

# **State of Connecticut**

**One Hundred And Forty-Sixth**

**Registration Report**

of

**Births, Marriages, Divorces And Deaths**

for the

**Year Ending December 31, 1993**

Issued By

**The Connecticut Department**

**Of**

**Public Health**

**Hartford, Ct**

Published by the State

April, 1996

Price: \$10.00

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## CONTENTS

ACKNOWLEDGMENTS	i
CONTENTS	ii
LIST OF TABLES	iv
LIST OF FIGURES	v
THEN AND NOW	
Highlights of Connecticut Vital Statistics, 100 Years Ago and Today	vi
Leading Causes of Death, 1893 and 1993	vii
INTRODUCTION	1
<i>Completeness of Registration</i>	
<i>Comparability of Cause-of death Data</i>	
<i>Comparison of Rates and Percentages</i>	
<i>Reporting by Local Health Districts</i>	
<i>Recent Changes in Reporting of Mother's Race and Ethnicity for Births</i>	
<i>For Further Information</i>	
POPULATION	3
<i>Age and Sex</i>	
<i>Towns</i>	
BIRTHS	4
<i>Demographic Factors</i>	
<i>Low Birth Weight</i>	
<i>Premature Births</i>	
<i>Births to Teenage Mothers</i>	
<i>Prenatal Care</i>	
INFANT DEATHS	8
<i>Infant's Race</i>	
<i>Town of Residence</i>	
<i>Leading Causes of Infant Death</i>	
FETAL DEATHS	9
<i>Town of Residence</i>	
<i>Low Birth Weight and Premature Delivery</i>	
<i>Leading Causes of Fetal Death</i>	
DEATHS (ALL AGES)	10
<i>Town of Residence</i>	
<i>Median Age at Death</i>	
<i>Leading Causes of Death</i>	
AGE-ADJUSTED MORTALITY RATES (1970, 1975, & 1980-1993)	13
<i>All Causes of Death</i>	
<i>Human Immunodeficiency Virus Infection</i>	
<i>Other Selected Causes of Death</i>	

MARRIAGES	14
<i>Marriage Rate</i>	
<i>Number of Prior Marriages and Prior Marital Status</i>	
<i>Town of Registration</i>	
DIVORCES	15
<i>Divorce Rate</i>	
<i>Grantees and Minor Children</i>	
<i>Duration of Marriages</i>	
NOTES	16
TABLES (*Note: The Tables section is not included in this summary)	
APPENDICES (*Note: Sections IV and V of the Appendices are not included in this summary)	19
I Rate Definitions	
II Health District Definitions	
III Glossary	
IV Age-adjusted Mortality Rates for Selected Causes of Death: 1970, 1975, and 1980-1993	
V Connecticut Resident Births, 1993: Natality Characteristics for Selected Towns, Based on Pre-1991 Method of Classifying Mother's Race.	

## LIST OF TABLES

Table		Page (in tables section)
1	1993 Estimated population of Connecticut by age and sex	1
2A	Connecticut 1993 population, births, deaths, fetal deaths, and infant deaths by place of occurrence and residence, and marriages by place of occurrence	2
2B	Connecticut 1993 resident births, deaths, fetal deaths, and infant deaths, by mother's race and Hispanic ethnicity	10
3	Connecticut resident births, 1993: Birth weight and gestational age by mother's race, Hispanic ethnicity, sex, place of delivery, plurality, birth order, marital status estimate, education, mother's age, timing of prenatal care, and adequacy of prenatal care	18
4	Connecticut resident births, 1993: Births to teenage mothers, low birth weight, and late/non-adequate prenatal care for counties, health districts, and towns by mother's race and Hispanic ethnicity	25
5	Connecticut resident fetal deaths, 1993: Birth weight and gestational age by mother's race and Hispanic ethnicity, sex, place of delivery, gestational age, plurality, and mother's age	54
6	Connecticut resident fetal deaths, 1993: Cause of death by mother's race, Hispanic ethnicity, and gestational age	59
7	Connecticut residents, 1993: Infant, neonatal, and postneonatal deaths by infant's race and Hispanic ethnicity	60
8	Connecticut residents, 1993: Infant, neonatal, and postneonatal deaths by infant's race and Hispanic ethnicity and cause of death	64
9	Connecticut resident deaths, 1993: Age of decedent by cause of death, race, Hispanic ethnicity, and sex	67
10	Connecticut residents, 1993: Five leading causes of deaths by age and sex	86
11	Number of marriage for brides and for grooms in marriages occurring in Connecticut, 1993	101
12	Marriages by previous marital status of bride and groom, Connecticut, 1993	101
13A	Number of divorces by county, Connecticut, 1993	102
13B	Number of divorces by party to whom granted, Connecticut, 1993	102
14	Children under 18 affected by divorces, Connecticut, 1993	102
15	Duration of marriage at time of divorce, Connecticut, 1993	103

