victims was 33 years (Table 2.15). Median age among males was 30, sixteen years lower than the 46 year median

for females. This differential is predominantly traceable to the relatively large number of accidental deaths for the white females in the older age intervals. The median age of accidental deaths for white males was 29 years compared to 48 years for white females. The age disparity for the sexes among blacks was 8 years with medians of 36 for males and 28 for females.

The high female median age at death for deaths due to accidents in 1976 can be attributed to the relatively

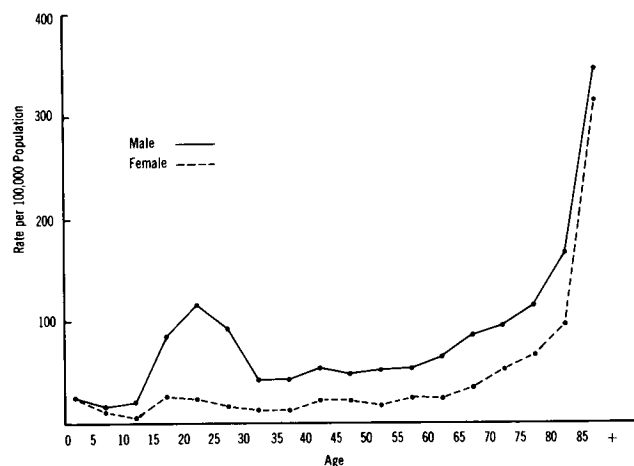
TABLE 2.15—Deaths Due to Accidents by Age, Race, and Sex, Michigan Residents, 1976

AGE	ALL RACES			WHITE			BLACK			OTHER		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
Under 1 Year.	46	23	23	35	19	16	11	4	7	—	—	—
1-4 Years . . .	146	75	71	116	58	58	26	16	10	4	1	3
5-9 Years . . .	136	84	52	108	67	41	25	14	11	3	3	—
10-14 Years . .	142	100	42	118	82	36	23	17	6	1	1	—
15-19 Years . .	535	400	135	497	373	124	33	23	10	5	4	1
20-24 Years . .	503	402	101	453	362	91	40	31	9	10	9	1
25-29 Years . .	311	249	62	277	227	50	30	20	10	4	2	2
30-34 Years . .	192	148	44	161	124	37	28	22	6	3	2	1
35-39 Years . .	143	112	31	117	92	25	26	20	6	—	—	—
40-44 Years . .	155	113	42	130	91	39	22	19	3	3	3	—
45-49 Years . .	179	124	55	145	99	46	32	23	9	2	2	—
50-54 Years . .	187	135	52	156	111	45	29	23	6	2	1	1
55-59 Years . .	182	120	62	153	100	53	26	18	8	3	2	1
60-64 Years . .	168	120	48	145	103	42	19	14	5	4	3	1
65-69 Years . .	163	112	51	141	95	46	18	14	4	4	3	1
70-74 Years . .	145	85	60	126	71	55	18	13	5	1	1	—
75-79 Years . .	151	81	70	139	74	65	11	7	4	1	—	1
80-84 Years . .	177	95	82	171	91	80	6	4	2	—	—	—
85-89 Years . .	156	67	89	154	65	89	2	2	—	—	—	—
90 and Over . .	95	30	65	93	28	65	2	2	—	—	—	—
Not Stated . . .	—	—	—	—	—	—	—	—	—	—	—	—
Total	3,912	2,675	1,237	3,435	2,332	1,103	427	306	121	50	37	13
Median Age . .	33	30	46	33	29	48	34	36	28	27	26	28

even distribution of female deaths across all 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 with frequencies remaining high through the 30-34 year age group then tapering off with advancing age. White females experienced their greatest number of accidental deaths in the 15-19 year age group. However, the numbers of deaths remained relatively constant through the older age intervals.

The death rate as the result of accidents for males is more than twice as large as that for females. Male accidental death rates are greater than those for females for all age groups above the ages 0-4. The differential between male and female rates is greatest at age 20-24 and 25-29. In these age groups male rates are 4.4, and 5.1 times corresponding female rates, respectively (Table 2.16).

FIGURE 2.13—Accident Death Rates by Age and Sex, Michigan Residents, 1976¹



¹NOTE: Should comparisons be desired between this graph and a similar graph that pertains to some other specified cause of death, differences in scale may be encountered.

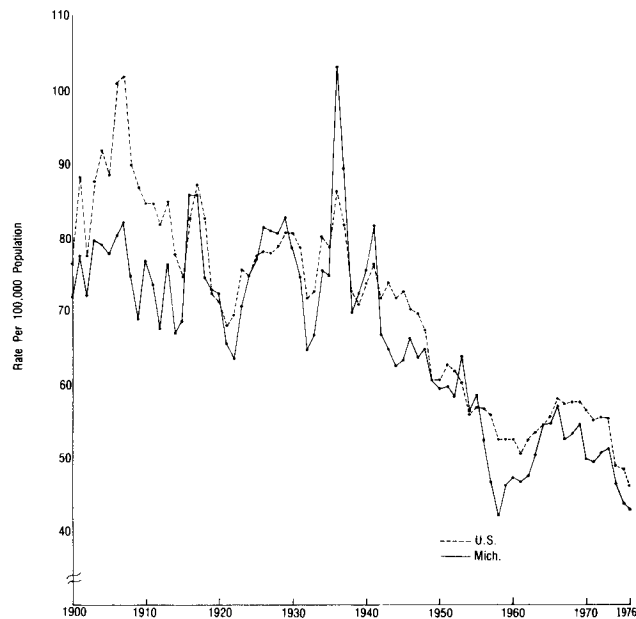
The mortality rates contained in Table 2.16 are displayed graphically in Figure 2.13. Both sexes experienced greater mortality due to accidents in the age groups 15-19 and 20-24, while a relatively high rate was seen for males in the age interval 25-29. With increasing age, the age-specific accidental death rates of both sexes increase sharply at ages over 60 while the differential between the sexes diminishes with advancing age. The highest mortality due to accidents is the age interval 85 and over for both sexes.

Michigan's accidental death rate in 1900 was 71.9. The lowest rate observed in the last 77 years through 1976 was 42.0 in 1950. The highest rate over this

TABLE 2.16—Accident Death Rates by Age and Sex, Michigan Residents, 1976

AGE	TOTAL	MALE	FEMALE
All Ages.....	43.0	59.6	26.8
0-4 Years.....	26.4	26.4	26.5
5-9 Years.....	15.2	18.4	11.9
10-14 Years.....	14.9	20.6	9.0
15-19 Years.....	56.9	85.8	28.5
20-24 Years.....	68.4	115.1	26.1
25-29 Years.....	50.9	92.8	18.1
30-34 Years.....	29.8	43.9	14.4
35-39 Years.....	30.0	43.6	14.1
40-44 Years.....	39.7	54.8	22.8
45-49 Years.....	35.9	49.0	22.5
50-54 Years.....	35.7	52.8	19.4
55-59 Years.....	39.5	54.0	26.0
60-64 Years.....	44.3	65.2	24.6
65-69 Years.....	58.9	86.6	34.6
70-74 Years.....	70.9	95.8	51.9
75-79 Years.....	87.7	115.8	68.5
80-84 Years.....	126.0	166.8	98.2
85 and Over.....	325.8	345.3	314.6

FIGURE 2.14—Accident Death Rates, Michigan and United States Residents,¹ 1900-1976²



¹National rates are from death registration states for 1900-1932 and the United States for 1933-1976.

²Accidental 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 have varied from 101.8 in 1907 to 45.5 in 1976. Michigan's rates have been below national rates fairly consistently since 1900. The last time the Michigan rate was above the United States rate was in 1955. The accidental death rate for Michigan in 1976 was 43.0 (Figure 2.14).

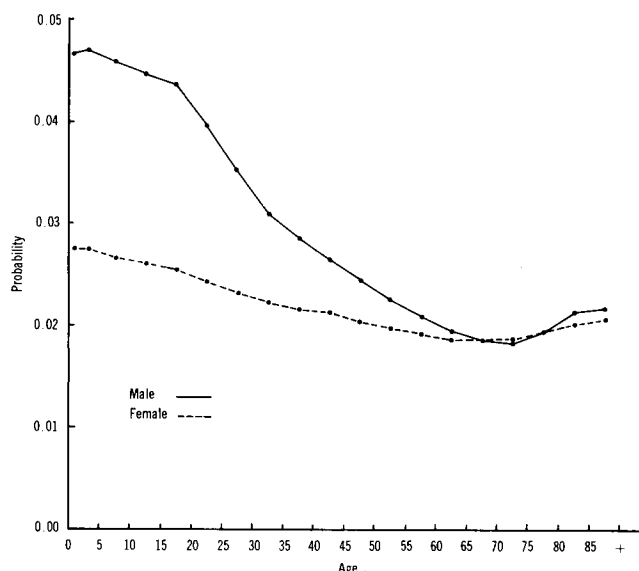
Motor vehicle accidents accounted for 1,957 deaths or 50.0 percent of all accidental deaths in 1976. Accidental falls was the second most frequent type of accident. This cause of death resulted in 580 deaths in 1976. Accidental drownings and accidents caused by fire were 3rd and 4th in frequency, causing 235 and 233 deaths, respectively. These four combined accounted for 76.8 percent of all accidental deaths (Table 2.17).

TABLE 2.17—Accidental Deaths by Type of Accidents, Michigan Residents, 1976

ICDA LIST NO.	TYPE OF ACCIDENT	NO. OF DEATHS	PER-CENT
E810-E819	Motor Vehicle Traffic Accidents	1,957	50.0
E880-E887	Accidental Falls	580	14.8
E910	Accidental Drowning and Submersion	235	6.0
E890-E899	Accidents Caused by Fire and Flames	233	6.0
E916-E921,	Accidents Mainly of Industrial Type	161	4.1
E923-E928			
E911, E912			
E850-E859	Accidental Poisonings by Drugs and Medicaments	101	2.6
E913-E915, E929	Other Accidents	99	2.5
E870-E877	Accidental Poisoning by Gases and Vapors	87	2.2
E922	Accident Caused by Firearm Missile	53	1.4
E840-E845	Air and Space Transport Accidents	50	1.3
E930-E936	Surgical and Medical Complications and Misadventures	36	0.9
E820-E823	Motor Vehicle Non-Traffic Accidents	36	0.9
E900-E909	Accidents Due to Natural and Environmental Factors	36	0.9
E830-E838	Water Transport Accidents	35	0.9
E860-E869	Accidental Poisonings by Other Solid or Liquid Substances	35	0.9
E940-E949	Late Effects of Accidental Injury	20	0.5
E800-E807	Railway Accidents	9	0.2
E825-E827	Other Road Vehicle Accidents	6	0.2
	TOTAL	3,912	100.0

It can be seen from Figure 2.15 that the risk of suffering accidental death is greater in the younger age groups than later in life. The probability of eventually dying from accidental causes is 0.047 for males and 0.028 for females at birth, according to Michigan mortality data from the years 1974 through 1976. Male probabilities by age continue to be much higher than females to about age 60. Male probabilities decline rather rapidly while those for females decline only slightly. At age 60, male and female probabilities are about equal. After age 65, the chance of accidental death gradually rises with advancing age to the terminal age group of 85 and over.

FIGURE 2.15—Probability of Eventually Dying from Accidental Causes by Age and Sex, Michigan Residents, 1974-1976¹



¹NOTE: 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 36 deaths that occurred to Michigan residents in 1976 was due to influenza and pneumonia. There were a total of 2,100 such deaths of which 1,141 were male and 965 were female.

The overall median age of death for those dying from influenza and pneumonia was 78 in 1976 (Table

2.18). This is well above the median age for all deaths of 71 years. The median age for males was less than that for females by four years for whites and six years for blacks. Medians for white persons were higher than those for black persons by as much as 16 years. The median age at death for white males was 77 and for white females 81 years. Deaths for black males were distributed such that the median age was

TABLE 2.18—Deaths Due to Influenza and Pneumonia by Age, Race, and Sex, Michigan Residents, 1976

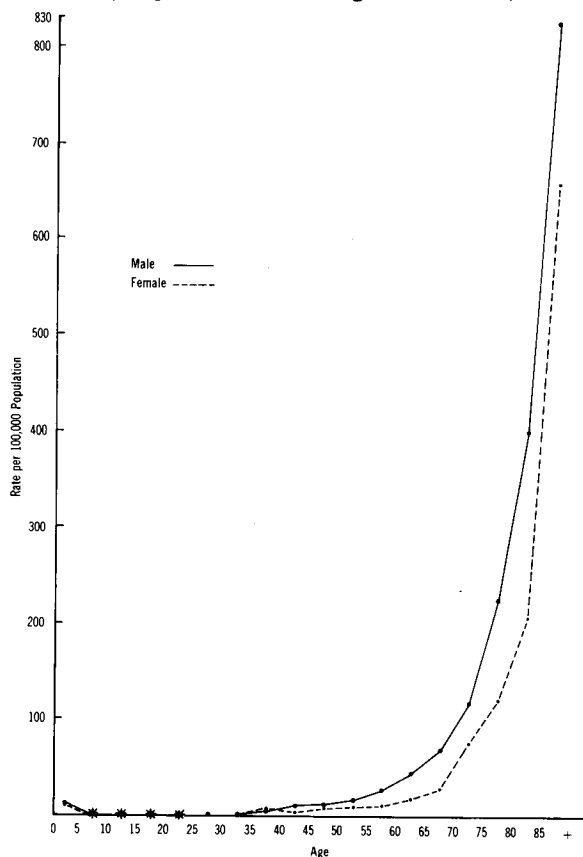
AGE	ALL RACES			WHITE			BLACK			OTHER		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
Under 1 Year..	60	33	27	44	23	21	16	10	6	—	—	—
1-4 Years . . .	28	16	12	16	8	8	12	8	4	—	—	—
5-9 Years . . .	5	4	1	3	2	1	2	2	—	—	—	—
10-14 Years . .	8	1	7	6	—	6	2	1	1	—	—	—
15-19 Years . .	5	2	3	3	1	2	2	1	1	—	—	—
20-24 Years . .	14	3	11	11	2	9	3	1	2	—	—	—
25-29 Years . .	21	6	15	16	4	12	5	2	3	—	—	—
30-34 Years . .	19	11	8	12	6	6	7	5	2	—	—	—
35-39 Years . .	27	14	13	22	12	10	5	2	3	—	—	—
40-44 Years . .	29	21	8	21	15	6	8	6	2	—	—	—
45-49 Years . .	48	26	22	33	16	17	15	10	5	—	—	—
50-54 Years . .	69	45	24	55	35	20	14	10	4	—	—	—
55-59 Years . .	88	60	28	69	46	23	19	14	5	—	—	—
60-64 Years . .	120	84	36	94	66	28	25	18	7	1	—	1
65-69 Years . .	133	90	43	114	78	36	19	12	7	—	—	—
70-74 Years . .	191	105	86	168	93	75	22	12	10	1	—	1
75-79 Years . .	281	158	123	261	145	116	20	13	7	—	—	—
80-84 Years . .	405	230	175	373	212	161	30	17	13	2	1	1
85-89 Years . .	303	131	172	288	124	164	14	7	7	1	—	1
90 and Over . .	252	101	151	236	94	142	15	7	8	1	—	1
Not Stated . . .	—	—	—	—	—	—	—	—	—	—	—	—
Total	2,106	1,141	965	1,845	982	863	255	158	97	6	1	5
Median Age . .	78	76	80	79	77	81	63	61	67	*	*	*

61 years when death was due to influenza and pneumonia. Black females dying from influenza and pneumonia had a median age of 67.

The influenza and pneumonia death rate was higher for males than females in 1976. The overall rate was 23.1 while males and females had rates of 25.4 and 20.9 respectively. The age-specific rates for males were above those for females for most age groups. Female rates exceeded those of males for only two of the fifteen age groups containing a sufficient number of deaths to prepare rates (Table 2.19).

The rate of death due to influenza and pneumonia for the 0-4 year age group is the highest rate observed for the younger ages. The rate for this group was not exceeded by any age group below ages 45-49. At ages

FIGURE 2.16—Influenza and Pneumonia Death Rates by Age and Sex, Michigan Residents, 1976¹



¹NOTE: 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.

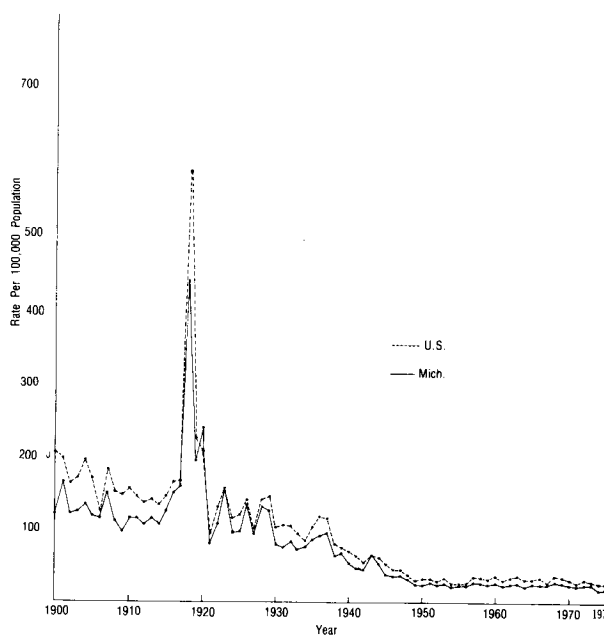
55-59 the strong association between influenza and pneumonia death and advancing age becomes apparent. Rates from that point roughly double with each successive five year interval. The higher frequency of male deaths from influenza and pneumonia is more pronounced from ages 55-59 through age 85 and over (Figure 2.16). In the age group 75-79 the male rate is 87.5 percent higher than the female rate.

The pattern of influenza and pneumonia death rates has been generally downward since 1900 both nation-

TABLE 2.19—Influenza and Pneumonia Death Rates by Age and Sex, Michigan Residents, 1976

AGE	TOTAL	MALE	FEMALE
All Ages.....	23.1	25.4	20.9
0-4 Years.....	12.1	13.2	11.0
5-9 Years.....	*	*	*
10-14 Years.....	0.8	*	1.5
15-19 Years.....	*	*	*
20-24 Years.....	1.9	*	2.8
25-29 Years.....	3.4	2.2	4.4
30-34 Years.....	3.0	3.3	2.6
35-39 Years.....	5.7	5.4	5.9
40-44 Years.....	7.4	10.2	4.3
45-49 Years.....	9.6	10.3	9.0
50-54 Years.....	13.2	17.6	9.0
55-59 Years.....	19.1	27.0	11.7
60-64 Years.....	31.6	45.6	18.4
65-69 Years.....	48.1	69.6	29.2
70-74 Years.....	93.5	118.4	74.3
75-79 Years.....	163.3	225.8	120.4
80-84 Years.....	288.4	403.7	209.6
85 and Over.....	720.3	825.8	659.8

FIGURE 2.17—Influenza and Pneumonia Death Rates, Michigan and United States Residents¹ 1900-1976²



¹National rates are from death registration states for 1900-1932 and the United States for 1933-1976.

²Influenza 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.

ally and in Michigan (Figure 2.17). The annual rate is seen to be quite erratic from 1900 through 1940 or 1945. Since that time, the rate has been stable 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 was 1917 when the United States and the Michigan rate were 588.5 and 439.0 respectively. Michigan registered the lowest rate of the century in 1974 (18.7). In 1954, the influenza and

pneumonia death rate for the country was the lowest in this century at 25.5. The national rate in 1976 was 28.8, about 25 percent above the Michigan rate of 23.1.

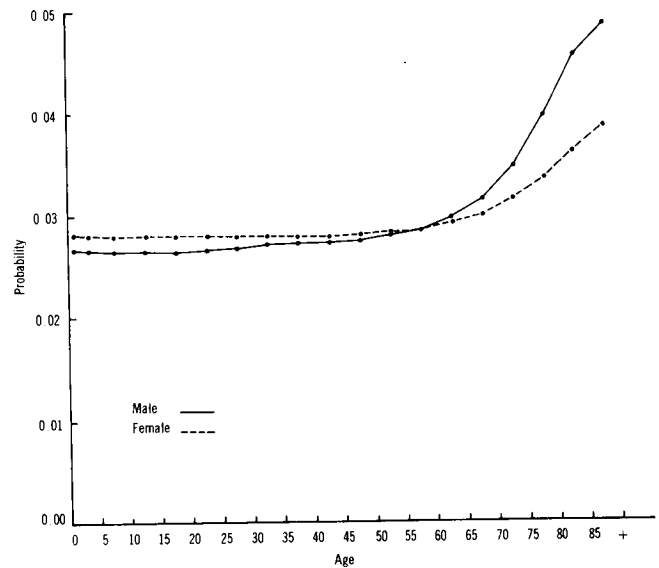
Pneumonia unspecified caused 1,165 or 55.3 percent of all influenza and pneumonia deaths in 1976. Another 17.1 percent of these deaths were due to bronchopneumonia unspecified. Combined with the 181 deaths due to influenza with pneumonia, the top three types of influenza and pneumonia deaths account for 81.1 percent of all such deaths. Influenza was directly involved in 14.0 percent of all influenza and pneumonia deaths in 1976, compared to 3.7 percent in 1974 and 7.4 percent in 1975.

TABLE 2.20—Influenza and Pneumonia Deaths by Detailed Cause, Michigan Residents, 1976

ICDA LIST NO.		NO. OF DEATHS	PER-CENT
468	Pneumonia Unspecified	1,165	55.3
485	Bronchopneumonia Unspecified	361	17.1
471	Influenza with Pneumonia	181	8.6
481	Pneumococcal Pneumonia	136	6.5
470	Influenza Unqualified	103	4.9
480	Viral Pneumonia	61	2.9
482	Other Bacterial Pneumonia	56	2.7
484	Acute Interstitial Pneumonia	24	1.1
483	Pneumonia Due to Other Specified Organisms	9	0.4
472	Influenza with Other Respiratory Manifestations	8	0.4
473	Influenza with Digestive Manifestations	2	0.1
	TOTAL	2,106	100.0

The likelihood of eventual death being caused by influenza and pneumonia is a stable 0.028 for females from birth through age 50. Male chances are 0.027 through age 40, and 0.028 through 55. The calculated probabilities for each sex begin a slow increase at these ages, 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 0.049 for males and 0.039 for females, based on the Michigan mortality experience of 1974-1976 (Figure 2.18).

FIGURE 2.18—Probability of Eventually Dying from Influenza and Pneumonia by Age and Sex, Michigan Residents, 1974-1976¹



¹NOTE: 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 1976, diabetes mellitus caused the deaths of 1,719 Michigan residents. Deaths to females amounted to 1,012 or 59 percent of all diabetes mellitus deaths. There were 707 male deaths in 1976.

The median age of death for persons dying from diabetes mellitus was 73 years (Table 2.21), just above the median from 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 four years less than that of white females, while the black male median was one year less than that of their female counterparts. The white male median was 72 years compared to 66 for black males. The white female statistic was 76 years and the black female median age at death was 67 years.

The diabetes mellitus death rate was 18.9 in 1976 (Table 2.22). The rate for female deaths due to this cause was 21.9, or 139 percent of the 15.8 rate for males. Age-specific diabetes death rates for persons under age 70 are similar for both sexes. While male rates are above those for females three of six times for the age intervals calculated prior to age 65, the differences are slight. Female rates are above those of males from age interval 65-69 through to the last age group. In these last five age groups, female rates range from 2.8 percent above male rates for age group 70-74 to 43.0 percent, for age group 80-84.

Figure 2.19 contains a graphic display of the age-specific mortality rates in Table 2.22. This graph re-

veals the strong association between diabetes caused death and advancing age. Prior to age 45 the death rates associated to this cause are relatively low. From the 45-49 age group to the 85 and over age group, rates for 1976 show an almost linear pattern of increase between each interval.

The rate of death due to diabetes mellitus for males aged 65-69 is 14 times higher than the similar rate for males 45-49. The female diabetes mellitus rate for ages 65-69 is 13 times higher than for 45-49 year old women. The age-specific mortality rates for the 85 and over interval are 3.5 and 4.3 times the rates observed for 65-69 year olds for males and females respectively.

TABLE 2.22—Diabetes Mellitus Death Rates by Age and Sex, Michigan Residents, 1976

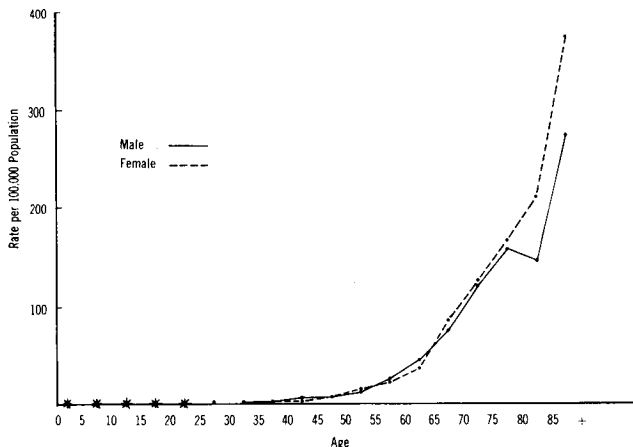
AGE	TOTAL	MALE	FEMALE
All Ages.....	18.9	15.8	21.9
0-4 Years.....	*	*	*
5-9 Years.....	*	*	*
10-14 Years.....	*	*	*
15-19 Years.....	0.6	*	*
20-24 Years.....	1.0	*	*
25-29 Years.....	2.0	2.6	*
30-34 Years.....	2.2	2.1	2.3
35-39 Years.....	1.9	2.7	*
40-44 Years.....	6.1	7.8	4.3
45-49 Years.....	6.0	5.5	6.5
50-54 Years.....	12.4	11.3	13.4
55-59 Years.....	23.9	24.7	23.0
60-64 Years.....	41.9	46.7	37.4
65-69 Years.....	82.8	77.3	87.5
70-74 Years.....	123.8	121.8	125.3
75-79 Years.....	162.1	158.7	164.5
80-84 Years.....	185.1	147.4	210.8
85 and Over.....	337.4	274.1	373.8

TABLE 2.21—Deaths Due to Diabetes Mellitus by Age, Race, and Sex, Michigan Residents, 1976

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....	—	—	—	—	—	—	—	—	—	—	—	—
10-14 Years..	1	—	1	—	—	—	1	—	1	—	—	—
15-19 Years..	6	2	4	5	1	4	1	1	—	—	—	—
20-24 Years..	7	4	3	4	1	3	3	3	—	—	—	—
25-29 Years..	12	7	5	9	5	4	3	2	1	—	—	—
30-34 Years..	14	7	7	12	7	5	2	—	2	—	—	—
35-39 Years..	9	7	2	6	5	1	3	2	1	—	—	—
40-44 Years..	24	16	8	16	11	5	8	5	3	—	—	—
45-49 Years..	30	14	16	20	10	10	10	4	6	—	—	—
50-54 Years..	65	29	36	43	18	25	22	11	11	—	—	—
55-59 Years..	110	55	55	87	45	42	20	8	12	3	2	1
60-64 Years..	159	86	73	133	74	59	26	12	14	—	—	—
65-69 Years..	229	100	129	188	85	103	39	15	24	2	—	2
70-74 Years..	253	108	145	213	89	124	40	19	21	—	—	—
75-79 Years..	279	111	168	243	94	149	34	16	18	2	1	1
80-84 Years..	260	84	176	245	79	166	14	5	9	1	—	—
85-89 Years..	176	58	118	169	55	114	7	3	4	—	—	—
90 and Over..	84	19	65	79	18	61	5	1	4	—	—	—
Not Stated...	—	—	—	—	—	—	—	—	—	—	—	—
Total.....	1,719	707	1,012	1,472	597	875	239	107	132	8	3	5
Median Age..	73	71	75	75	72	76	67	66	67	*	*	*

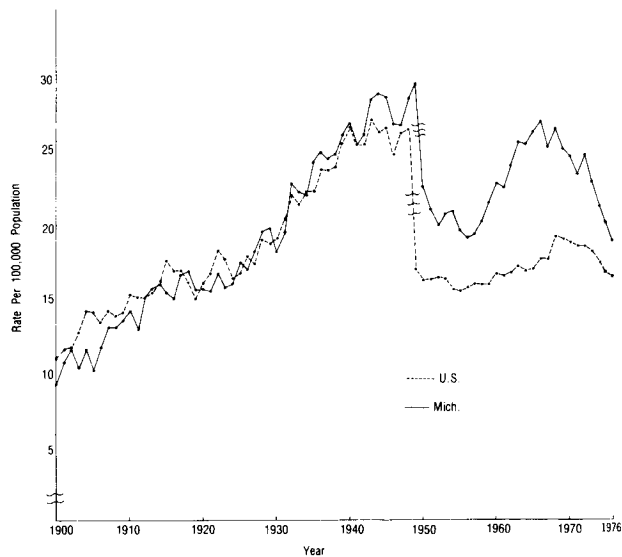
Diabetes mellitus death rates in Michigan rose steadily from a low of 9.3 in 1900 to a peak of 29.7 in 1949 (Figure 2.20). Adoption of the 6th revision of the International Classification of Diseases in 1950

FIGURE 2.19—Diabetes Mellitus Death Rates by Age and Sex, Michigan Residents, 1976¹



¹NOTE: 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—Diabetes Mellitus Death Rates, Michigan and United States Residents,¹ 1900-1976²



¹National rates are from death registration states for 1900-1932 and the United States for 1933-1976.

²The comparability of diabetes mellitus 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 .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.

TABLE 2.23—Diabetes Mellitus Deaths by Presence of Acidosis or Coma, Michigan Residents, 1976

ICDA LIST NO.	CAUSE OF DEATH	NO. OF DEATHS	PER-CENT
250.0	With Mention of Acidosis or Coma	140	8.1
250.9	Without Mention of Acidosis or Coma	1,579	91.9
	TOTAL	1,719	100.0

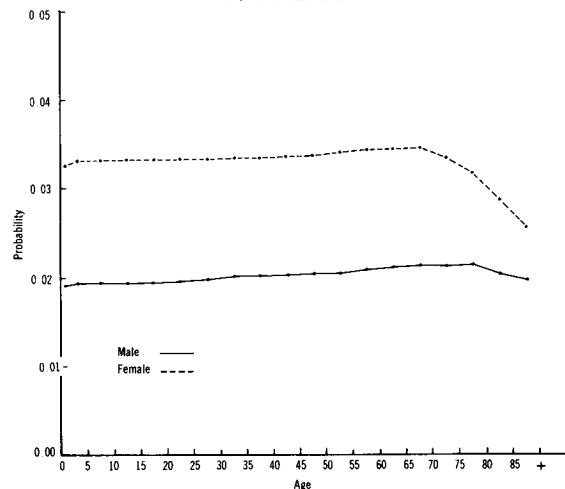
caused a significant change in Michigan diabetes death rates. Over the last twenty-six years the Michigan rate has ranged from 19.2 in 1956 to 26.5 in 1968. The national ranges in this century are from 11.0 in 1900 to 18.3 in 1948 (the year of the adoption of the 6th revision nationally was 1949), and 15.5 in 1955 to 19.2 in 1968.

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 the United States figures became quite large. This has only recently started to diminish. In 1976 the United States diabetes death rate was 16.4. Michigan's rate was 15 percent above that statistic at 18.9.

In 1976 91.9 percent of all diabetes mellitus deaths did not involve acidosis or coma. There were 140 deaths in 1976, where acidosis or coma was mentioned with the disease. These are deaths where a diabetic crisis was involved (Table 2.23).

At birth, the probability of eventual death due to diabetes mellitus is 0.019 for males and 0.033 for females (Figure 2.21). Death from diabetes mellitus has a pattern of gradually increasing probability from birth to age 75 for males and to age 60 for females. The maximum probability of dying from diabetes occur in the age group 75-79 for males and age group 60-64 for females. Beyond these ages both sexes face decreasing chances of dying from diabetes mellitus. Females 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 of 1974 through 1976.

FIGURE 2.21—Probability of Eventually Dying from Diabetes Mellitus by Age and Sex, Michigan Residents, 1974-1976¹



¹NOTE: 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 7th leading cause of Michigan resident deaths in 1976 was cirrhosis of the liver. This condition caused 1,486 deaths. There were 1,017 male and 469 female cirrhosis of the liver deaths in 1976.

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). There was little difference between the median ages of each sex. The distribution of death frequencies across age groups was similar for both white males and females with median ages of 58 and 59 respectively. Black male and female deaths had median ages of 50 and 47 years.

The cirrhosis of the liver death rates presented in Table 2.25 reveal a greater frequency of male over female deaths. The overall male rate of 23.1 is more than double the female incidence of 11.4. The age-specific rates for males dying from cirrhosis of the liver are more than twice the female rates for 10 of the 13 age groups calculated.

The differential between male and female mortality due to cirrhosis of the liver in 1976 is quite large, as can be seen in Figure 2.22. Also apparent from this graph is the relative infrequency of death from this cause prior to age 35. Mortality rates rise with age to a peak rate at ages 65-69, whereupon the rates drop off.

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

TABLE 2.25—Cirrhosis of the Liver Death Rates by Age and Sex, Michigan Residents, 1976

AGE	TOTAL	MALE	FEMALE
All Ages.....	16.3	22.7	10.2
0-4 Years.....	*	*	*
5-9 Years.....	*	*	*
10-14 Years.....	*	*	*
15-19 Years.....	*	*	*
20-24 Years.....	1.0	*	*
25-29 Years.....	3.6	5.2	2.3
30-34 Years.....	5.8	7.4	3.9
35-39 Years.....	14.7	19.5	9.1
40-44 Years.....	31.8	39.3	23.3
45-49 Years.....	32.7	41.1	24.1
50-54 Years.....	43.7	60.6	27.6
55-59 Years.....	48.6	78.7	20.5
60-64 Years.....	56.7	81.5	33.3
65-69 Years.....	69.7	99.0	44.1
70-74 Years.....	46.0	67.7	29.4
75-79 Years.....	32.0	48.6	20.6
80-84 Years.....	18.5	29.8	10.8
85 and Over.....	23.4	46.3	*

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 until 1936 when they began increasing slowly. A peak of 12.4 was reached by 1948.

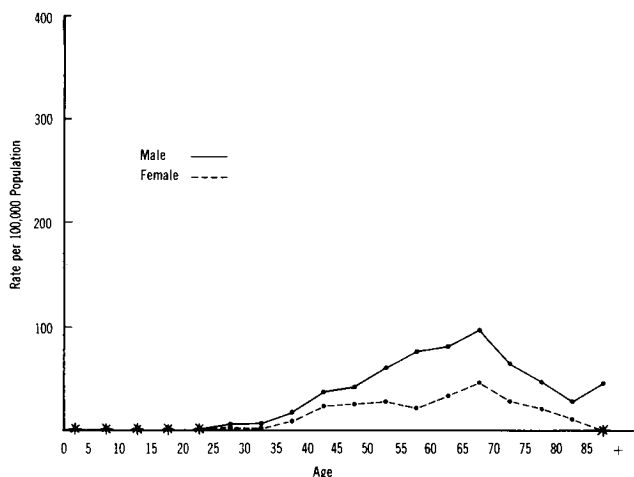
The statistics shown in Figure 2.23 after 1948 are not comparable with preceding years, due to a revision of cause of death determination. By isolating the period 1949 to 1976, this problem can be ignored. A trend of increase can be seen through this most recent period.

The United States rates of death due to cirrhosis of the liver were well above Michigan rates early in this

TABLE 2.24—Deaths Due to Cirrhosis of the Liver by Age, Race, and Sex, Michigan Residents, 1976

AGE	ALL RACES			WHITE			BLACK			OTHER		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
Under 1 Year..	3	2	1	3	2	1	—	—	—	—	—	—
1-4 Years....	2	2	—	2	2	—	—	—	—	—	—	—
5-9 Years....	1	1	—	1	1	—	—	—	—	—	—	—
10-14 Years..	—	—	—	—	—	—	—	—	—	—	—	—
15-19 Years..	3	3	—	3	3	—	—	—	—	—	—	—
20-24 Years..	7	3	4	4	2	2	3	1	2	—	—	—
25-29 Years..	22	14	8	10	5	5	12	9	3	—	—	—
30-34 Years..	37	25	12	18	15	3	19	10	9	—	—	—
35-39 Years..	70	50	20	35	25	10	34	25	9	1	—	1
40-44 Years..	124	81	43	78	51	27	46	30	16	—	—	—
45-49 Years..	163	104	59	111	73	38	49	28	21	3	3	—
50-54 Years..	229	155	74	166	114	52	57	39	18	6	2	4
55-59 Years..	224	175	49	192	149	43	31	25	6	1	1	—
60-64 Years..	215	150	65	182	124	58	30	24	6	3	2	1
65-69 Years..	193	128	65	173	116	57	20	12	8	—	—	—
70-74 Years..	94	60	34	90	57	33	4	3	1	—	—	—
75-79 Years..	55	34	21	50	32	18	5	2	3	—	—	—
80-84 Years..	26	17	9	25	16	9	—	—	—	—	—	—
85-89 Years..	14	10	4	14	10	4	—	—	—	1	1	—
90 and Over..	4	3	1	4	3	1	—	—	—	—	—	—
Not Stated...	—	—	—	—	—	—	—	—	—	—	—	—
Total.....	1,486	1,017	469	1,161	800	361	310	208	102	15	9	6
Median Age..	56	56	56	58	58	59	49	50	47	*	*	*

FIGURE 2.22—Cirrhosis of the Liver Death Rates by Age and Sex, Michigan Residents, 1976¹

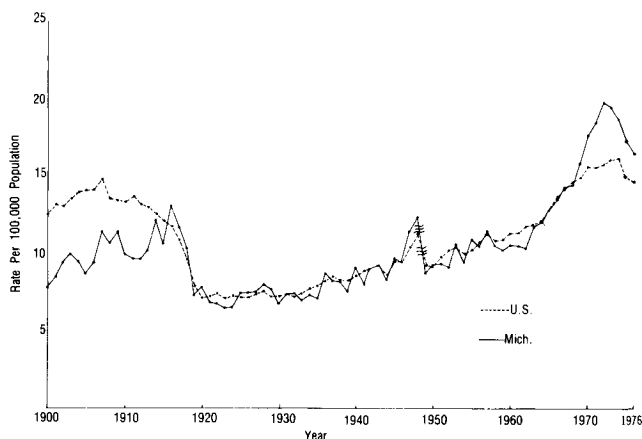


¹NOTE: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some specified cause of death, differences in scale may be encountered.