## LIST OF FIGURES

<b>Figure</b>		<b>Page</b>
		<b>(in tables section)</b>
1	Percent population pyramid of Connecticut, 1999	3
2	Connecticut age-adjusted mortality rates for selected causes of deaths, 1970, and 1980-1993	13
3	Connecticut age-adjusted mortality rates for selected causes of deaths (Group A), 1970, and 1980-1993	14
4	Group B Connecticut age-adjusted mortality rates for selected causes of deaths (Group B), 1970, and 1980-1993	14
5	Group C Connecticut age-adjusted mortality rates for selected causes of deaths (Group C), 1970, and 1980-1993	15
6	Group D Connecticut age-adjusted mortality rates for selected causes of deaths (Group D), 1970, and 1980-1993	15

## THEN AND NOW

### Highlights of Connecticut Vital Statistics 100 Years Ago and Today (a)

Statistic or event	1893	1993
Population (estimated)	797,450	3,277,310
Live births	20,296	46,658
Rate (per 1,000 population)	25.4	14.2
Deaths	14,901	28,939
Rate <i>b</i> (per 1,000 population)	18.6	8.8
Fetal deaths	810	270
Rate <i>b</i> (per 1,000 live births)	39.9	5.8
Infant deaths (<1 year old)	2,921	331
Rate (per 1,000 live births)	143.9	7.1
Marriages	6,459	22,814
Rate (per 1,000 population)	16.2	13.9
Divorces	390	11,541
Rate (per 1,000 population)	1.0	7.0
Ratio of divorces to marriages	1 to 16.6	1 to 2.0

*a* The 1893 Registration Report did not distinguish between events by residence and occurrence.

The 1993 figures are by residence.

*b* Death rates are expressed as "crude rates."

*c* Fetal deaths were called "still births" in the 1893 Registration Report.

## Leading Causes of Death: 1893 and 1993

1893 <sup>a</sup>			1993	
Rank	Cause of death	Number	Cause of death	Number
1	Pneumonia	1,465	Diseases of the heart	9,801
2	Phthisis pulmonalis <sup>b</sup>	1,405	Cancer	7,014
3	Infantile diarrhoeas	972	Cerebrovascular disease	1,825
4	Diseases of heart	926	Pneumonia & influenza	1,184
5	Apoplexy <sup>c</sup> & paralysis	672	COPD <sup>f</sup>	1,095
6	Accident <sup>d</sup> & negligence	612	Unintentional injuries	954
7	Old age <sup>e</sup>	561	Diabetes mellitus	574
8	Bronchitis	521	HIV infection	528
9	Diphtheria & croup	467	Septicemia	418
10	Cancer	405	Nephritis, nephrosis, etc.	305

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<sup>a</sup> From Connecticut's *Registration Report for the Year Ending December 31, 1893*, Diagram E, p. 184.

<sup>b</sup> Tuberculosis and related lung diseases.

<sup>c</sup> Cerebrovascular disease; stroke.

<sup>d</sup> The most common fatal accidents were being crushed (9 deaths) and being thrown from a carriage (5 deaths).

<sup>e</sup> "Old age." began at age 50 years.

<sup>f</sup> COPD = Chronic obstructive pulmonary disease (chronic bronchitis, emphysema, etc.)

## INTRODUCTION

The Annual Registration Report of Vital Statistics, 1993, is a statistical summary of vital events for the State of Connecticut. The State's vital statistics data base contains records pertaining to five types of events: births; deaths; fetal deaths; marriages; and divorces.

Certain qualifications must be made with regard to the data contained herein, and should be kept in mind when examining the data tables:

### **Completeness of Registration**

The Connecticut Department of Public Health reciprocates with other states and the provinces of Canada in exchanging copies of birth and death records for non-residents. Registration of births in Connecticut is essentially 100% complete, and there is virtually no under-reporting of deaths. Because there is no interstate transfer of marriage, divorce, or fetal death records, it is not possible to determine the completeness of registration of these events to Connecticut residents.