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 1948.

Following a revision of ICDA coding procedures in 1949, the rates for both Michigan and the nation dropped slightly. In 1969, the Michigan rate rose above the national cause-specific rate for that year. From 1969 through 1976, cirrhosis of the liver death rates of Michigan residents have been well above corresponding national rates. In 1976, the Michigan rate was 16.3 while the national rate was 14.5. Since 1972, the rate in Michigan has dropped substantially, while the national rate has held fairly stable.

FIGURE 2.23—Cirrhosis of the Liver Death Rates, Michigan and United States Residents,¹ 1900-1976²



¹National rates are from death registration states for 1900-1932 and the United States for 1932-1976.

²The 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.

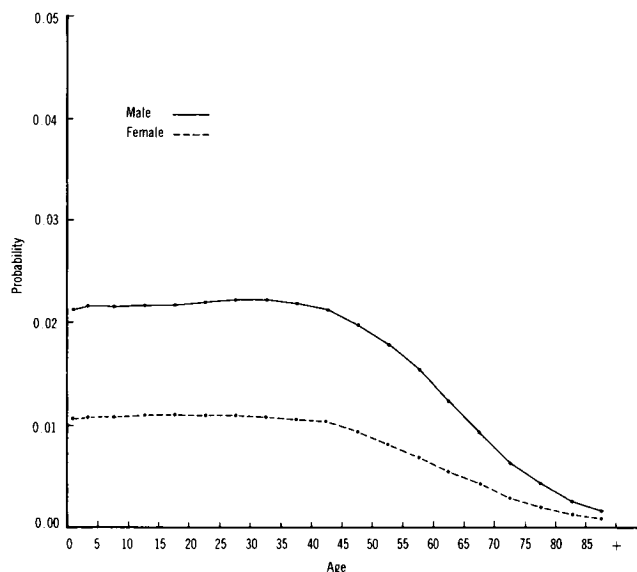
The contributing factor of alcoholism was mentioned on 510 or 34.3 percent of the cirrhosis of the liver deaths in 1976. There were 976 deaths due to this cause with no mention of alcoholism (Table 2.26).

TABLE 2.26—Deaths Due to Cirrhosis of the Liver by Mention of Alcoholism, Michigan Residents, 1976

ICDA LIST NO.	CAUSE OF DEATH	NO. OF DEATHS	PER-CENT
571.0	With Mention of Alcoholism	510	34.3
571.8, 571.9	Without Mention of Alcoholism	976	65.7
	TOTAL	1,486	100.0

The probability of eventually dying from cirrhosis of the liver, based upon Michigan mortality data from the years 1974-1976, 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 0.021 as compared to 0.011 for females. Death from cirrhosis of the liver displays 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 mortality data is 0.001 for both females and 0.002 for males.

FIGURE 2.24—Probability of Eventually Dying from Cirrhosis of the Liver by Age and Sex, Michigan Residents, 1974-1976¹



¹NOTE: 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.

ARTERIOSCLEROSIS

There were a total of 1,207 Michigan resident deaths attributed to arteriosclerosis in 1976. This cause was the 8th leading cause of death in the state. There were 530 male and 677 female deaths. Only 38 of the 1,207 total deaths were nonwhite.

The majority of the arteriosclerosis deaths were at advanced ages. Only one death due to this cause was recorded for persons under the age of 35. The median age of all deaths resulting from this condition was 84. Male deaths were slightly younger than female deaths (Table 2.27). The center of the white male age distribution was 83 years, 2 years below that for white females. Black males dying from this disease in 1976 had a median age of 80. This statistic for black females was 82 or 2 years above that for black males.

Arteriosclerosis resulted in 13.3 deaths per 100,000 Michigan residents in 1976. Female deaths resulting from this condition were relatively more frequent than for males with rates of 14.7 and 11.8 respectively (Table 2.28). Age-specific arteriosclerosis death rates were generally higher for males than females.

The arteriosclerosis deaths observed among Michigan residents in 1976 occurred with greatest frequency to those in the oldest age groups. The arteriosclerosis death rate rose sharply beyond age 75. Nearly eight of every 1,000 Michigan residents aged 85 and over died from this disease in 1976 (Figure 2.25).

Inspection of arteriosclerosis death rates since 1900 is far less informative than the historical data of other

TABLE 2.28—Arteriosclerosis Death Rates by Age and Sex, Michigan Residents, 1976

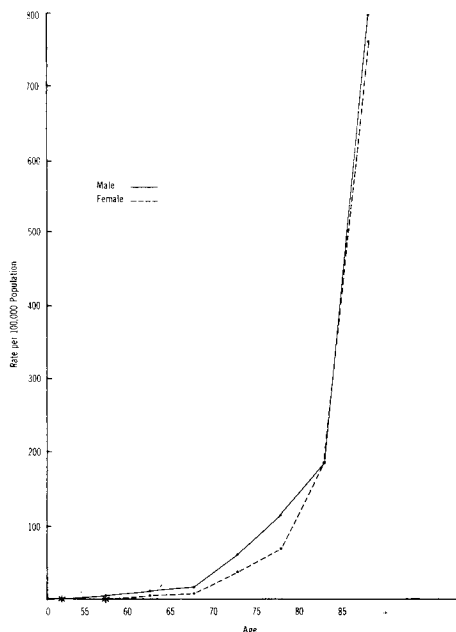
AGE	TOTAL	MALE	FEMALE
All Ages.....	13.3	11.8	14.7
0-34 Years.....	*	*	*
35-39 Years.....	*	*	*
40-44 Years.....	*	*	*
45-49 Years.....	*	*	*
50-54 Years.....	1.1	*	*
55-59 Years.....	3.7	5.4	*
60-64 Years.....	8.7	11.4	6.1
65-69 Years.....	12.3	16.2	8.8
70-74 Years.....	48.9	62.0	38.9
75-79 Years.....	90.1	118.6	70.5
80-84 Years.....	186.6	186.1	186.9
85 and Over.....	774.8	797.3	761.9

causes of death. The classification of this disease has been significantly altered several times since the inception of the ICDA codes (see footnotes of Figure 2.26). What can be seen in Figure 2.26 is a strong rise from 1900 to 1912. Michigan and national rates then stabilize and begin declining through 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 Michigan have been below

TABLE 2.27—Deaths Due to Arteriosclerosis by Age, Race, and Sex, Michigan Residents, 1976

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..	—	—	—	—	—	—	—	—	—	—	—	—
15-19 Years..	—	—	—	—	—	—	—	—	—	—	—	—
20-24 Years..	—	—	—	—	—	—	—	—	—	—	—	—
25-29 Years..	—	—	—	—	—	—	—	—	—	—	—	—
30-34 Years..	1	1	—	1	1	—	—	—	—	—	—	—
35-39 Years..	—	—	—	—	—	—	—	—	—	—	—	—
40-44 Years..	—	—	—	—	—	—	—	—	—	—	—	—
45-49 Years..	2	2	—	2	2	—	—	—	—	—	—	—
50-54 Years..	6	5	1	6	5	1	—	—	—	—	—	—
55-59 Years..	17	12	5	16	12	4	—	—	—	1	—	1
60-64 Years..	33	21	12	28	18	10	5	3	2	—	—	—
65-69 Years..	34	21	13	32	19	13	2	2	—	—	—	—
70-74 Years..	100	55	45	94	52	42	6	3	3	—	—	—
75-79 Years..	155	83	72	152	82	70	3	1	2	—	—	—
80-84 Years..	262	106	156	254	102	152	7	3	4	1	1	—
85-89 Years..	311	130	181	307	127	180	4	3	1	—	—	—
90 and Over..	286	94	192	277	91	186	9	3	6	—	—	—
Not Stated...	—	—	—	—	—	—	—	—	—	—	—	—
Total.....	1,207	530	677	1,169	511	658	36	18	18	2	1	1
Median Age..	84	83	85	84	83	86	81	80	82	*	*	*

FIGURE 2.25—Arteriosclerosis Death Rates by Age and Sex, Michigan Residents, 1976¹

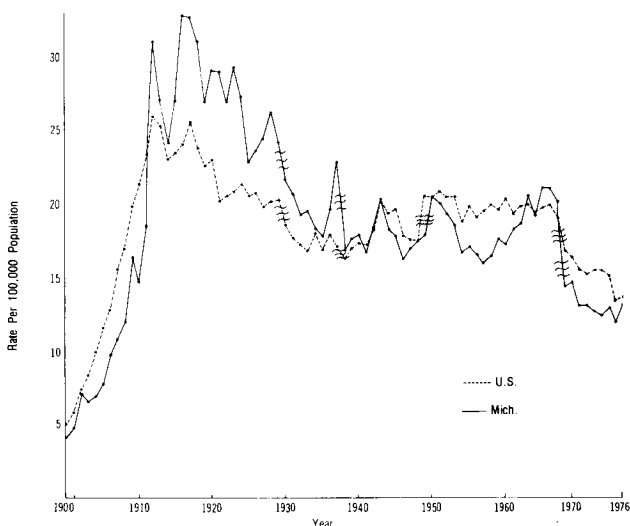


NOTE: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

national rates. This covers the time period 1968-1976. In 1976, the national arteriosclerosis death rate was 13.4.

Virtually all arteriosclerosis deaths are reported as generalized and/or unspecified as to type. Only 14 of the 1,207 deaths were in other classifications (Table 2.29).

FIGURE 2.26—Arteriosclerosis Death Rates, Michigan and United States Residents,¹ 1900-1976²



¹National rates are from death registration states for 1900-1932 and the United States for 1933-1976.

²Although 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 historic comparison of these rates extremely difficult. Comparability breaks are especially pronounced in the 1930, 1939, 1949 and 1968 revisions. Analysis of arteriosclerosis death rates over the time period 1900-1975 requires detailed study to maintain comparability.

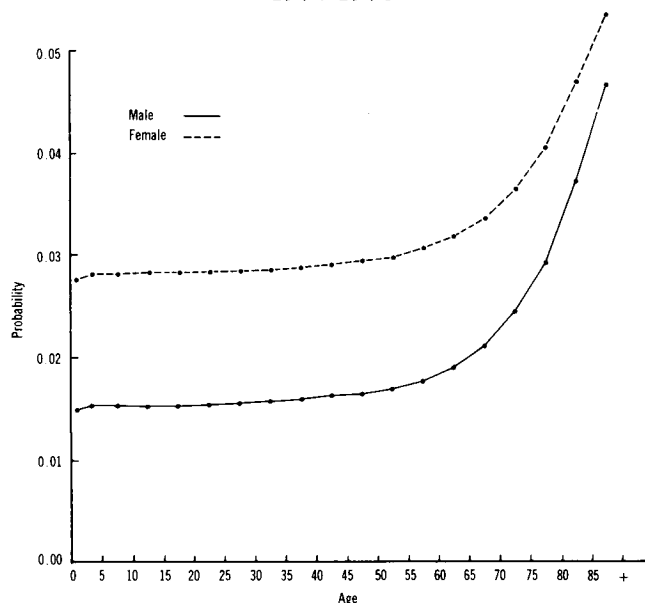
TABLE 2.29—Deaths Due to Arteriosclerosis by Detailed Cause, Michigan Residents, 1976

ICDA LIST NO.	CAUSE OF DEATH	NUMBER
440.0	Of Aorta	6
440.2	Of Arteries of the Extremities	8
440.0	Generalized and Unspecified	1,193
	TOTAL	1,207

The 1974 through 1976 mortality data for Michigan indicate that females are more likely to eventually die from arteriosclerosis than males. At birth, the likelihood for females is 0.028, while for males it is 0.015. This situation holds through all age intervals with probabilities rising beyond age 55. By age 85, the probability of eventually dying from arteriosclerosis is 0.053 for females and 0.046 for males (Figure 2.27).

As with heart disease (p. 39), arteriosclerosis mortality rates are generally higher for males than for females (Figure 2.25), yet females are more apt to eventually die from this condition (Figure 2.27). 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.

FIGURE 2.27—Probability of Eventually Dying from Arteriosclerosis by Age and Sex, Michigan Residents, 1974-1976¹



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 a total of 1,182 suicides in 1976, making suicide the 9th leading cause of death. Deaths resulting from suicide were 73 percent male, with 863 male and 319 female deaths in 1976. About 90 percent of all suicide deaths were to white persons.

Approximately 50 percent of all suicide deaths were under the age of 40. The male median age of 38 was 5 years below that for females. While males and females had medians of 40 and 45 respectively. The 50th percentile of the black male age distribution was 30 and for black females, 31 years (Table 2.30).

The suicide death rate in 1976 was 13.0. Suicide by males had a relative frequency nearly triple that of females with rates of 19.2 and 6.9 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 older age intervals.

Suicide first becomes prevalent between the ages of 15 and 19. The age-specific mortality rates for suicide are displayed graphically in Figure 2.28. In 1976, male suicides were a more frequent cause of death among men in their twenties and at ages over 70. The highest female rate was for the age group 40-44.

TABLE 2.31—Suicide Death Rates by Age and Sex, Michigan Residents, 1976

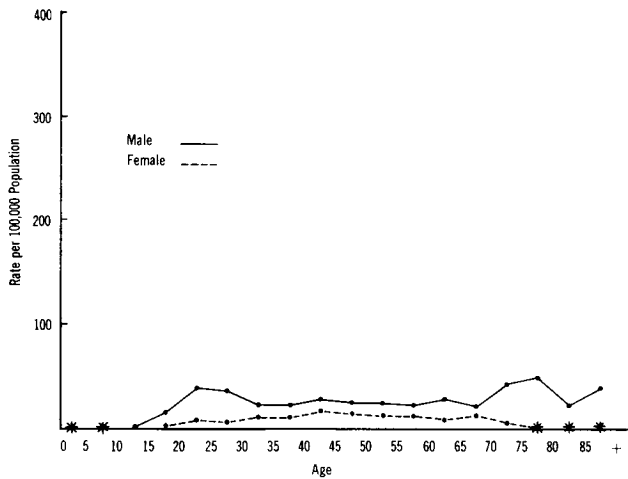
AGE	TOTAL	MALE	FEMALE
All Ages.....	13.0	19.2	6.9
0-4 Years.....	*	*	*
5-9 Years.....	*	*	*
10-14 Years.....	0.9	1.6	*
15-19 Years.....	9.5	15.2	3.8
20-24 Years.....	23.7	39.5	9.3
25-29 Years.....	20.0	36.9	6.7
30-34 Years.....	16.5	21.9	10.5
35-39 Years.....	16.6	21.4	10.9
40-44 Years.....	23.0	28.1	17.4
45-49 Years.....	21.1	27.3	14.7
50-54 Years.....	19.1	26.2	12.3
55-59 Years.....	17.4	22.5	12.6
60-64 Years.....	18.5	28.3	9.2
65-69 Years.....	16.6	20.9	12.9
70-74 Years.....	21.5	42.8	5.2
75-79 Years.....	20.9	48.6	*
80-84 Years.....	12.1	21.1	*
85 and Over.....	18.2	39.2	*

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 rates in that time period. The rates since 1943 held fairly stable for several years then began a slow increase in both Michigan and the United States. There

TABLE 2.30—Deaths Due to Suicide by Age, Race, and Sex, Michigan Residents, 1976

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....	1	—	1	—	—	—	1	—	1	—	—	—
10-14 Years..	9	8	1	6	6	—	2	1	1	1	1	—
15-19 Years..	89	71	18	75	59	16	12	10	2	2	2	—
20-24 Years..	174	138	36	150	121	29	23	16	7	1	1	—
25-29 Years..	122	99	23	105	85	20	17	14	3	—	—	—
30-34 Years..	106	74	32	91	65	26	12	8	4	3	1	2
35-39 Years..	79	55	24	72	51	21	7	4	3	—	—	—
40-44 Years..	90	58	32	82	54	28	8	4	4	—	—	—
45-49 Years..	105	69	36	94	59	35	11	10	1	—	—	—
50-54 Years..	100	67	33	97	64	33	3	3	—	—	—	—
55-59 Years..	80	50	30	74	45	29	6	5	1	—	—	—
60-64 Years..	70	52	18	64	49	15	5	3	2	1	—	1
65-69 Years..	46	27	19	44	26	18	1	1	—	1	—	1
70-74 Years..	44	38	6	43	37	6	1	1	—	—	—	—
75-79 Years..	36	34	2	34	32	2	2	2	—	—	—	—
80-84 Years..	17	12	5	16	11	5	1	1	—	—	—	—
85-89 Years..	10	8	2	10	8	2	—	—	—	—	—	—
90 and Over..	4	3	1	3	3	—	1	—	1	—	—	—
Not Stated...	—	—	—	—	—	—	—	—	—	—	—	—
Total.....	1,182	863	319	1,060	775	285	113	83	30	9	5	4
Median Age..	40	38	43	41	40	45	30	30	31	*	*	*

FIGURE 2.28—Suicide Death Rates by Age and Sex, Michigan Residents, 1976¹

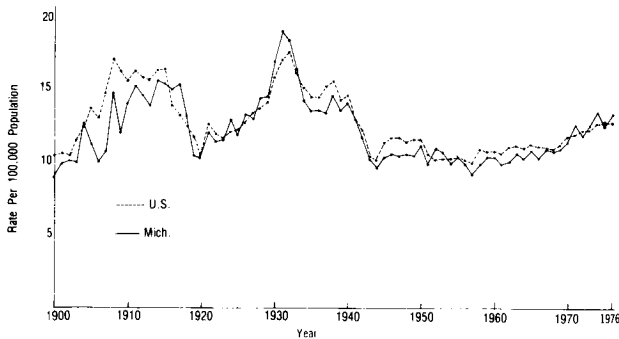


¹NOTE: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

has been strong similarity in both the trend and extent of Michigan and national rates in this century (Figure 2.29).

In 1900 the Michigan rate was 8.8, the lowest rate observed. The highest Michigan rate was 18.8 in 1931. National high and low rates were 17.4 in 1932 and 10.0 in 1944 and 1952. In 1976 the United States rate was 11.5, compared to the Michigan rate of 13.0. This national rate is 9.6 percent below the rate in 1975, while this state rate exceeds the rate observed in 1975 by 4.8 percent.

FIGURE 2.29—Suicide Death Rates, Michigan and United States Residents,¹ 1900-1976²



¹National rates are from death registration states for 1900-1932 and the United States for 1933-1976.
²Suicide death rates since 1900 are suitable for general comparison over time but detailed study (such as time series) requires special consideration. See Technical Notes.

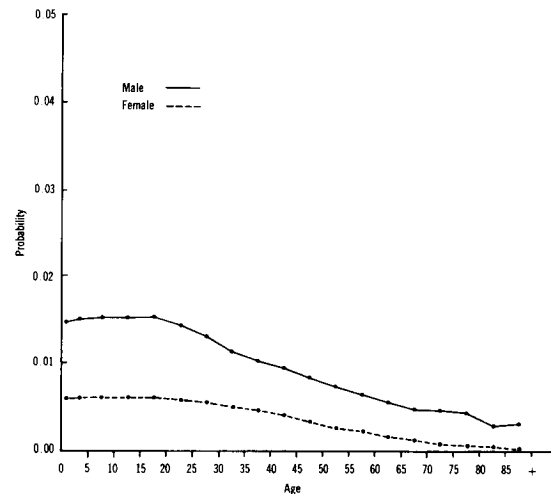
TABLE 2.32—Deaths Due to Suicide by Method, Michigan Residents, 1976

ICDA LIST NO.	CAUSE OF DEATH	NO. OF DEATHS	PER-CENT
955	Suicide and Self-Inflicted Injury by Firearms and Explosives	637	53.9
953	Suicide and Self-Inflicted Injury by Hanging, Strangulation and Suffocation	189	16.0
952	Suicide and Self-Inflicted Poisoning by Other Gases	153	12.9
950	Suicide and Self-Inflicted Poisoning by Solid or Liquid Substances	130	11.0
954	Suicide and Self-Inflicted Injury by Submersion (Drowning)	24	2.0
958	Suicide and Self-Inflicted Injury by Other and Unspecified Means	19	1.6
957	Suicide and Self-Inflicted Injury by Jumping from High Places	16	1.4
956	Suicide and Self-Inflicted Injury by Cutting and Piercing Instruments	12	1.0
951	Suicide and Self-Inflicted Poisoning by Gases in Domestic Use	1	0.1
959	Late Effect of Suicide and Self-Inflicted Injury	1	0.1
TOTAL		1,182	100.0

Suicides in Michigan were predominantly the result of one of four types of self-inflicted injury. Self-inflicted injury by firearms and explosives caused 637 deaths in 1976. Hanging, strangulation and suffocation resulted in 189 deaths. Self-inflicted poisoning by non-domestic gases resulted in 153 deaths. Combined with 130 deaths due to poisoning by solids and liquids, these four types of suicide accounted for 93.8 percent of all suicidal deaths to Michigan residents in 1976 (Table 2.32).

Using the Michigan mortality experience of 1974 through 1976, the chance of a male eventually dying from suicide is 0.015 at birth. The risk for females is 0.006. These probabilities hold relatively constant to age 25, then tapers slowly with advancing age. By age 85, the probability of eventually dying from suicide is negligible (Figure 2.30).

FIGURE 2.30—Probability of Eventually Dying from Suicide by Age and Sex, Michigan Residents, 1974-1976¹



¹NOTE: 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.

HOMICIDE

There were 1,092 deaths as the result of homicide among Michigan residents in 1976. Of these 866 or 79 percent were male deaths compared to 226 female homicides. About 63 percent of all homicides were to blacks. The 122 black female deaths constituted 54 percent of all female homicide victims. Black male deaths comprised 65 percent of all male deaths attributed to homicide.

The median age at death among homicide victims in 1976 was only 29 years. White males were two years older than white females at the median with statistics of 30 and 28 years respectively. Black male homicide victims were older than black females by two years the median (Table 2.33).

There were 12.0 homicide deaths for every 100,000 Michigan residents in 1976 (Table 2.34). The overall male rate of death due to homicide was 19.3 or 3.9 times the female rate of 4.9. Age-specific homicide rates for males were above those for females at all ages in 1976. Major differences between male and female rates are first evident in the age interval 15-19 where the male rate is 3 times that for females. This differential is equaled or exceeded in all succeeding age groups where data are sufficient to prepare rates.

The disparity between the male and female age-specific rates is also evident from Figure 2.31. The female rate peaks in age group 25-29 then declines to the 50-54 year age group. Male rates rise markedly

TABLE 2.34—Homicide Death Rates by Age and Sex, Michigan Residents, 1976

AGE	TOTAL	MALE	FEMALE
All Ages.....	12.0	19.3	4.9
0-4 Years.....	3.2	3.2	3.1
5-9 Years.....	1.1	1.3	*
10-14 Years.....	2.4	3.3	1.5
15-19 Years.....	12.3	18.5	6.3
20-24 Years.....	28.4	49.2	9.6
25-29 Years.....	30.3	54.4	11.4
30-34 Years.....	17.3	28.8	4.6
35-39 Years.....	15.9	24.5	5.9
40-44 Years.....	19.5	29.1	8.7
45-49 Years.....	12.9	19.0	6.5
50-54 Years.....	11.3	19.6	3.4
55-59 Years.....	8.0	15.7	*
60-64 Years.....	8.4	13.0	4.1
65-69 Years.....	6.1	12.4	*
70-74 Years.....	11.7	20.3	5.2
75-79 Years.....	7.0	11.4	*
80-84 Years.....	8.5	*	8.4
85 and Over.....	7.8	*	*

from ages 10-14 to 25-29. The rate drops sharply for ages 30-34 then declines through age group 65-69.

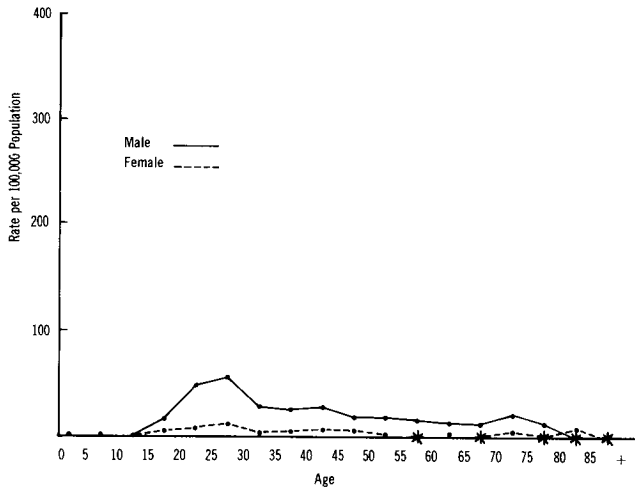
Homicide in Michigan was negligible in 1900 when compared to today. The rate at the turn of the century was 0.6, the lowest rate observed over the 77 years from 1900 to 1976. The highest rate for this period was 13.6, observed in 1974.

The homicide rate in Michigan rose in the early part of this century to a peak of 10.6 in 1926 whereupon it then declined. It was relatively stable from 1934 through 1964. In the years 1965 through 1974 the

TABLE 2.33—Deaths Due to Homicide by Age, Race, and Sex, Michigan Residents, 1976

AGE	ALL RACES			WHITE			BLACK			OTHER		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
Under 1 Year..	8	5	3	6	3	3	2	2	—	—	—	—
1-4 Years....	15	7	8	5	4	1	10	3	7	—	—	—
5-9 Years....	10	6	4	7	4	3	3	2	1	—	—	—
10-14 Years..	23	16	7	11	5	6	12	11	1	—	—	—
15-19 Years..	116	86	30	42	26	16	73	59	14	1	1	—
20-24 Years..	209	172	37	74	62	12	135	110	25	—	—	—
25-29 Years..	185	146	39	56	40	16	127	104	23	2	2	—
30-34 Years..	111	97	14	40	32	8	70	64	6	1	1	—
35-39 Years..	76	63	13	28	24	4	48	39	9	—	—	—
40-44 Years..	76	60	16	20	15	5	56	45	11	—	—	—
45-49 Years..	64	48	16	22	16	6	40	30	10	2	2	—
50-54 Years..	59	50	9	18	13	5	41	37	4	—	—	—
55-59 Years..	37	35	2	15	15	—	21	19	2	1	1	—
60-64 Years..	32	24	8	13	11	2	19	13	6	—	—	—
65-69 Years..	17	16	1	6	5	1	11	11	—	—	—	—
70-74 Years..	24	18	6	13	9	4	11	9	2	—	—	—
75-79 Years..	12	8	4	5	2	3	7	6	1	—	—	—
80-84 Years..	12	5	7	11	4	7	1	1	—	—	—	—
85-89 Years..	6	4	2	6	4	2	—	—	—	—	—	—
90 and Over..	—	—	—	—	—	—	—	—	—	—	—	—
Not Stated...	—	—	—	—	—	—	—	—	—	—	—	—
Total.....	1,092	866	226	398	294	104	687	565	122	7	7	000
Median Age..	29	29	28	29	30	28	29	29	27	*	*	*

FIGURE 2.31—Homicide Death Rates by Age and Sex, Michigan Residents, 1976¹

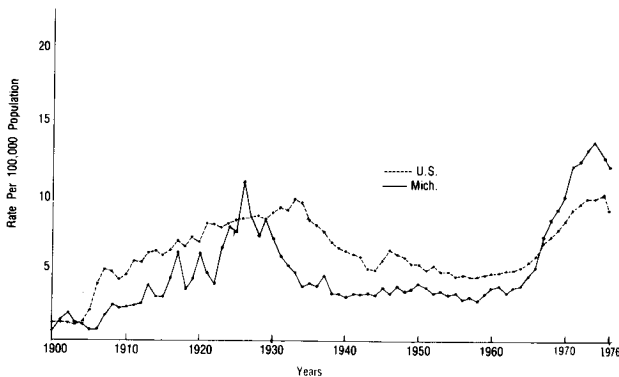


¹NOTE: Should comparisons be desired between this graph and a similar graph contained herein that pertains to some other specified cause of death, differences in scale may be encountered.

Michigan rate rose from 3.7 homicides per 100,000 in 1965 to the century high mark of 13.6 reached in 1974. The statistic for 1976 of 12.0 constitutes the second consecutive decline in the annual homicide mortality rate after 12 years of rising rates.

From 1900 to 1964, the homicide rate in Michigan was above the national rate only five times. In the last ten years from 1967-1976 the Michigan rate has been higher than that observed nationally, without exception. In 1976, the Michigan rate of death due to homi-

FIGURE 2.32—Homicide Death Rates, Michigan and United States Residents,¹ 1900-1976²



¹National rates are from death registration states for 1900-1932 and the United States for 1933-1976.

²Homicide 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 2.35—Deaths Due to Homicide by Detailed Cause, Michigan Residents, 1976

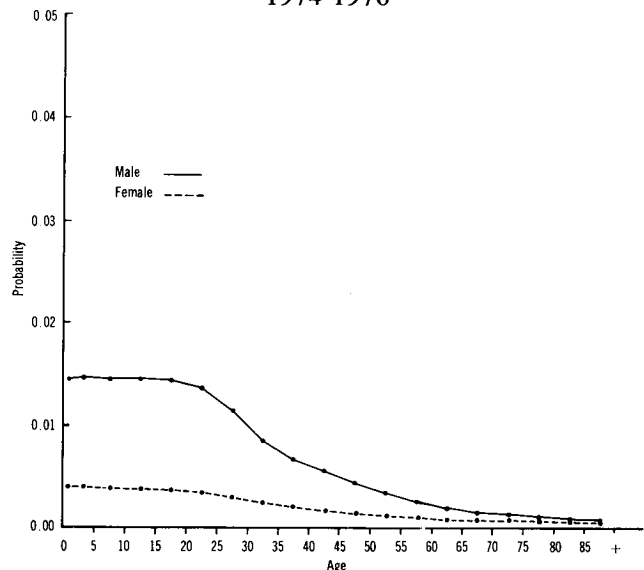
ICDA LIST NO.	CAUSE OF DEATH	NO. OF DEATHS	PER-CENT
965	Assault by Firearms and Explosives	778	71.2
966	Assault by Cutting and Piercing Instruments	139	12.7
968	Assault by Other Unspecified Means	99	9.1
963	Assault by Hanging and Strangulation	44	4.0
970	Injury Due to Legal Interventions by Firearms	28	2.6
962	Assault by Poisoning	2	0.2
964	Assault by Submersion	1	0.1
969	Late Effect of Injury Purposely Inflicted by Other Person	1	0.1
	TOTAL	1,092	100.0

cide was 45 percent above the 8.3 rate observed nationally.

The methods used in 1976 for the commission of homicide are listed in Table 2.35. Assault by firearms and explosives resulted 778 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 84.0 percent of all methods. Another 2.6 percent of these deaths were the result of legal interventions in 1976.

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 1974-1976 (Figure 2.33). The chance of a male eventually dying from this cause is 0.015 at birth. The risk for females 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.

FIGURE 2.33—Probability of Eventually Dying from Homicide by Age and Sex, Michigan Residents, 1974-1976¹



¹NOTE: 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

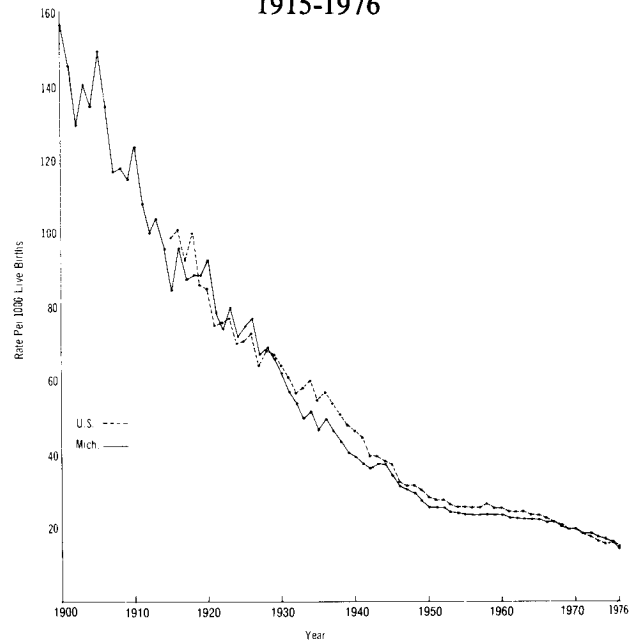
Of the 75,801 deaths occurring to Michigan residents in 1976, 1,978 occurred to individuals less than one year of age. The frequency of infant deaths in Michigan has declined by 47 percent since 1966 when there were 3,751 such deaths (Table 2.36). The number of infant deaths has declined persistently since 1957 with the single exception of 1970. The 1976 frequency is 10.3 percent below the figure for 1975. Nationally, the number of infant deaths in 1975 was 50,525, 46 percent below the number in 1965 and 4.3 percent less than 1974.

TABLE 2.36—Infant Deaths and Infant Mortality Rates, Michigan and United States Residents, 1966-1976

UNITED STATES		YEAR	MICHIGAN	
NO.	RATE		NO.	RATE
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
50,525	16.1	1975	2,205	16.5
48,265	15.2	1976	1,978	15.1

The rate of death for infants under the age of one year has dropped considerably since 1900. In that year there were 157.1 infant deaths for every 1,000 live births. This means about 16 of every 100 infants did not survive their first year. This rate fell below 100 by 1914 (96.8) to less than 70 by 1927 (67.7),

FIGURE 2.34—Infant Mortality Rates, Michigan Residents, 1900-1976 and United States Residents, 1915-1976



then less than 50 by 1937 (47.8). During the 40's, the Michigan infant death rate declined from 40.6 in 1940 to 28.9 in 1949. Relative declines in rate slowed considerably at this point. It was not until 1971 that the rate dropped below 20 to 19.5. In 1976, the Michigan rate of infant mortality was 15.1 (Figure 2.34).

During the period 1915-1928, the state rate was above that for the United States 9 of 14 years. From 1929 through 1969, Michigan's infant death rate was consistently below national statistics. Since 1970, the infant mortality rate in Michigan has been slightly higher than the national rate. The national rate for 1976 is 15.2.

TABLE 2.37—Infant Deaths, Live Births, and Infant Death Rates by Age of Mother and Race of Infant, Michigan Resident Infants Born in 1975

AGE OF MOTHER	ALL INFANTS			WHITE INFANTS			NONWHITE INFANTS ¹		
	INFANT DEATHS	LIVE BIRTHS	INFANT DEATH RATE	INFANT DEATHS	LIVE BIRTHS	INFANT DEATH RATE	INFANT DEATHS	LIVE BIRTHS	INFANT DEATH RATE
TOTAL.....	2,109	133,931	15.7	1,500	109,718	13.7	609	24,213	25.2
Under 15 Years.....	15	463	32.4	10	166	60.2	5	297	16.8
15-19 Years.....	495	24,509	20.2	297	17,215	17.3	198	7,294	27.1
20-24 Years.....	800	48,675	16.4	575	40,306	14.3	225	8,369	26.9
25-29 Years.....	521	40,061	13.0	408	34,946	11.7	113	5,115	22.1
30-39 Years.....	263	19,164	13.7	197	16,244	12.1	66	2,920	22.6
40 or More Years....	15	1,036	14.5	13	829	15.7	2	207	*
Unknown.....	—	23	000	—	12	000	—	11	000

¹Race not stated included with non-white.

TABLE 2.38—Infant Deaths and Mortality Rates by Infants Age at Death, Michigan Residents, 1970-1976

YEAR	AGE AT DEATH									
	TOTAL INFANT DEATHS		UNDER 1 DAY		1 to 6 DAYS		7 to 27 DAYS		28 to 365 DAYS	
	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE	NUMBER	RATE
1970.....	3,492	20.34	1,367	7.96	1,095	6.38	221	1.29	809	4.71
1971.....	3,157	19.46	1,191	7.34	1,025	6.32	196	1.21	745	4.59
1972.....	2,801	19.07	1,024	6.97	906	6.17	185	1.26	686	4.67
1973.....	2,561	18.09	1,131	7.99	579	4.09	192	1.36	659	4.66
1974.....	2,387	17.37	940	6.84	569	4.14	225	1.64	653	4.75
1975.....	2,205	16.46	856	6.39	461	3.44	246	1.84	642	4.79
1976.....	1,978	15.06	829	6.31	402	3.06	193	1.47	554	4.22

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 merged live birth and infant death information. The rates presented are associated with Michigan residents born in 1975. Note that this matched file is approximately 97.5 percent complete and, therefore, the rates presented are understated.

Infant death rates are highest for infants born to very young mothers. The infant mortality rates associated with mothers under 20 and particularly under 15 years are higher than any other age grouping. Mothers in their 20's and 30's display significantly lower infant mortality, with the lowest rates observed in the 25-29 age group. These rates rise with the age of the mother, increasing by about 12 percent from 25-29 to the 40 years and over age group. Infant mortality for nonwhites is significantly above that for whites. For babies born in 1975, the non-white rate was 84 percent higher than that of whites. The white and nonwhite rates followed the overall pattern of association to mother's age in 1976 with one notable exception for nonwhites. In 1976, the infant mortality rate of nonwhite infants born to

mothers aged under 15 years was 16.8. This is lower than any other age group. The unimparative rate in 1975 was 49.8, higher than any other age group in that year. While double low mortality for nonwhite infants is associated with the 25-29 age group, as is the case for whites, the increase in rate with mother's age is not as apparent.

There are three subclassifications of infant death:

Deaths Under 1 Day ... 829 in 1976

Deaths Under 7 Days ... 1,231 in 1976

Deaths Under 28 Days ... 1,424 in 1976

Total Infant Deaths

(Under 1 Year) 1,978 in 1976

About 72 percent of all infant deaths occurred within the first month of life in 1976, with about 62 percent in the first week. These percentages were 77 and 71 percent in 1970. A review of Table 2.38 reveals that the 27.2 percent decline in infant mortality rate since 1970 stems from reductions in the rate of death under 7 days. The death rate for infants during their first day of life has declined 22.2 percent since 1970, while infant death rates for ages 1 through 6 days has declined by 53.0 percent over the last seven years. In contrast, rates for infants aged 7 to 27 days have actually increased during this same time period. Death

TABLE 2.39—Perinatal Deaths, Total Births, and Perinatal Death Rates by Age of Mother and Race of Infant, Michigan Residents Born in 1975

AGE OF MOTHER	ALL INFANTS			WHITE INFANTS			NONWHITE INFANTS		
	PERI-NATAL DEATHS	TOTAL BIRTHS	PERI-NATAL DEATH RATE	PERI-NATAL DEATHS	TOTAL BIRTHS	PERI-NATAL DEATH RATE	PERI-NATAL DEATHS	TOTAL BIRTHS	PERI-NATAL DEATH RATE
TOTAL.....	2,659	135,304	19.7	1,890	110,693	17.1	729	24,393	29.9
Under 15 Years.....	17	472	36.0	11	171	64.3	6	301	19.9
15-19 Years.....	576	24,816	23.2	345	17,395	19.8	223	7,384	30.2
20-24 Years.....	916	49,121	18.6	656	40,637	16.1	247	8,413	29.4
25-29 Years.....	679	40,399	16.8	523	35,200	14.9	147	5,133	28.6
30-39 Years.....	430	19,407	22.2	328	16,431	20.0	95	2,937	32.2
40 or More Years....	36	1,061	33.9	24	844	28.4	11	214	51.4
Unknown.....	5	28	—	3	15	—	—	11	—

rates for infants aged 28 to 365 days declined to its lowest level of the 70's in 1976 down 13.6 percent from 1975. This is the first real decline observed.

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, infant deaths are generally limited to gestational and birth process causes. In 1976, Michigan resident perinatal deaths numbered 2,502 and the perinatal death rate was 18.9. This compares to 19.9 in 1975 and 26.0 in 1970.

As with infant death rates, perinatal mortality rates vary considerably with the age of the mother and the race of the child. Table 2.39 contains perinatal deaths and rates by age of mother and race of child for fetal deaths and live births occurring in 1975. As with Table 2.37, part of this table i.e. hebdomadal deaths, are drawn from a merged file of birth and death data. As a result, perinatal deaths and rates are slightly understated. What is clear from the data is the increased risk of death to infants of mothers under 15 or age 40 or greater. Minimum risk in 1975 is associated with mothers 25-29 years of age.

Michigan resident infant deaths in 1976 are listed by cause of death classification in Table 2.40. As with fetal deaths there is some non-specific reporting. The number of conditions allocated to other diseases of early infancy was 419, 21.2 percent in 1976. Congenital anomalies caused the deaths of 387 infants and was the specific disease category most frequently reported. Asphyxia of newborn deaths numbered 145 and immaturity was the cause of 182 deaths. Sudden infant death syndrome was responsible for 221 infant deaths in 1976.

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

TABLE 2.40—Infant Deaths by Cause of Death, Michigan Residents, 1976

ICDA LIST NUMBER/S	CAUSE OF DEATH	FREQUENCY
740-759	Congenital Anomalies	387
795.0	Sudden Infant Death Syndrome	221
777	Immaturity Unqualified	182
776.9	Asphyxia of Newborn	145
470-474, 480-486	Influenza and Pneumonia	60
764-768 (.0-.3), 772	Birth Injuries	50
E800-E949	Accidents	46
Residual 000-136	Other Infective and Parasitic Diseases	45
008-009	Enteritis and Other Diarrheal Diseases	27
550-553, 560	Hernia and Intestinal Obstruction	21
390-398, 402, 404, 410-429	Heart Disease	17
320	Meningitis	15
430-438	Cerebrovascular Disease	9
E960-E978	Homicide	8
210-239	Benign Neoplasms	3
441-448	Other Diseases of Arteries, etc.	3
571	Cirrhosis of the Liver	3
580-584	Nephritis and Nephrosis	3
140-209	Malignant Neoplasms	2
531-533	Peptic Ulcer	2
250	Diabetes Mellitus	1
280-285	Anemias	1
466	Acute Bronchitis and Bronchiocitis	1
490, 491	Chronic and Unqualified Bronchitis	1
E980-E999	All Other External Causes	7
Residual 770-778	Other Diseases of Early Infancy	419
	All Other Diseases	299
	TOTAL	1,978

in three areas: (1) infective and parasitic diseases; (2) respiratory diseases; and (3) accidents. Influenza and pneumonia deaths numbered 60, while accidental deaths numbered 46. There were 8 homicides involving infants in 1976.

About 86.3 percent of the mothers of Michigan resident infants born in 1975 and dying prior to 1 year of age received prenatal care prior to the sixth month of pregnancy (Table 2.41). This is below the correspond-

TABLE 2.41—Infant Deaths by Month Prenatal Care Began and Number of Prenatal Visits, Michigan Resident Infants Born in 1975

MONTH CARE BEGAN	TOTAL	NUMBER OF VISITS						UNKNOWN
		NONE	UNDER 5	5-9	10-14	15-19	20 AND OVER	
TOTAL.....	2,109	79	461	748	578	88	55	100
No Care.....	79	79	—	—	—	—	—	—
First.....	230	—	24	86	70	31	13	6
Second.....	685	—	92	271	252	38	19	13
Third.....	507	—	116	192	169	10	12	8
Fourth.....	251	—	81	95	60	5	7	3
Fifth.....	148	—	64	56	19	4	4	1
Sixth.....	80	—	46	29	4	—	—	1
Seventh.....	31	—	15	15	1	—	—	—
Eighth.....	19	—	14	3	1	—	—	1
Ninth.....	7	—	5	—	1	—	—	1
Unknown.....	72	—	4	1	1	—	—	66

TABLE 2.42—Infant Deaths by Birth Weight and Mother's Age, Michigan Resident Infants Born in 1975

BIRTH WEIGHT IN GRAMS	TOTAL	MOTHER'S AGE					
		UNDER 15	15-19	20-24	25-29	30-39	40 OR MORE
TOTAL.....	2,109	15	495	800	521	263	15
500 or Less.....	141	—	30	49	46	16	—
501-1,000.....	502	5	105	181	122	84	5
1,001-1,500.....	281	2	80	104	64	31	—
1,501-2,000.....	168	1	39	65	46	17	—
2,001-2,500.....	194	1	46	82	35	29	1
2,501-3,000.....	245	3	60	99	55	25	3
3,001-3,500.....	308	3	82	115	75	32	1
3,501-4,000.....	161	—	33	65	46	15	2
4,001-4,500.....	43	—	6	18	15	3	1
4,501 and Over.....	26	—	2	9	7	6	2
Not Stated.....	40	—	12	13	10	5	—
Median Weight.....	1,829	*	1,840	1,958	1,756	1,468	*

ing percentage for all live births (91.6%). Of these same women 67.4 percent received care in the first trimester of pregnancy. Among all women having live births in 1975, 74.3 percent had received care prior to the 4th month of pregnancy. While these percentages are similar, differences in proportions receiving no care are relatively high. In 1975, 0.8 percent of all women having live births had no care. The percentage among women whose infants died was 3.7 percent. Another dissimilarity between all live births and infant deaths is apparent for the number of prenatal visits. Of those infants born in 1975 who died within one year, 25.6 percent of their mothers had prenatal care with fewer than 5 visits. The corresponding percentage for all live births was 6.0 percent. Women with less than ten prenatal care visits, including no care, represented 32.9 percent of all live births compared to 61.1 percent for those infants that did not survive their first 12 months.

The median birth weight of infants born in 1975 and dying prior to 1 year of age was 1,829 grams (Table 2.42). The median birth weight of all Michigan resident live births in 1975 was 3,344 grams. An association between birth weight and mother's age is suggested by the data. Median birth weight was lowest for mothers 30-39 (1,468). At age 20-24 the median weight was 1,958 grams. Medians for all groups were below what is considered normal weight ranges.

COMMUNICABLE DISEASE DEATHS

Although comprising a smaller 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, streptococcal sore throat, small pox, 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 1976, deaths from all infective and parasitic diseases numbered 590. As can be observed from Table 2.43, the four major causes of death in this group are septicemia (232 deaths), tuberculosis (102 deaths), diarrheal disease (64 deaths) and infectious hepatitis (28 deaths).

Of particular importance is the fact that infants accounted for 12.2 percent of all infective and parasitic disease deaths while accounting for only 2.6 percent of all deaths.

TABLE 2.43—Deaths from Selected Infective and Parasitic Diseases, Michigan Residents, 1976

ICDA LIST NUMBER	CAUSE OF DEATH	FREQUENCY
038	Septicemia	232
010-109	Tuberculosis	102
009	Diarrheal Disease	64
070	Infectious Hepatitis	28
036	Meningococcal Infections	8
065	Viral Encephalitis	10
093	Cardiovascular Syphilis	7
044	Late Effects of Acute Poliomyelitis	5
054	Herpes Simplex	3
094	Syphilis of Central Nervous System	3
	All Other	128
	TOTAL	590

LIFE EXPECTANCY

The life expectancy of a Michigan resident at birth is 72.4 years, based on 1976 mortality statistics. Michigan males demonstrated a significantly shorter longevity than Michigan females. In 1976 the years remaining at birth are 69.0 for males and 75.9 for females. This results from the higher mortality rate of males at all ages.

Life expectancies by sex in selected years for Michigan and United States residents are presented in Table 2.44. 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 1975, 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 1975. Longevity for females residing and dying in this state were 0.8 years below the average for the country. Note that females have consistently demonstrated greater longevity than males both in Michigan and the United States.

It may seem inconsistent that the crude death rate in Michigan is below the national rate (p. 33) and yet life expectancy in the state is lower than that for the country. This results from crude rates failing to consider the age distributions of these two areas. Life expectancy statistics, on the other hand, neutralize the effects of differing age distributions. This exemplifies that Michigan's population is generally younger than the total United States population and that the state's low crude death rate is somewhat misleading.

TABLE 2.44—Life Expectancy at Birth by Sex, Michigan and United States Residents, Selected Years, 1901-1976

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 ¹	56.0 ¹
58.1	61.6	1930	59.8 ¹	62.8 ¹
60.8	65.2	1940	63.4 ¹	67.4 ¹
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
68.7	76.5	1975	68.5	75.7
69.0	76.7	1976	68.4	75.6

¹ Michigan data for years 1920, 1930 and 1940 are for white only.

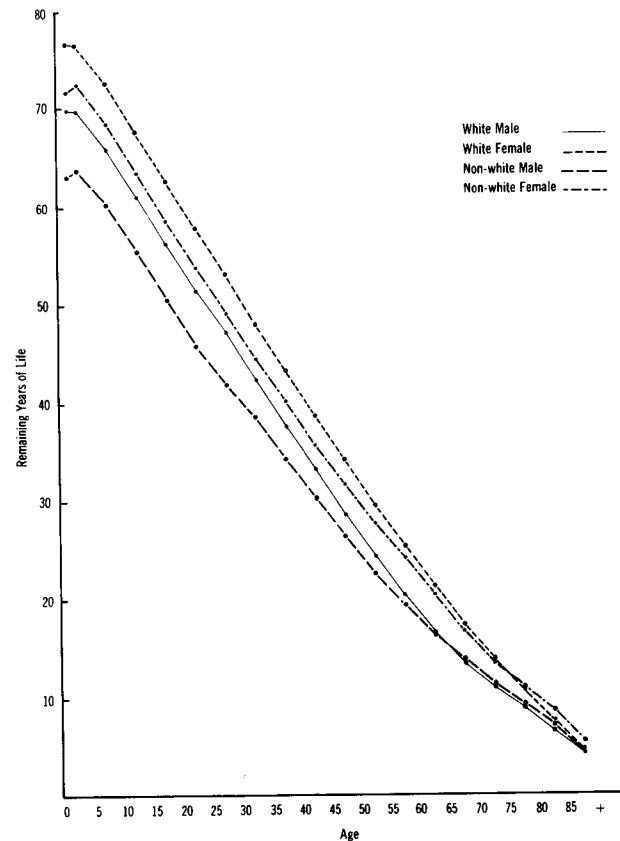
White persons displayed a life expectancy 6.1 years greater than non-white persons in 1976. White males can be expected to live 6.8 years longer than non-white males in 1976 compared to a differential of 5.8 years in 1950 (Table 2.45). The differential

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 5.1 years in 1976. The enlarged racial difference between males is a reflection of the opposite trend.

TABLE 2.45—Life Expectancy at Birth by Sex and Race, Michigan Residents, Selected Years

POPULATION SUBGROUP	YEAR			
	1950	1960	1970	1976
Total Population	68.3	70.0	70.8	72.4
Total Male	65.7	67.1	67.2	69.0
Total Female	71.2	73.3	74.6	75.9
Total White	68.8	70.5	71.6	73.2
White Male	66.2	67.5	68.2	69.9
White Female	71.9	74.0	75.3	76.6
Total Non-White	61.8	65.6	65.0	67.1
Non-White Male	60.4	63.6	61.0	63.1
Non-White Female	63.4	67.7	69.4	71.5

FIGURE 2.35—Remaining Years of Life by Age, Sex and Race, Michigan Residents, 1976



tion 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 1976. Non-whites display slightly greater expectancies in the older age groups.

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.

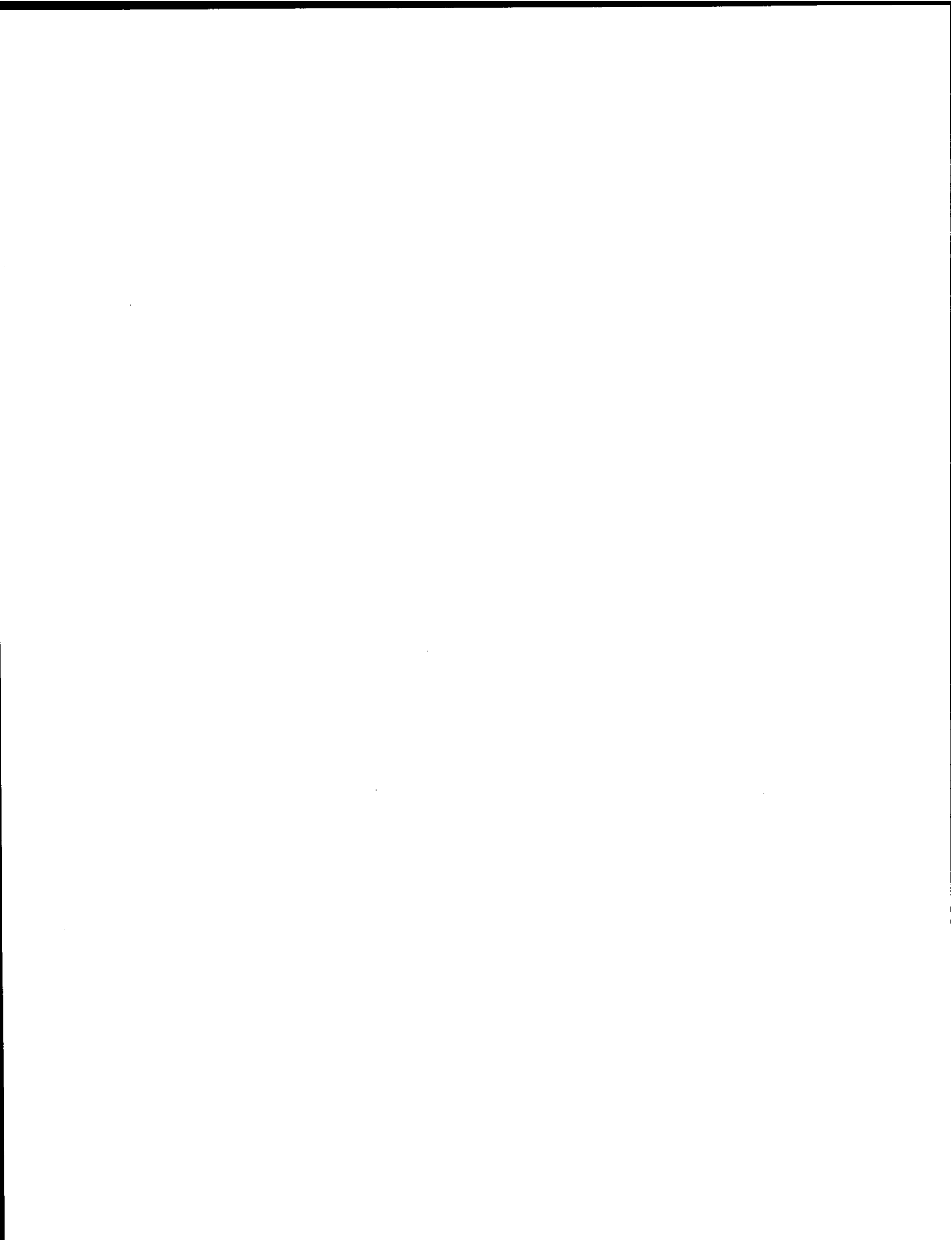
PLACE OF OCCURRENCE

There were 1,982 Michigan resident deaths in 1976 that occurred outside the state. This represents 2.6 percent of all resident deaths. There were 352 out-of-state resident deaths in the state of Florida in 1976. This is 17.8 percent of all such deaths, more than in any other area. The border areas of Ohio, Indiana, Wisconsin, and Canada account for 46.2 percent of all resident deaths outside Michigan. The near neighbor Illinois was the place of occurrence for 5.9 percent of these deaths. Michigan resident deaths occurred in all but five of the 50 states in 1976.

Of the non-residents that died in Michigan in 1976, 48.7 percent were from the border areas, 15.2 percent were Floridians and 9.8 percent from Illinois. Overall, non-residents who died in Michigan represented 46 of the 50 states, Puerto Rico, Central and South America, Europe and Asia. The most frequent place of residence was Wisconsin (Table 2.46).

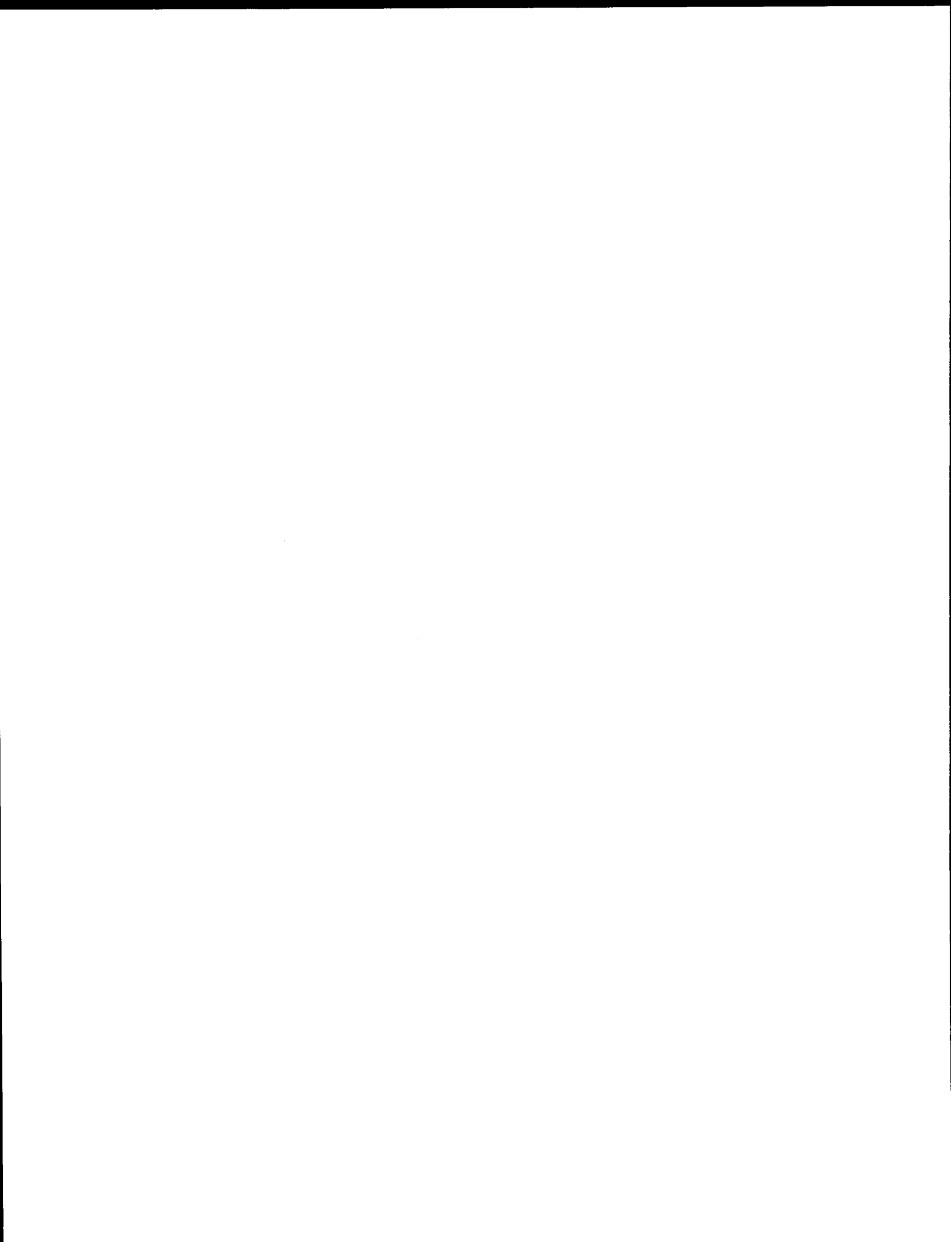
TABLE 2.46—Deaths Occuring Outside the State of Residence by State of Occurrence, Michigan Occurrences and Residents, 1976

GEOGRAPHIC AREA	DEATHS OF RESIDENTS OCCURRING OUTSIDE MICHIGAN		DEATHS TO NONRESIDENTS OCCURRING IN MICHIGAN	
	NUMBER	PERCENT	NUMBER	PERCENT
TOTAL.....	1,982	100.0	1,140	100.0
Florida.....	352	17.8	173	15.2
Ohio.....	323	16.3	186	16.3
Indiana.....	301	15.2	115	10.1
Wisconsin.....	191	9.6	189	16.6
Illinois.....	116	5.9	112	9.8
Canada.....	100	5.0	65	5.7
Other Areas.....	599	30.2	300	26.3



MARRIAGE & DIVORCE

SECTION III



Marriage and Divorce

An Overview 1976

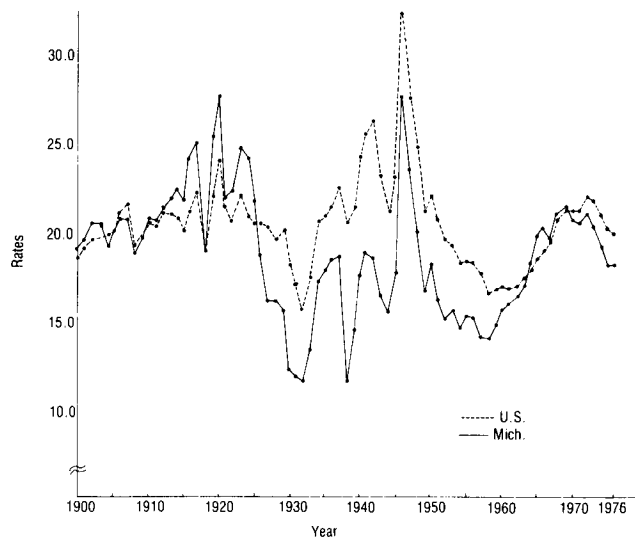
TOTAL MARRIAGES	82,753
TOTAL DIVORCES AND ANNULMENTS	43,101
MARRIAGE RATE	18.2
DIVORCE RATE	9.5
MEDIAN AGE OF THE BRIDE	22
MEDIAN AGE OF THE GROOM	24
MEDIAN DURATION OF MARRIAGES ENDING IN 1976	7.7

The number of marriages and divorces occurring annually in Michigan has increased considerably since 1900. The frequency of marriage has generally followed the growth of Michigan's population. The smallest number of marriages from 1900 to 1976 was 23,295 in 1900, while the largest number 94,486, occurred in 1973. Divorces and annulments have, on the other hand, tended to rise in frequency faster than population. The smallest and largest numbers of divorces and annulments were witnessed in almost the same years as was marriage with 2,435 occurring in 1900 and 43,101 taking place in 1976. In 1976 the number of marriages in the state fell for the third straight year. There were 82,753 marriages in 1976, just below the 1975 figure. There were 43,101 divorces and annulments in 1976, 5.7 percent higher than the 40,782 divorces in 1975.

MARRIAGES

Since 1900, there have been noticeable shifts in the marriage rates both nationally and in Michigan (Figure 3.1). The marriage rates observed for the state

FIGURE 3.1—Marriage Rates, Michigan and United States Occurrences, 1900-1976



have generally followed the pattern of rising and falling rates observed nationally. Strong historic shifts in rates have been related most notably to the factors of war and the economy. 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 for Michigan in 1976 was 18.2, slightly above the 1975 rate of 18.1 (Table 3.1).

TABLE 3.1—Marriages and Rates, Michigan and United States Occurrences, Selected Years, 1920-1976

UNITED STATES		YEAR	MICHIGAN	
NO.	RATE		NO.	RATE
1,274,476	23.9	1920	50,805	27.7
1,126,856	18.3	1930	29,482	12.2
1,595,879	24.2	1940	46,342	17.6
1,667,231	22.1	1950	58,180	18.3
1,523,000	17.0	1960	61,090	15.6
1,548,000	16.9	1961	63,320	16.0
1,577,000	17.0	1962	65,002	16.4
1,654,000	17.5	1963	68,160	17.0
1,725,000	18.0	1964	73,911	18.2
1,800,000	18.6	1965	81,247	19.8
1,857,000	19.0	1966	83,903	20.2
1,927,000	19.5	1967	84,363	19.6
2,069,000	20.7	1968	90,984	20.5
2,145,000	21.2	1969	93,392	20.8
2,158,802	21.2	1970	91,933	20.7
2,190,481	21.2	1971	92,134	20.5
2,282,154	22.0	1972	94,447	21.0
2,284,108	21.8	1973	94,486	20.9
2,223,000	21.0	1974	88,023	19.3
2,152,662	20.2	1975	82,856	18.1
2,154,807	20.0	1976	82,753	18.2

RESIDENCE OF COUPLES MARRYING IN MICHIGAN

When presenting statistics of births, deaths and fetal deaths it is possible to provide total resident figures due to an interstate agreement for exchange of non-resident event information. Thus, should a Michigan resident give birth in some other state, that state will forward the information to Michigan. No such agreement exists for marriages. This is an important consideration when analyzing marriage statistics. The marriage data presented is drawn from all marriages performed in the state regardless of the couples residence.

Table 3.2 shows that, in general, most of the couples marrying in Michigan are residents of the state. The table also relates that this pattern has not changed markedly over the last decade, though the proportion of marriages where both the bride and groom are not residents has declined substantially. These dates indicate that the general characteristics of marriages occurring in Michigan should be representative of marriage patterns for Michigan residents.

TABLE 3.2—Marriages by Residence Status of Bride and Groom, Michigan Occurrences, 1966 and 1976

RESIDENCE STATUS	1966		1976	
	NO.	PERCENT	NO.	PERCENT
Both Bride and Groom Residents.....	74,536	88.8	77,744	93.9
Bride Resident, Groom Non-Resident.....	3,103	3.7	2,974	3.6
Groom Resident, Bride Non-Resident.....	911	1.1	645	0.8
Both Bride and Groom Non-Residents.....	5,353	6.4	1,390	1.7
Residence Status, Not Stated..	—	0	—	0
Total.....	83,903	100.0	82,753	100.0

There was a total of 2,040 nonresident brides married in Michigan in 1976. The figure for grooms is more than double that of brides, numbering 4,376. Table 3.3 shows the ten most frequent residences of nonresident brides and grooms married in Michigan. The nearby states of Illinois, Indiana, Ohio and Wisconsin are the states of residence for 44 percent of all nonresident grooms and 58 percent of nonresident brides.

TABLE 3.3—State of Residence of Non-resident Brides and Grooms, Michigan Occurrences, 1976

GEOGRAPHIC AREA	NON-RESIDENT BRIDE	NON-RESIDENT GROOM
California	89	247
Florida	110	196
Illinois	161	417
Indiana	311	474
Minnesota	60	110
New York	52	175
Ohio	395	646
Texas	28	120
Wisconsin	324	405
Foreign Countries	97	274
Other States	413	1,312
Total	2,040	4,376

AGE AT MARRIAGE

Examination of the data in Table 3.4 reveals that females generally marry at a younger age than do males. More than twice the number of eligible females marry under the age of 20 compared to their eligible male counterparts. For ages 20 and over, eligible males marry more frequently than females particularly in age groups 25 to 34 and 45 and over. One half of all marriages occurring in Michigan involved brides under the age of 22 while the 50th percentile for grooms was 24.

The marriage rate for females under the age of 20 years is two and one-quarter times the comparable rate for males (Table 3.4). Rates of marriage for males are higher than for females in all other age groups. Since 1970, there have been significant declines in the marriage rates of both sexes under the age of 25 years. The largest decline observed is for males under the age of 20 years for whom the marriage rate has dipped 44 percent. Between the ages of 25 and 44 the rates of marriage has increased since 1970 for both sexes, while rates for persons 45 and over have dropped slightly.

TABLE 3.4—Number of Marriages and Rates by Age and Sex, Michigan Occurrences, 1970 and 1976

AGES	MALES			FEMALES		
	NO. MARRIAGES 1976	RATE 1976	RATE 1970	NO. MARRIAGES 1976	RATE 1976	RATE 1970
Under 20 ¹	10,244	22.0	38.9	23,566	49.8	77.6
20-24	33,261	95.2	126.7	31,340	81.1	93.8
25-34	24,303	40.1	36.1	17,182	26.5	22.1
35-44	7,177	15.5	12.7	5,415	13.4	9.7
45 and Over	7,764	6.0	6.6	5,246	3.6	4.4
Not Stated	4	000	000	4	000	000
Total	82,753	18.5	21.1	82,753	17.9	20.3
Median Age	24	000	000	22	000	000

¹ 15-19 Population used to obtain rate, under 20 for marriages include 14 years and over.

TABLE 3.5—Age at First Marriage and Remarriage: Bride,
Michigan Occurrences, 1966 and 1976

AGES	1966				1976			
	TOTAL	FIRST MARRIAGE	RE-MARRIAGE	NOT STATED	TOTAL	FIRST MARRIAGE	RE-MARRIAGE	NOT STATED
Under 20.....	34,994	34,468	482	44	23,566	23,208	343	15
Percent.....	41.7	53.0	2.6	67.7	28.5	40.1	1.4	55.6
20-24.....	27,988	24,876	3,100	12	31,340	27,014	4,323	3
Percent.....	33.4	38.3	16.4	18.5	37.9	46.7	17.4	11.1
25-29.....	6,923	3,547	3,376	—	11,868	5,634	6,231	3
Percent.....	8.3	5.5	17.9	—	14.3	9.7	25.1	11.1
30-34.....	3,445	925	2,519	1	5,314	1,113	4,198	3
Percent.....	4.1	1.4	13.4	1.5	6.4	1.9	16.9	11.1
35-44.....	4,998	733	4,262	3	5,415	586	4,829	—
Percent.....	6.0	1.1	22.6	4.6	6.5	1.0	19.4	—
45 and Over....	5,541	424	5,112	5	5,246	303	4,940	3
Percent.....	6.6	0.7	27.1	7.7	6.3	0.5	19.9	11.1
Not Stated.....	14	9	5	—	4	2	2	—
Percent.....	0.0	0.0	0.0	—	0.0	0.0	0.0	—
Total.....	83,903	64,982	18,856	65	82,753	57,860	24,866	27
Percent.....	100.1	100.0	100.0	100.0	99.9	99.9	100.1	100.0

ORDER OF MARRIAGE

The data in Tables 3.5 and 3.6 indicate that there is a trend toward younger first marriages by males, older first marriages by females, and younger age for remarriages among both males and females. The most frequent age group of first marriage for males is 20-24 in both 1966 and 1976. Among females, the modal age group in 1966 was under 20 years. Data for 1976 indicates a shift in mode to the 20-24 year age

group for first marriages of brides. An examination of the most frequent age interval for remarriage among males reveals that 45 years of age and older is most frequent in both 1966 and 1976. Females again show greater dynamics as the most frequent age of remarriages was the same as males in 1966, but switched to the age group 25-29 by 1976.

Noting that remarriages can only occur when a prior marriage has been terminated by divorce, annulment or death of spouse, it is apparent that the age distribution of those remarrying will be generally older

TABLE 3.6—Age at First Marriage and Remarriage: Groom,
Michigan Occurrences, 1966 and 1976

AGES	1966				1976			
	TOTAL	FIRST MARRIAGE	RE-MARRIAGE	NOT STATED	TOTAL	FIRST MARRIAGE	RE-MARRIAGE	NOT STATED
Under 20.....	17,533	17,446	59	28	10,244	10,206	28	10
Percent.....	20.9	26.9	0.3	45.9	12.4	18.2	0.1	41.7
20-24.....	35,603	33,701	1,882	20	33,261	30,961	2,294	6
Percent.....	42.4	52.0	9.9	32.8	40.2	55.3	8.6	25.0
25-29.....	12,290	9,028	3,256	6	16,973	10,916	6,056	1
Percent.....	14.6	13.9	17.1	9.8	20.5	19.5	22.6	4.2
30-34.....	4,880	2,186	2,692	2	7,330	2,288	5,041	1
Percent.....	5.8	3.4	14.2	3.3	8.9	4.1	18.8	4.2
35-44.....	6,262	1,635	4,626	1	7,177	1,008	6,168	1
Percent.....	7.5	2.5	24.3	1.6	8.7	1.8	23.0	4.2
45 and Over....	7,330	827	6,499	4	7,764	581	7,179	4
Percent.....	8.7	1.3	34.2	6.6	9.4	1.0	26.8	16.7
Not Stated.....	5	3	2	—	4	2	1	1
Percent.....	0.0	0.0	0.0	—	0.0	0.0	0.0	4.2
Total.....	83,903	64,826	19,016	61	82,753	55,962	26,767	24
Percent.....	99.9	100.0	100.0	100.0	100.1	99.9	99.9	100.2

TABLE 3.7—Remarriages of Brides by Age and Order of Marriage, Michigan Occurrences, 1966 and 1976

AGES	1966				1976			
	ALL MAR-RIAGES	SECOND MAR-RIAGES	THIRD MAR-RIAGES	4th OR MORE MAR-RIAGES	ALL MAR-RIAGES	SECOND MAR-RIAGES	THIRD MAR-RIAGES	4th OR MORE MAR-RIAGES
All Ages.....	83,903	14,873	3,297	686	82,753	19,871	4,101	894
Under 20.....	34,994	477	5	—	23,566	341	2	—
20-24.....	27,988	2,919	171	10	31,340	4,103	211	9
25-29.....	6,923	2,924	404	48	11,868	5,385	770	76
30-34.....	3,445	2,007	443	69	5,314	3,279	785	134
35-39.....	2,680	1,606	509	99	3,253	2,057	636	179
40-44.....	2,318	1,438	475	135	2,162	1,352	460	145
45 and Over.....	5,541	3,498	1,289	325	5,246	3,352	1,237	351
Not Stated.....	14	4	1	—	4	2	—	—

than for all marriages. Tables 3.7 and 3.8 demonstrate that the order of marriage has a strong positive relationship with age for both of brides and grooms. These data also show that remarriages constitute a larger percentage of all marriages in 1976 than 10 years earlier. In 1966, the proportion of all marriages that were remarriages was 22.5 percent for both brides and grooms. In 1976 comparable percentages were 24 percent for brides and 26 percent for grooms. The proportion of remarriages that involve more than one prior marriage has remained fairly stable at about 20 percent for both brides and grooms. Perhaps most interesting is the increase in the proportion of all remarriages and particularly second order marriages in the younger age groups. This shift is present in the age intervals from 25 through 34 years of age for both brides and grooms. It is most evident for ages 25-29. This group now surpasses the 45 and over age group among both brides and grooms in the number of second marriages.

The fact that remarriages have increased substantially in recent years is not too surprising in light of the increased numbers of divorces and annulments

being granted. As the number of marriages that end in divorce has grown over the last decade, the potential population eligible to "remarry" has also grown. It seems apparent arithmetically that the declines in marriage rates for recent years would have been more rapid in the absence of the above conditions.

FIRST MARRIAGES

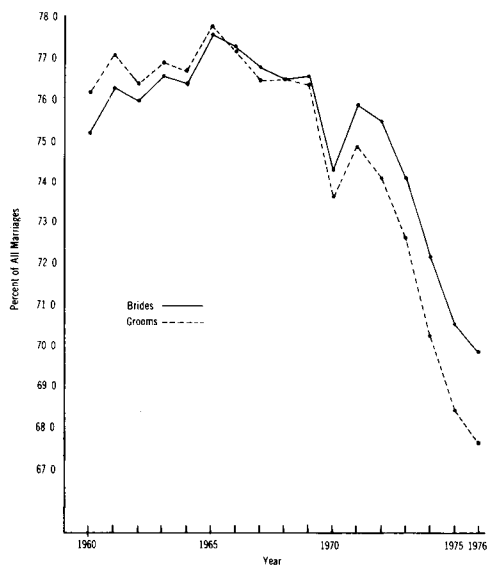
First marriages are an interesting component of all marriages in that they constitute an event that can never be duplicated. The frequency of first marriages can not be directly effected by rates of divorce or deaths to married persons and as such more clearly reflect the propensity of the population to enter into marital agreements.

A brief review of the preceding sections provides that the number and rate of marriage has fallen over the last few years and that the number of remarriages has risen in this same time period. It is obvious from this that the decline in marriages generally is attributable to falling numbers of first marriages. Figure 3.2 displays first marriages as percentage of all marriages

TABLE 3.8—Remarriages of Grooms by Age and Order of Marriage, Michigan Occurrences, 1966 and 1976

AGES	1966				1976			
	ALL MAR-RIAGES	SECOND MAR-RIAGES	THIRD MAR-RIAGES	4th OR MORE MAR-RIAGES	ALL MAR-RIAGES	SECOND MAR-RIAGES	THIRD MAR-RIAGES	4th OR MORE MAR-RIAGES
All Ages.....	83,903	15,390	3,038	588	82,753	21,562	4,315	890
Under 20.....	17,533	59	—	—	10,244	28	—	—
20-24.....	35,603	1,828	52	2	33,261	2,238	55	1
25-29.....	12,290	2,987	249	20	16,973	5,566	458	32
30-34.....	4,880	2,308	345	39	7,330	4,209	735	97
35-39.....	3,594	1,992	441	75	4,281	2,726	754	135
40-44.....	2,668	1,577	447	94	2,896	1,836	579	138
45 and Over.....	7,330	4,639	1,502	358	7,764	4,959	1,734	487
Not Stated.....	5	—	2	—	4	—	—	1

FIGURE 3.2—Percent of All Marriages that are First Marriages, Michigan Occurrences, 1960-1976



over the last 16 years. Examination of this graph shows a slight rising tendency for both males and females during the years 1960 through 1965. Since 1965, the general trend in this proportion has been downward. The declines shown for the period 1971 through 1976 has been especially marked for both sexes. In 1976, first marriages constituted 69.9 percent of all marriages for brides and 67.6 percent of all marriages for grooms.