### **Comparability of Cause-of-death Data**

The system for classifying cause of death, the *International Classification of Diseases* (ICD), is revised every ten years to reflect changes in medical practices and new medical knowledge. Each revision results in a degree of discontinuity in cause-of-death statistics. A ratio of comparability must be used to adjust for changes in classification from one ICD revision to another. Causes of death in 1993 were coded using the ninth revision of the ICD (known as the ICD-9), which became effective in 1979, and using the *Addendum to the International Classification of Diseases Ninth Revision* for the classification of infection with human immunodeficiency virus.

### **Comparison of Rates and Percentages**

Rates were calculated using the equations given in Appendix I. Caution should be used in drawing conclusions based on rates or percentages that were calculated from small numbers of events. Due to the instability of these figures, the data tables do not contain rates or percentages for less than five related events. *Readers should note that percentages based on birth data do not include records from which information about the characteristic of interest was missing.* The term "unknown" as used in this report includes both "missing" responses (no code entered) and responses coded as "unknown."

### **Reporting by Local Health Districts**

Summary statistics are reported for multi-town Local Health Districts in several tables. Summations for local health districts may enable local health agencies to better understand and serve their resident populations. The composition of the respective health districts reflects membership as of June 8, 1995 (see listing in Appendix II).

### **Recent Changes in Reporting of Mother's Race and Ethnicity for Births**

In the 1988-1990 *Registration Reports*, the mother's race on birth record was categorized without regard to ethnicity, such that a single birth could be counted twice in the report (e.g., as white or black *and* as Hispanic or non-Hispanic). The race and ethnicity classifications were modified, however, beginning with the 1991 *Registration Report*. The modified classifications consist of three mutually exclusive groups: white non-Hispanic; black non-Hispanic; and Hispanic.\* These categories are consistent with those used by the National Center for Health Statistics, Centers for Disease Prevention and Control, thus allowing Connecticut statistics to be compared with national figures. (Please see the 1991 *Registration Report* for further explanation of this change.)

For readers who are interested in birth tabulations based on the mother's race/ethnicity classification used before 1991, comparable data are given in Appendix V. This appendix contains statistics for the eight towns with 1,000 or more births, presented in the same format as Table 4 ("Connecticut Resident Births, 1993"). These eight towns accounted for about 75% of births to Hispanic mothers, but only 32% of all resident births in 1993.

### **For Further Information**

The reader is referred to the *Glossary* at the end of this report (Appendix III) for definitions of the technical terms used in this document. Supplemental 1993 tables containing town-specific information in the format of Table 8 (Infant Mortality) and Table 9 (Mortality, by Age) also are available. Additional 1993 vital statistics data are included in the *AVSS Advance Natality Report for Connecticut Residents, January-December 1993 Birth Data*. The supplemental tables and other publications can be obtained from:

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\* Table 2B is an exception to the general use of the composite race/ethnicity in the classification of birth data. Birth figures for this table were tabulated with separate race and ethnicity classifications (i.e., *white*, *black*, and *Hispanic*). This classification structure was retained to enable direct comparability with death data, which are given in the same table, and to make it easier for readers to compute mortality rates.

## POPULATION

### Age and Sex

The estimated July 1, 1993 population of Connecticut was 3,277,310 [1], which is 9,806 (0.3%) lower than the July 1, 1990 census count of 3,287,116. Of the total population, 1,587,857 were males and 1,689,453 were females. In the age groups from <1 year through 20-24 years, the number of males exceeded that of females. In all subsequent 5-year age cohorts, however, the opposite was true; by ages 75-79, 80-84, and 85+ years, females outnumbered males by ratios of about 3:2, 2:1, and 3:1, respectively (Table 1).

### Towns

Between 1990 and 1993 the populations of larger towns generally decreased, whereas populations of smaller towns increased [2]. Compared to the 1990 census populations, the 1993 estimated populations were lower in 57 towns, higher in 111 towns, and unchanged in one town. Mansfield had the largest percent decrease in population (-9.9%) and Canaan had the largest percent increase (11.6%). New Haven lost the most people (4,844) and Norwalk gained the most (1,119). Among the five towns with populations greater than 100,000, the estimated populations of three towns decreased (New Haven, -3.7%; Bridgeport, -2.1%; Waterbury, -0.01%), whereas the estimated populations of Hartford and Stamford increased by 0.2% and 0.9%, respectively.

## BIRTHS

### Demographic Factors

*Town of Residence.* The total number of live births to Connecticut residents in 1993 was 46,658. This represents a decrease of 916 live births or 2% from 1992. The birth rate was 14.2 per 1,000 population, down from 14.5 in 1992 and 15.2 in 1990 (Table 2A).