Table 3.9 and 3.10 provide the number of first marriages by age for brides and grooms. Over all ages first marriages have declined substantially since 1972 for both brides and grooms. The steepest declines in frequency occurred in 1974 and 1975. The number of first marriages of grooms declined 9.9 and 8.4 percent in these years, respectively, while these figures dropped 9.3 percent in 1974 and 7.9 percent in 1975 for brides. The decline in frequency between 1975 and 1976 was 1.2 percent for both brides and grooms. The frequency of first marriage for brides and grooms under 20 and 20-24 years old follows the same pattern as all first marriages. In fact these age groups appear to be the source of the overall decline, as first marriages involve persons under 25 years of age 87 percent of the time among brides and 74 percent of the time among grooms as of 1976. It is worthy of note that the percentages of first marrieds under 25 has declined

steadily since 1970 despite increasing numbers of persons in Michigan for those ages. In 1970 first married brides under 25 were 91 percent of all first married brides while a similar figure for grooms was 80 percent. For ages over 25 small to moderate increases in first marriage frequencies since 1970 are evident for brides and grooms 25-29 and 30-34 years of age. For both sexes, frequencies have declined in ages 40-44, 45-49, and 50 and over since 1970.

TABLE 3.9—First Marriages by Age of Bride, Michigan Occurrences, 1970-1976

AGE OF BRIDE	YEAR						
	1976	1975	1974	1973	1972	1971	1970
All Ages . . .	57,860	58,554	63,564	70,076	71,373	70,022	68,386
15-19 Years ¹	23,208	24,723	28,238	32,658	33,948	33,227	31,730
20-24 Years.	27,014	26,604	28,153	30,249	30,771	30,646	30,688
25-29 Years.	5,634	5,189	5,094	5,036	4,615	4,138	4,036
30-34 Years.	1,113	1,075	1,108	1,108	1,048	973	964
35-39 Years.	381	422	382	395	403	408	395
40-44 Years.	205	177	204	228	217	221	214
45-49 Years.	126	132	152	154	139	153	147
50 and Over.	177	229	233	247	228	254	208
Not Stated.	2	3	0	1	4	2	4

¹Brides under age 15 included in age 15-19.

TABLE 3.10—First Marriages by Age of Groom, Michigan Occurrences, 1970-1976

AGE OF GROOM	YEAR						
	1976	1975	1973	1973	1972	1971	1970
All Ages . . .	55,962	56,655	61,884	68,682	70,120	69,091	67,735
15-19 Years ¹	10,206	11,188	13,209	15,468	16,416	16,044	15,391
20-24 Years.	30,961	31,327	34,283	38,436	39,641	39,692	38,999
25-29 Years.	10,916	10,336	10,455	10,596	10,048	9,306	9,379
30-34 Years.	2,288	2,157	2,208	2,289	2,139	2,056	2,097
35-39 Years.	665	680	716	749	759	794	740
40-44 Years.	343	322	339	418	415	454	493
45-49 Years.	226	241	260	314	294	317	270
50 and Over.	355	404	412	412	408	428	366
Not Stated.	2	0	2	0	0	0	0

¹Grooms under age 15 included in age 15-19.

The sex-specific rate of first marriages for both brides and grooms was 12.5 per 1,000 population, for the lowest rate of the period 1970 through 1976. In 1970 the rate for brides was 15.1 and for grooms 15.6. Significant declines in first marriage rates for both brides and grooms in the age groups under 20 and 20-24 are evident over this six year period. The rate for grooms under 20 in 1976 was 3.1 percent below that for 1975 and 38.0 percent lower than in 1970. Similar declines are present for brides. The 1976 rate for brides was below the 1975 figure by 6.0 percent

and that for 1970 by 32.6 percent. Corresponding decreases have occurred for first marriage rates in the age groups 20-24. In all, only one age category for grooms (25-29) has increased since 1970. Age-specific rates for brides have risen for the age groups 25-29, 35-39 and 40-44 and have held stable for ages over 40 years.

TABLE 3.11—First Marriage Rates by Age of Bride, Michigan Occurrences, 1970-1976

AGE OF BRIDE	YEAR						
	1976	1975	1974	1973	1972	1971	1970
All Ages...	12.5	12.6	13.7	15.2	15.5	15.2	15.1
15-19 Years ¹	49.0	52.1	60.2	70.6	75.5	74.0	72.7
20-24 Years	69.9	64.9	71.0	77.8	77.5	77.3	82.1
25-29 Years	16.4	15.1	15.2	15.3	14.9	13.4	13.4
30-34 Years	3.6	3.6	3.8	4.0	4.1	3.8	3.9
35-39 Years	1.7	1.8	1.6	1.7	1.7	1.7	1.6
40-44 Years	1.1	0.8	0.9	0.9	0.8	0.8	0.8
45-49 Years	0.5	0.5	0.6	0.6	0.5	0.6	0.5
50 and Over	0.1	0.2	0.2	0.2	0.2	0.2	0.2

¹Brides under 15 included in age 15-19.

TABLE 3.12—First Marriage Rates by Age of Groom, Michigan Occurrences, 1970-1976

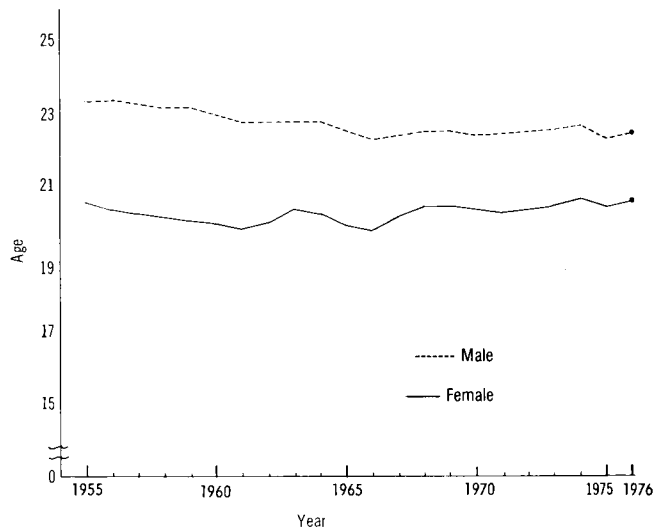
AGE OF GROOM	YEAR						
	1976	1975	1974	1973	1972	1971	1970
All Ages...	12.5	12.6	13.8	15.4	15.9	15.7	15.6
15-19 Years ¹	21.9	22.6	27.0	32.2	35.8	35.0	35.3
20-24 Years	88.6	76.0	91.1	110.8	116.0	116.3	118.6
25-29 Years	40.7	39.3	38.1	35.9	33.4	31.0	32.0
30-34 Years	6.8	6.8	7.1	7.7	8.6	8.3	8.8
35-39 Years	2.6	2.6	3.9	3.1	3.3	3.5	3.2
40-44 Years	1.7	1.4	1.4	1.7	1.6	1.8	1.9
45-49 Years	0.9	0.9	1.0	1.2	1.1	1.2	1.0
50 and Over	0.3	0.4	0.4	0.4	0.4	0.5	0.4

¹Grooms under 15 included in 15-19.

AGE AT FIRST MARRIAGE

Over the last twenty-two years, from 1955 through 1976, the median age at first marriage for both brides and grooms has not changed dramatically. These median ages followed a parallel path of slow decline from 1955 to 1961, whereupon the male median stabilized and the female age rose for two years. The age of brides and grooms at the 50th percentile of first marriages slipped again from 1963 through 1966 reaching their lowest levels for this time period (19.7 for brides and 22.2 for grooms). Brides median age rose again then stabilized. The age at first marriage has held fairly stable since 1968. In 1976 the median age for grooms at first marriage was 22.5 and that for brides was 20.5 years (Figure 3.13).

FIGURE 3.3—Median Age at First Marriage by Sex, Michigan Occurrences, 1955-1976



DIVORCES AND ANNULMENTS

The number of divorces in both Michigan and the United States has increased substantially over the last 13 years (Table 3.13). Divorces have more than doubled in Michigan since 1966 with 43,101 in 1976. Divorce rates have also displayed increases that have been consistent and significant. The rate has more than doubled over the last 13 years in Michigan and the United States. National data indicates a steady

TABLE 3.13—Divorces and Annulments, Rates, Michigan and United States Occurrences, Selected Years, 1920-1976

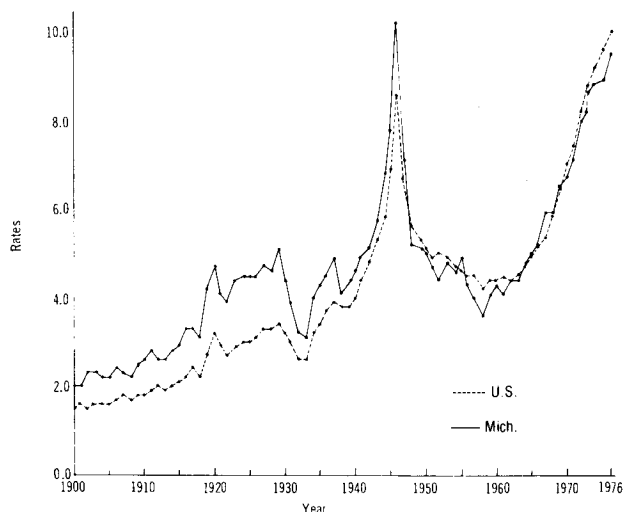
UNITED STATES		YEAR	MICHIGAN	
NO.	RATE		NO.	RATE
170,505	3.2	1920	8,679	4.7
195,961	3.2	1930	10,639	4.4
264,000	4.0	1940	12,054	4.6
385,144	5.1	1950	15,979	5.0
393,000	4.4	1960	16,656	4.3
414,000	4.5	1961	16,219	4.1
413,000	4.4	1962	17,500	4.4
428,000	4.5	1963	17,479	4.4
450,000	4.7	1964	19,400	4.8
479,000	4.9	1965	20,305	5.0
499,000	5.1	1966	21,727	5.2
523,000	5.3	1967	23,620	5.9
584,000	5.8	1968	25,400	5.9
639,000	6.4	1969	28,347	6.5
708,000	7.0	1970	29,934	6.7
773,000	7.4	1971	31,790	7.1
845,000	8.2	1972	35,505	7.9
915,000	8.8	1973	37,121 ¹	8.2 ¹
977,000	9.2	1974	39,940 ¹	8.8 ¹
1,036,000	9.7	1975	40,782	8.9
1,083,000	10.1	1976	43,101	9.5

¹Estimate.

increase in rate through 1976 when the rate was 10.0. Michigan data are still provisional for years 1972 through 1974 due to lack of reporting from certain areas of the state. This makes recent trends subject to question. The reporting since 1975, however, was nearly complete, with only four areas not reporting. The 1976 rate is 9.5.

The number of persons divorced in Michigan per thousand population was higher than the United States for each year from 1900 through 1947 without exception. In the following 29 years the Michigan divorce rate has been at or below the national rate 22 times.

FIGURE 3.4—Divorce Rates, Michigan and United State Occurrences, 1900-1976



The lowest rate in this century for Michigan was 2.0 in the years 1900 and 1901 while the lowest national rate was 1.5 in 1900 and 1902. The highest rate observed in the state was 10.2 in 1946. The provisional national estimate of 10.0 in 1976 is the highest national rate for the 76 years examined. This would be the fourth straight year that a century high has been observed in the United States. The divorce rate for Michigan rose from a provisional rate of 8.9 in 1975 to a rate of 9.5 in 1976. This rate is higher than any other year since 1900, excepting only the peak rate of 1946 (Figure 3.4).

DURATION OF MARRIAGE AT DIVORCE

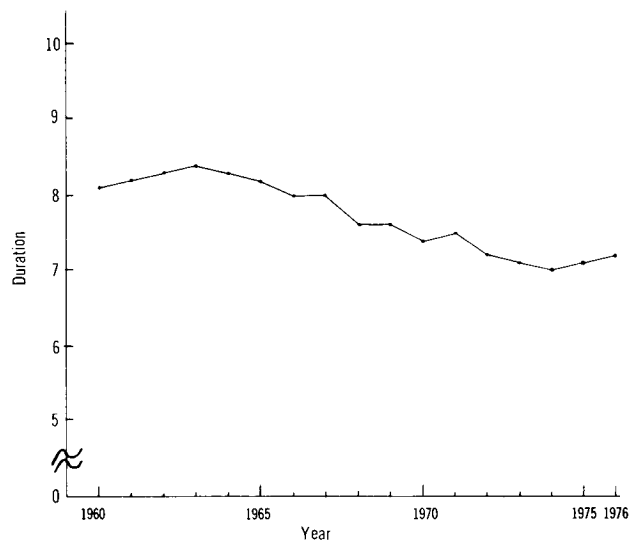
In conjunction with the increases in marriages during the 60's and early 70's, the duration of marriages being terminated in becoming shorter. Table 3.14 indicates that 63.0 percent of all marriages terminated in 1976, were solemnized since 1967. In 1966 only 57.1 percent of divorce involved marriages under 10 years duration. An examination of this table reveals that terminations of marriages with a duration of 1 to 9 years has increased faster than divorces in general while durations of less than 1 year, and 10 through 24 years have increased less than divorces overall. The frequency of divorce involving marriages of over 45 years duration have been stable since 1966.

TABLE 3.14—Divorces and Annulments by Duration of Marriage, Michigan Occurrences, 1966 and 1976

DURATION IN YEARS	1966			1976		
	NUMBER	PERCENT	CUMULATIVE PERCENT	NUMBER	PERCENT	CUMULATIVE PERCENT
Under 1 Year.....	367	1.7	1.7	397	0.9	0.9
1-4.....	6,702	30.8	32.5	14,087	32.7	33.6
5-9.....	5,348	24.6	57.1	12,683	29.4	63.0
10-14.....	3,474	16.0	73.1	6,557	15.2	78.2
15-19.....	2,525	11.6	84.7	3,527	8.2	86.4
20-24.....	1,654	7.6	92.3	2,591	6.0	92.4
25-29.....	882	4.1	96.4	1,629	3.8	96.2
30-34.....	424	2.0	98.4	741	1.7	97.9
35-39.....	181	0.8	99.2	333	0.8	98.7
40-44.....	86	0.4	99.6	114	0.3	99.0
45-49.....	36	0.2	99.8	41	0.1	99.1
50 and Over.....	10	0.0	99.8	15	0.0	99.1
Not Stated.....	38	0.2	100.0	386	0.9	100.0
Total.....	21,727	100.0	100.0	43,101	100.0	100.0
Median Duration.....	9	000	000	8	000	000

The effects of this shift in the distribution of marriage duration at divorce has been to lower the median duration over the last eleven years through 1974 (Figure 3.5). In 1963 the median duration of marriages terminated in Michigan was 8.4 years. This figure dropped persistently, reaching 7.0 in 1974. The statistics for 1975 is 7.6 years, and is 7.7 for 1976.

FIGURE 3.5—Median Duration of Divorced and Annulled Marriages, Michigan Occurrences, 1960-1976



MINOR CHILDREN OF DIVORCED COUPLES

The number of children under 18 effected by divorce in 1976 was 49,181 at a minimum. This is a 78 percent increase since 1966. The average number of minor children per divorce, has, nonetheless, dropped slightly, from 1.3 children in 1966 to 1.1 children in 1976. The percentage of divorces with no children present has dropped slightly over the last 10 years, while the percentage with one or two children has increased (Table 3.15).

GROUND FOR DIVORCE

In 1966 cruelty was the primary grounds for divorce in 93.6 percent of the cases granted. Since the passage of the "no fault" divorce law effective January 1, 1972, legal grounds are seldom claimed. In 1976, only 1.5 percent of all Michigan divorces were not reported as "no fault" (Table 3.16).

TABLE 3.16—Divorces and Annulments by Legal Grounds for Decree, Michigan Occurrences, 1966 and 1976

LEGAL GROUNDS	1966		1976	
	NO.	PERCENT	NO.	PERCENT
Cruelty	20,328	93.6	68	0.2
Desertion	584	2.7	1	0.0
Nonsupport	190	0.9	1	0.0
Fraud	221	1.0	77	0.2
Bigamy	24	0.1	5	0.0
Conviction of Crime	9	0.0	—	—
Adultery	13	0.1	—	—
Drunkenness	20	0.1	—	—
No Fault	—	—	42,443	98.5
Other	31	0.1	266	0.6
Not Stated	307	1.4	240	0.6
Total	21,727	100.0	43,101	100.0

TABLE 3.15—Divorces and Annulments by Children Under 18 Present, Michigan Occurrences, 1966 and 1976

NUMBER OF CHILDREN	DIVORCES AND ANNULMENTS				PERCENTS	
	1966	ESTIMATED TOTAL CHILDREN (MINIMUM) ¹	1976	ESTIMATED TOTAL CHILDREN (MINIMUM) ¹	1966	1976
Zero	9,063	000	17,589	000	42.3	40.8
One	4,314	4,314	10,469	10,469	20.1	24.3
Two	3,715	7,430	8,729	17,458	17.4	20.2
Three	2,259	6,777	3,787	11,361	10.6	8.8
Four	1,182	4,728	1,527	6,108	5.5	3.5
Five or More	884	4,420	757	3,785	4.1	1.8
Not Stated	—	000	243	000	000	0.6
Total	21,417	27,669	43,101	49,181	100.0	100.0

¹Total children for marriages involving 5 or more children under 18 is not available.

REFERENCE APPENDIX

SECTION IV

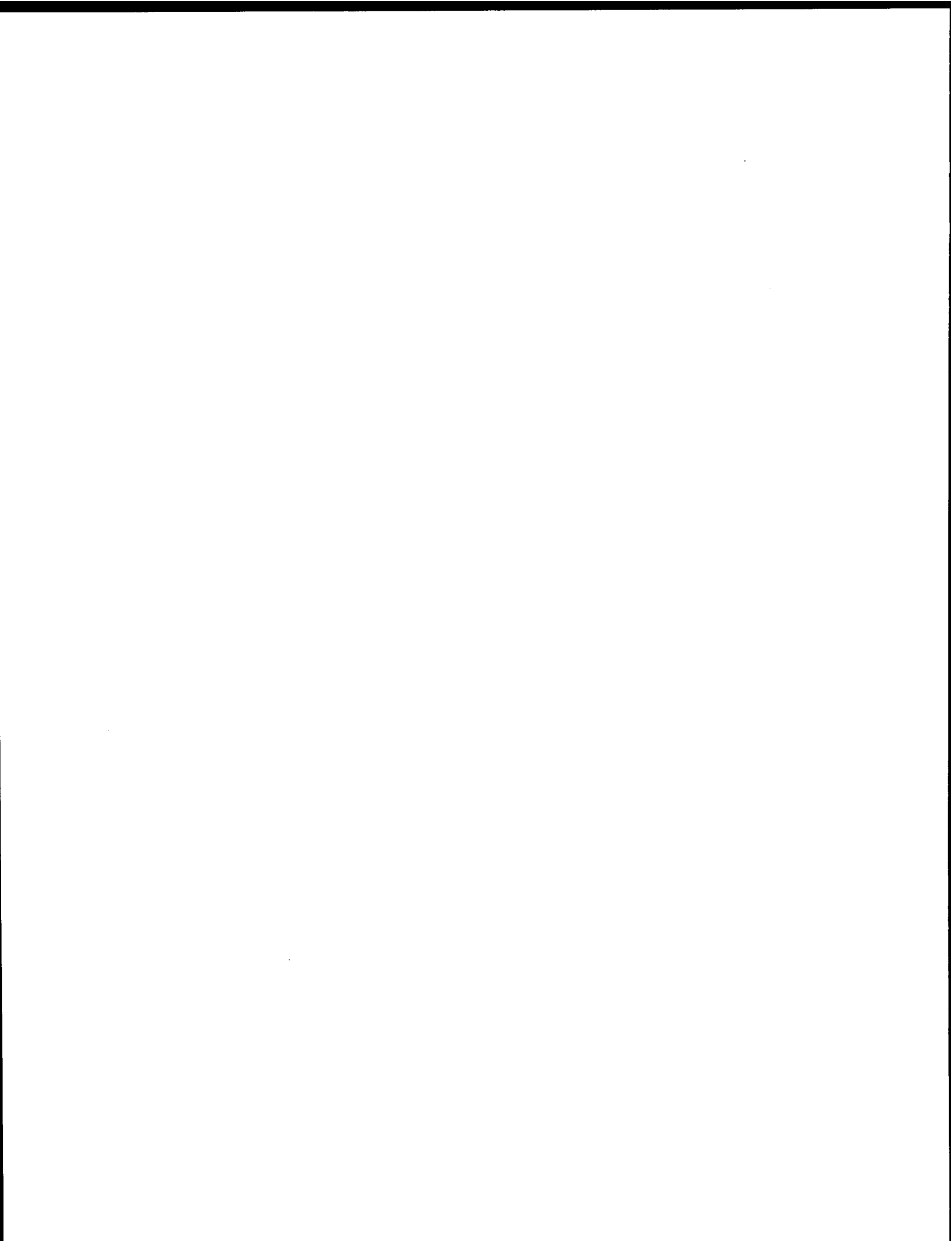


TABLE 4.1

POPULATION; LIVE BIRTHS - TOTAL AND ILLEGITIMATE; DEATHS - ALL AGES, INFANT, NEONATAL, PERINATAL,
FETAL, MATERNAL, AND DEATHS DUE TO IMMATURITY; MARRIAGES; AND DIVORCES
MICHIGAN, 1900 - 1976

(Deaths exclusive of fetal deaths. Perinatal deaths include deaths under 1 week and fetal deaths. Divorces include annulments.)

Year	Population ¹	LIVE BIRTHS		DEATHS							Marriages	Divorces	
		Total	Illegit- imate ²	All Ages	Under 1 Year ³	Under 28 Days	Peri- natal	Due to ⁴ Immaturity	Fetal	Maternal			
1900	2,420,982	43,699	332	32,453	6,866				620	1,325	452	23,295	2,435
1901	2,459,901	43,221	365	32,834	6,319				524	1,501	531	24,079	2,448
1902	2,498,820	45,546	383	31,472	5,949				608	1,793	468	25,653	2,828
1903	2,537,739	46,020	490	33,176	6,488				542	1,814	427	26,029	2,945
1904	2,576,658	47,508	562	34,494	6,419				632	1,911	436	24,918	2,808
1905	2,615,578	46,976	444	34,679	7,054				751	2,044	416	26,307	2,825
1906	2,654,497	58,599	1,090	37,033	7,952				830	2,358	400	27,519	3,192
1907	2,693,416	59,029	1,041	36,701	6,906				855	2,358	391	27,940	3,107
1908	2,732,335	64,772	888	36,761	7,697				975	2,694	440	25,765	3,020
1909	2,771,254	64,323	1,068	36,313	7,443				1,152	2,540	405	27,353	3,516
1910	2,810,173	64,109	1,054	39,913	7,998				2,050	2,559	431	29,039	3,716
1911	2,895,997	65,756	1,083	38,007	7,131				2,223	2,716	451	29,859	4,125
1912	2,981,821	69,537	1,222	38,804	6,985				2,340	2,906	396	31,694	3,838
1913	3,067,645	73,058	1,227	40,827	7,659				2,480	2,953	528	33,529	3,978
1914	3,153,469	76,761	1,192	39,906	7,431				2,391	3,113	507	35,316	4,395
1915	3,239,293	81,100	1,363	40,441	6,943				2,207	3,357	488	35,527	4,757
1916	3,325,116	87,062	1,351	46,047	8,415				2,498	3,689	503	40,143	5,540
1917	3,410,940	89,419	1,101	47,236	7,916				2,369	3,550	586	42,791	5,627
1918	3,496,764	91,261	1,142	54,617	8,197				2,362	3,686	709	33,260	5,493
1919	3,582,588	84,062	1,002	45,636	7,560				2,183	3,361	578	45,579	7,469
1920	3,668,412	92,245	1,445	51,982	8,587				2,512	3,770	795	50,805	8,679
1921	3,785,799	96,035	1,346	44,186	7,584				2,481	3,669	605	41,508	7,676
1922	3,903,186	90,042	1,180	43,817	6,730				1,793	3,779	551	43,561	7,591
1923	4,020,573	92,956	1,210	49,333	7,477				1,911	3,657	583	49,569	8,745
1924	4,137,960	98,187	1,443	47,304	7,088	4,119	6,791		1,970	3,703	636	49,788	9,400
1925	4,255,347	98,983	1,258	49,417	7,498	4,022	6,667		1,987	3,670	629	46,276	9,650
1926	4,372,734	98,289	1,669	54,080	7,620	4,054	6,773		1,986	3,816	631	39,788	9,795
1927	4,490,121	99,940	1,872	50,600	6,766	3,915	6,794		1,911	3,834	667	36,276	10,617
1928	4,607,508	97,462	1,853	54,755	6,806	3,739	6,594		1,866	3,701	603	37,300	10,615
1929	4,724,895	98,695	1,632	56,117	6,605	3,777	6,613		1,853	3,710	617	36,816	12,094
1930	4,842,325	98,882	1,600	51,561	6,213	3,624	6,518		1,805	3,714	597	29,482	10,639
1931	4,883,703	90,547	1,633	49,068	5,187	3,084	5,643		1,473	3,220	539	28,856	9,507
1932	4,925,081	85,254	1,697	49,569	4,630	2,798	5,210		1,372	2,980	493	28,552	7,889
1933	4,966,459	80,482	2,041	48,507	4,094	2,591	4,906		1,364	2,776	447	33,132	7,671
1934	5,007,837	83,944	2,124	50,440	4,377	2,717	4,781		1,419	2,607	450	43,241	10,124
1935	5,049,216	87,403	2,194	51,051	4,170	2,550	4,832		1,389	2,717	438	45,313	10,844
1936	5,090,594	88,457	2,157	54,777	4,479	2,647	4,726		1,395	2,625	425	47,023	11,419
1937	5,131,972	91,566	2,234	53,468	4,374	2,700	4,919		1,415	2,707	326	47,954	12,472
1938	5,173,350	96,962	2,331	50,678	4,319	2,734	4,984		1,484	2,732	345	30,105	10,646
1939	5,214,728	94,432	2,217	52,017	3,952	2,594	4,706		1,396	2,572	280	37,725	11,589
1940	5,256,106	99,106	2,280	52,092	4,022	2,629	4,749		1,298	2,602	292	46,342	12,054
1941	5,437,546	107,498	2,370	52,671	4,166	2,687	4,991		1,353	2,769	298	50,989	13,317
1942	5,538,856	124,068	2,532	52,738	4,606	3,091	5,581		1,575	3,067	260	51,582	14,085
1943	5,377,329	125,441	2,569	56,774	4,804	2,979	5,563		1,488	3,213	237	44,385	15,259
1944	5,377,329	113,586	3,115	54,016	4,326	2,784	5,140		1,412	2,874	198	41,678	18,356
1945	5,435,092	111,557	3,485	53,641	4,008	2,670	4,906		1,339	2,703	166	48,329	21,133
1946	5,708,415	138,572	3,908	54,856	4,541	3,323	5,978		1,735	3,168	163	78,808	29,158
1947	6,069,000	160,275	4,311	56,807	5,055	3,677	6,583		1,953	3,422	173	71,319	21,386
1948	6,195,000	153,726	4,310	56,520	4,617	3,352	5,968		1,820	3,132	120	61,986	16,017
1949	6,352,000	156,469	3,953	57,107	4,520	3,232	5,746		1,795	2,994	105	53,109	16,274
1950	6,371,766	160,055	4,425	57,567	4,214	3,043	5,781		1,096	3,095	91	58,180	15,979
1951	6,545,000	172,451	4,367	59,181	4,505	3,296	6,088		1,232	3,158	94	53,411	15,446
1952	6,708,000	177,835	4,513	59,138	4,689	3,414	6,266		1,256	3,224	82	50,487	14,925
1953	6,852,000	182,968	4,770	62,087	4,728	3,389	6,188		1,114	3,180	79	53,308	16,537
1954	7,024,000	192,104	5,610	60,706	4,795	3,560	6,415		1,298	3,249	94	51,243	16,281
1955	7,236,000	196,294	5,883	63,087	4,873	3,707	6,381		1,272	3,029	61	55,698	17,676
1956	7,516,000	206,068	6,494	64,352	5,047	3,796	6,655		1,244	3,245	84	57,068	16,228
1957	7,803,000	208,488	6,789	66,435	5,093	3,884	6,668		1,322	3,154	79	55,121	15,442
1958	7,866,000	202,690	6,816	65,899	4,980	3,789	6,516		1,208	3,101	69	55,159	14,040
1959	7,960,000	198,301	6,729	66,812	4,846	3,674	6,250		1,201	2,928	72	58,826	16,168
1960	7,823,194	195,056	7,200	67,912	4,702	3,580	6,247		1,148	3,008	75	61,090	16,656
1961	7,903,000	192,825	8,017	67,375	4,604	3,475	5,875		1,003	2,735	78	63,320	16,219
1962	7,939,000	182,790	7,998	70,049	4,367	3,251	5,669		907	2,703	56	65,002	17,500
1963	8,030,000	178,871	8,769	72,438	4,150	3,109	5,407		816	2,540	71	68,160	17,479
1964	8,100,000	175,103	9,724	72,129	4,043	3,071	5,293		807	2,466	62	73,911	19,400
1965	8,199,283	166,464	10,888	73,665	3,936	2,909	5,139		768	2,475	54	81,247	20,305
1966	8,314,070	165,794	12,299	74,596	3,751	2,830	4,909		819	2,295	54	81,903	21,727
1967	8,615,000	162,756	13,403	75,360	3,595	2,714	4,693		718	2,195	52	84,363	23,620
1968	8,675,000	159,058	14,451	76,855	3,438	2,617	4,476		487	2,064	44	90,984	25,400
1969	8,734,000	165,760	16,329	76,693	3,356	2,550	4,488		459	2,175	27	93,392	28,347
1970	8,875,083	171,667	18,712	76,321	3,492	2,683	4,522		436	2,060	29	91,933	29,934
1971	8,996,000	162,244	19,098	77,395	3,157	2,412	4,139		386	1,923	32	92,134	31,790
1972	9,013,475	146,854	19,526	79,210	2,801	2,115	3,700		316	1,770	35	94,447	35,505
1973	9,061,000	141,550	20,299	78,522	2,561	1,902	3,392		263	1,682	26	94,486	37,121 ⁵
1974	9,098,000	137,414	18,733	76,143	2,387	1,734	2,960		240	1,451	19	88,023	39,940 ⁵
1975	9,157,000	133,931	19,674	74,522	2,205	1,563	2,690		187	1,373	16	82,856	40,782
1976	9,104,000	131,378	19,843	75,801	1,978	1,424	2,502		186	1,271	14	82,753	43,101

¹1900 - 1960: United States Bureau of Census April 1 Census counts and July 1 estimates.

1961 - 1964: University of Michigan Population Studies Center July 1 estimates.

1965 - 1969: Michigan Center for Health Statistics July 1 estimate.

1970: United States Bureau of Census April 1 Census counts.

1971 - 1976: United States Bureau of Census July 1 estimates.

²For the years 1900 - 1910 and 1912, illegitimate live births also include illegitimate fetal deaths.

³For years prior to 1950 deaths under 1 month of age are included in deaths under 28 days.

⁴For 1910 through 1921 deaths due to immaturity also include deaths from congenital debility. Beginning with the year 1968, the category of deaths due to immaturity is no longer considered for primary mortality coding unless it is the only cause of death entered on the certificate. Previously this category included immaturity Unqualified plus immaturity with mention of any other Subsidiary Condition.

⁵Estimate

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, 1900-1976

(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	Illegit- imate	All Ages	Under 1 Year	Under 2 28 Days	Peri- natal	Due to 3 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	7.9	
1973	15.6	143.4	8.7	18.1	13.4	23.7	2.9	11.9	1.8	20.9	8.2 ⁴	
1974	15.1	136.3	8.4	17.4	12.6	21.3	1.7	10.6	1.4	19.3	8.8 ⁴	
1975	14.6	146.9	8.1	16.5	11.7	19.9	1.4	10.3	1.2	18.1	8.9	
1976	14.4	151.0	8.3	15.1	10.8	18.9	1.4	9.7	1.1	18.2	9.5	

¹For the years 1900-1910 and 1912, illegitimate live births also include illegitimate fetal deaths.

²For years prior to 1950 deaths under 1 month of age are included in deaths under 28 days.

³For 1910 through 1921 deaths due to immaturity also include deaths from congenital debility.

⁴Estimate

TABLE 4.3 Number of Live Births by Age of Mother
Michigan Residents, 1920-1976

YEAR	AGE OF MOTHER									
	ALL AGES ¹	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	AGE NOT STATED
1920	92,740	34	8,129	26,344	26,251	17,521	10,427	3,523	336	175
1921	96,322	39	8,747	26,583	27,292	18,433	11,150	3,572	337	169
1922	90,209	28	8,125	24,575	25,154	17,690	10,584	3,485	343	225
1923	93,066	37	8,725	25,887	25,459	18,072	10,770	3,476	382	258
1924	98,025	38	9,877	28,000	25,781	18,707	11,395	3,682	321	224
1925	99,220	62	10,248	28,116	26,204	18,869	11,406	3,695	379	241
1926	98,781	76	10,496	28,479	25,876	18,444	11,219	3,568	254	269
1927	100,178	59	10,685	29,302	25,707	18,790	11,287	3,722	332	294
1928	97,797	54	10,788	28,895	25,003	17,953	10,913	3,558	315	318
1929	99,134	56	11,312	30,582	25,557	16,957	10,555	3,523	293	299
1930	99,325	60	11,476	29,956	25,861	17,125	10,684	3,582	291	290
1931	90,929	61	10,109	27,255	23,806	15,937	9,905	3,317	302	237
1932	85,736	62	9,297	25,686	22,608	14,988	9,314	3,250	291	240
1933	80,923	52	8,642	23,874	21,618	14,298	8,795	3,173	261	210
1934	83,925	48	9,039	25,458	22,507	14,968	8,391	3,050	259	205
1935	87,446	47	9,808	27,631	22,938	15,026	8,473	3,029	284	210
1936	88,427	53	9,764	28,681	23,584	14,814	8,194	2,866	274	197
1937	91,539	54	10,524	30,532	24,366	15,022	7,949	2,653	242	197
1938	96,963	64	11,024	32,581	26,116	15,690	8,397	2,698	253	140
1939	94,302	51	10,368	31,036	26,095	15,976	8,021	2,416	209	130
1940	99,021	51	10,671	32,960	27,860	16,549	8,146	2,390	202	192
1941	107,458	50	11,309	36,833	31,067	17,132	8,351	2,361	200	155
1942	123,886	66	12,721	43,947	36,034	19,367	8,985	2,445	202	119
1943	125,778	67	11,934	41,627	37,773	21,449	9,980	2,615	184	149
1944	114,700	76	10,113	36,096	33,654	21,094	10,636	2,714	182	135
1945	112,655	73	9,294	32,790	33,143	22,831	11,185	2,970	229	140
1946	139,277	72	10,899	45,999	41,985	25,184	11,811	3,002	223	102
1947	161,085	91	15,594	55,954	47,793	26,296	12,009	3,073	182	93
1948	154,730	95	16,245	53,520	45,059	25,268	11,391	2,888	173	91
1949	157,178	117	16,404	53,608	46,363	25,971	11,565	2,906	181	63
1950	160,955	111	16,310	53,442	48,186	27,422	12,392	2,831	169	92
1951	173,506	104	17,974	57,340	52,044	29,674	13,086	3,040	160	84
1952	178,634	134	17,206	58,012	54,198	31,756	13,880	3,176	220	52
1953	182,810	166	18,510	58,070	54,734	32,948	14,798	3,350	190	44
1954	192,322	208	20,522	50,776	55,962	35,152	15,862	3,598	220	32
1955	196,623	195	21,417	61,952	56,462	35,968	16,554	3,862	198	15
1956	206,226	192	22,808	66,332	58,392	36,870	17,282	4,172	164	14
1957	208,808	190	23,798	67,086	58,424	36,980	17,956	4,160	200	14
1958	202,900	222	23,034	65,834	55,130	36,278	17,892	4,296	196	18
1959	198,576	200	21,922	65,426	53,434	34,934	18,030	4,424	198	8
1960	195,056	186	22,786	65,108	51,842	33,228	17,410	4,288	202	6
1961	192,825	212	23,891	64,336	50,277	32,456	17,067	4,363	203	20
1962	182,790	268	22,702	62,243	47,109	29,817	16,160	4,250	224	17
1963	178,871	210	21,686	62,834	46,063	28,364	15,117	4,359	229	9
1964	175,103	264	22,526	62,196	44,671	26,542	14,509	4,162	220	13
1965	166,464	267	24,653	59,439	40,693	23,767	13,528	3,886	211	20
1966	165,794	310	28,690	60,711	39,225	21,205	11,846	3,547	223	37
1967	162,756	316	27,267	61,541	40,052	19,840	10,479	3,059	178	24
1968	159,058	400	26,390	60,072	41,561	18,613	9,095	2,739	163	25
1969	165,760	421	28,061	63,376	44,615	18,535	8,157	2,433	134	28
1970	171,667	489	29,764	65,892	46,262	19,003	7,904	2,223	118	12
1971	162,244	472	28,480	62,367	43,639	18,259	6,975	1,926	112	14
1972	146,854	503	28,108	54,199	40,442	16,133	5,805	1,555	95	14
1973	141,550	569	27,808	51,284	39,845	15,520	5,163	1,277	62	22
1974	137,414	501	25,977	49,975	40,215	15,317	4,291	1,063	50	25
1975	133,931	463	24,509	48,675	40,061	14,891	4,273	982	54	23
1976	131,378	404	22,593	47,161	41,412	14,893	4,053	799	47	16

¹Total live births for the years 1920 through 1959 differ from figures in table 4.1 as they are derived from outside sources. Live births by age of mother were not tabulated in Michigan prior to 1960. These data were obtained from the following sources.

YEAR	SOURCE
1920-1923	Unpublished Tables from the National Center for Health Statistics.
1924-1932	Bureau of the Census publication, <u>Birth, Stillbirth and Infant Mortality Statistics for Birth Registration Areas of the United States.</u>
1933-1936	Unpublished Tables from the National Center for Health Statistics.
1937-1949	Bureau of the Census publication, <u>Vital Statistics of the United States series.</u>
1950-1959	Department of Health Education and Welfare publication, <u>Vital Statistics of the United States series.</u>

TABLE 4.4 Live Birth Rates by Five Year Age Groups of Mother

Michigan Residents 1920-1976

(Live Birth Rates are per 1,000 women per year, Total Fertility Rate is total children to 1,000 women in their lifetime assuming constant Live Birth Rates)

YEAR	AGE OF MOTHER								TOTAL FERTILITY RATE
	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1920	0.2	55.7	173.1	164.0	124.2	83.8	34.3	3.8	3,195.5
1921	0.2	56.9	167.3	165.5	125.8	84.8	32.8	3.6	3,184.5
1922	0.2	50.8	149.6	149.1	117.3	77.1	30.7	3.5	2,891.5
1923	0.2	52.6	152.6	147.5	116.5	75.4	29.3	3.8	2,889.5
1924	0.2	57.4	160.0	146.1	117.3	76.7	29.9	3.1	2,953.5
1925	0.3	57.4	155.9	145.4	115.2	73.9	28.8	3.5	2,902.0
1926	0.4	56.9	153.3	140.5	109.7	70.1	26.8	3.2	2,804.5
1927	0.3	56.0	153.3	136.8	108.9	68.1	27.0	2.9	2,766.5
1928	0.2	54.8	147.1	130.3	101.5	63.7	25.0	2.6	2,626.0
1929	0.2	55.7	151.5	130.6	93.6	59.6	23.9	2.4	2,587.5
1930	0.3	55.2	145.5	130.2	92.8	58.9	23.7	2.3	2,544.5
1931	0.3	47.8	130.4	118.3	85.3	54.3	21.5	2.3	2,301.0
1932	0.3	43.4	121.5	111.2	79.4	50.8	20.8	2.2	2,148.0
1933	0.2	39.7	111.6	105.2	75.0	47.7	20.0	1.9	2,006.5
1934	0.2	41.0	117.6	108.4	77.8	45.3	18.9	1.8	2,055.0
1935	0.2	43.9	126.2	109.4	77.4	45.5	18.5	2.0	2,115.5
1936	0.2	43.1	129.5	111.4	75.5	43.8	17.3	1.8	2,113.0
1937	0.2	45.9	136.4	113.9	75.9	42.3	15.8	1.6	2,160.0
1938	0.3	47.4	143.9	120.9	78.5	44.4	15.8	1.6	2,264.0
1939	0.2	44.1	135.6	119.6	79.2	42.3	14.0	1.3	2,181.5
1940	0.2	44.9	142.8	126.8	81.5	42.8	13.7	1.2	2,269.5
1941	0.2	48.1	157.8	137.1	81.6	42.5	13.2	1.2	2,408.5
1942	0.3	54.5	186.6	155.3	89.9	44.7	13.4	1.2	2,729.5
1943	0.3	51.6	175.1	159.0	97.1	48.6	14.1	1.1	2,734.5
1944	0.3	44.1	150.5	138.5	93.2	50.6	14.3	1.0	2,462.5
1945	0.3	40.8	135.5	133.4	98.5	52.1	15.4	1.3	2,386.5
1946	0.3	48.3	188.5	165.3	106.2	53.8	15.3	1.2	2,894.5
1947	0.4	69.7	227.3	184.2	108.4	53.6	15.4	1.0	3,300.0
1948	0.4	73.2	215.5	170.0	101.9	49.8	14.2	1.0	3,130.0
1949	0.5	74.6	214.0	171.4	102.5	49.6	14.1	1.0	3,138.5
1950	0.5	74.6	212.0	175.5	106.5	52.3	13.6	0.9	3,179.5
1951	0.4	79.1	229.0	192.2	114.4	53.9	14.1	0.8	3,419.5
1952	0.5	73.5	233.0	202.5	121.7	56.1	14.4	1.1	3,514.0
1953	0.6	76.8	234.5	207.0	125.5	58.7	14.9	0.9	3,594.5
1954	0.7	82.8	246.8	214.1	133.1	61.8	15.6	1.1	3,780.0
1955	0.6	84.1	253.0	218.6	135.4	63.4	16.4	0.9	3,862.0
1956	0.6	87.2	272.4	228.9	138.0	65.0	17.4	0.8	4,051.5
1957	0.6	88.6	277.1	231.8	137.6	66.4	17.0	0.9	4,100.0
1958	0.6	83.6	273.4	221.5	134.3	65.0	17.2	0.9	3,982.5
1959	0.6	77.6	273.3	217.4	128.6	64.4	17.3	0.9	3,900.5
1960	0.5	79.3	273.1	213.0	121.8	61.4	16.6	0.9	3,833.0
1961	0.6	78.1	252.0	200.7	120.2	61.3	16.8	0.9	3,653.0
1962	0.7	70.7	231.5	183.9	111.4	58.9	16.3	0.9	3,371.5
1963	0.5	64.6	222.5	175.9	107.0	55.9	16.6	0.9	3,219.5
1964	0.6	64.2	210.1	167.0	101.0	54.4	15.8	0.9	3,070.0
1965	0.6	67.4	192.0	149.0	91.2	51.5	14.7	0.8	2,836.0
1966	0.7	75.4	187.9	140.7	82.1	45.8	13.4	0.9	2,734.5
1967	0.7	69.0	182.8	140.8	77.6	41.2	11.5	0.7	2,621.5
1968	0.9	64.3	171.5	143.2	73.4	36.3	10.2	0.6	2,502.0
1969	0.9	66.0	174.2	150.8	73.8	33.1	9.1	0.5	2,542.0
1970	1.0	68.2	176.2	154.2	76.2	32.4	8.3	0.4	2,584.5
1971	1.0	63.5	157.3	141.4	71.8	28.8	7.3	0.4	2,357.5
1972	1.0	62.5	136.4	130.7	63.4	23.9	5.8	0.3	2,120.0
1973	1.2	60.1	131.9	120.9	55.8	22.1	4.7	0.2	1,984.5
1974	1.1	55.4	126.0	120.2	52.4	18.1	4.5	0.2	1,889.5
1975	1.0	51.7	118.8	116.8	49.2	17.7	4.3	0.2	1,798.5
1976	0.9	47.7	122.1	120.8	48.7	18.4	4.3	0.2	1,815.5

SOURCE: Population figures used for 1920-1970 rates are from General Population Characteristics, Michigan, USBC, 1971, with arithmetic extrapolation between census years. 1971-1976 population from Michigan Health Statistics for 1971-1976.

TABLE 4.5

REPORTED CASES OF CERTAIN COMMUNICABLE DISEASES
MICHIGAN OCCURRENCES, 1900-1976

Year	Diphtheria	Streptococcal Sore Throat (including Scarlet Fever)	Smallpox	Typhoid Fever	Whooping Cough	Measles	Hepatitis, Infectious and Serum	Tuberculosis (all forms) ²	Meningococcal Infections ¹	Poliomyelitis ²	Syphilis ²	Gonorrhoea ²	Chancroid ²
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	100
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
1975	1	23,777	-	10	98	3,253	2,877	1,271	76	-	1,638	32,583	98
1976	-	24,937	-	10	70	6,139	2,645	1,349	65	1	1,089	34,836	37

¹Meningococcal infections - Prior to 1952 data were for meningococcal meningitis.²Tuberculosis, syphilis, gonorrhoea and chancroid are resident cases.³Effective January 1975, a new diagnostic classification system for tuberculosis was adopted. As a result, case counts and rates prior to 1975 are not directly comparable to the figures in 1975 and later years.Office of Vital and Health Statistics
Michigan Department of Public Health

TABLE 4.6
CASE RATES OF CERTAIN REPORTED COMMUNICABLE DISEASES
MICHIGAN OCCURRENCES, 1900-1976
(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) ²	Meningococcal Infections ¹	Poliomyelitis	Syphilis ²	Gonorrhea ²	Chancroid ²
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		121.8	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	126.9	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	39.6	15.7	0.6	0.0	29.9	352.5	1.9
1975	0.0	259.7	-	0.1	1.1	35.5	31.4	13.9	0.8	-	17.9	355.8	1.1
1976	-	273.9	-	0.1	0.8	67.4	29.1	14.8	0.7	0.0	12.0	382.6	0.4

¹Meningococcal infections - Prior to 1952 data were for meningococcal meningitis.
²Tuberculosis, syphilis, gonorrhea and chancroid are resident rates.
³Effective January, 1975, a new diagnostic classification system for tuberculosis was adopted. As a result, case counts and rates prior to 1975 are not directly comparable to the figures in 1975 and later years.

TABLE 4.8

NUMBER OF DEATHS AND DEATH RATES BY SPECIFIED CAUSES
MICHIGAN RESIDENTS, 1900-1976
(Rates per 100,000 Population)

Year	Heart Disease		Cancer (all forms)		Vascular Lesions Affecting Central Nervous System ³		Accidents (all forms) ⁴		Motor Vehicle Accidents ⁵		Diabetes		Pneumonia ⁶		Immaturity ⁷		General Arteriosclerosis ⁸	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1900	2,836	117.1	1,460	60.3	2,136	88.2	1,740	71.9			224	9.3	2,388	98.6	620	25.6		
1901	3,040	123.6	1,484	60.3	2,147	87.3	1,901	77.3			264	10.7	2,901	117.9	524	21.3		
1902	3,302	132.1	1,483	59.3	2,097	83.9	1,796	71.9			289	11.6	2,637	105.5	608	24.3		
1903	3,702	145.9	1,694	66.8	2,321	91.5	2,017	79.5			265	10.4	2,607	102.7	542	21.4		
1904	3,981	154.5	1,728	67.1	2,431	94.3	2,035	79.0			298	11.6	2,646	102.7	632	24.5		
1905	3,715	142.0	1,693	64.7	2,405	91.9	2,034	77.8			267	10.2	2,417	92.4	751	28.7		
1906	3,933	148.2	1,736	65.4	2,554	96.2	2,126	80.1			311	11.7	2,621	98.7	830	31.3		
1907	4,269	158.5	1,747	64.9	2,690	99.9	2,209	82.0			352	13.1	3,018	112.0	855	31.7		
1908	4,202	153.8	1,921	70.3	2,630	96.3	2,036	74.5			359	13.1	2,313	84.7	975	35.7		
1909	4,354	157.1	1,948	70.3	2,739	98.8	1,903	68.7			374	13.5	2,265	81.7	1,152	41.6		
1910	4,581	163.0	2,105	74.9	3,091	110.0	2,158	76.8	49	1.7	398	14.2	2,785	99.1	2,050	72.9		
1911	4,539	160.2	2,142	74.0	2,916	100.7	2,121	73.2	44	1.5	373	12.9	2,763	95.4	2,223	76.8		
1912	5,324	178.5	2,291	76.8	2,707	90.8	2,005	67.2	75	2.5	448	15.0	2,796	93.8	2,340	78.5		
1913	4,908	160.0	2,388	77.8	2,834	92.4	2,333	76.1	132	4.3	483	15.7	3,082	100.5	2,480	80.8		
1914	5,124	162.5	2,414	76.6	2,993	94.9	2,108	66.8	120	3.8	503	16.0	2,909	92.2	2,391	75.8		
1915	5,538	171.0	2,567	79.2	3,384	104.5	2,219	68.5	190	5.9	498	15.4	3,229	99.7	2,207	68.1		
1916	5,819	175.0	2,710	81.5	3,559	107.0	2,853	85.8	257	7.7	500	15.0	3,698	111.2	2,498	75.1		
1917	6,103	178.9	2,765	81.1	3,703	108.6	2,925	85.8	335	9.8	569	16.7	4,455	130.6	2,369	69.5		
1918	6,091	174.2	2,931	83.8	3,493	99.9	2,599	74.3	279	8.0	591	16.9	7,238	207.0	2,362	67.5		
1919	5,651	157.7	2,990	83.5	3,483	97.2	2,612	72.9	328	9.2	559	15.6	4,081	113.9	2,183	60.9		
1920	6,732	183.5	3,158	86.1	3,876	105.7	2,646	72.1	397	10.8	577	15.7	5,794	157.9	2,512	68.5		
1921	6,176	163.1	3,375	89.1	3,931	103.8	2,476	65.4	403	10.6	566	15.5	2,849	75.3	2,481	65.5		
1922	6,897	176.7	3,481	89.2	4,041	103.5	2,475	63.4	529	13.6	650	16.7	3,728	95.5	1,793	45.9		
1923	7,266	180.7	3,545	88.2	4,420	109.9	2,826	70.3	677	16.8	635	15.8	4,719	117.4	1,911	47.5		
1924	6,985	168.8	3,824	92.4	4,241	102.5	3,090	74.7	601	24.2	661	16.0	3,332	80.5	1,970	47.6		
1925	7,540	177.2	3,858	90.7	4,623	108.6	3,278	77.0	1,103	25.9	746	17.5	3,294	77.4	1,987	46.7		
1926	8,281	189.4	4,087	93.5	4,663	106.6	3,557	81.3	1,221	27.9	743	17.0	4,440	101.5	1,986	45.4		
1927	8,780	195.5	4,264	95.0	4,378	97.5	3,634	80.9	1,389	30.9	819	18.2	3,543	78.9	1,911	42.6		
1928	9,786	212.4	4,381	95.1	4,718	102.4	3,704	80.4	1,429	31.0	905	19.6	4,518	98.1	1,846	40.1		
1929	10,185	215.6	4,571	96.7	4,694	99.3	3,913	82.8	1,552	32.8	935	19.8	4,216	89.2	1,853	39.2		
1930	9,947	205.4	4,572	94.4	4,533	93.6	3,805	78.6	1,572	32.5	880	18.2	3,321	68.6	1,805	37.3	1,047	21.6
1931	10,206	209.0	4,763	97.5	4,388	89.8	3,630	74.3	1,516	31.0	950	19.5	2,883	59.0	1,473	30.2	1,005	20.6
1932	11,162	226.6	4,935	100.2	4,518	91.7	3,179	64.5	1,229	25.0	1,121	22.8	3,238	65.7	1,372	27.9	948	19.2
1933	11,509	231.7	5,055	101.8	4,318	86.9	3,304	66.5	1,278	25.7	1,103	22.2	2,756	55.5	1,364	27.5	966	16.8
1934	11,824	236.1	5,370	107.2	4,485	89.6	3,774	75.4	1,511	30.2	1,100	22.0	3,466	69.2	1,419	28.3	914	18.3
1935	12,456	246.7	5,399	106.9	4,420	87.5	3,771	74.7	1,676	33.2	1,228	24.3	3,801	75.3	1,389	27.5	897	17.8
1936	13,374	262.7	5,752	113.0	4,705	92.4	4,031	78.8	1,924	37.8	1,266	24.9	4,096	80.5	1,395	27.4	997	19.6
1937	13,233	257.8	5,732	111.7	4,378	85.3	4,580	89.2	2,187	42.6	1,255	24.5	4,098	79.8	1,415	27.6	1,168	22.8
1938	13,887	268.4	6,059	117.1	4,543	87.8	3,608	69.7	1,490	28.8	1,283	24.8	2,869	55.5	1,484	28.7	869	16.8
1939	14,898	285.7	6,296	120.7	4,415	84.7	3,761	72.1	1,553	29.8	1,360	26.1	2,803	53.8	1,396	26.8	918	17.6
1940	15,480	294.5	6,513	123.9	4,690	89.2	3,961	75.4	1,743	33.2	1,408	26.8	2,478	47.1	1,298	24.7	941	17.9
1941	15,761	289.8	6,551	120.5	4,698	86.4	4,450	81.8	2,156	39.6	1,382	25.4	2,235	41.1	1,353	24.9	906	16.7
1942	16,016	289.2	6,646	120.0	4,841	87.4	3,685	66.5	1,368	24.7	1,448	26.1	2,349	42.4	1,575	28.4	1,015	18.3
1943	17,816	331.7	7,127	132.5	5,311	98.8	3,480	64.7	1,025	19.1	1,535	28.5	2,931	54.5	1,488	27.7	1,092	20.3
1944	17,004	316.2	7,277	135.3	4,954	92.1	3,350	62.3	1,103	20.5	1,554	28.9	2,369	44.1	1,412	26.3	980	18.2
1945	17,421	320.5	7,486	137.7	5,295	97.4	3,432	63.1	1,199	22.1	1,561	28.7	1,932	35.5	1,339	24.6	970	17.8
1946	17,691	309.9	7,845	137.4	5,224	91.5	3,776	66.1	1,506	26.4	1,530	26.8	1,891	33.1	1,735	30.4	933	16.3
1947	18,412	303.4	8,188	134.9	5,426	89.4	3,848	63.4	1,499	24.7	1,618	26.7	2,089	34.4	1,953	32.2	1,031	17.0
1948	18,726	302.3	8,336	134.6	5,272	85.1	4,017	64.8	1,545	24.9	1,771	28.6	1,853	29.9	1,820	29.4	1,085	17.5
1949	19,137	301.3	8,697	136.9	5,438	85.6	3,838	60.4	1,493	23.5	1,884	29.7	1,885	29.7	1,795	28.3	1,135	17.9
1950	20,521	322.1	8,685	136.3	6,376	100.1	3,783	59.4	1,680	26.4	1,438	22.6	1,358	21.3	1,096	17.2	1,296	20.3
1951	21,118	322.6	9,187	140.4	6,579	100.5	3,916	59.8	1,806	27.6	1,374	21.0	1,619	24.7	1,232	18.8	1,312	20.0
1952	21,247	316.8	9,256	138.0	6,521	97.2	3,901	58.2	1,815	27.1	1,339	20.0	1,571	23.4	1,256	18.7	1,294	19.3
1953	22,425	327.3	9,904	144.5	7,045	102.8	4,375	63.8	2,051	29.9	1,419	20.7	1,538	22.4	1,114	16.3	1,270	18.5
1954	22,362	318.4	10,105	143.9	6,964	99.1	3,948	56.2	1,916	27.3	1,469	20.9	1,380	19.6	1,298	18.5	1,170	16.7
1955	23,440	323.9	10,297	142.3	7,362	101.7	4,213	58.2	2,129	29.4	1,415	19.6	1,538	21.3	1,272	17.6	1,237	17.1
1956	24,661	328.1	10,489	139.6	7,114	94.7	3,925	52.2	1,826	24.3	1,443	19.2	1,723	22.9	1,244	16.6	1,251	16.6
1957	25,369	325.1	10,810	138.5	7,632	97.8	3,643	46.7	1,680	21.5	1,510	19.4	2,045	26.2	1,322	16.9	1,248	16.0
1958	25,215	320.6	10,946	139.2	7,547	95.9	3,306	42.0	1,466	18.6	1,595	20.3	2,076	26.4	1,208	15.4	1,300	16.5
1959	25,323	318.1	11,113	139.6	7,700	96.7	3,666	46.1	1,587	19.9	1,715	21.5	1,810	22.7	1,201	15.1	1,403	17.6
1960	25,728	328.9	11,331	144.8	7,682	98.2	3,688	47.1	1,710	21.9	1,784	22.8	2,002	25.6	1,148	14.7	1,352	17.3
1961	25,519	322.9	11,476	145.2	7,745	98.0	3,692	46.7	1,656	21.0	1,778	22.5	1,692	21.4	1,003	12.7	1,448	18.3
1962	27,226	342.9	11,752	148.0	7,783	98.0	3,758	47.3	1,668	21.0	1,908	24.0	1,824	23.0	907	11.4	1,477	18.6
1963	27,483	342.3	12,078	150.4	8,168	101.7	4,033	50.2	2,005	25.0	2,049	25.5	1,995	24.8	816	10.2	1,652	20.6
1964	27,496	339.5	12,087	149.2	7,940	98.0	4,416	54.5	2,286	28.2	2,055	25.4	1,714	21.2	807	10.0	1,559	19.2
1965	28,134	343.1	12,419	151.5	7,769	94.8	4,494	54.8	2,271	27.7	2,153	26.3	1,987	24.2	768	9.4	1,726	21.1
1966	28,277	340.1	12,506	150.4	7,732	93.0	4,737	57.0	2,407	29.0	2,243	27.0						

TABLE 4.9
SELECTED VITAL STATISTICS BY COUNTY
MICHIGAN RESIDENTS, 1976

Area	Population Estimates	Live Births	Illegitimate Live Births	Low Weight Live Births	Deaths	Infant Deaths	Neonatal Deaths	Perinatal Deaths	Fetal Deaths	Marriages ¹	Divorces ¹
STATE	9,104,000	131,378	19,843	9,784	75,801	1,978	1,424	2,502	1,271	82,753	43,101
Alcona	8,800	100	8	3	422	3	1	4	3	67	34
Alger	9,400	130	10	8	116	4	3	2	-	88	-
Allegan	71,700	1,201	93	74	616	13	6	23	17	626	362
Alpena	33,000	435	41	24	266	6	4	8	6	329	129
Antrim	15,400	228	17	9	177	2	2	5	3	137	52
Arenac	13,200	200	15	9	146	-	-	6	6	118	-
Baraga	8,000	117	3	4	102	2	1	3	2	87	23
Barry	41,900	569	27	32	344	6	4	10	6	366	215
Bay	119,300	1,828	179	117	934	19	13	23	11	1,143	453
Benzie	10,400	143	16	9	129	2	2	4	2	105	53
Berrien	172,000	2,613	627	213	1,514	51	39	42	16	1,715	866
Branch	38,400	522	40	35	354	5	5	5	1	394	196
Calhoun	140,400	2,068	339	140	1,285	37	22	41	23	1,518	907
Cass	45,800	614	87	39	395	4	2	8	6	445	248
Charlevoix	19,200	269	24	19	188	4	1	2	1	186	95
Cheboygan	19,800	287	19	19	203	3	1	3	2	180	75
Chippewa	37,100	728	56	52	259	5	3	8	5	398	157
Clare	22,400	307	35	23	238	1	1	5	4	188	93
Clinton	51,900	746	39	53	335	9	6	11	6	384	187
Crawford	9,000	135	14	15	90	2	1	3	2	123	59
Delta	39,300	584	40	30	409	12	10	13	3	377	137
Dickinson	25,100	317	20	22	326	7	5	5	3	298	91
Eaton	78,100	1,069	73	59	536	14	9	17	9	682	373
Emmet	21,100	291	32	21	220	2	1	5	4	256	104
Genesee	445,800	7,018	1,292	548	3,187	127	91	163	85	4,378	2,584
Gladwin	17,000	231	23	12	182	3	1	6	5	145	56
Gogebic	20,200	242	18	14	287	2	2	4	2	249	62
Grand Traverse	45,900	686	49	48	420	5	4	9	6	559	286
Gratiot	39,200	620	44	31	356	9	6	11	7	398	172
Hillsdale	40,300	554	54	46	377	7	6	9	3	395	-
Houghton	36,700	514	24	20	448	9	4	11	7	309	120
Ruron	35,400	536	27	27	398	5	4	5	1	314	112
Ingham	268,800	4,114	562	313	1,631	66	54	90	44	2,913	1,738
Ionia	48,600	843	65	55	400	11	5	10	7	495	268
Iosco	28,700	565	26	31	253	5	3	8	6	273	116
Iron	14,900	138	12	8	211	-	-	1	1	163	29
Isabella	51,400	681	62	42	315	12	10	19	9	448	171
Jackson	147,000	2,097	255	127	1,301	35	27	39	15	1,482	682
Kalamazoo	202,200	2,848	333	171	1,411	40	26	42	19	1,972	1,160
Kalkaska	10,000	167	12	13	109	4	3	7	4	89	41
Kent	425,900	6,735	826	450	3,449	84	64	108	56	4,627	2,351
Keweenaw	2,300	19	-	1	38	-	-	-	-	21	9
Lake	6,800	81	21	3	117	3	1	4	3	53	37
Lapeer	62,800	1,019	76	59	474	14	13	16	6	583	263
Leelanau	12,500	156	11	4	111	5	2	4	-	108	39
Lenawee	86,600	1,300	114	86	735	20	12	18	10	851	397
Livingston	81,400	1,167	67	71	527	11	11	17	7	650	369
Luce	7,300	115	21	9	71	4	3	6	3	67	35
Mackinac	10,300	149	30	10	112	1	1	1	-	99	34
Macomb	670,600	8,729	571	558	4,134	97	78	149	80	5,983	3,123
Manistee	21,800	261	20	18	264	4	3	6	3	197	96
Marquette	70,800	1,236	61	86	512	22	13	21	9	751	279
Mason	24,900	325	31	13	277	2	2	2	-	242	103
Mecosta	34,400	458	33	19	265	3	1	4	3	290	117
Menominee	25,200	362	28	23	298	2	1	2	1	353	70
Midland	67,500	1,107	73	54	392	12	9	16	7	615	327
Missaukee	9,200	150	11	9	73	3	3	4	2	70	33
Monroe	127,400	1,848	154	87	857	17	9	19	12	1,266	454
Montcalm	44,400	702	69	36	442	8	4	11	7	528	215
Montmorency	7,100	77	8	8	84	1	-	2	2	65	2
Muskegon	157,600	2,431	496	181	1,404	33	18	41	23	1,573	808
Newaygo	31,200	517	60	30	329	6	4	14	10	288	122
Oakland	967,100	12,312	1,138	789	6,702	181	137	221	106	8,668	4,827
Oceana	20,700	343	36	20	214	3	3	7	4	212	96
Ogemaw	14,900	193	17	13	204	5	3	5	2	168	50
Ontonagon	11,500	156	9	9	107	2	1	1	-	111	26
Osceola	17,800	295	34	23	206	4	4	6	2	186	-
Oscoda	6,600	79	10	7	90	1	-	1	1	56	18
Otsego	14,100	210	22	9	95	1	1	2	1	120	42
Ottawa	142,200	2,193	96	104	915	27	16	32	19	1,252	522
Presque Isle	13,900	205	8	8	168	2	1	3	2	120	43
Roscommon	15,100	176	26	14	191	1	-	4	4	156	76
Saginaw	226,100	3,614	744	308	1,831	61	48	70	28	2,053	1,043
St. Clair	130,100	1,936	202	144	1,269	22	22	34	17	1,233	697
St. Joseph	51,200	830	87	53	481	12	7	15	10	559	237
Sanilac	39,600	597	37	35	417	10	6	11	6	333	150
Schoolcraft	8,900	122	7	7	130	2	1	3	3	110	24
Shiawassee	68,900	1,072	84	57	516	11	9	19	12	630	370
Tuscola	54,500	766	55	40	499	12	9	15	6	452	187
Van Buren	62,000	953	124	71	549	15	9	13	5	551	250
Washtenaw	248,100	3,480	398	214	1,282	39	27	58	35	2,304	1,583
Wayne	2,477,900	35,181	9,189	3,482	24,118	648	468	807	396	19,142	11,001
Wexford	22,000	351	25	27	221	3	1	7	6	267	130
County Not Stated	-	15	2	-	31	11	10	10	2	-	-

¹ By County of Occurrence rather than county of residence

TABLE 4.10
SELECTED VITAL STATISTICS RATES BY COUNTY
MICHIGAN RESIDENTS, 1976

Area	Live Births	Illegitimate Live Births ³	Low Weight Live Births ³	Deaths	Infant Deaths	Neonatal Deaths	Perinatal Deaths	Fetal Deaths ³	Marriages ¹ ₂	Divorces ¹ ₂
STATE	14.4	151.0	74.5	8.3	15.1	10.8	18.9	9.7	18.2	9.5
Alcona	11.4	80.0	30.0	13.9	30.0	10.0	38.8	30.0	15.2	7.7
Alger	13.8	76.9	61.5	12.3	30.8	23.1	15.4	-	18.7	-
Allegan	16.8	77.4	61.6	8.6	10.8	5.0	18.9	14.2	17.5	10.1
Alpena	13.2	94.3	55.2	8.1	13.8	9.2	18.1	13.8	19.9	7.8
Antrim	14.8	74.6	39.5	11.5	8.8	8.8	21.6	13.2	17.8	6.8
Arenac	15.2	75.0	45.0	11.1	-	-	29.1	30.0	17.9	-
Baraga	14.6	25.6	34.2	12.8	17.1	8.5	25.2	17.1	21.8	5.8
Barry	13.6	47.5	56.2	8.2	10.5	7.0	17.4	10.5	17.5	10.3
Bay	15.3	97.9	64.0	7.8	10.4	7.1	12.5	6.0	19.2	7.6
Benzie	13.8	111.9	62.9	12.4	14.0	14.0	27.6	14.0	20.2	10.2
Berrien	15.2	240.0	81.5	8.8	19.5	14.9	16.0	6.1	19.9	10.1
Branch	13.6	76.6	67.0	9.2	9.6	9.6	9.6	1.9	20.5	10.2
Calhoun	14.7	163.9	67.7	9.2	17.9	10.6	11.1	11.1	21.6	12.9
Cass	13.4	141.7	63.5	8.6	6.5	3.3	12.9	9.8	19.4	10.8
Charlevoix	14.0	89.2	70.6	9.8	14.9	3.7	7.4	3.7	19.4	9.9
Cheboygan	14.5	66.2	66.2	10.3	10.5	3.5	10.4	7.0	18.2	7.6
Chippewa	19.6	76.9	71.4	7.0	6.9	4.1	10.9	6.9	21.5	8.5
Clare	13.7	114.0	74.9	10.6	3.3	3.3	16.1	13.0	16.8	8.3
Clinton	14.4	52.3	71.0	6.5	12.1	8.0	14.6	8.0	14.8	7.2
Crawford	15.0	103.7	111.0	10.0	14.8	7.4	21.9	14.8	27.3	13.1
Delta	14.9	68.5	51.4	10.4	20.5	17.1	22.1	5.1	19.2	7.0
Dickinson	12.6	63.1	69.4	13.0	22.1	15.8	15.7	3.2	23.7	7.3
Eaton	13.7	68.3	55.2	6.9	13.1	8.4	15.8	8.4	17.5	9.6
Emmet	13.8	110.0	72.2	10.4	6.9	3.4	16.9	13.7	24.3	9.9
Genesee	15.7	184.1	78.1	7.1	18.1	13.0	22.9	12.1	19.6	11.6
Gladwin	13.6	99.6	51.9	10.7	13.0	4.3	25.4	21.6	17.1	6.6
Gogebic	12.0	74.4	57.9	14.2	8.3	8.3	16.4	8.3	24.7	6.1
Grand Traverse	14.9	71.4	70.0	9.2	7.3	5.8	13.0	8.7	24.4	12.5
Gratiot	15.8	71.0	50.0	9.1	14.5	9.7	20.7	11.3	20.3	8.8
Hillsdale	13.7	97.5	83.0	9.4	12.6	10.8	16.2	5.4	19.6	-
Houghton	14.0	46.7	38.9	12.2	17.5	7.8	21.1	13.6	16.8	6.5
Huron	15.1	50.4	50.4	11.2	9.3	7.5	9.3	1.9	17.7	6.3
Ingham	15.3	136.6	76.1	6.1	16.0	13.1	21.6	10.7	21.7	12.9
Ionia	17.3	77.1	65.2	8.2	13.0	5.9	11.8	8.3	20.4	8.6
Iosco	19.7	46.0	54.9	8.8	8.8	5.3	14.0	10.6	19.0	8.1
Iron	9.3	87.0	58.0	14.2	-	-	7.2	7.2	21.9	3.9
Isabella	13.2	91.0	61.7	6.1	17.6	14.7	27.5	13.2	17.4	6.7
Jackson	14.3	121.6	60.6	8.9	16.7	12.9	18.5	7.2	20.2	9.3
Kalamazoo	14.1	116.9	60.0	7.0	14.0	9.1	14.6	6.7	19.5	11.5
Kalkaska	16.7	71.9	77.8	10.9	24.0	18.0	40.9	24.0	17.8	8.2
Kent	15.8	122.6	66.8	8.1	12.5	9.5	15.9	8.3	21.7	11.0
Keweenaw	8.3	-	52.6	16.5	-	-	-	-	18.3	7.8
Lake	11.9	259.3	37.0	17.2	37.0	12.3	47.6	37.0	15.6	10.9
Lapeer	16.2	74.6	57.9	7.5	13.7	12.8	15.6	5.9	18.6	8.4
Leelanau	12.5	70.5	25.6	8.9	32.1	25.6	25.6	-	17.3	6.2
Lenawee	15.0	87.7	66.2	8.5	15.4	9.2	13.7	7.7	19.7	9.2
Livingston	14.3	57.4	60.8	6.5	9.4	9.4	14.5	6.0	16.0	9.1
Luce	15.8	182.6	78.3	9.7	34.8	26.1	50.8	26.1	18.4	9.6
Mackinac	14.5	201.3	67.1	10.9	6.7	6.7	6.7	6.7	19.2	6.6
Macomb	13.0	65.4	63.9	6.2	11.1	8.9	16.9	9.2	17.8	9.3
Manistee	12.0	76.6	69.0	12.1	15.3	11.5	22.7	11.5	18.1	8.8
Marquette	17.5	49.4	69.6	7.2	17.8	10.5	16.9	7.3	19.2	7.9
Mason	13.1	95.4	60.0	11.1	6.2	6.2	6.2	6.2	21.4	8.3
Mecosta	13.3	72.1	41.5	7.7	6.6	2.2	8.7	6.6	16.9	6.8
Menominee	14.4	77.3	63.5	11.8	5.5	5.5	5.5	2.8	28.0	5.6
Midland	16.4	65.9	48.8	5.8	10.8	8.1	14.4	6.3	18.2	9.7
Missaukee	16.3	73.3	60.0	7.9	20.0	13.3	26.3	13.3	15.2	7.2
Monroe	14.5	83.3	47.1	6.7	9.2	4.9	10.2	6.5	19.9	7.1
Montcalm	15.8	98.3	51.3	10.0	11.4	5.7	15.5	10.0	23.8	9.7
Montmorency	10.8	103.9	103.9	11.8	13.0	-	25.3	26.0	18.3	0.6
Muskegon	15.4	204.0	74.5	8.9	13.6	7.4	16.7	9.5	20.0	10.3
Newaygo	16.6	116.1	58.0	10.5	11.6	7.7	26.6	19.3	18.5	7.8
Oakland	12.7	92.4	64.1	8.9	14.7	11.1	17.8	8.6	17.9	10.0
Oceana	16.6	105.0	58.3	10.3	8.7	8.7	20.2	11.7	20.5	9.3
Ogemaw	13.0	88.1	67.4	13.7	25.9	15.5	25.6	10.4	22.6	6.7
Ontonagon	13.6	57.7	57.7	10.2	12.8	6.4	6.4	-	19.3	4.5
Osceola	16.6	115.3	78.0	11.6	13.6	13.6	20.2	6.8	20.9	-
Oscoda	12.0	126.6	88.6	13.6	12.7	-	12.5	12.7	17.0	5.5
Orsego	14.9	104.8	42.9	6.7	4.8	4.8	9.5	4.8	17.0	6.0
Ottawa	15.4	43.8	47.4	6.4	12.3	7.3	14.5	8.7	17.6	7.3
Presque Isle	14.7	39.0	39.0	12.1	9.8	4.9	14.5	9.8	17.3	6.2
Roscommon	11.7	147.7	79.5	12.6	5.7	13.3	22.2	22.7	20.4	10.1
Saginaw	16.0	205.9	85.2	8.1	16.9	19.2	19.2	7.7	18.2	9.2
St. Clair	14.9	104.3	74.4	9.8	11.4	11.4	17.4	8.8	19.0	10.7
St. Joseph	16.2	104.8	63.9	9.4	14.5	8.4	17.9	12.0	21.8	9.3
Sanilac	15.1	62.0	58.6	10.5	16.8	10.1	18.2	10.1	16.8	7.6
Schoolcraft	13.7	57.4	57.4	14.6	16.4	8.2	32.0	24.6	24.7	5.4
Shiawassee	15.6	78.4	53.2	7.5	10.3	8.4	17.5	11.2	18.3	10.7
Tuscola	14.1	71.8	52.2	9.2	15.7	11.7	19.4	7.8	16.6	6.9
Van Buren	15.4	130.1	74.5	8.9	15.7	9.4	13.6	5.2	17.8	8.1
Washtenaw	14.0	114.4	61.5	5.2	11.2	7.8	16.5	10.1	18.6	12.8
Wayne	14.2	261.2	99.0	9.7	18.4	13.3	22.7	11.3	15.5	8.9
Wexford	16.0	71.2	76.9	10.0	8.5	2.8	19.6	17.1	24.3	11.8
County Not Stated	0.7	-	-	1.4	-	-	-	-	-	-