In 1993, the town-specific birth rates ranged from a high of 31.4 per 1,000 population in Canaan to a low of 5.2 per thousand in Colebrook. The birth rates for 51 towns exceeded the State rate. Eight towns (Bridgeport, Danbury, Hartford, New Britain, New Haven, Norwalk, Stamford, and Waterbury) each registered more than 1,000 births during the year; these towns accounted for 31.7% of resident births but only 25.7% of the population in the state (Table 2A). Except for Danbury and Stamford, however, the birth rates in these towns were lower in 1993 than in 1992.

*Mother's Race and Ethnicity.* There were 31,897 births to white non-Hispanic mothers, and 5,152 births to black non-Hispanic mothers, representing 68.4% and 11.0% of the total resident births, respectively. There were 5,391 births to mothers of Hispanic origin, 11.6% of the total number of resident births (Table 3). Race was unknown for 1,072 births, and ethnicity was unknown for 2,984 births (Table 2B).

*Sex.* Of the total live births, 23,724 (50.8%) were male and 22,933 (49.2%) were female (Table 3). The sex of one infant was unknown.

*Place of Delivery.* All but 205 (0.4%) of the total resident births occurred in hospitals (Table 3). More than eight out of ten of the non-hospital deliveries were home births (Table 3).

*Live Birth Order and Plurality.* Of babies delivered in 1993, 38.1% were first-born; 30.7% were second-born, and 21.0% were third-born or more. In the remaining 10.3% of deliveries, the birth order was not known. Of the total births, only 1,427 (3.1%) were multiple births (Table 3).

*Presumptive Marital Status of Mother.* Connecticut law prohibits inclusion of the mother's marital status on birth records [3]. Consequently, marital status is inferred by matching the mother's, father's, and child's surnames according to certain criteria [3]. Using this method, in 1993, 13,934 resident births, or more than three out of ten, were presumptively to "unmarried" mothers. Among white non-Hispanic, black non-Hispanic, and Hispanic women who gave birth, 17.1%, 70.9%, and 63.8%, respectively, were presumptively "unmarried" (Table 3).

*Mother's Age.* Although the total number of live births in 1993 was 2% lower than in 1992, there were increases for some age groups (16, 17, 30-34, 35-39, 40-44, and 45+ years) and decreases for others (<15, 15, 18, 19, 20-24, and 25-29 years). The greatest increase (47.6%) was in the 45+ year group, and the greatest decreases (12.4%, 5.7%, and 6.0%) were in the <15, 20-24, and 25-29 year age groups. Mothers in the age range 20 to 34 accounted for 77.4% of all 1993 births (Tables 3). *For the first time in at least 46 years, more births (14,335 or 30.7%) occurred to women aged 30-34 than to women in any other 5-year age cohort* [4]. Eight percent (3,757) of the births were to women under age 20, including 102 births to females less than 15 years old, and 14.5% (6,766) were to women aged 35+ years, 907 of which were to women aged 40 and over. Most (78.7%) of the older (35+ years) mothers were white non-Hispanic, whereas the majority (57.6%) of the younger (<20 years) mothers were black non-Hispanic and Hispanic.

## Low Birth Weight

Overall, 3,191 or 6.9% of all births in the State in 1993 were of low birth weight (<2,500 grams) (Table 4); this proportion has been the same since 1991. The risk of low birthweight delivery was not distributed evenly across all communities, and varied dramatically within the risk groups identified in Table 3. Substantial variation in low birth weight occurred within categories defined by mother's race/ethnicity, sex of baby, plurality of births, mother's age, mother's education, initiation and adequacy of prenatal care, and town of residence, as noted below.

*Race/Ethnicity.* The percentages of low-birthweight deliveries to white non-Hispanic, black non-Hispanic, and Hispanic residents were 5.5%, 12.5% and 8.8%, respectively (Table 3). These represented decreases from the 1992 rates for black non-Hispanics and Hispanics (14.1% and 9.1%, respectively) and an increase from the 1992 rate for white non-Hispanics (5.3%). Still, black non-Hispanic mothers and Hispanic mothers had 2.3 times and 1.6 times the risk of white non-Hispanic mothers to deliver low-birthweight babies.

*Sex.* As in previous years, female babies were more likely than male babies to have low birth weight (7.4% vs. 6.4%). This was true regardless of the mother's race or ethnicity (Table 3).

*Plurality.* Half (49.5%) of all multiple births were low birth weight, compared to only 5.6% of singleton births (Table 3).

*Mother's Age.* Overall, higher percentages of low birth weight were found among mothers aged 19 and younger. Among mothers <15, 15, 16 and 17 years old, these percentages were 18.6%, 12.2%, 10.7% and 10.0%, respectively. In contrast, only about 6% of deliveries to women aged 25 to 34 were of low birth weight. Among black, non-Hispanic mothers, percentages of low-birthweight deliveries were consistently high and did not vary much by age in any age group for which calculations could be made (Table 3).

*Mother's Education.* Overall, and for each race/ethnicity subgroup, mothers who were college educated and those with post-college education had the lowest percentages of low-birthweight deliveries (5.5% and 5.2%, respectively). Mothers with educations of 12 years or less had the highest percentage (8.5%) of low-birthweight births (Table 3).

*Initiation of Prenatal Care.* The trimester of pregnancy in which women begin prenatal care is a strong indicator of risk of low birth weight. Generally, the later the prenatal care begins, the greater the likelihood of low birthweight deliveries. In 1993, women who received no prenatal care were 4.3 times more likely than women who began care during the first trimester of pregnancy to deliver low-birthweight babies (27.3% and 6.4%, respectively) (Table 3).

*Adequacy of Prenatal Care.* Adequacy of prenatal care, as defined by a modified Kessner Index (see Appendix III), is a measure involving the timing of the first prenatal visit, the total number of visits and the length of gestation. The highest risk subgroup, "inadequate care," had 3.4 times the risk of low birthweight deliveries as the lowest risk subgroup, "adequate care" (19.4% and 5.7%, respectively) (Table 3).

*Town of Residence.* Low birth weight varied greatly across communities within Connecticut (Table 4). In towns with 1,000 or more births, there was more than a two-fold difference between the towns with the lowest and highest percentages (Norwalk, 5.8% and Hartford, 12.8%). The percentages of low birth weight deliveries in the remaining towns in this group were: New

Haven, 10.1%; Bridgeport, 9.5%; Waterbury, 8.7%; Stamford, 8.2%; Danbury, 6.6%; and New Britain, 7.5%. These eight towns accounted for 1,360 low-birthweight deliveries, or 42.6% of the state total.

## **Premature Births**

The proportion of resident premature births (<37 weeks of gestation) for 1993 was 9.5% for all mothers, up from 9.1% in 1992 (Table 3) [5]. Substantial variation occurred within the categories defined by mother's race/ethnicity, infant's sex, place of delivery, plurality, mother's education, mother's age, initiation of prenatal care, and adequacy of prenatal care. These differences are similar to those noted for low-birthweight deliveries. Overall, 5.3% (2,480) of the birth records were missing information on prematurity; this reflects significant improvement from the reporting of prematurity in 1990, when 10.8% of records had missing information.

*Race/Ethnicity.* The percentages of premature births were: white non-Hispanic, 8.1%; black non-Hispanic, 15.4%; and Hispanic, 11.5% (Table 3).

*Sex.* The risk of premature birth was higher for male babies (10.0%) than for females (8.9%) (Table 3).

*Place of Delivery.* Premature babies were more likely to be delivered in hospitals than at home (9.5% and 5.2% premature births, respectively) (Table 3).

*Plurality.* Premature birth occurred more than six times more often with multiple births (50.6%) than with singleton births (8.2%) (Table 3).

*Mother's Education.* Premature delivery occurred 31-33% more frequently among mothers who had 12 years or less of education than among college-educated and post-college-educated mothers (10.9%, 8.3%, and 8.2% prematurity, respectively). At each education level, the percent prematurity was highest for black non-Hispanic mothers (Table 3).

*Mother's Age.* The highest percentages of premature births were found among mothers *under age 15* (22.1%) and *over age 44* (20.7%). Comparatively high percentages of premature births also occurred among mothers under 19 years of age and in the 35-44 year age groups (Table 3). Among 15- to 18-year-old mothers, the rates of prematurity were 15.4%, 15.0%, 13.4%, and 11.9%, respectively. Relative to the age group with the lowest rate of premature deliveries (ages 30-34, 8.1%), the figures for women <19 years old were 1.5 to 2.7 times higher. Differences by mother's age were similar for each race/ ethnicity subgroup; however, the rates of premature births were consistently higher among black, non-Hispanics.

*Initiation of Prenatal Care.* Compared to women who began prenatal care in the first trimester of gestation, the risk of premature delivery was *four times greater* for those who received no prenatal care and 1.5 times as great for those who began prenatal care during the last trimester (8.8%, 36.5%, and 13.1% prematurity, respectively) (Table 3). (See *Glossary* for definition of "trimester of pregnancy.")

*Adequacy of Prenatal Care.* Disparity was also evident by adequacy of prenatal care. Women who received inadequate care had *3.5 times more premature deliveries* than those who received adequate care (28.3% and 8.2%, respectively) (Table 3).