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 4.11
VITAL STATISTICS BY SELECTED CITIES¹
MICHIGAN RESIDENTS, 1976

AREA	LIVE BIRTHS BY RESIDENCE	ILLEGITIMATE LIVE BIRTHS BY RESIDENCE		DEATHS BY RESIDENCE	INFANT DEATHS BY RESIDENCE		FETAL DEATHS BY RESIDENCE	
	Number	Number	Rate	Number	Number	Rate	Number	Ratio
Allen Park	325	12	36.9	297	3	9.2	3	9.2
Ann Arbor	1,327	92	69.3	483	14	10.6	8	6.0
Battle Creek	720	204	283.3	525	18	25.0	10	13.9
Bay City	683	101	147.9	500	8	11.7	5	7.3
Birmingham	281	4	14.2	257	4	14.2	4	14.2
Dearborn	859	27	31.4	991	5	5.8	12	14.0
Dearborn Heights	771	44	57.1	491	9	11.7	6	7.8
Detroit	20,331	7,707	379.1	15,546	463	22.8	257	12.6
East Detroit	404	31	76.7	378	7	17.3	2	5.0
East Lansing	427	19	44.5	134	5	11.7	7	16.4
Ferndale	429	64	149.2	299	5	11.7	2	4.7
Flint	3,271	933	285.2	1,585	67	20.5	46	14.1
Garden City	430	32	74.4	205	1	2.3	2	4.7
Grand Rapids	2,996	597	199.3	1,961	44	14.7	28	9.3
Hamtramck	269	40	148.7	386	4	14.9	5	18.6
Highland Park	402	177	440.3	351	14	34.8	6	14.9
Holland (Pt.)	348	25	71.8	223	6	17.2	3	8.6
Inkster	584	187	320.2	263	12	20.5	7	12.0
Jackson	709	144	203.1	521	13	18.3	5	7.1
Kalamazoo	1,433	255	177.9	665	22	15.4	11	7.7
Lansing (Pt.)	2,489	457	183.6	1,011	44	17.7	27	10.8
Lincoln Park	634	60	94.6	437	9	14.2	7	11.0
Livonia	957	52	54.3	619	6	6.3	7	7.3
Madison Heights	595	36	60.5	224	5	8.4	6	10.1
Midland (Pt.)	528	30	56.8	208	4	7.6	2	3.8
Muskegon	800	208	260.0	592	13	16.3	11	13.8
Oak Park	408	12	29.4	322	5	12.3	5	12.3
Pontiac	1,759	533	303.0	679	32	18.2	21	11.9
Portage	423	25	59.1	140	5	11.8	2	4.7
Port Huron	612	102	166.7	437	12	19.6	4	6.5
Roseville	846	70	82.7	353	10	11.8	9	10.6
Royal Oak	913	44	48.2	592	9	9.9	9	9.9
Saginaw	1,695	568	335.1	880	36	21.2	13	7.7
St. Clair Shores	772	36	46.6	606	3	3.9	5	6.5
Southfield	666	17	25.5	655	12	18.0	4	6.0
Southgate	403	27	67.0	181	5	12.4	1	2.5
Sterling Heights	1,337	37	27.7	307	9	6.7	11	8.2
Taylor	1,390	130	93.5	367	15	10.8	12	8.6
Troy	775	28	36.1	249	7	9.0	4	5.2
Warren	1,771	150	84.7	1,044	9	5.1	18	10.2
Westland	1,380	104	75.4	410	13	9.4	10	7.2
Wyandotte	535	63	117.8	382	7	13.1	7	13.1
Wyoming	929	65	70.0	352	8	8.6	8	8.6
Ypsilanti	598	159	265.9	206	10	16.7	10	16.7

¹25,000 population or over

TABLE 4.12
SELECTED CAUSES OF DEATH BY COUNTY
MICHIGAN RESIDENTS, 1976

Area	All Causes	Diseases of the Heart	Malignant Neoplasms	Cerebrovascular Disease	Accidents, All Forms	(Motor Vehicle Accidents)	Diabetes Mellitus	Influenza & Pneumonia	Arteriosclerosis	Tuberculosis, All Forms	All Other Infective & Parasitic Diseases	Cirrhosis of the Liver	Nephritis & Nephrosis	Infections of Kidney	Maternal Deaths, All Forms	Suicide and Self-inflicted Injury	Homicide and Injury Purposely Inflicted Not in War	Residual
STATE	75,801	29,233	14,880	7,354	3,912	1,993	1,719	2,106	1,207	102	488	1,486	298	120	14	1,182	1,092	10,608
Alcona	122	50	22	19	2	1	4	2	-	-	-	-	-	1	-	-	-	20
Alger	116	47	21	12	7	5	3	1	4	-	-	-	-	-	-	-	-	18
Allegan	616	239	125	58	30	17	17	18	10	1	3	4	7	3	-	-	-	96
Alpena	266	103	61	35	13	5	3	7	2	-	-	2	-	-	-	-	1	33
Antrim	177	63	39	17	13	4	2	8	10	-	-	2	-	-	-	-	2	18
Arenac	146	51	31	16	10	7	3	2	-	-	1	2	-	-	-	-	3	26
Baraga	102	28	18	9	8	5	9	5	-	-	-	2	-	-	-	-	2	21
Barry	344	139	70	29	24	15	6	5	14	-	2	3	2	-	-	-	5	43
Bay	934	396	177	107	58	31	19	18	18	-	3	18	3	1	-	-	6	109
Benzie	129	54	25	9	10	5	4	6	1	-	-	2	-	-	-	-	2	16
Berrien	1,514	606	265	157	82	30	38	30	32	-	11	19	2	4	-	-	21	227
Branch	354	109	72	38	21	8	15	8	14	-	1	4	-	1	-	-	4	66
Calhoun	1,285	504	247	130	64	42	36	34	22	1	7	22	5	4	1	-	13	181
Cass	395	150	80	37	28	19	3	8	7	-	2	5	1	-	-	-	8	65
Charlevoix	188	74	32	18	10	5	6	9	8	-	-	3	1	-	-	-	4	22
Cheboygan	203	84	38	16	12	5	4	5	5	-	3	5	1	-	-	-	3	26
Chippewa	259	109	43	30	15	4	6	4	4	-	1	3	2	1	-	-	2	39
Clare	238	149	43	19	6	1	2	3	1	-	-	-	-	-	-	-	1	13
Clinton	335	138	60	29	21	11	11	11	12	-	1	3	-	-	-	-	8	39
Crawford	90	27	24	12	3	-	-	1	-	-	-	3	-	-	-	-	4	16
Delta	409	163	72	39	25	12	17	11	10	1	-	5	1	1	-	-	9	55
Dickinson	326	105	84	36	10	4	11	15	11	-	-	5	2	-	-	-	2	45
Eaton	536	200	104	53	25	14	6	13	15	-	5	5	2	-	-	-	6	90
Emmet	220	81	35	28	35	10	4	7	3	1	-	3	1	1	-	-	2	29
Genesee	3,187	1,136	586	331	201	110	73	92	55	3	27	82	8	11	-	-	62	480
Gladwin	182	78	37	22	5	3	6	4	5	-	-	3	-	1	1	-	2	18
Gogebic	287	124	63	16	13	4	10	12	5	2	1	3	-	-	-	-	3	35
Grand Traverse	420	134	77	56	27	15	8	17	14	1	1	5	1	-	-	-	12	67
Gratiot	356	145	60	53	14	10	6	17	4	-	4	1	2	1	1	-	9	43
Hillsdale	377	140	72	40	18	11	12	12	5	1	3	2	2	1	-	-	3	57
Houghton	448	190	85	43	18	6	11	17	3	1	-	8	2	-	-	-	7	60
Huron	398	148	81	59	20	14	5	10	11	1	-	11	-	-	-	-	4	46
Ingham	1,631	606	298	140	96	54	38	64	32	2	2	24	7	-	-	-	25	272
Ionia	400	147	72	53	25	13	8	16	9	-	5	5	-	-	1	-	5	52
Iosco	253	110	42	23	15	8	2	9	6	-	-	5	-	-	-	-	1	39
Iron	211	76	42	37	7	4	4	6	6	-	1	3	1	-	-	-	5	23
Isabella	315	121	52	42	18	11	13	7	5	1	1	5	1	-	-	-	5	44
Jackson	1,301	489	286	130	61	44	29	25	35	1	4	14	1	1	-	-	22	197
Kalamazoo	1,411	537	296	124	65	31	38	45	35	3	4	21	6	-	-	-	23	209
Kalkaska	109	42	24	9	3	3	5	2	1	-	-	-	-	-	-	-	2	18
Kent	3,449	1,379	666	347	178	79	57	98	93	2	14	52	12	11	1	-	41	487
Keweenaw	38	18	3	6	2	1	1	3	-	-	-	1	-	-	-	-	-	4
Lake	117	45	14	13	4	2	12	13	-	-	-	2	-	-	-	-	2	11
Lapeer	474	189	74	44	31	19	16	14	5	-	5	6	4	-	-	-	5	80
Leelanau	111	40	24	8	10	5	2	5	3	-	-	1	-	-	-	-	-	15
Lenawee	735	251	141	79	43	20	25	27	22	1	5	5	4	-	-	-	15	115
Livingston	527	205	108	42	33	20	13	20	10	-	-	7	3	-	-	-	7	72
Luce	71	22	14	5	7	4	4	6	-	-	-	1	1	-	-	-	-	7
Mackinac	112	43	28	12	3	2	4	1	3	-	-	2	-	-	-	-	3	13
Macomb	4,134	1,633	915	369	224	134	93	103	51	1	21	89	14	1	-	-	86	509
Manistee	264	80	44	50	14	5	7	7	16	1	-	3	1	2	-	-	3	35
Marquette	512	203	96	47	46	22	14	16	1	-	2	14	-	-	1	-	9	63
Mason	277	124	49	17	15	11	9	6	3	1	4	8	-	2	-	-	6	31
Mecosta	265	122	41	22	11	4	8	12	1	2	2	2	-	2	-	-	6	35
Menominee	298	112	53	41	23	7	8	5	16	-	-	4	2	-	-	-	3	26
Midland	392	133	82	36	29	15	9	15	9	-	3	5	-	-	-	-	9	62
Missaukee	73	28	12	8	6	5	3	1	4	-	-	-	-	-	-	-	-	11
Monroe	857	326	143	86	63	40	19	19	16	1	5	15	4	-	1	-	16	6
Montcalm	442	172	67	45	37	12	10	8	7	1	4	6	2	-	-	-	5	78
Montmorency	84	26	17	12	5	2	1	2	-	-	2	1	1	-	-	-	2	13
Muskegon	1,404	533	286	178	71	32	37	28	31	-	3	17	10	1	1	-	23	173
Newaygo	329	128	68	39	18	7	12	11	6	-	-	6	2	-	-	-	5	34
Oakland	6,702	2,567	1,487	634	361	180	129	180	84	3	45	108	24	3	-	-	151	865
Oceana	214	88	36	23	14	7	4	3	5	-	-	1	2	-	-	-	4	34
Ogemaw	204	76	36	25	10	2	4	4	12	-	-	3	1	-	-	-	2	31
Ontonagon	117	48	28	11	7	6	4	3	2	-	-	1	-	-	-	-	1	11
Oscoda	206	85	42	22	10	2	3	9	4	1	-	2	-	-	-	-	6	22
Oscoda	90	44	15	10	3	1	2	3	-	-	-	2	-	-	-	-	-	10
Otsego	95	39	18	5	8	5	6	2	2	-	-	-	-	-	-	-	1	14
Otsego	915	328	198	110	39	22	14	24	17	1	4	7	5	3	-	-	9	151
Presque Isle	168	67	33	18	8	2	1	8	2	-	-	4	4	1	-	-	4	17
Roscommon	191	67	54	18	11	8	7	3	6	-	-	2	-	-	-	-	1	19
Saginaw	1,831	707	310	205	94	46	43	55	40	3	9	37	5	5	-	-	19	262
St. Clair	1,269	498	240	135	76	42	36	31	30	1	5	32	2	1	1	-	11	165
St. Joseph	481	193	94	65	28	12	11	16	9	-	6	6	2	-	-	-	2	48
Sanilac	417	144	83	68	19	5	6	5	11	1	-	5	1	-	-	-	4	70
Schoolcraft	130	44	26	18	6	2	3	7	1	-	-	2	-	-	-	-	3	19
Shiawassee	516	188	87	75	33	21	10	17	17	1	4	4	1	4	-	-	6	65
Tuscola	499	213	82	40	42	26	9	19	5	-	1	8	1	-	-	-	9	70
Van Buren	549	205	101	48	42	23	13	24	13	1	3	10	5	-	-	-	4	78
Washtenaw	1,282	446	273															

TABLE 4.13
REPORTED CASES OF CERTAIN COMMUNICABLE DISEASES BY COUNTY
MICHIGAN RESIDENTS, 1976

AREA	Total	Gonorrhea	Chicken Pox	Streptococcal Sore Throat (Including Scarlet Fever)	Measles	Mumps	Total	Hepatitis Infections ¹ and Serum	Unspecified	Rubella	Tuberculosis ²	Syphilis	Samonella Infections	Dysentery Bacillary	Whooping Cough	Meningococcal Infections	All Others ³
STATE	110,453	34,836	30,165	24,937	6,139	5,507	2,645	2,401	244	1,513	1,349	1,089	889	550	70	65	699
Alcona	84	5	1	3	-	72	1	1	-	1	-	1	-	-	-	-	-
Alger	10	4	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Allegan	580	60	174	241	24	9	20	20	-	13	16	2	1	5	4	-	9
Alpena	117	24	72	7	7	2	1	1	-	-	-	3	1	-	-	-	1
Antrim	7	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arenac	91	5	4	39	-	4	-	-	-	-	1	1	3	-	1	-	33
Baraga	31	2	18	5	2	-	-	-	-	-	-	-	-	-	-	-	-
Barry	555	48	142	207	31	98	4	4	-	12	5	-	1	-	2	-	1
Bay	970	252	544	77	14	40	10	10	-	4	7	7	11	-	2	1	1
Benzie	75	9	7	17	33	-	2	2	-	4	1	1	-	-	2	1	1
Berrien	1,717	1,306	184	8	34	28	58	48	10	6	33	14	25	20	1	-	-
Branch	484	128	176	107	17	19	11	10	1	3	12	1	8	2	-	-	-
Calhoun	1,162	502	423	52	93	19	33	33	-	10	13	5	7	4	-	-	1
Cass	414	54	236	30	21	46	8	8	-	2	8	3	-	3	-	-	3
Charlevoix	32	23	-	-	-	-	2	2	-	-	2	1	2	-	1	-	1
Cheboygan	163	18	62	20	-	5	-	-	-	2	1	3	-	-	-	1	1
Chippewa	910	11	206	365	4	302	5	5	-	10	3	-	1	1	-	-	2
Clare	151	11	133	-	-	1	2	2	-	-	-	2	2	-	-	-	-
Clinton	280	46	182	13	5	7	16	13	3	4	-	-	6	-	-	-	1
Crawford	89	6	7	14	-	56	3	3	-	-	-	1	2	-	-	-	-
Delta	398	50	209	98	24	11	1	1	-	-	3	-	-	-	-	-	2
Dickinson	341	19	225	32	10	37	1	1	-	13	1	1	-	-	-	1	1
Eaton	1,159	99	460	497	13	26	20	20	-	15	6	5	15	1	-	-	2
Emmet	59	51	-	-	-	-	3	1	2	-	1	3	-	-	-	-	2
Genesee	5,442	3,201	1,187	530	31	125	126	108	18	44	41	44	52	5	1	5	50
Gladwin	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gogebic	65	5	13	39	-	2	-	-	-	2	-	-	4	-	-	-	-
Grand Traverse	495	44	282	81	2	51	10	7	3	20	-	5	-	-	-	-	-
Gratiot	320	31	229	12	24	9	3	3	-	11	-	1	-	-	-	-	-
Hillsdale	191	57	90	6	3	12	9	9	-	-	4	1	6	-	2	-	1
Houghton	336	11	199	15	46	18	3	3	-	4	-	1	1	-	-	-	-
Huron	265	11	234	1	-	3	5	5	-	4	-	2	3	-	-	-	1
Ingham	7,849	2,116	796	4,571	10	49	144	111	33	23	37	27	59	11	3	1	2
Ionia	535	55	227	143	68	13	5	4	1	16	-	2	4	1	-	-	1
Iosco	239	6	53	159	4	9	3	2	1	7	3	2	-	-	2	-	-
Iron	311	8	19	129	-	144	5	5	-	1	2	2	-	-	-	-	1
Isabella	94	52	15	1	2	-	11	10	1	1	7	2	3	-	-	-	1
Jackson	1,567	698	427	250	1	60	53	31	22	34	8	2	17	11	-	-	5
Kalamazoo	2,591	1,370	674	296	1	58	55	46	9	27	11	6	14	26	4	2	47
Kalkaska	77	9	34	15	1	5	3	2	1	7	3	-	-	-	-	-	-
Kent	16,405	2,229	1,566	10,657	1,573	44	117	108	9	47	66	23	44	7	5	4	23
Keeweenaw	69	25	21	1	12	-	3	-	-	-	-	-	-	-	-	-	-
Lake	303	32	132	35	48	19	11	9	2	2	5	5	-	-	-	-	-
Lapeer	87	-	74	9	-	1	1	1	-	16	1	5	1	-	1	1	1
Leelanau	589	156	232	52	3	46	52	38	14	25	6	7	7	-	-	-	-
Lenawee	606	47	308	151	14	39	18	15	3	15	4	3	7	-	-	-	3
Livingston	422	8	337	9	-	68	-	-	-	-	-	-	-	-	-	-	-
Luce	59	28	20	-	-	10	-	-	-	-	1	-	-	-	-	-	-
Mackinac	4,623	526	1,751	330	1,395	135	178	151	27	139	44	54	24	7	1	2	37
Macomb	121	12	62	17	-	19	5	5	-	1	2	3	-	-	-	-	-
Manistee	3,076	131	450	1,455	8	591	37	34	3	375	3	3	8	-	1	2	12
Marquette	508	92	92	6	40	257	14	14	-	3	2	2	-	-	-	-	-
Mason	359	71	39	190	22	20	6	6	-	8	2	1	-	-	-	-	-
Mecosta	286	25	119	8	5	68	2	2	-	53	3	2	1	-	-	-	-
Menominee	312	70	170	34	4	19	8	7	1	3	3	1	-	-	-	-	-
Midland	87	11	40	1	29	-	2	2	-	2	-	1	-	-	-	-	-
Missaukee	646	139	250	67	27	58	59	59	-	5	11	12	4	1	-	-	13
Monroe	532	66	233	14	177	13	5	5	-	11	9	1	-	-	-	-	3
Montcalm	79	1	2	5	64	1	-	-	-	4	1	1	-	-	-	-	-
Montmorency	1,898	728	598	94	285	21	78	78	-	20	39	15	9	5	2	-	4
Muskegon	341	40	217	25	24	19	5	5	-	6	2	-	1	-	-	-	-
Newaygo	9,049	2,038	3,780	970	612	741	332	311	21	133	117	55	52	20	8	8	183
Oakland	134	9	98	1	-	3	12	12	-	1	5	1	-	4	-	-	-
Oceana	19	2	3	-	-	9	2	2	-	-	-	-	-	-	-	-	-
Ogemaw	95	-	4	1	1	1	-	-	-	-	-	-	-	-	-	-	-
Ontonagon	15	12	-	-	-	32	-	-	-	55	1	-	1	-	-	-	-
Oscoda	58	1	54	-	-	2	1	1	-	-	1	-	-	-	-	-	-
Oscoda	15	4	-	6	-	2	1	1	1	-	2	-	1	-	-	-	-
Otsego	1,763	309	1,124	121	101	30	39	39	-	6	13	3	4	4	1	1	7
Ottawa	41	4	12	4	14	3	-	-	-	4	-	-	-	-	-	-	-
Presque Isle	29	9	12	-	-	3	1	1	2	-	4	-	-	-	-	-	-
Roscommon	2,265	1,435	555	43	2	37	52	48	4	5	35	18	32	42	2	1	6
Saginaw	955	314	338	124	-	64	28	23	5	58	11	9	6	-	-	2	1
St. Clair	392	71	219	26	14	22	8	5	3	13	14	2	2	-	1	-	-
St. Joseph	53	17	25	4	1	2	1	1	-	1	2	-	-	-	-	-	-
Sanilac	216	5	86	107	12	-	-	-	-	5	-	-	-	-	-	-	1
Schoolcraft	392	73	196	83	2	15	11	10	1	-	4	-	4	-	-	1	3
Shiawassee	440	57	156	21	6	167	6	6	-	18	2	1	1	2	-	-	3
Tuscola	756	118	461	49	17	27	17	17	-	13	30	8	-	7	1	1	7
Van Buren	2,171	1,558	162	249	17	31	47	45	2	31	27	29	7	-	4	2	7
Washtenaw	29,488	13,910	7,957	1,838	790	1,776	831	795	36	97	640	680	410	299	18	26	216
Wayne	339	32	237	8	28	5	9	7	2	9	3	1	5	-	1	-	1
Wexford	96	-	-	5	-	4	5	4	1	-	-	-	2	-	-	-	-
State Homes																	

¹744 of these were serum hepatitis

²Effective January, 1975, a new diagnostic classification system for tuberculosis was adopted. As a result, direct comparison of case counts and rates between 1975 and preceding years will not be possible.

³Includes:

Meningitis, Aseptic	163	Ring Worm	25	Rocky Mountain Spotted Fever	5
Meningitis, Influenzal	134	Dysentery, Amebic	17	T	

TABLE 4.14
NUMBER OF DEATHS BY CAUSE
MICHIGAN RESIDENTS, 1976

ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER	ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER
I. INFECTIVE AND PARASITIC DISEASES (000-136)			181	Chorionepithelioma-----	1
008	Enteritis due to other specified organism-----	8	182	Other malignant neoplasm of uterus-----	211
009	Diarrheal disease-----	64	183	Malignant neoplasm of ovary, fallopian tube, and broad ligament-----	434
010	Silicotuberculosis-----	5	184	Malignant neoplasm of other and unspecified female genital organs-----	38
011	Pulmonary tuberculosis-----	64	185	Malignant neoplasm of prostate-----	820
012	Other respiratory tuberculosis-----	11	186	Malignant neoplasm of testis-----	41
013	Tuberculosis of meninges and central nervous system-----	4	187	Malignant neoplasm of other and unspecified male genital organs-----	8
014	Tuberculosis of intestines, peritoneum and mesenteric glands-----	1	188	Malignant neoplasm of bladder-----	394
015	Tuberculosis of bones and joints-----	1	189	Malignant neoplasm of other and unspecified urinary organs-----	311
018	Disseminated tuberculosis-----	2	190	Malignant neoplasm of eye-----	10
019	Late effects of tuberculosis-----	14	191	Malignant neoplasm of brain-----	341
027	Other zoonotic bacterial diseases-----	2	192	Malignant neoplasm of other parts of nervous system-----	51
031	Other diseases due to mycobacteria-----	1	193	Malignant neoplasm of thyroid gland-----	48
035	Erysipelas-----	1	194	Malignant neoplasm of other endocrine glands-----	20
036	Meningococcal infection-----	8	195	Malignant neoplasm of ill-defined sites-----	115
037	Tetanus-----	2	196	Secondary and unspecified malignant neoplasm of lymph nodes-----	9
038	Septicemia-----	232	197	Secondary malignant neoplasm of respiratory and digestive systems-----	240
039	Other bacterial diseases-----	45	198	Other secondary malignant neoplasm-----	83
043	Acute poliomyelitis-----	1	199	Malignant neoplasm without specification of site-----	672
044	Late effects of acute poliomyelitis-----	5	200	Lymphosarcoma and reticulum-cell sarcoma-----	233
045	Aseptic meningitis due to enterovirus-----	4	201	Hodgkin's disease-----	106
046	Other enterovirus diseases of central nervous system-----	2	202	Other neoplasms of lymphoid tissue-----	247
052	Chickenpox-----	3	203	Multiple myeloma-----	248
053	Herpes zoster-----	4	204	Lymphatic leukemia-----	154
054	Herpes simplex-----	3	205	Myeloid leukemia-----	252
065	Viral encephalitis, unspecified-----	10	206	Monocytic leukemia-----	16
070	Infectious hepatitis-----	28	207	Other and unspecified leukemia-----	180
074	Specific diseases due to coxsackie virus-----	1	208	Polycythemia vera-----	14
079	Other viral diseases-----	19	209	Myelofibrosis-----	39
090	Congenital syphilis-----	1	211	Benign neoplasm of other parts of digestive system-----	4
093	Cardiovascular syphilis-----	7	212	Benign neoplasm of respiratory system-----	3
094	Syphilis of central nervous system-----	3	214	Lipoma-----	1
112	Moniliasis-----	7	215	Other benign neoplasm of muscular and connective tissue-----	4
113	Actinomycosis-----	1	216	Benign neoplasm of skin-----	3
116	Blastomycosis-----	2	218	Uterine fibroma-----	1
117	Other systemic mycosis-----	8	219	Other benign neoplasm of uterus-----	1
135	Sarcoidosis-----	10	220	Benign neoplasm of ovary-----	5
136	Other and unspecified infective and parasitic diseases-----	6	225	Benign neoplasm of brain and other parts of nervous system-----	39
II. NEOPLASMS (140-239)			226	Benign neoplasm of endocrine glands-----	4
140	Malignant neoplasm of lip-----	5	227	Hemangioma and lymphangioma-----	3
141	Malignant neoplasm of tongue-----	80	228	Benign neoplasm of other and unspecified organs and tissues-----	6
142	Malignant neoplasm of salivary gland-----	12	230	Neoplasm of unspecified nature of digestive organs-----	7
143	Malignant neoplasm of gum-----	2	231	Neoplasm of unspecified nature of respiratory organs-----	5
144	Malignant neoplasm of floor of mouth-----	14	237	Neoplasm of unspecified nature of other genitourinary organs-----	1
145	Malignant neoplasm of other and unspecified parts of mouth-----	42	238	Neoplasm of unspecified nature of eye, brain, and other parts of nervous system-----	34
146	Malignant neoplasm of oropharynx-----	41	239	Neoplasm of unspecified nature of other and unspecified organs-----	8
147	Malignant neoplasm of nasopharynx-----	19	240	III. ENDOCRINE, NUTRITIONAL, AND METABOLIC DISEASES (240-279)	
148	Malignant neoplasm of hypopharynx-----	23	241	Simple goiter-----	1
149	Malignant neoplasm of pharynx, unspecified-----	43	242	Nontoxic nodular goiter-----	1
150	Malignant neoplasm of esophagus-----	338	243	Thyrototoxicosis with or without goiter-----	12
151	Malignant neoplasm of stomach-----	517	244	Myxedema-----	9
152	Malignant neoplasm of small intestine, including duodenum-----	26	246	Other diseases of thyroid gland-----	2
153	Malignant neoplasm of large intestine, except rectum-----	1,595	250	Diabetes mellitus-----	1,719
154	Malignant neoplasm of rectum and rectosigmoid junction-----	346	251	Disorders of pancreatic internal secretion other than diabetes mellitus-----	8
155	Malignant neoplasm of liver and intrahepatic bile ducts, specified as primary-----	95	252	Diseases of parathyroid gland-----	4
156	Malignant neoplasm of gallbladder and bile ducts-----	172	253	Diseases of pituitary gland-----	12
157	Malignant neoplasm of pancreas-----	741	255	Diseases of adrenal glands-----	19
158	Malignant neoplasm of peritoneum and retroperitoneal tissue-----	18	256	Ovarian dysfunction-----	1
159	Malignant neoplasm of unspecified digestive organs-----	23	258	Polyglandular dysfunction and other diseases of endocrine glands-----	20
160	Malignant neoplasm of nose, nasal cavities, middle ear, and accessory sinuses-----	17	261	Thiamine deficiency-----	1
161	Malignant neoplasm of larynx-----	134	266	Other vitamin deficiency-----	1
162	Malignant neoplasm of trachea, bronchus, and lung-----	3,375	268	Nutritional marasmus-----	24
163	Malignant neoplasm of other and unspecified respiratory organs-----	27	269	Other nutritional deficiency-----	65
170	Malignant neoplasm of bone-----	64	270	Congenital disorders of amino-acid metabolism-----	2
171	Malignant neoplasm of connective and other soft tissue-----	65	271	Congenital disorders of carbohydrate metabolism-----	1
172	Malignant melanoma of skin-----	129	272	Congenital disorders of lipid metabolism-----	6
173	Other malignant neoplasm of skin-----	48	273	Other and unspecified congenital disorders of metabolism-----	29
174	Malignant neoplasm of breast-----	1,289			
180	Malignant neoplasm of cervix uteri-----	244			

TABLE 4.14
NUMBER OF DEATHS BY CAUSE
MICHIGAN RESIDENTS, 1976 (continued)

ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER	ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER
274	Gout-----	18	402	Hypertensive heart disease-----	299
275	Plasma protein abnormalities-----	16	403	Hypertensive renal disease-----	149
276	Amyloidosis-----	9	404	Hypertensive heart and renal disease-----	107
277	Obesity not specified as of endocrine origin-----	52	410	Acute myocardial infarction-----	14,105
278	Other hyperalimentation-----	1	411	Other acute and subacute forms of ischemic heart disease-----	79
279	Other and unspecified metabolic diseases--	32	412	Chronic ischemic heart disease-----	12,338
	IV. DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS (280-289)		413	Angina pectoris-----	4
280	Iron deficiency anemias-----	5	420	Acute pericarditis, nonrheumatic-----	1
281	Other deficiency anemias-----	17	421	Acute and subacute endocarditis-----	30
282	Hereditary hemolytic anemias-----	33	422	Acute myocarditis-----	8
283	Acquired hemolytic anemias-----	4	423	Chronic disease of pericardium, non- rheumatic-----	18
284	Aplastic anemia-----	32	424	Chronic disease of endocardium-----	32
285	Other and unspecified anemias-----	51	425	Cardiomyopathy-----	159
286	Coagulation defects-----	51	426	Pulmonary heart disease-----	88
287	Purpura and other hemorrhagic conditions--	31	427	Symptomatic heart disease-----	1,303
288	agranulocytosis-----	14	428	Other myocardial insufficiency-----	79
289	Other diseases of blood and blood-forming organs-----	8	429	Ill-defined heart disease-----	95
	V. MENTAL DISORDERS (290-315)		430	Subarachnoid hemorrhage-----	341
290	Senile and presenile dementia-----	23	431	Cerebral hemorrhage-----	963
291	Alcoholic psychosis-----	13	432	Occlusion of precerebral arteries-----	125
295	Schizophrenia-----	7	433	Cerebral thrombosis-----	2,090
296	Affective psychoses-----	2	434	Cerebral embolism-----	41
299	Unspecified psychosis-----	6	435	Transient cerebral ischemia-----	2
300	Neuroses-----	2	436	Acute but ill-defined cerebrovascular disease-----	2,430
301	Personality disorders-----	1	437	Generalized ischemic cerebrovascular disease-----	1,245
303	Alcoholism-----	138	438	Other and ill-defined cerebrovascular disease-----	117
304	Drug dependence-----	218	440	Arteriosclerosis-----	1,207
305	Physical disorders presume psychogenic---	1	441	Aortic aneurysm (nonsyphilitic)-----	596
306	Special symptoms not elsewhere classified-	4	442	Other aneurysm-----	72
309	Mental disorders not specified as psychotic associated with physical conditions---	46	443	Other peripheral vascular disease-----	35
313	Severe mental retardation-----	4	444	Arterial embolism and thrombosis-----	225
315	Unspecified mental retardation-----	8	445	Gangrene-----	114
	VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS (320-389)		446	Polyarteritis nodosa and allied conditions--	19
320	Meningitis-----	47	447	Other diseases of arteries and arterioles-----	36
321	Phlebitis and thrombophlebitis of intra- cranial venous sinuses-----	1	448	Diseases of capillaries-----	3
322	Intracranial and intraspinal abscess-----	11	450	Pulmonary embolism and infarction-----	455
323	Encephalitis, myelitis, and encephalomyelitis-----	15	451	Phlebitis and thrombophlebitis-----	87
324	Late effects of intracranial abscess or pyogenic infection-----	3	452	Portal vein thrombosis-----	1
330	Hereditary neuromuscular disorders-----	42	453	Other venous embolism and thrombosis-----	28
331	Hereditary diseases of the striatopallidal system-----	13	454	Varicose veins of lower extremities-----	9
332	Hereditary ataxia-----	3	455	Hemorrhoids-----	1
333	Other hereditary and familial diseases of nervous system-----	8	456	Varicose veins of other sites-----	20
340	Multiple sclerosis-----	63	457	Noninfective disease of lymphatic channels-	2
341	Other demyelinating diseases of central nervous system-----	2	458	Other diseases of circulatory system-----	31
342	Paralysis agitans-----	116		VIII. DISEASES OF THE RESPIRATORY SYSTEM (460-519)	
343	Cerebral spastic infantile paralysis-----	25	460	Acute nasopharyngitis (common cold)-----	2
344	Other cerebral paralysis-----	48	464	Acute laryngitis and tracheitis-----	3
345	Epilepsy-----	56	465	Acute upper respiratory infection of multiple or unspecified sites-----	10
347	Other diseases of brain-----	92	466	Acute bronchitis and bronchiolitis-----	25
348	Motor neurone disease-----	86	470	Influenza, unqualified-----	103
349	Other diseases of spinal cord-----	5	471	Influenza with pneumonia-----	181
350	Facial paralysis-----	1	472	Influenza with other respiratory manifestations-----	8
354	Polyneuritis and polyradiculitis-----	7	473	Influenza with digestive manifestations--	2
355	Other and unspecified forms of neuralgia and neuritis-----	1	480	Viral pneumonia-----	61
357	Other diseases of peripheral nerves except autonomic-----	4	481	Pneumococcal pneumonia-----	136
366	Other inflammation of uveal tract-----	1	482	Other bacterial pneumonia-----	56
374	Cataract-----	1	483	Pneumonia due to other specified organism-	9
381	Otitis media without mention of mastoiditis-----	5	484	Acute interstitial pneumonia-----	24
382	Otitis media with mastoiditis-----	1	485	Bronchopneumonia, unspecified-----	361
	VII. DISEASES OF THE CIRCULATORY SYSTEM (390-458)		486	Pneumonia, unspecified-----	1,165
390	Rheumatic fever without mention of heart involvement-----	1	490	Bronchitis, unqualified-----	21
391	Rheumatic fever with heart involvement---	11	491	Chronic bronchitis-----	166
393	Diseases of pericardium-----	1	492	Emphysema-----	759
394	Diseases of mitral valve-----	120	493	Asthma-----	103
395	Diseases of aortic valve-----	155	501	Peritonsillar abscess-----	1
396	Diseases of mitral and aortic valves-----	38	503	Chronic sinusitis-----	2
397	Diseases of other endocardial structures--	27	508	Other diseases of upper respiratory tract-	7
398	Other heart disease, specified as rheumatic-----	135	510	Empyema-----	14
400	Malignant hypertension-----	40	511	Pleurisy-----	22
401	Essential benign hypertension-----	51	512	Spontaneous pneumothorax-----	9
			513	Abscess of lung-----	39
			514	Pulmonary congestion and hypostasis-----	28
			515	Pneumoconiosis due to silica and silicates-----	20
			517	Other chronic interstitial pneumonia-----	151
			518	Bronchiectasis-----	25
			519	Other diseases of respiratory system-----	825

TABLE 4.14
NUMBER OF DEATHS BY CAUSE
MICHIGAN RESIDENTS, 1976 (continued)

ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER	ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER
IX. DISEASES OF THE DIGESTIVE SYSTEM (520-577)			XII. DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (680-709)		
525	Other diseases and conditions of the teeth and supporting structures-----	1	682	Other cellulitis and abscess-----	14
527	Diseases of the salivary glands-----	1	686	Other local infections of skin and subcutaneous tissue-----	12
528	Diseases of oral soft tissue excluding gingiva and tongue-----	3	692	Other eczema and dermatitis-----	1
530	Diseases of esophagus-----	34	694	Pemphigus-----	4
531	Ulcer of stomach-----	123	695	Erythematous conditions-----	12
532	Ulcer of duodenum-----	96	707	Chronic ulcer of skin-----	36
533	Peptic ulcer, site unspecified-----	47	708	Urticaria-----	1
534	Gastrojejunal ulcer-----	24			
535	Gastritis and duodenitis-----	26	XIII. DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE (710-738)		
536	Disorders of function of stomach-----	4			
537	Other diseases of stomach and duodenum-----	18	710	Acute arthritis due to pyogenic organisms-----	2
540	Acute appendicitis-----	23	712	Rheumatoid arthritis and allied conditions-----	48
541	Appendicitis, unqualified-----	1	713	Osteoarthritis and allied conditions-----	7
550	Inguinal hernia without mention of obstruction-----	7	715	Arthritis, unspecified-----	8
551	Other hernia of abdominal cavity without mention of obstruction-----	34	716	Polymyositis and dermatomyositis-----	9
552	Inguinal hernia with obstruction-----	10	718	Rheumatism, unspecified-----	2
553	Other hernia of abdominal cavity with obstruction-----	16	720	Osteomyelitis and periostitis-----	5
560	Intestinal obstruction without mention of hernia-----	172	721	Osteitis deformans-----	4
561	Gastroenteritis and colitis, except ulcerative, of noninfectious origin-----	7	723	Other diseases of bone-----	9
562	Diverticula of intestine-----	100	728	Vertebrogenic pain syndrome-----	1
563	Chronic enteritis and ulcerative colitis-----	40	729	Other diseases of joint-----	7
564	Functional disorders of intestines-----	1	733	Other diseases of muscle, tendon, and fascia-----	16
566	Abscess of anal and rectal regions-----	3	734	Diffuse diseases of connective tissue-----	70
567	Peritonitis-----	60	735	Curvature of spine-----	8
568	Peritoneal adhesions-----	4			
569	Other diseases of intestines and peritoneum-----	215	XIV. CONGENITAL ANOMALIES (740-759)		
570	Acute and subacute necrosis of liver-----	23	740	Anencephalus-----	33
571	Cirrhosis of liver-----	1,486	741	Spina bifida-----	20
572	Suppurative hepatitis and liver abscess-----	6	742	Congenital hydrocephalus-----	25
573	Other diseases of liver-----	108	743	Other congenital anomalies of nervous system-----	24
574	Cholelithiasis-----	55	744	Congenital anomalies of the eye-----	1
575	Cholecystitis and cholangitis, without mention of calculus-----	63	746	Congenital anomalies of heart-----	205
576	Other diseases of gallbladder and biliary ducts-----	43	747	Other congenital anomalies of circulatory system-----	46
577	Diseases of pancreas-----	118	748	Congenital anomalies of respiratory system-----	63
			750	Other congenital anomalies of upper alimentary tract-----	2
			751	Other congenital anomalies of digestive system-----	16
			753	Congenital anomalies of urinary system-----	42
X. DISEASES OF THE GENITOURINARY SYSTEM (580-629)			755	Other congenital anomalies of limbs-----	1
580	Acute nephritis-----	43	756	Other congenital anomalies of musculoskeletal system-----	20
581	Nephrotic syndrome-----	12	757	Congenital anomalies of skin, hair, and nails-----	5
582	Chronic nephritis-----	219	758	Other and unspecified congenital anomalies-----	6
583	Nephritis, unqualified-----	21	759	Congenital syndromes affecting multiple systems-----	64
584	Renal sclerosis, unqualified-----	3			
590	Infections of kidney-----	120	XV. CERTAIN CAUSES OF PERINATAL MORBIDITY AND MORTALITY (760-779)		
591	Hydronephrosis-----	7	761	Other maternal conditions unrelated to pregnancy-----	10
592	Calculus of kidney and ureter-----	21	762	Toxemia of pregnancy-----	5
593	Other diseases of kidney and ureter-----	239	763	Maternal ante- and intrapartum infection-----	3
595	Cystitis-----	5	764	Difficult labor with abnormality of bones, organs, or tissues of pelvis-----	1
596	Other diseases of bladder-----	11	766	Difficult labor with malposition of fetus-----	4
598	Stricture of urethra-----	2	767	Difficult labor with abnormality of forces of labor-----	3
599	Other diseases of urinary tract-----	83	768	Difficult labor with other and unspecified complications-----	2
600	Hyperplasia of prostate-----	37	769	Other complications of pregnancy and childbirth-----	153
601	Prostatitis-----	4	770	Conditions of placenta-----	50
602	Other diseases of prostate-----	7	771	Conditions of umbilical cord-----	12
607	Other diseases of male genital organs-----	6	772	Birth injury without mention of cause-----	50
611	Other diseases of breast-----	1	775	Hemolytic disease of newborn without mention of kernicterus-----	9
616	Diseases of parametrium and pelvic peritoneum (female)-----	9	776	Anoxic and hypoxic conditions not elsewhere classifiable-----	451
622	Infective diseases of uterus (except cervix), vagina and vulva-----	1	777	Immaturity, unqualified-----	186
623	Uterovaginal prolapse-----	3	778	Other conditions of fetus or newborn-----	93
625	Other diseases of uterus-----	3			
629	Other diseases of female genital organs-----	1			
XI. COMPLICATIONS OF PREGNANCY, CHILDBIRTH, AND THE PUERPERIUM (630-678)					
631	Ectopic pregnancy-----	2			
634	Other complications of pregnancy-----	1			
635	Urinary infections during pregnancy and puerperium-----	1			
637	Pre-eclampsia, eclampsia, and toxemia, unspecified-----	2			
639	Other toxemias of pregnancy and puerperium-----	1			
653	Delivery complicated by other postpartum hemorrhage-----	1			
661	Delivery with other complications-----	1			
673	Puerperal pulmonary embolism-----	4			
674	Cerebral hemorrhage in the puerperium-----	1			