## **Births to Teenage Mothers**

In 1993, 8.1% of all live resident births were to teenage mothers (<20 years of age) (Table 4); the 1991 and 1992 values were 8.2% and 8.0%, respectively. With regard to race/ethnicity, teenage mothers accounted for 4.2% of all white non-Hispanic births, 17.7% of all black non-Hispanic births, and 23.2% of all births to Hispanic women.

Of the eight towns with 1,000 or more births, five exceeded the statewide percent of births to teens. They were: Hartford, 23.3% (the highest in the state); Bridgeport, 19.7%; New Haven, 16.8%; New Britain, 16.1%; and Waterbury, 14.1%. These five towns accounted for 52.0% of all births to teenage mothers, but only 22.4% of all births (Table 4). The remaining three towns with 1,000 or more births, Norwalk, Stamford, and Danbury, all were below the state value of 8.1% (5.1%, 5.3%, and 7.6%, respectively).

## **Prenatal Care**

*Initiation of Prenatal Care.* The percent of births to Connecticut mothers who received late prenatal care (that which began in the second or third trimester of gestation) or no prenatal care was 12.5%, down slightly from 12.6% in 1992. (See *Glossary* for definition of "trimester of pregnancy.") The percentages for white non-Hispanic, black non-Hispanic, and Hispanic mothers were 8.4%, 25.5%, and 24.7% respectively, representing an increase for the former group and decreases for the latter two groups, with respect to the 1992 figures.

Of the eight towns with 1,000 or more births, seven exceeded the state value for percent of women who had late or no prenatal care. They were: Waterbury, 36.3%; New Haven, 26.6%; Stamford, 22.1%; Norwalk, 21.2%; Hartford, 18.0%; New Britain, 14.3%; and Bridgeport, 12.6% (Table 4). These towns accounted for 48.2% of births to women who received late or no prenatal care but only 29.3% of total resident births in 1993. Danbury (9.6%) was well below the state value. Overall, 3,300 of the birth records (7.1%) were missing information on when prenatal care was begun (Table 3).

*Adequacy of Prenatal Care.* Overall, 19.0% of resident births in 1993 were to mothers who received "non-adequate" prenatal care (i.e., intermediate or inadequate) (Table 4); this was down from 19.8% in 1992. By mother's race and ethnicity, the percentages of resident births with non-adequate prenatal care were: 12.8% for white non-Hispanics; 38.3% for black non-Hispanics; and 39.5% for Hispanics, all down slightly from their 1992 levels. (See "Kessner Index " in *Glossary* for definition of adequacy of prenatal care.)

Of the eight towns with 1,000 or more births, seven towns had values higher than the state percent of births to women with non-adequate prenatal care. They were: Bridgeport, 60.8%; Waterbury, 39.2%; New Haven, 34.1%; Stamford, 25.7%; Norwalk, 24.5%; Hartford, 23.5%; and New Britain, 21.9% (Table 4). These towns accounted for 48.7% of births to Connecticut women who received non-adequate prenatal care but only 29.3% of total resident births. Overall, 5,515 of the birth records (11.8%) were missing information needed to determine adequacy of prenatal care (Table 3).

## INFANT DEATHS

In 1993 there were 331 resident infant deaths, yielding an overall infant mortality rate of 7.1 deaths per 1,000 live births, down from 7.6 in 1992. The neonatal mortality rate (based on 232 deaths to infants less than 28 days old) was 5.0 deaths per 1,000 live births, down from 5.5 in 1992. *Seven out of ten infant deaths occurred during the neonatal period.* The postneonatal mortality rate (based on 99 deaths to infants 28 days to less than 1 year old) was 2.1 deaths per 1,000 live births, the same as in 1992 (Table 2A).

### Infant's Race

Infant mortality rates were calculated using two race-specific components: births, which reflect the race of the *mother*; and deaths, which reflect the race of the *infant*. In 1993, infant mortality rates varied substantially by race. There were 226 deaths to infants of white race, for a rate of 5.9 per 1,000 live births (down 6.3% from the 1992 rate of 6.3), 93 deaths to infants of black race, for a rate of 16.1 per 1,000 (down 10.1% from the 1992 rate of 17.9), and 8 deaths to infants of other races. Additionally, there were 49 deaths to infants of Hispanic ethnicity; the mortality rate for Hispanic infants was not calculated, however, because of considerable under-reporting of Hispanic ethnicity on infant death certificates [6]. There were 29 deaths to infants of unknown ethnicity (Table 2B).