TABLE 4.14
NUMBER OF DEATHS BY CAUSE
MICHIGAN RESIDENTS, 1976 (continued)

ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER	ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER
XVI. SYMPTOMS AND ILL-DEFINED CONDITIONS (780-796)			E856	Accidental poisoning by other central nervous system depressants and stimulants-----	2
780	Certain symptoms referable to nervous system and special senses-----	8	E857	Accidental poisoning by cardiovascular drugs-----	5
781	Other symptoms referable to nervous system and special senses-----	1	E858	Accidental poisoning by gastrointestinal drugs-----	1
782	Symptoms referable to cardiovascular and lymphatic system-----	63	E859	Accidental poisoning by other and unspecified drugs and medicaments-----	50
783	Symptoms referable to respiratory system--	1	E860	Accidental poisoning by alcohol-----	3
784	Symptoms referable to upper gastrointestinal tract-----	2	E861	Accidental poisoning by cleansing and polishing agents-----	2
785	Symptoms referable to abdomen and lower gastrointestinal tract-----	1	E864	Accidental poisoning by petroleum products and other solvents-----	5
788	Other general symptoms-----	7	E866	Accidental poisoning by heavy metals and fumes-----	1
790	Nervousness and debility-----	2	E867	Accidental poisoning by corrosives and caustics, not elsewhere classified-----	1
792	'Remia-----	5	E869	Accidental poisoning by other and unspecified solid and liquid substances---	23
794	Senility without mention of psychosis----	20	E870	Accidental poisoning by gas distributed by pipeline-----	2
795	Sudden death (cause unknown)-----	225	E871	Accidental poisoning by liquefied petroleum gas distributed in mobile containers-----	1
796	Other ill-defined and unknown causes of morbidity and mortality-----	208	E873	Accidental poisoning by motor vehicle exhaust gas-----	43
E XVII. ACCIDENTS, POISONINGS, AND VIOLENCE (EXTERNAL CAUSE) (E800-E999)			E874	Accidental poisoning by carbon monoxide from incomplete combustion of domestic fuels-----	2
E800	Railway accident involving collision with rolling stock-----	1	E875	Accidental poisoning by other carbon monoxide-----	24
E801	Railway accident involving collision with other object-----	3	E876	Accidental poisoning by other gases and vapors-----	14
E802	Railway accident involving derailment without collision-----	1	E877	Accidental poisoning by unspecified gases and vapors-----	1
E805	Hit by rolling stock-----	3	E880	Fall on or from stairs or steps-----	61
E806	Other specified railway accident-----	1	E881	Fall on or from ladders or scaffolding---	17
E810	Motor vehicle traffic accident involving collision with train-----	36	E882	Fall from or out of building or other structure-----	26
E812	Motor vehicle traffic accident involving collision with another motor vehicle--	807	E883	Fall into hole or other opening in surface-----	4
E813	Motor vehicle traffic accident involving collision with other vehicle-----	58	E884	Other fall from one level to another----	32
E814	Motor vehicle traffic accident involving collision with pedestrian-----	330	E885	Fall on same level from slipping, stumbling, or tripping-----	9
E815	Other motor vehicle traffic accident involving collision-----	157	E887	Other and unspecified fall-----	431
E816	Noncollision motor vehicle traffic accident due to loss of control-----	377	E890	Accident caused by conflagration in private dwelling-----	191
E818	Other noncollision motor vehicle traffic accident-----	37	E891	Accident caused by conflagration in other building or structure-----	3
E819	Motor vehicle traffic accident of unspecified nature-----	155	E892	Accident caused by conflagration not in building or structure-----	2
E820	Motor vehicle nontraffic accident involving collision with moving object-----	20	E893	Accident caused by ignition of clothing---	7
E821	Motor vehicle nontraffic accident involving collision with stationary object-----	4	E895	Accident caused by controlled fire in private dwelling-----	3
E823	Motor vehicle nontraffic accident of other and unspecified nature-----	12	E898	Accident caused by other specified fires or flames-----	11
E826	Pedal cycle accident-----	5	E899	Accident caused by unspecified fire-----	16
E827	Other nonmotor road vehicle accident----	1	E900	Excessive heat-----	2
E830	Accident to watercraft causing submersion-	13	E901	Excessive cold-----	10
E832	Other accidental submersion or drowning in water transport-----	20	E902	High and low air pressure-----	1
E838	Other and unspecified water transport accident-----	2	E904	Hunger, thirst, exposure, and neglect----	13
E840	Accident to powered aircraft on take-off or landing-----	1	E906	Other accidents caused by animals-----	5
E841	Accident to powered aircraft, other and unspecified-----	46	E907	Lightning-----	2
E842	Accident to unpowered aircraft-----	2	E908	Cataclysm-----	3
E844	Other specified air transport accidents---	1	E910	Accidental drowning and submersion-----	235
E851	Accidental poisoning by hormones and synthetic substitutes-----	1	E911	Inhalation and ingestion of food causing obstruction or suffocation-----	92
E852	Accidental poisoning by primarily systematic and hematologic agents-----	2	E912	Inhalation and ingestion of other object causing obstruction or suffocation-----	51
E853	Accidental poisoning by analgesics and antipyretics-----	17	E913	Accidental mechanical suffocation-----	41
E854	Accidental poisoning by other sedatives and hypnotics-----	14	E915	Foreign body accidentally entering other orifice-----	3
E855	Accidental poisoning by autonomic nervous system and psychotherapeutic drugs----	9	E916	Struck accidentally by falling object----	35
			E917	Striking against or struck accidentally by objects-----	21
			E918	Caught accidentally in or between objects-	16
			E920	Accidents caused by cutting or piercing instruments-----	3
			E921	Accidents caused by explosion of pressure vessel-----	1
			E922	Accident caused by firearm missiles-----	53
			E923	Accident caused by explosive material----	17

TABLE 4.14
NUMBER OF DEATHS BY CAUSE
MICHIGAN RESIDENTS, 1976 (continued)

ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER	ICDA LIST NUMBER	CAUSE OF DEATH	NUMBER
E924	Accident caused by hot substance, corrosive liquid, and steam-----	5	E959	Late effect of self-inflicted injury-----	1
E925	Accident caused by electric current-----	30	E962	Assault by poisoning-----	2
E927	Vehicle accidents not elsewhere classifiable-----	11	E963	Assault by hanging and strangulation-----	44
E928	Machinery accidents not elsewhere classifiable-----	22	E964	Assault by submersion (drowning)-----	1
E929	Other and unspecified accidents-----	55	E965	Assault by firearms and explosives-----	778
E930	Complications and misadventures in operative therapeutic procedures-----	15	E966	Assault by cutting and piercing instruments-----	139
E931	Complications and misadventures in other and unspecified therapeutic procedures-----	15	E968	Assault by other and unspecified means-----	99
E932	Complications and misadventures in diagnostic procedures-----	6	E969	Late effect of injury purposely inflicted by other person-----	1
E940	Late effect of motor vehicle accident-----	2	E970	Injury due to legal intervention by firearms-----	28
E943	Late effect of accidental fall-----	4	E980	Poisoning by solid or liquid substances, undetermined whether accidentally or purposely inflicted-----	82
E946	Late effect of other accident-----	10	E982	Poisoning by other gases, undetermined whether accidentally or purposely inflicted-----	15
E947	Late effect of surgical operation-----	1	E983	Hanging and strangulation, undetermined whether accidentally or purposely inflicted-----	2
E948	Late effect of irradiation-----	1	E984	Submersion (drowning), undetermined whether accidentally or purposely inflicted-----	17
E949	Late effect of other surgical and medical procedure-----	2	E985	Injury by firearms and explosives, undetermined whether accidentally or purposely inflicted-----	33
E950	Suicide and self-inflicted poisoning by solid or liquid substances-----	130	E987	Falling from high place, undetermined whether accidentally or purposely inflicted-----	2
E951	Suicide and self-inflicted poisoning by gases in domestic use-----	1	E988	Injury by other and unspecified means, undetermined whether accidentally or purposely inflicted-----	50
E952	Suicide and self-inflicted poisoning by other gases-----	153			
E953	Suicide and self-inflicted injury by hanging, strangulation, and suffocation-----	189		TOTAL	75,801
E954	Suicide and self-inflicted injury by submersion (drowning)-----	24			
E955	Suicide and self-inflicted injury by firearms and explosives-----	637			
E956	Suicide and self-inflicted injury by cutting and piercing instruments-----	12			
E957	Suicide and self-inflicted injury by jumping from high place-----	16			
E958	Suicide and self-inflicted injury by other and unspecified means-----	19			

TABLE 4.15
Population by Age and Sex,¹
Michigan Residents, 1976

Age	Total	Percent	Males	Percent	Females	Percent
0-4.....	727,192	7.98	371,885	8.29	355,307	7.69
5-9.....	893,377	9.81	455,416	10.15	437,961	9.48
10-14.....	953,802	10.48	485,264	10.82	468,538	10.14
15-19.....	939,426	10.32	466,118	10.39	473,308	10.25
20-24.....	735,638	8.08	349,275	7.79	386,363	8.36
25-29.....	611,082	6.71	268,329	5.98	342,753	7.42
30-34.....	643,343	7.07	337,389	7.52	305,954	6.62
35-39.....	477,209	5.24	256,969	5.73	220,240	4.77
40-44.....	390,511	4.29	206,191	4.60	184,320	4.00
45-49.....	497,996	5.47	253,210	5.65	244,786	5.30
50-54.....	523,519	5.75	255,614	5.70	267,905	5.80
55-59.....	461,025	5.06	222,228	4.95	238,797	5.17
60-64.....	379,203	4.17	184,018	4.10	195,185	4.23
65-69.....	276,716	3.04	129,310	2.88	147,406	3.19
70-74.....	204,375	2.24	88,682	1.98	115,693	2.50
75-79.....	172,094	1.89	69,963	1.56	102,131	2.21
80-84.....	140,443	1.54	56,970	1.27	83,473	1.81
85 and over.....	77,049	0.85	28,094	0.63	48,955	1.06
Total.....	9,104,000	99.99	4,484,925	99.99	4,619,075	100.00

¹Estimates were developed from the total state population provisional estimate for 7/1/76 as contained in: Population Estimates, Current Population Reports, series P-26, no. 76-22, USDC, SES, USGPO, August, 1977, and from projected population subgroup proportions as developed by; Department of Management and Budget, Bureau of Budget.

TABLE 4.16
POPULATION CHANGES BY COUNTY
MICHIGAN RESIDENTS, 1976

Area	Population Estimates July 1, 1966	Population Estimates July 1, 1976	Percent Change	Natural Increase	Net Migration
STATE	8,314,000	9,104,000	9.5	762,585	27,345
Alcona	5,827	8,800	51.0	-55	3,028
Alger	8,321	9,400	13.0	212	867
Allegan	58,887	71,700	21.8	6,111	6,702
Alpena	29,279	33,000	12.7	2,316	1,405
Antrim	9,806	15,400	57.0	524	5,070
Arenac	9,569	13,200	37.9	553	3,078
Baraga	7,562	8,000	5.8	273	165
Barry	30,724	41,900	36.4	2,729	8,447
Bay	111,158	119,300	7.3	10,619	-2,477
Benzie	7,732	10,400	34.5	133	2,535
Berrien	161,070	172,000	6.8	15,696	-4,766
Branch	34,049	38,400	12.8	2,193	2,158
Calhoun	141,472	160,400	-0.8	11,049	-12,121
Cass	36,515	45,800	25.4	2,973	6,312
Charlevoix	15,078	19,200	27.3	874	3,248
Cheboygan	14,312	19,800	38.3	1,146	4,342
Chippewa	32,226	37,100	15.1	4,155	719
Clare	12,188	22,400	83.8	547	9,665
Clinton	41,407	51,900	25.3	5,357	5,136
Crawford	4,751	9,000	89.4	298	3,951
Delta	33,129	39,300	18.6	1,800	4,371
Dickinson	23,202	25,100	8.2	150	1,748
Eaton	54,864	78,100	42.4	6,192	17,044
Emmet	16,704	21,100	26.3	1,043	3,353
Genesee	424,455	445,800	5.0	52,810	-31,465
Gladwin	10,441	17,000	62.8	616	5,943
Gogebic	20,867	20,200	-3.2	-558	-109
Grand Traverse	36,229	45,900	26.7	3,069	6,602
Gratiot	37,617	39,200	3.7	3,581	-2,198
Hillsdale	34,551	40,300	16.6	2,560	3,189
Houghton	33,373	36,700	10.0	128	3,199
Huron	33,590	35,400	5.4	1,736	74
Ingham	236,985	268,800	13.4	30,799	1,016
Ionia	41,897	48,600	16.0	4,170	2,533
Iosco	18,980	28,700	51.2	2,918	6,802
Iron	15,091	14,900	-1.3	-810	619
Isabella	35,539	51,400	44.6	4,281	11,580
Jackson	136,780	147,000	7.5	10,805	-585
Kalamazoo	181,760	202,200	11.2	17,877	2,563
Kalkaska	4,575	10,000	118.6	325	5,100
Kent	391,524	425,900	8.8	36,168	-1,792
Keeweenaw	2,134	2,300	7.8	-111	277
Lake	5,006	6,800	35.8	-221	2,015
Lapeer	43,836	62,800	37.0	5,607	11,357
Leelanau	9,439	12,500	32.4	313	2,748
Lenawee	79,899	86,600	8.4	7,526	-825
Livingston	43,085	81,400	88.9	5,456	32,859
Luce	6,959	7,300	4.9	209	132
Mackinac	9,785	10,300	5.3	406	109
Macomb	528,226	670,600	27.0	70,273	72,101
Manistee	19,292	21,800	13.0	372	2,136
Marquette	58,863	70,800	20.3	6,477	5,460
Mason	20,835	24,900	19.5	570	3,495
Mecosta	22,159	34,400	55.2	2,233	10,008
Menominee	23,316	25,200	8.1	480	1,404
Midland	57,247	67,500	17.9	8,125	2,128
Missaukee	6,310	9,200	45.8	324	2,566
Monroe	109,369	127,400	16.5	11,622	6,209
Montcalm	39,200	44,400	13.3	2,981	2,219
Montmorency	4,284	7,100	65.7	-	2,816
Muskegon	150,832	157,600	4.5	13,655	-6,887
Newaygo	25,233	31,200	23.6	1,721	4,246
Oakland	784,437	967,100	23.3	84,767	97,896
Oceana	16,241	20,700	27.5	1,333	3,126
Ogemaw	9,077	14,900	64.2	153	5,670
Ononagon	10,393	11,500	10.7	469	638
Osceola	13,953	17,800	27.6	891	2,956
Oscoda	3,695	6,600	78.6	-96	3,001
Otsego	8,659	14,100	62.8	1,021	4,420
Ottawa	109,451	142,200	29.9	13,461	19,288
Presque Isle	12,439	13,900	11.7	676	785
Roscommon	7,479	15,100	101.9	-309	7,930
Saginaw	209,472	226,100	7.9	24,438	-7,810
St. Clair	111,720	130,100	16.5	9,032	9,348
St. Joseph	42,627	51,200	20.1	3,576	4,997
Sanilac	32,404	35,600	22.2	1,871	5,325
Schoolcraft	8,117	8,900	9.6	176	607
Shiawassee	57,681	68,900	19.5	6,796	4,423
Tuscola	45,540	54,500	19.7	4,228	4,732
Van Buren	51,428	62,000	20.6	4,139	6,433
Washtenaw	198,881	248,100	24.7	26,827	22,392
Wayne	2,700,486	2,477,900	-8.2	192,411	-414,997
Wexford	18,295	22,000	20.3	1,183	2,522
Not Stated	-	-	-	-39	39

TABLE 4.17--Abridged Life Table, Michigan Residents, 1976

AGE	NQX(1) ¹	LX(2) ¹	NDX(3) ¹	NLX(4) ¹	TX(5) ¹	EX(6) ¹
0-1	0.01475	100000.	1475.	98651.	7235010.	72.4
1-5	0.00243	98525.	239.	393544.	7136359.	72.4
5-10	0.00165	98286.	162.	490983.	6742815.	68.6
10-15	0.00152	98124.	149.	490318.	6251832.	63.7
15-20	0.00513	97975.	502.	488760.	5761514.	58.8
20-25	0.00837	97473.	815.	485396.	5272754.	54.1
25-30	0.00852	96658.	823.	481196.	4787358.	49.5
30-35	0.00661	95835.	633.	477617.	4306162.	44.9
35-40	0.00987	95202.	940.	473874.	3828546.	40.2
40-45	0.01762	94262.	1661.	467426.	3354672.	35.6
45-50	0.02399	92602.	2221.	457795.	2887246.	31.2
50-55	0.03636	90381.	3286.	444242.	2429451.	26.9
55-60	0.05586	87095.	4865.	424126.	1985209.	22.8
60-65	0.08737	82230.	7184.	394302.	1561083.	19.0
65-70	0.13586	75046.	10195.	350935.	1166781.	15.5
70-75	0.19896	64851.	12902.	292494.	815846.	12.6
75-80	0.24183	51949.	12563.	228069.	523352.	10.1
80-85	0.29476	39386.	11609.	167509.	295283.	7.5
85+	1.00000	27777.	27777.	127775.	127775.	4.6

¹Definitions of life table values are contained in the Technical Notes.

TABLE 4.18--Abridged Life Table for Males, Michigan Residents, 1976

AGE	NQX(1) ¹	LX(2) ¹	NDX(3) ¹	NLX(4) ¹	TX(5) ¹	EX(6) ¹
0-1	0.01586	100000.	1586.	98557.	6897009.	69.0
1-5	0.00263	98414.	258.	393077.	6798452.	69.1
5-10	0.00198	98156.	194.	490249.	6405375.	65.3
10-15	0.00190	97963.	186.	489461.	5915126.	60.4
15-20	0.00747	97777.	730.	487289.	5425665.	55.5
20-25	0.01322	97047.	1283.	482146.	4938377.	50.9
25-30	0.01353	95764.	1296.	475480.	4456231.	46.5
30-35	0.00837	94469.	791.	470319.	3980751.	42.1
35-40	0.01141	93678.	1068.	465951.	3510431.	37.5
40-45	0.02055	92610.	1902.	458624.	3044480.	32.9
45-50	0.02931	90708.	2658.	447350.	2585856.	28.5
50-55	0.04652	88050.	4096.	430745.	2138506.	24.3
55-60	0.07378	83954.	6194.	405311.	1707761.	20.3
60-65	0.11604	77760.	9023.	367502.	1302450.	16.8
65-70	0.17803	68737.	12237.	314312.	934948.	13.6
70-75	0.26327	56500.	14875.	245401.	620636.	11.0
75-80	0.30401	41625.	12654.	175440.	375235.	9.0
80-85	0.33931	28971.	9830.	119403.	199795.	6.9
85+	1.00000	19141.	19141.	80392.	80392.	4.2

¹IBID.

TABLE 4.19--Abridged Life Table for Females, Michigan Residents, 1976

AGE	NQX(1) ¹	LX(2) ¹	NDX(3) ¹	NLX(4) ¹	TX(5) ¹	EX(6) ¹
0-1	0.01360	100000.	1360.	98750.	7587804.	75.9
1-5	0.00222	98640.	219.	394034.	7489054.	75.9
5-10	0.00132	98421.	129.	491752.	7095020.	72.1
10-15	0.00113	98292.	110.	491217.	6603268.	67.2
15-20	0.00281	98182.	276.	490280.	6112051.	62.3
20-25	0.00396	97907.	387.	488601.	5621771.	57.4
25-30	0.00458	97520.	446.	486497.	5133170.	52.6
30-35	0.00467	97074.	453.	484307.	4646673.	47.9
35-40	0.00808	96621.	780.	481346.	4162366.	43.1
40-45	0.01434	95841.	1374.	475968.	3681021.	38.4
45-50	0.01845	94466.	1743.	468202.	3205053.	33.9
50-55	0.02657	92724.	2463.	457828.	2736851.	29.5
55-60	0.03891	90260.	3511.	443086.	2279023.	25.2
60-65	0.05955	86749.	5166.	421752.	1835937.	21.2
65-70	0.09726	81583.	7934.	389248.	1414185.	17.3
70-75	0.14620	73649.	10767.	342242.	1024936.	13.9
75-80	0.19611	62882.	12332.	284100.	682694.	10.9
80-85	0.26254	50550.	13271.	219654.	398594.	7.9
85+	1.00000	37279.	37279.	178940.	178940.	4.8

¹IBID.

TABLE 4.20 --Abridged Life Table for Whites, Michigan Residents, 1976

AGE	NQX(1) ¹	LX(2) ¹	NDX(3) ¹	NLX(4) ¹	TX(5) ¹	EX(6) ¹
0-1	0.01252	100000.	1252.	98855.	7319299.	73.2
1-5	0.00217	98748.	214.	394499.	7220444.	73.1
5-10	0.00153	98534.	151.	492255.	6825945.	69.3
10-15	0.00142	98383.	140.	491638.	6333690.	64.4
15-20	0.00499	98244.	490.	490110.	5842052.	59.5
20-25	0.00719	97753.	702.	487044.	5351943.	54.7
25-30	0.00663	97051.	643.	483609.	4864899.	50.1
30-35	0.00519	96409.	499.	480822.	4381290.	45.4
35-40	0.00803	95909.	770.	477812.	3900466.	40.7
40-45	0.01482	95140.	1409.	472429.	3422656.	36.0
45-50	0.02121	93730.	1987.	464024.	2950227.	31.5
50-55	0.03324	91743.	3049.	451659.	2486202.	27.1
55-60	0.05313	88694.	4712.	432526.	2034544.	22.9
60-65	0.08421	83982.	7071.	403411.	1602017.	19.1
65-70	0.13496	76910.	10380.	359871.	1198606.	15.6
70-75	0.19784	66531.	13162.	300241.	838735.	12.6
75-80	0.23885	53369.	12747.	234754.	538494.	10.1
80-85	0.29775	40622.	12095.	172517.	303740.	7.5
85+	1.00000	28527.	28527.	131223.	131223.	4.6

¹IBID.

TABLE 4.21--Abridged Life Table for White Males, Michigan Residents, 1976

AGE	NQX(1) ¹	LX(2) ¹	NDX(3) ¹	NLX(4) ¹	TX(5) ¹	EX(6) ¹
0-1	0.01324	100000.	1324.	98793.	6991843.	69.9
1-5	0.00225	98676.	222.	394223.	6893050.	69.9
5-10	0.00186	98455.	183.	491771.	6498827.	66.0
10-15	0.00174	98272.	170.	491042.	6007056.	61.1
15-20	0.00719	98101.	705.	488942.	5516013.	56.2
20-25	0.01151	97396.	1121.	484245.	5027071.	51.6
25-30	0.01058	96276.	1018.	478725.	4542826.	47.2
30-35	0.00638	95257.	607.	474736.	4064101.	42.7
35-40	0.00912	94650.	863.	471300.	3589365.	37.9
40-45	0.01707	93787.	1601.	465255.	3118065.	33.2
45-50	0.02608	92187.	2404.	455386.	2652810.	28.8
50-55	0.04257	89783.	3821.	440121.	2197424.	24.5
55-60	0.07046	85961.	6056.	415744.	1757302.	20.4
60-65	0.11255	79905.	8993.	378424.	1341558.	16.8
65-70	0.17887	70912.	12684.	324181.	963134.	13.6
70-75	0.26409	58229.	15377.	252756.	638953.	11.0
75-80	0.30232	42851.	12955.	180806.	386197.	9.0
80-85	0.34341	29897.	10267.	122944.	205391.	6.9
85+	1.00000	19630.	19630.	82447.	82447.	4.2

¹IBID.

TABLE 4.22--Abridged Life Table for White Females, Michigan Residents, 1976

AGE	NQX(1) ¹	LX(2) ¹	NDX(3) ¹	NLX(4) ¹	TX(5) ¹	EX(6) ¹
0-1	0.01177	100000.	1177.	98921.	7657839.	76.6
1-5	0.00209	98823.	206.	394792.	7558918.	76.5
5-10	0.00119	98617.	117.	492766.	7164126.	72.6
10-15	0.00109	98501.	107.	492268.	6671360.	67.7
15-20	0.00282	98393.	277.	491320.	6179093.	62.8
20-25	0.00330	98117.	323.	489789.	5687773.	58.0
25-30	0.00350	97793.	341.	488125.	5197984.	53.2
30-35	0.00384	97452.	374.	486392.	4709859.	48.3
35-40	0.00674	97079.	654.	483928.	4223467.	43.5
40-45	0.01229	96425.	1184.	479350.	3739539.	38.8
45-50	0.01621	95241.	1544.	472571.	3260189.	34.2
50-55	0.02426	93697.	2273.	463182.	2787617.	29.8
55-60	0.03678	91424.	3362.	449283.	2324435.	25.4
60-65	0.05673	88062.	4996.	428768.	1875152.	21.3
65-70	0.09511	83067.	7900.	396802.	1446384.	17.4
70-75	0.14430	75167.	10846.	349653.	1049582.	14.0
75-80	0.19254	64321.	12384.	291251.	699929.	10.9
80-85	0.26498	51937.	13762.	225439.	408678.	7.9
85+	1.00000	38175.	38175.	183240.	183240.	4.8

¹IBID.

TABLE 4.23--Abridged Life Table for Nonwhites, Michigan Residents, 1976

AGE	NQX(1) ¹	LX(2) ¹	NDX(3) ¹	NLX(4) ¹	TX(5) ¹	EX(6) ¹
0-1	0.02515	100000.	2515.	97694.	6711342.	67.1
1-5	0.00377	97485.	367.	389073.	6613648.	67.8
5-10	0.00240	97118.	233.	484951.	6224575.	64.1
10-15	0.00208	96885.	201.	483995.	5739624.	59.2
15-20	0.00587	96685.	567.	482270.	5255629.	54.4
20-25	0.01530	96118.	1470.	477213.	4773359.	49.7
25-30	0.02120	94647.	2006.	468241.	4296146.	45.4
30-35	0.01690	92641.	1565.	459311.	3827905.	41.3
35-40	0.02294	91076.	2089.	450562.	3368593.	37.0
40-45	0.03933	88987.	3500.	436569.	2918031.	32.8
45-50	0.04586	85488.	3920.	417942.	2481462.	29.0
50-55	0.06074	81568.	4954.	395888.	2063520.	25.3
55-60	0.07852	76613.	6016.	368666.	1667632.	21.8
60-65	0.11361	70598.	8021.	333544.	1298966.	18.4
65-70	0.14275	62577.	8933.	291220.	965422.	15.4
70-75	0.20916	53644.	11220.	240766.	674203.	12.6
75-80	0.27789	42424.	11789.	181936.	433437.	10.2
80-85	0.25476	30635.	7805.	132783.	251501.	8.2
85+	1.00000	22830.	22830.	118718.	118718.	5.2

¹IBID.

TABLE 4.24--Abridged Life Table for Nonwhite Males, Michigan Residents, 1976

AGE	NQX(1) ¹	LX(2) ¹	NDX(3) ¹	NLX(4) ¹	TX(5) ¹	EX(6) ¹
0-1	0.02845	100000.	2845.	97411.	6309479.	63.1
1-5	0.00460	97155.	446.	387544.	6212068.	63.9
5-10	0.00272	96709.	263.	482823.	5824523.	60.2
10-15	0.00284	96446.	274.	481674.	5341701.	55.4
15-20	0.00906	96173.	871.	479082.	4860027.	50.5
20-25	0.02289	95301.	2181.	471528.	4380945.	46.0
25-30	0.03385	93120.	3151.	457717.	3909416.	42.0
30-35	0.02401	89969.	2160.	444306.	3451700.	38.4
35-40	0.02839	87809.	2493.	433210.	3007394.	34.2
40-45	0.04778	85316.	4076.	416773.	2574184.	30.2
45-50	0.05334	81240.	4333.	395759.	2157411.	26.6
50-55	0.07741	76907.	5953.	370243.	1761652.	22.9
55-60	0.10097	70954.	7164.	337546.	1391409.	19.6
60-65	0.14494	63790.	9246.	296295.	1053862.	16.5
65-70	0.17174	54544.	9367.	249792.	757567.	13.9
70-75	0.25650	45177.	11588.	197226.	507775.	11.2
75-80	0.32317	33589.	10855.	139759.	310549.	9.2
80-85	0.28785	22735.	6544.	96313.	170790.	7.5
85+	1.00000	16190.	16190.	74476.	74476.	4.6

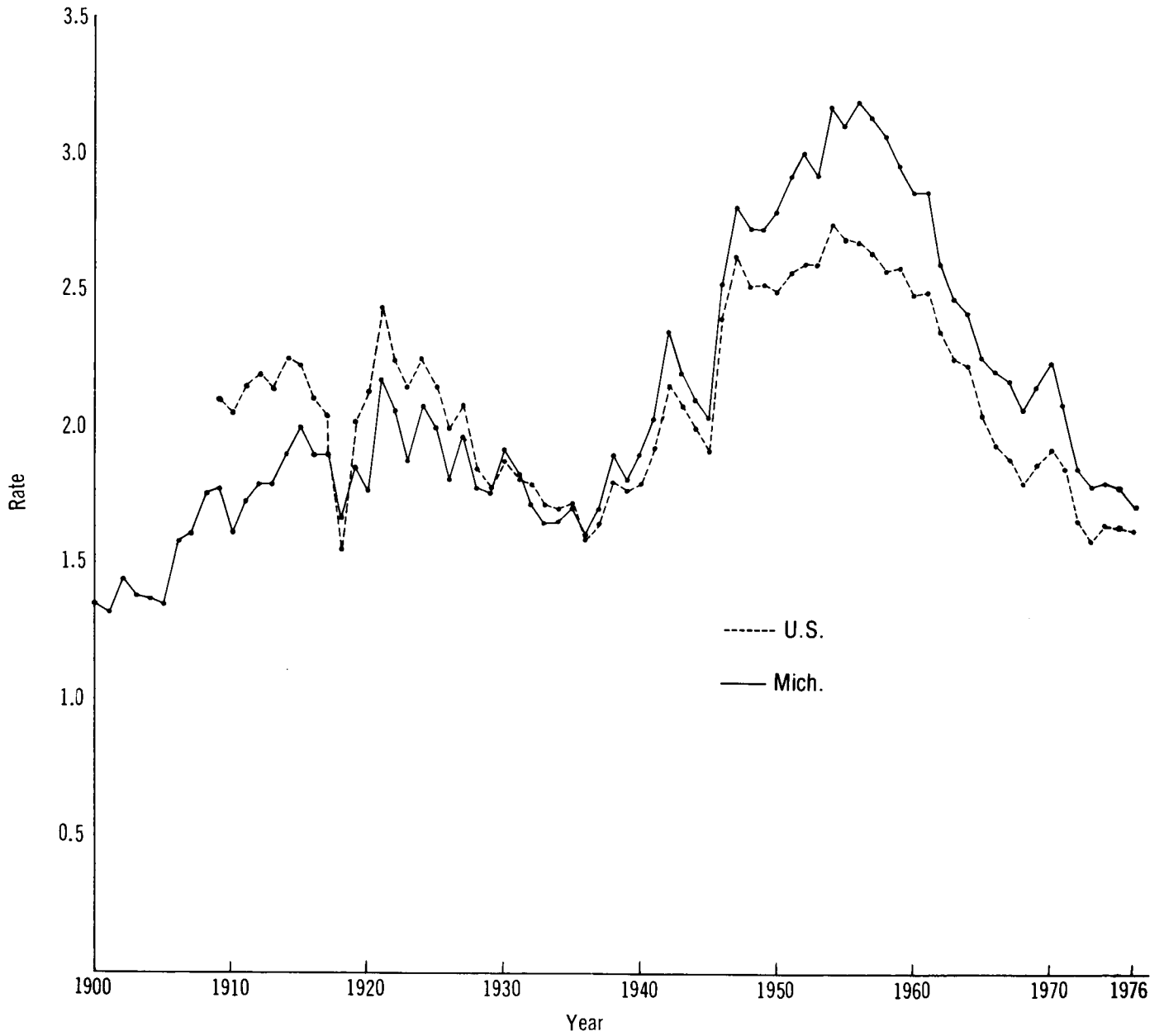
¹IBID.

TABLE 4.25--Abridged Life Table for Nonwhite Females, Michigan Residents, 1976

AGE	NQX(1) ¹	LX(2) ¹	NDX(3) ¹	NLX(4) ¹	TX(5) ¹	EX(6) ¹
0-1	0.02186	100000.	2186.	97977.	7150489.	71.5
1-5	0.00292	97814.	286.	390603.	7052512.	72.1
5-10	0.00209	97529.	203.	487085.	6661910.	68.3
10-15	0.00130	97326.	126.	486327.	6174825.	63.4
15-20	0.00279	97200.	271.	485455.	5688498.	58.5
20-25	0.00796	96928.	771.	482891.	5203044.	53.7
25-30	0.01166	96157.	1121.	478023.	4720152.	49.1
30-35	0.01015	95036.	964.	472872.	4242129.	44.6
35-40	0.01711	94072.	1609.	466715.	3769258.	40.1
40-45	0.03006	92463.	2779.	455728.	3302542.	35.7
45-50	0.03724	89684.	3339.	440295.	2846815.	31.7
50-55	0.04465	86344.	3855.	422366.	2406520.	27.9
55-60	0.05679	82490.	4684.	401282.	1984153.	24.1
60-65	0.08304	77806.	6460.	373604.	1582871.	20.3
65-70	0.11446	71346.	8166.	337135.	1209267.	16.9
70-75	0.16478	63179.	10411.	290822.	872132.	13.8
75-80	0.24131	52769.	12733.	231747.	581310.	11.0
80-85	0.22842	40036.	9145.	176574.	349563.	8.7
85+	1.00000	30891.	30891.	172989.	172989.	5.6

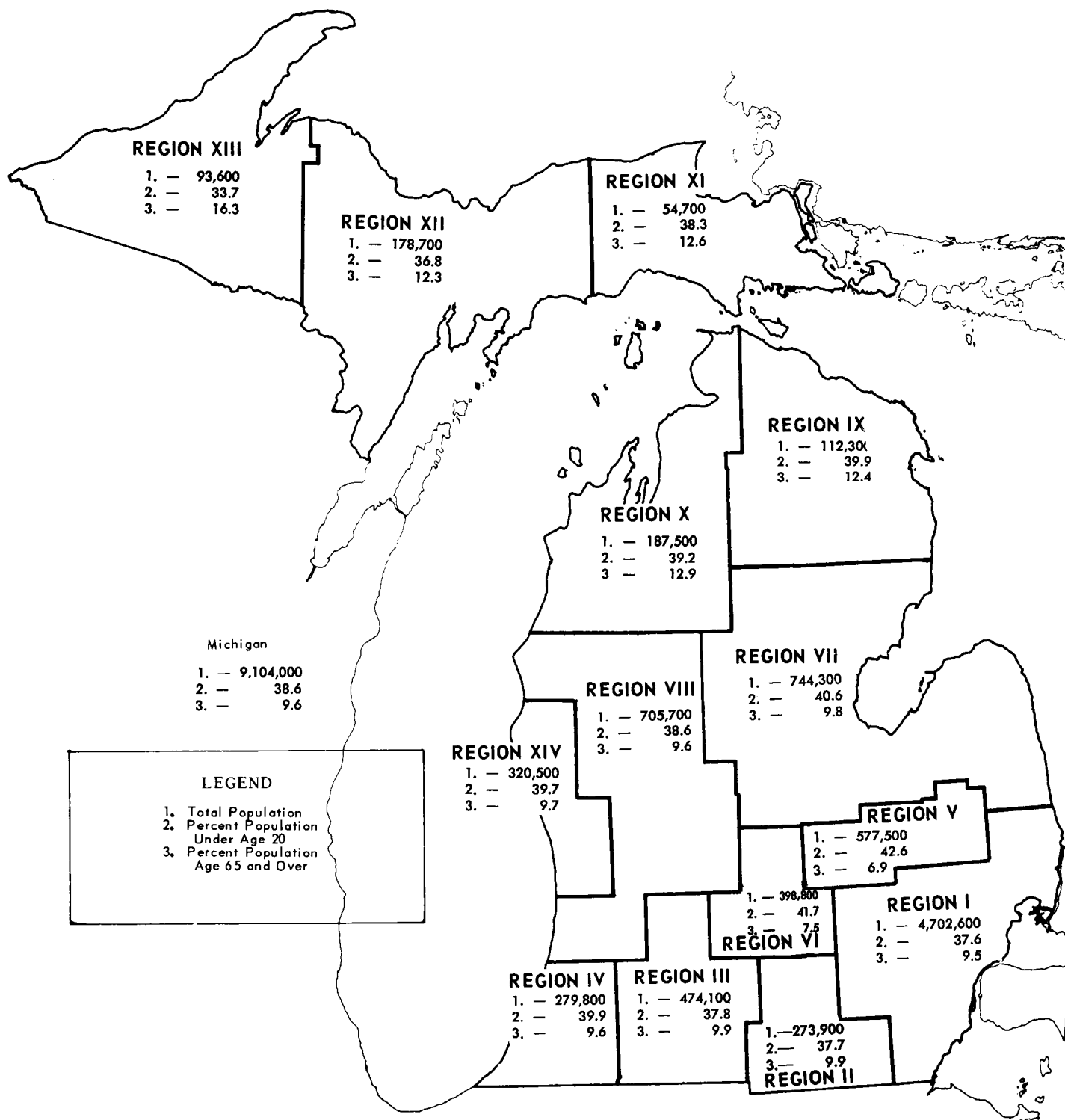
¹IBID.

FIGURE 4.1 — Rate of Natural Increase, Michigan, 1900-1976,
and the United States, 1909¹-1976



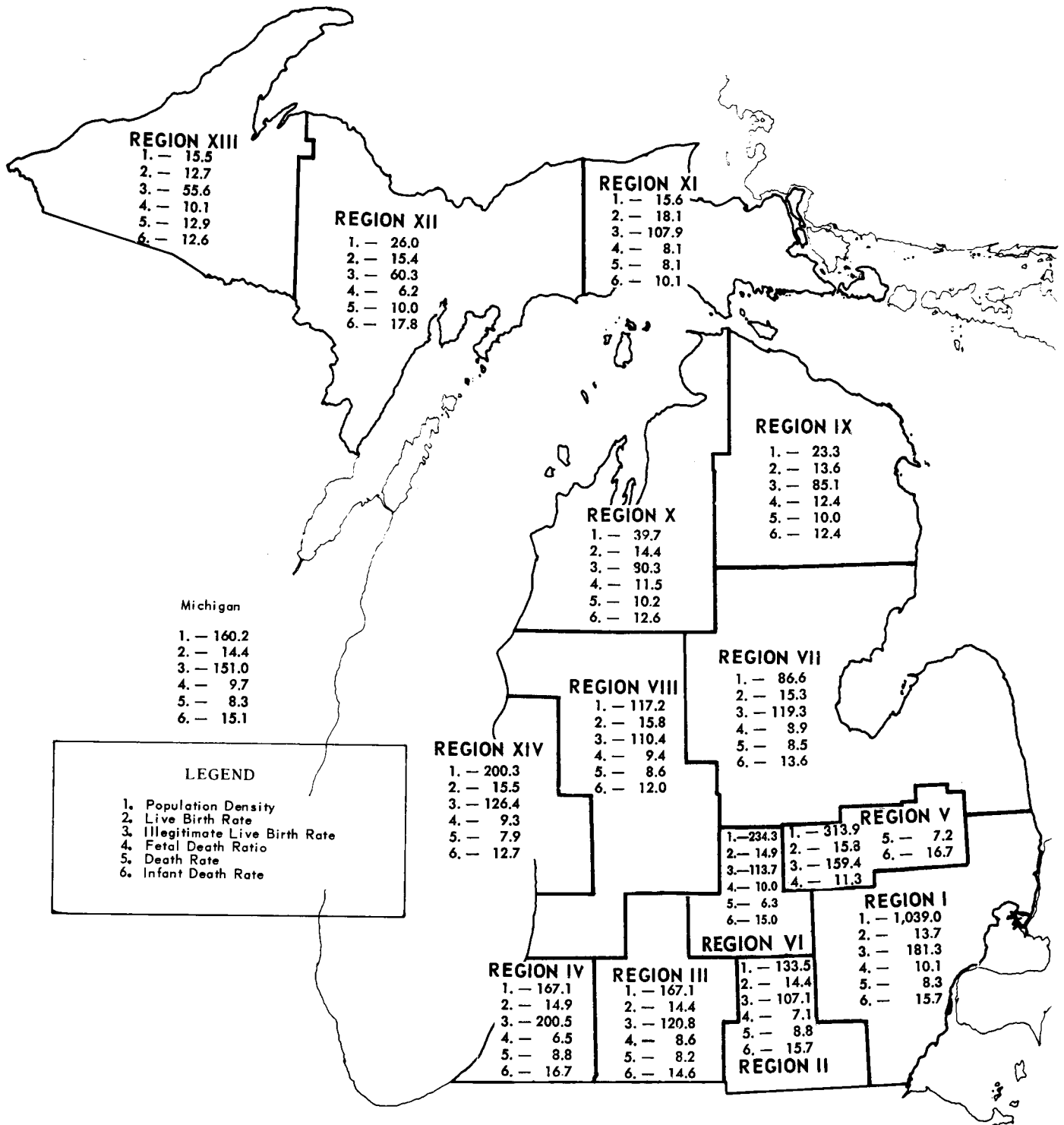
¹Data not available prior to 1909.

FIGURE 4.2—Total Population, Percent Under Age 20 and Percent Age 65 and over by Region,¹ Michigan, 1976



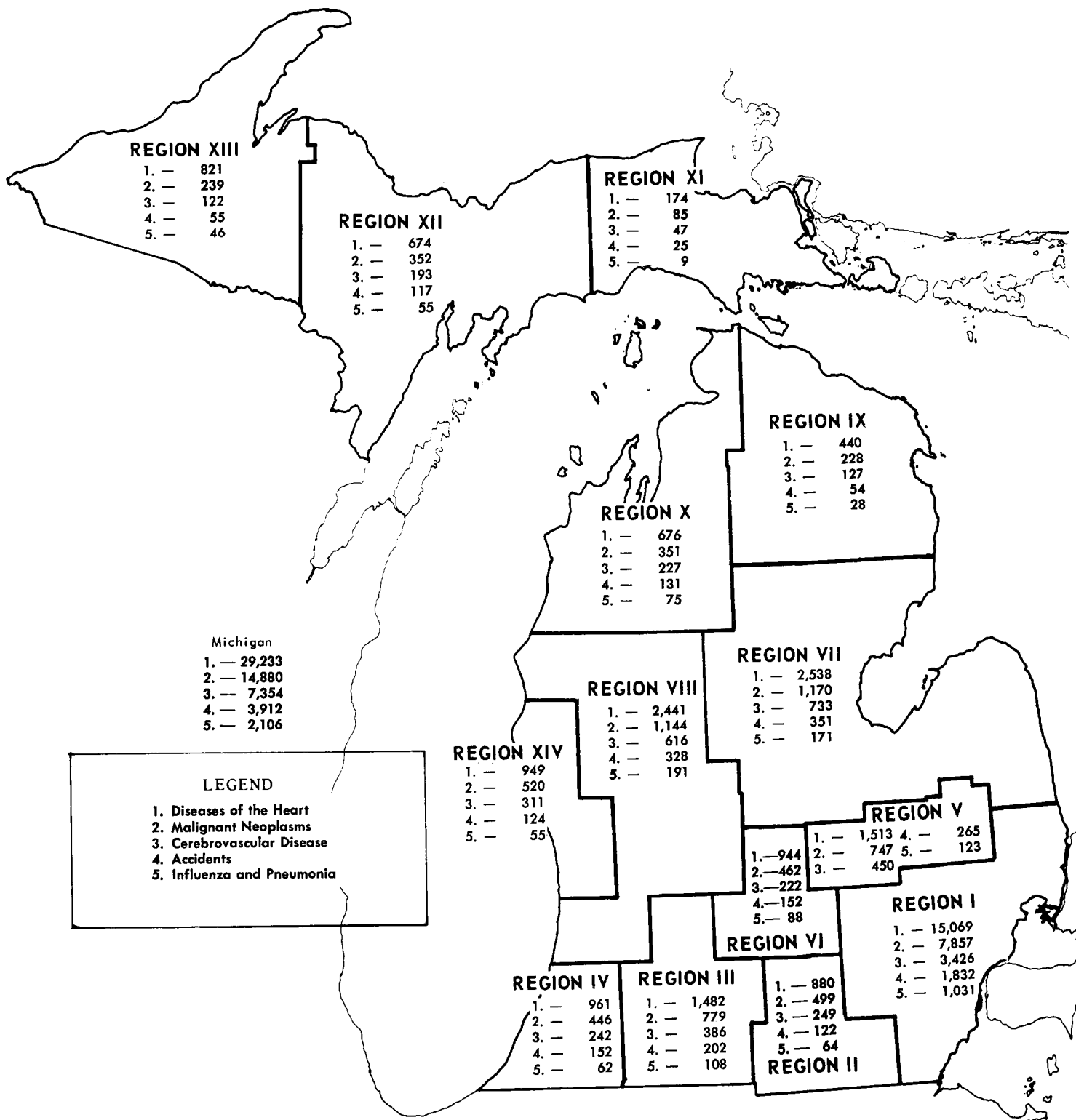
¹State Planning and Development Regions — August, 1973

FIGURE 4.3—Population Density, Live Birth Rates, Illegitimate Live Birth Ratios, Fetal Death Ratios, Death Rates and Infant Death Rates by Region,¹ Michigan Residents, 1976



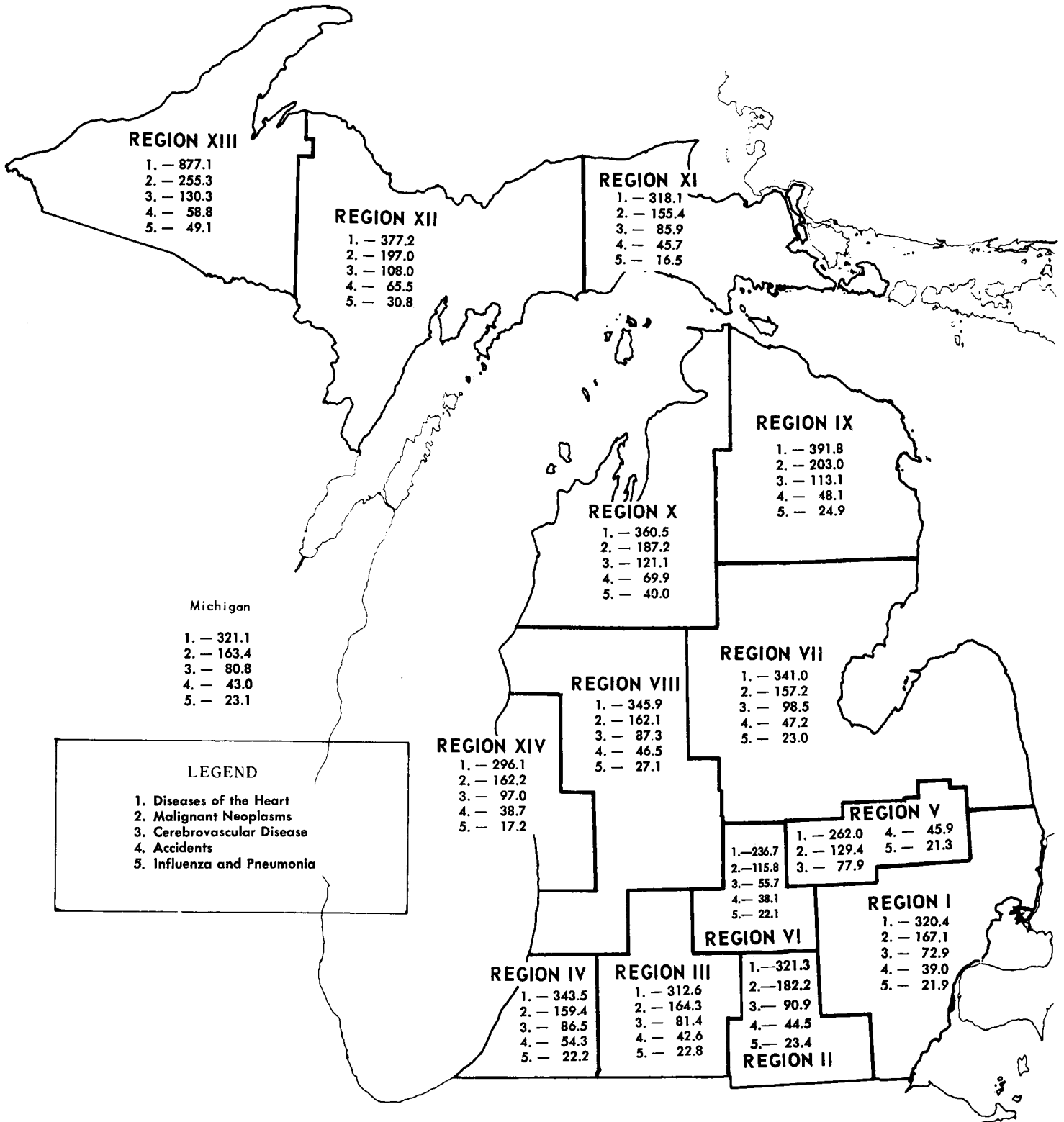
¹State Planning and Development Regions — August, 1973

FIGURE 4.4—Leading Causes of Death; Number of Deaths by Region,¹
Michigan Residents, 1976



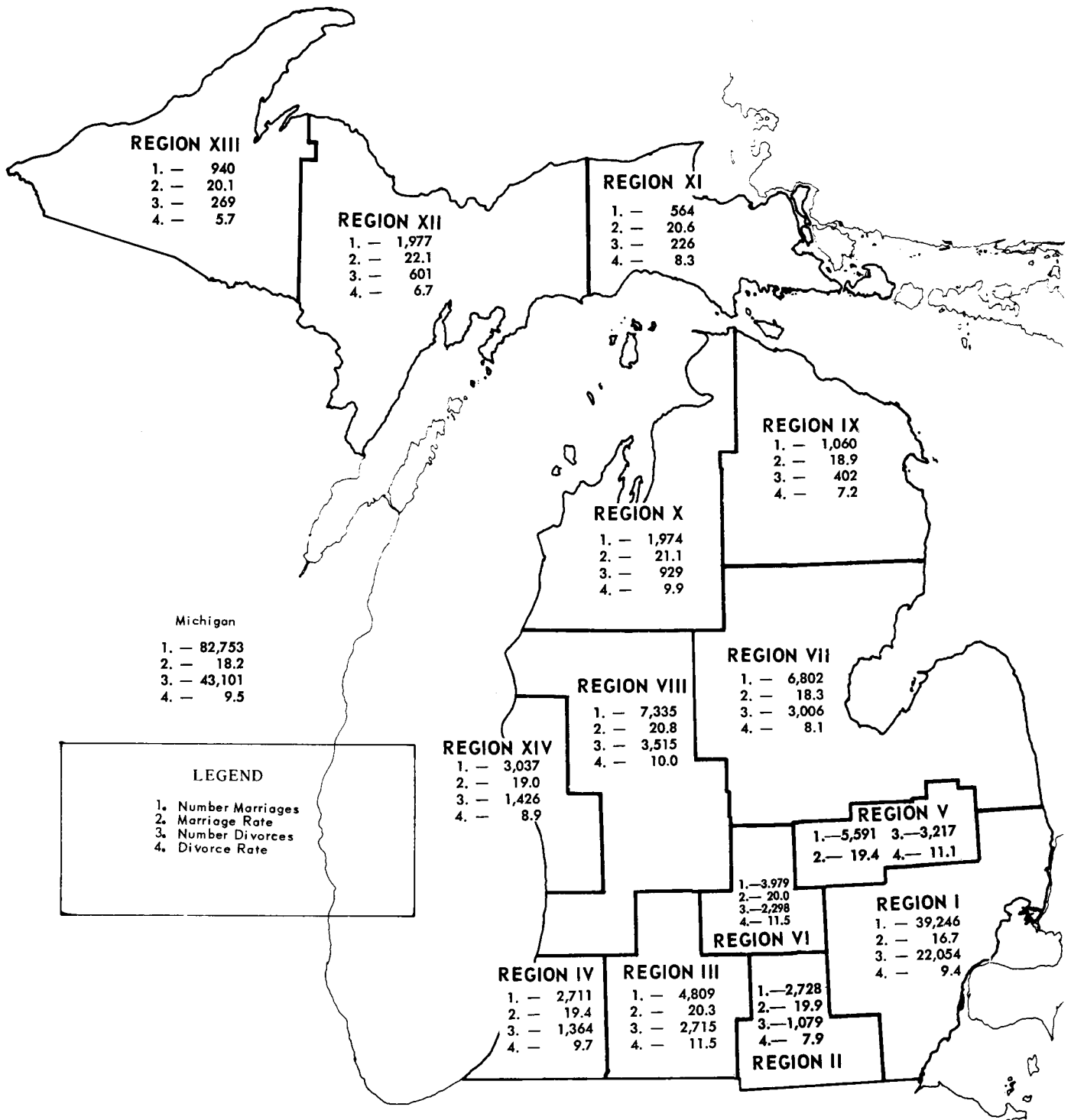
¹State Planning and Development Regions — August, 1973

FIGURE 4.5—Leading Causes of Death; Death Rates by Region,¹
Michigan Residents, 1976



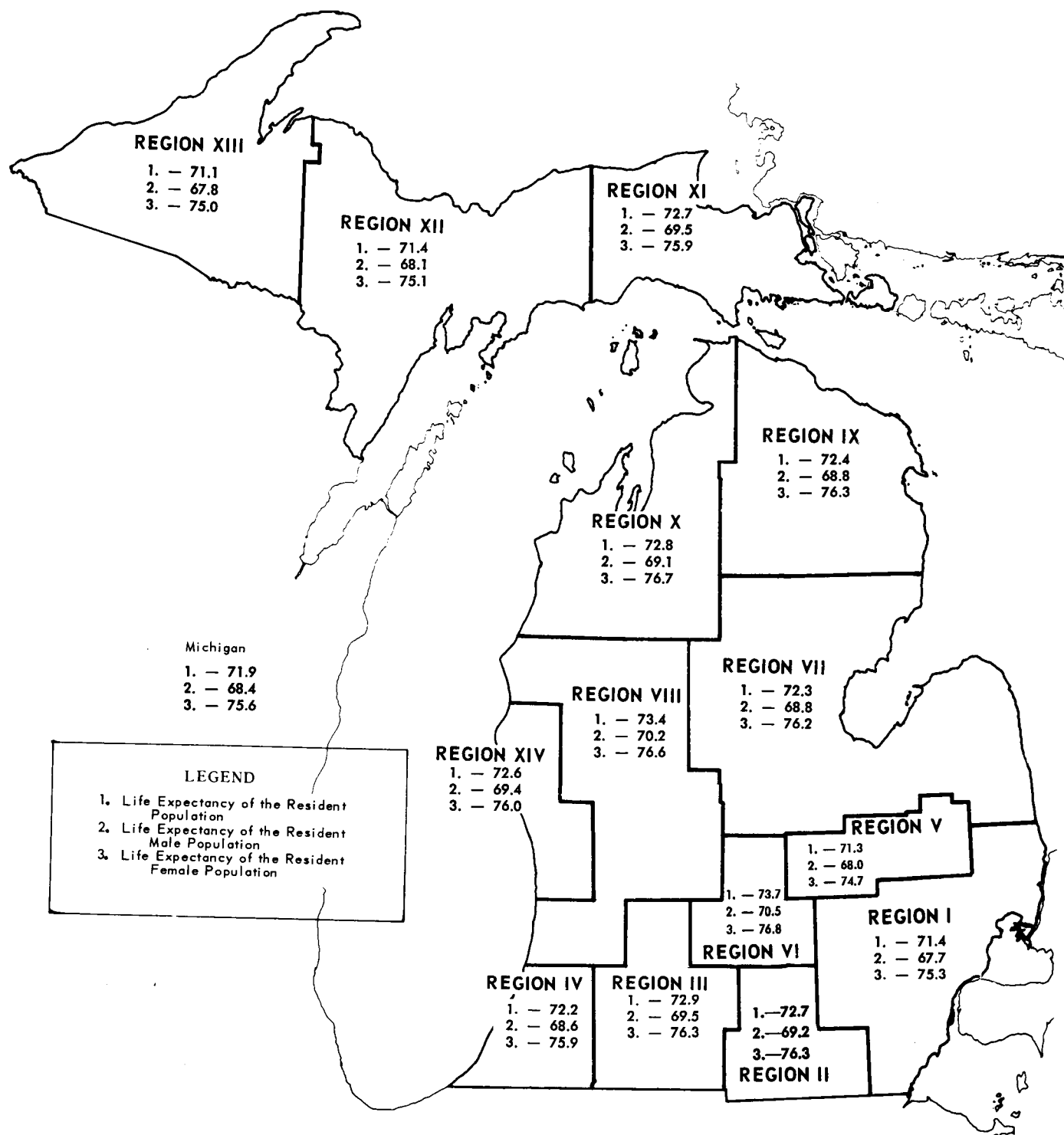
¹State Planning and Development Regions — August, 1973

FIGURE 4.6—Marriages and Marriage Rates, Divorces and Divorce Rates by Region,¹ Michigan Residents, 1976



¹State Planning and Development Regions — August, 1973

FIGURE 4.7—Life Expectancy at Birth by Sex by Region,¹
Michigan Residents, 1975-1976



¹State Planning and Development Regions — August, 1973

FIGURE 4.8

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)	STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)		
	6a.		6b.		6c.		
RESIDENCE—STATE		COUNTY	CITY, VILLAGE OR TOWNSHIP		INSIDE CITY LIMITS (SPECIFY YES OR NO)	STREET AND NUMBER	
7a.		7b.	7c.		7d.	7e.	
FATHER	FATHER—NAME FIRST MIDDLE LAST			AGE (AT TIME OF THIS BIRTH)	STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)		
	8a.		8b.		8c.		
INFORMANT							RELATION TO CHILD
9a.							
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 CERTIFIER—NAME (TYPE OR PRINT)					10b. MAILING ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)	10c.	
CERTIFIER	10d. REGISTRAR—SIGNATURE					DATE RECEIVED BY LOCAL REGISTRAR (MONTH DAY YEAR)	
	11a.					11b.	
CONFIDENTIAL INFORMATION FOR MEDICAL AND HEALTH USE ONLY							
FATHER	RACE—FATHER (SPECIFY)		EDUCATION—SPECIFY HIGHEST GRADE COMPLETED		PREVIOUS DELIVERIES—HOW MANY OTHER CHILDREN		
	12.		13.		14a.		14b.
MOTHER	RACE—MOTHER (SPECIFY)		EDUCATION—SPECIFY HIGHEST GRADE COMPLETED		DATE OF LAST LIVE BIRTH (MONTH DAY YEAR)		DATE OF LAST FETAL DEATH (Still birth) (MONTH DAY YEAR)
	15.		16.		17a.		17b.
DATE LAST NORMAL MENSES BEGAN (MONTH DAY YEAR)		MONTH OF PREGNANCY PRENATAL CARE BEGAN (FIRST, SECOND, THIRD, ETC. (SPECIFY))		PRENATAL VISITS TOTAL NUMBER (IF NONE, SO STATE)		LEGITIMATE (SPECIFY YES OR NO)	BIRTH WEIGHT
18.		19a.		19b.		20.	21.
COMPLICATIONS RELATED TO PREGNANCY (DESCRIBE OR WRITE "NONE")				BIRTH INJURIES TO CHILD (DESCRIBE OR WRITE "NONE")			
22. COMPLICATIONS NOT RELATED TO PREGNANCY (DESCRIBE OR WRITE "NONE")				23. CONGENITAL MALFORMATIONS OR ANOMALIES OF CHILD (DESCRIBE OR WRITE "NONE")			
24. COMPLICATIONS OF LABOR (DESCRIBE OR WRITE "NONE")				25. HAVE EYES OF CHILD BEEN TREATED 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		
28.			29.		30.		
DEATH UNDER ONE YEAR OF AGE		ENTER STATE FILE NUMBER OF DEATH CERTIFICATE FOR THIS CHILD		MULTIPLE BIRTHS (ENTER STATE FILE NUMBER FOR MATERNITY)		LIVE BIRTH(S)	
31.		32.		33.		34.	

SAMPLE COPY

B-213
7-68
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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.

FIGURE 4.9

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

LOCAL FILE NUMBER _____ STATE FILE NUMBER _____

1. FETUS—NAME FIRST MIDDLE LAST			2a. DATE OF DELIVERY (MONTH, DAY, YEAR)		2b. HOUR
3. SEX	4a. THIS DELIVERY—SINGLE, TWIN, TRIPLET, ETC. (SPECIFY)		4b. IF NOT SINGLE DELIVERY BORN FIRST, SECOND, THIRD, ETC. (SPECIFY)		5a. COUNTY OF DELIVERY
5b. CITY, VILLAGE OR TOWNSHIP OF BIRTH		5c. INSIDE CITY LIMITS (SPECIFY YES OR NO)	5d. HOSPITAL—NAME (IF NOT IN HOSPITAL, GIVE STREET AND NUMBER)		
6a. MOTHER—MAIDEN NAME FIRST MIDDLE LAST			6b. AGE (AT TIME OF THIS DELIVERY)		6c. STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)
7a. RESIDENCE—STATE		7b. COUNTY	7c. CITY, VILLAGE OR TOWNSHIP	7d. INSIDE CITY LIMITS (SPECIFY YES OR NO)	7e. STREET AND NUMBER
8a. FATHER—NAME FIRST MIDDLE LAST			8b. AGE (AT TIME OF THIS DELIVERY)		8c. 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 DUE TO, OR AS A CONSEQUENCE OF:			
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)			10. FETAL DEATH BEFORE DELIVERY, UNKNOWN (SPECIFY)		11a. AUTOPSY (SPECIFY YES OR NO)
					11b. IF YES, WERE FINDINGS CONSIDERED IN DETERMINING CAUSE OF DEATH
12a. I CERTIFY THAT THIS DELIVERY OCCURRED ON THE DATE STATED ABOVE AND THAT THE FETUS WAS DEAD AT THE TIME OF DELIVERY.					12b. DATE (MONTH, DAY, YEAR)
12c. CERTIFIER—SIGNATURE			12d. CERTIFIER—MAILING ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)		12e. ATTENDANT—M.D., D.O., MIDWIFE, OTHER (SPECIFY)
12f. AUTHORIZED OFFICIAL (IF DELIVERY NOT ATTENDED BY PHYSICIAN)			13. SIGNATURE		
14a. BURIAL, CREMATION, OR REMOVAL (SPECIFY)		14b. CEMETERY OR CREMATORY—NAME		14c. LOCATION (CITY OR TOWN, STATE)	
14d. DATE (MONTH, DAY, YEAR)		14e. FUNERAL HOME—NAME AND ADDRESS		14f. (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)	
15a. FUNERAL DIRECTOR—SIGNATURE			15b. REGISTRAR—SIGNATURE		15c. DATE RECEIVED BY LOCAL REGISTRAR (MONTH DAY YEAR)
					15d.
CONFIDENTIAL INFORMATION FOR MEDICAL AND HEALTH USE ONLY					
17. RACE—FATHER (WHITE, NEGRO, AMERICAN INDIAN, ETC. (SPECIFY))		18. EDUCATION—SPECIFY HIGHEST GRADE COMPLETED (ELEMENTARY (0,1,2,3,4, ... OR 8) HIGH SCHOOL (1,2,3, OR 4) COLLEGE (1,2,3,4, OR 5+))		19a. PREVIOUS DELIVERIES—HOW MANY OTHER CHILDREN ARE NOW LIVING	
				19b. WERE BORN ALIVE—NOW DEAD 19b.	
				19c. WERE BORN DEAD (FETAL DEATH AT ANY TIME AFTER CONCEPTION) 19c.	
20. RACE—MOTHER (WHITE, NEGRO, AMERICAN INDIAN, ETC. (SPECIFY))		21. EDUCATION—SPECIFY HIGHEST GRADE COMPLETED (ELEMENTARY (0,1,2,3,4, ... OR 8) HIGH SCHOOL (1,2,3, OR 4) COLLEGE (1,2,3,4, OR 5+))		22a. DATE OF LAST LIVE BIRTH (MONTH DAY YEAR)	
				22b. DATE OF LAST FETAL DEATH (MONTH DAY YEAR)	
23. DATE LAST NORMAL MENSTRUATION BEGAN (MONTH, DAY, YEAR)		24a. MONTH OF PREGNANCY PRENATAL CARE BEGAN (1ST, 2D, ETC. (SPECIFY))		24b. PRENATAL VISITS (IF NONE, SO STATE)	
				25. TOTAL NUMBER (SPECIFY YES OR NO)	
				26. BIRTH WEIGHT	
27. COMPLICATIONS RELATED TO PREGNANCY (DESCRIBE OR WRITE "NONE")			28. BIRTH INJURIES TO FETUS (DESCRIBE OR WRITE "NONE")		
29. COMPLICATIONS NOT RELATED TO PREGNANCY (DESCRIBE OR WRITE "NONE")			30. CONGENITAL MALFORMATIONS OR ANOMALIES OF FETUS (DESCRIBE OR WRITE "NONE")		
31. COMPLICATIONS OF LABOR (DESCRIBE OR WRITE "NONE")			32. MULTIPLE BIRTHS (ENTER STATE FILE NUMBER FOR MATRONS)		33. FETAL DEATH(S)

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."

FIGURE 4.10

CERTIFICATE OF DEATH

Michigan Department of Public Health

LOCAL FILE NUMBER

STATE FILE NUMBER

DECEASED—NAME		FIRST	MIDDLE	LAST	SEX	DATE OF DEATH (MONTH, DAY, YEAR)
1. RACE WHITE, NEGRO, AMERICAN INDIAN, ETC. (SPECIFY)		4. AGE—LAST BIRTHDAY (YEARS)	5a. UNDER 1 YEAR MOS.	5b. UNDER 1 DAY HOURS	6. DATE OF BIRTH (MONTH, DAY, YEAR)	7a. COUNTY OF DEATH
DECEASED		7b. CITY, VILLAGE, OR TOWNSHIP OF DEATH		7c. INSIDE CITY LIMITS (SPECIFY YES OR NO)	7d. HOSPITAL OR OTHER INSTITUTION—NAME (IF NOT IN EITHER, GIVE STREET AND NUMBER)	
8. SOCIAL SECURITY NUMBER		9. CITIZEN OF WHAT COUNTRY		10. MARRIED, NEVER MARRIED, WIDOWED, DIVORCED (SPECIFY)		11. SURVIVING SPOUSE (IF WIFE, GIVE MAIDEN NAME)
12. RESIDENCE—STATE		13a. COUNTY	13b. USUAL OCCUPATION (GIVE KIND OF WORK DONE DURING MOST OF WORKING LIFE, EVEN IF RETIRED)		13c. KIND OF BUSINESS OR INDUSTRY	
14a. FATHER—NAME		FIRST	MIDDLE	LAST	14b. MOTHER—MAIDEN NAME	
15. INFORMANT—NAME		17b. MAILING ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)				
PART I. DEATH WAS CAUSED BY: (ENTER ONLY ONE CAUSE PER LINE FOR (a), (b), OR (c).)						APPROXIMATE INTERVAL BETWEEN ONSET AND DEATH
18. IMMEDIATE CAUSE						
(a) DUE TO, OR AS A CONSEQUENCE OF:						
(b) DUE TO, OR AS A CONSEQUENCE OF:						
CONDITIONS, IF ANY, WHICH GAVE RISE TO IMMEDIATE CAUSE (a), STATING THE UNDERLYING CAUSE LAST						(c) DUE TO, OR AS A CONSEQUENCE OF:
PART II. OTHER SIGNIFICANT CONDITIONS: (CONDITIONS CONTRIBUTING TO DEATH ARE NOT RELATED TO CAUSE GIVEN IN PART I (a))						19a. AUTOPSY (YES OR NO)
19b. IF YES WERE FINDINGS CONSIDERED IN DETERMINING CAUSE OF DEATH						
20a. ACCIDENT, SUICIDE, HOMICIDE, (SPECIFY)		20b. DATE OF INJURY (MONTH, DAY, YEAR)	20c. HOUR	20d. HOW INJURY OCCURRED (ENTER NATURE OF INJURY IN PART I OR PART II, ITEM 18)		
20e. INJURY AT WORK (SPECIFY YES OR NO)		20f. PLACE OF INJURY AT HOME, FARM, STREET, FACTORY, OFFICE BLDG., ETC. (SPECIFY)		20g. LOCATION (STREET OR R.F.D. NO., CITY OR TOWN, STATE)		
21a. CERTIFICATION—PHYSICIAN: (ATTENDED THE DECEASED FROM		21b. TO	21c. AND LAST SAW HIM/HER ALIVE ON	21d. I DID/DID NOT VIEW THE BODY AFTER DEATH.	21e. DEATH OCCURRED AT THE PLACE, ON THE DATE, AND, TO THE BEST OF MY KNOWLEDGE, DUE TO THE CAUSE(S) STATED.	
22a. 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.		22b. HOUR OF DEATH	22c. THE DECEDENT WAS PRONOUNCED DEAD		22d. DATE SIGNED (MONTH, DAY, YEAR)	
22e. CERTIFIER—NAME (TYPE OR PRINT)		22f. SIGNATURE		22g. DEGREE OR TITLE	22h. DATE SIGNED (MONTH, DAY, YEAR)	
23a. MAILING ADDRESS—CERTIFIER		23b. STREET OR R.F.D. NO.		23c. CITY OR TOWN	23d. STATE	23e. ZIP
24a. BURIAL, CREMATION, REMOVAL (SPECIFY)		24b. CEMETERY OR CREMATORY—NAME		24c. LOCATION CITY, VILLAGE, TWP. OR COUNTY STATE		
24d. DATE (MONTH, DAY, YEAR)		24e. FUNERAL HOME—NAME AND ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)				
24f. FUNERAL DIRECTOR—SIGNATURE		24g. REGISTRAR—SIGNATURE		24h. DATE RECEIVED BY LOCAL REGISTRAR		
25a. B-36		25b. 8-68		25c. 300M		

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 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.

FIGURE 4.11

Marriage License
 COUNTY, MICHIGAN

To any person legally authorized to solemnize marriage in the State of Michigan,
 offering:
 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 _____ City _____ State _____ Zip Code _____
 Birthplace—city and state _____ Birthplace—city and state _____
 Occupation _____ Occupation _____
 Number of times previously married _____ Number of times previously married _____
 Father's full name _____ Father's full name _____
 Mother's maiden 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 1987, 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 clerk _____ 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 No. P.A. 1985

B136 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.

FIGURE 4.12

RECORD OF
DIVORCE OR ANNULMENT

MICHIGAN DEPARTMENT OF PUBLIC HEALTH
VITAL RECORDS SECTION

STATE FILE NO.
DOCKET NO.

COUNTY

HUSBAND — NAME		FIRST	MIDDLE	LAST
HUSBAND	1 RESIDENCE — STATE	COUNTY		CITY, VILLAGE, OR TOWNSHIP
	2a STREET AND NUMBER	2b	2c STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)	2d DATE OF BIRTH (MONTH, DAY, YEAR)
WIFE — NAME		FIRST	MIDDLE	MAIDEN NAME
WIFE	5a RESIDENCE — STATE	COUNTY		CITY, VILLAGE, OR TOWNSHIP
	6a STREET AND NUMBER	6b	6c STATE OF BIRTH (IF NOT IN U.S.A., NAME COUNTRY)	6d DATE OF BIRTH (MONTH, DAY, YEAR)
7 PLACE OF THIS MARRIAGE		COUNTY	STATE (IF NOT IN U.S.A., NAME COUNTRY)	DATE OF THIS MARRIAGE (MONTH, DAY, YEAR)
8 LIVING CHILDREN — TOTAL NUMBER UNDER 18 YEARS OF AGE		PLAINTIFF		HUSBAND, WIFE, OTHER (SPECIFY)
9a ATTORNEY FOR PLAINTIFF — NAME		12 ADDRESS (STREET OR R.F.D. NO., CITY OR TOWN, STATE, ZIP)		
10 I CERTIFY THAT THE MARRIAGE OF THE ABOVE NAMED PERSONS WAS DISSOLVED ON:		MONTH	DAY	YEAR
11 LEGAL GROUNDS FOR DECREE (SPECIFY)		13a TYPE OF DECREE — ABSOLUTE DIVORCE OR ANNULMENT (SPECIFY)		13b DECREE GRANTED TO HUSBAND, WIFE, OTHER (SPECIFY)
12 COURT OFFICIAL — SIGNATURE		14a COUNTY OF DECREE		14b DATE OF RECORDING (MONTH, DAY, YEAR)
13 COURT OFFICIAL — SIGNATURE		14c TITLE OF COURT OFFICIAL		14d COURT — NAME
CONFIDENTIAL INFORMATION				
HUSBAND	15 NUMBER OF THIS MARRIAGE FIRST, SECOND, ETC. (SPECIFY)	16 IF PREVIOUSLY MARRIED HOW MANY ENDED BY DEATH DIVORCE OR ANNULMENT (SPECIFY IF NONE)		17 EDUCATION — SPECIFY HIGHEST GRADE COMPLETED ELEMENTARY (0, 1, 2, 3, 4, . . . OR 8) HIGH SCHOOL (1, 2, 3, OR 4) COLLEGE (1, 2, 3, 4, OR 5 +)
	18 NUMBER OF THIS MARRIAGE FIRST, SECOND, ETC. (SPECIFY)	19 IF PREVIOUSLY MARRIED HOW MANY ENDED BY DEATH (SPECIFY IF NONE) DIVORCE OR ANNULMENT (SPECIFY IF NONE)		20 EDUCATION — SPECIFY HIGHEST GRADE COMPLETED ELEMENTARY (0, 1, 2, 3, 4, . . . OR 8) HIGH SCHOOL (1, 2, 3, OR 4) COLLEGE (1, 2, 3, 4, OR 5 +)

SAMPLE COPY

Names and Ages of All Children in Family

Name	Age
Name	Age
Name	Age
Name	Age
Name	Age
Name	Age