### Town of Residence

In 1993, six towns reported ten or more resident infant deaths. They were: Hartford, 39; Bridgeport, 33; New Haven, 19; Norwalk, 14; Stamford, 14; and Waterbury, 12. Together, these towns accounted for 39.6% of infant deaths but only 26.8% of resident births.

### Leading Causes of Infant Death

Since 1991, the classifications for leading cause of infant death in Connecticut have followed the standard groupings used by the National Center for Health Statistics [7]. Based on these groupings, the top three leading causes of infant death among all Connecticut residents were: 1) "congenital anomalies;" 2) "disorders relating to short gestation and unspecified low birth weight;" and 3) tie between "sudden infant death syndrome" and "other respiratory conditions of newborn," respectively (Table 8). The leading causes differed, however, for each racial and ethnic subgroup, as illustrated below.

**Rank order of leading causes of infant death by infant's race and ethnicity, Connecticut, 1993.**

Cause of Death	Race/Ethnicity			
	All	White	Black	Hispanic
Congenital anomalies	1	1	3	1
Disorders relating to short gestation or unspecified low birth weight	2	2	1	3
Sudden infant death syndrome	3	3		2
Other respiratory conditions of newborn	3		2	2
Pneumonia	3			3

## FETAL DEATHS

Fetal deaths are deaths to fetuses after 20 or more weeks of gestation. There were 270 fetal deaths to Connecticut residents in 1993, for a statewide rate of 5.8 per 1,000 live births (Table 2A); this represents a decrease of 3.3% from the 1992 rate of 6.0 per 1,000. The fetal deaths were about equally divided among males and females (136 and 132, respectively, with 2 of unknown sex) (Table 5). Six percent of the fetal deaths were of multiple plurality; this is approximately twice the proportion of live births of multiple plurality (3.1%) (Table 5).

### Town of Residence

Among the eight towns with 1,000 or more births, five had fetal death rates that exceeded the state rate. They were: Stamford, 11.1 per 1,000 (up from 10.5 in 1992); Bridgeport, 11.0 per 1,000 live births (down from 13.1); New Haven, 10.5 per 1,000 (up from 6.3); Waterbury, 9.5 per 1,000 (up from 6.0); and Hartford, 7.2 per 1,000 (down from 7.6) (Table 2A). These five towns accounted for 40.4% of fetal deaths but only 24.1% of live births in the state. Of the remaining towns with 1,000 or more births, the fetal death rates were Norwalk, 4.6 per 1,000, and Danbury, 4.4 per 1,000; the rate for New Britain residents was not calculated because there were less than five deaths.

### Low Birth Weight and Premature Delivery

A majority of the resident fetal deaths (79.7%) were of low birth weight (<2,500 grams), and 62.2% were of very low birth weight (<1,500 grams) (Table 5). The percent with low birth weight for mothers of white race, black race, and Hispanic ethnicity were 77.3%, 83.3%, and 92.3%, respectively. Overall, 79.3% of the resident fetal deaths were delivered prematurely (<37 weeks of gestation) (Table 5). *The gestational age was known for 100% of fetal deaths in 1993, a marked improvement from only 56% known in 1992.*

### Leading Causes of Fetal Death

The three leading causes of fetal death, regardless of the mother's race or Hispanic ethnicity, were: 1) "fetus affected by complications of placenta, cord and membranes" (72 deaths); 2) "other and ill-defined and conditions originating in the perinatal period" (52 deaths); and, 3) tie between "other and ill-defined and unknown causes of morbidity and mortality" (32 deaths) and "congenital anomalies" (32 deaths) (Table 6). These categories are based on the standard groupings used by the National Center for Health Statistics [7].

## **DEATHS (All Ages)**

The total number of deaths among Connecticut residents in 1993 was 28,939, for a crude death rate (i.e., not adjusted for age) of 8.8 deaths per 1,000 population (Table 2A). Of the total number of resident deaths, 14,160 (48.9%) were males, 14,778 (51.1%) were females; 92.4% were of white race, 7.0% were of black race, and 2.4% were of Hispanic ethnicity (Table 9). Forty-eight decedents were of unknown race, and 1,473 were of unknown ethnicity (Table 2B).

### **Town of Residence**

Four towns reported 1,000 or more deaths in 1993 (Table 2A). Each had crude death rates above the state rate: Waterbury, 10.9 per 1,000; Bridgeport, 10.8 per 1,000; New Haven, 9.9 per 1,000; and Hartford, 9.2 per 1,000. Of all the state's towns, Salem had the lowest crude death rate and Southbury had the highest (2.6 and 16.3 per 1,000, respectively).

### **Median Age at Death**

Total resident deaths were determined by age of decedent for each sex, race, and ethnicity (Table 9). There were 16,229 deaths of persons aged 75 years and over, representing 56.1% of total resident deaths in 1993. The median age at death (see Appendix III for definition) was 77 years for both sexes combined 73 years for males, and 81 years for females [8]. These ages were, respectively, the same as, unchanged from, and up 1 year from the 1992 median ages at death. Median age at death varied even more dramatically by race and ethnicity as follows: whites, 78 years; blacks, 62 years; Hispanics, 54 years [8]. These ages were, respectively, up 1 year, down 2 years, and down 2 years from the 1992 medians.

### **Leading Causes of Death**

The five leading causes of death in 1993 for persons of all ages and independently within each age and sex group are ranked in Table 10. In order of their proportional share of the total number of deaths, they were: 1) "diseases of the heart;" 2) "malignant neoplasms;" 3) "cerebrovascular disease;" 4) "pneumonia and influenza;" and 5) "chronic obstructive pulmonary disease" (COPD). The same leading causes were among the top five in 1992, except the rankings of COPD and pneumonia and influenza were reversed.

### ***Age and Sex***

Total deaths by age and the leading cause of death by age and sex are summarized in the table below.

**First-ranked leading cause of death by age and sex, Connecticut, 1993.**

Age	Sex			Total Deaths by Age(b)	
	Both	Male	Female	No.	%
<1	Congenital anomalies	Congenital anomalies	Congenital anomalies	331	1.1
1-4	Unintentional injuries	Unintentional injuries	Unintentional injuries	77	0.3
5-9	Unintentional injuries	Unintentional injuries	a	44	0.2
10-14	Unintentional injuries	Unintentional injuries	Unintentional injuries	44	0.2
15-19	Unintentional injuries	Unintentional injuries	Unintentional injuries	138	0.5
20-24	Unintentional injuries	Unintentional injuries	Unintentional injuries	202	0.7
25-34	Unintentional injuries	Unintentional injuries	HIV infection	726	2.5
35-44	HIV infection	HIV infection	Malignant neoplasms	1,145	4.0
45-54	Malignant neoplasms	Diseases of the heart	Malignant neoplasms	1,443	5.0
55-64	Malignant neoplasms	Diseases of the heart	Malignant neoplasms	2,718	9.4
65-74	Malignant neoplasms	Diseases of the heart	Malignant neoplasms	5,842	20.2
75-84	Diseases of the heart	Diseases of the heart	Diseases of the heart	8,572	29.6
85+	Diseases of the heart	Diseases of the heart	Diseases of the heart	7,657	26.5
All ages	Diseases of the heart	Diseases of the heart	Diseases of the heart	28,939	100

a Unintentional injuries and congenital anomalies each caused 3 deaths in this group.

b Percents do not total to 100.0% because of rounding.

*Ages 1-34 Years.* The age groups within the 1-34 year interval accounted for 1,231 deaths, or 4.3% of total deaths. "Unintentional injuries" was the leading cause of death for males and for both sexes combined within the six age groups after infancy (1-4 through 25-34 years), and for females in the age cohorts from 1-24 years. Within this category, "motor vehicle accidents" claimed the most lives.

"Homicide and legal intervention" was the second leading cause of death for males and both sexes combined in the three age groups from 10 to 24 years, and of 20-24 year old females. In the age group 25-34, "HIV infection" was the leading cause of death of females and the second leading cause of death of males and both sexes combined.

*Ages 35-44 Years.* The 35-44 year age interval accounted for 1,145 deaths, or 4.0% of total deaths. In 1993, "HIV infection" replaced "malignant neoplasms" as the leading cause of death of persons in this age cohort; it also remained the leading cause of death of males in this age group, and the second leading cause of death of females. "Malignant neoplasms" was the leading cause of death of females aged 35-44 and the second leading cause of death for both sexes combined, whereas "unintentional injuries" was the second leading cause of death of males. "Lung cancer" caused the most deaths of males and both sexes combined, and "female breast cancer" took the most lives of women in this group.

*Ages 45-74 Years.* In the next three consecutive age groups, 45-54, 55-64, and 65-74, "diseases of the heart" claimed the most lives of males, notably replacing "malignant neoplasms" as the leading cause of death of males aged 55-64. "Malignant neoplasms" remained the leading cause of death for females and both sexes combined. Of malignancies, "lung cancer" was the most frequent cause of cancer deaths in males and both sexes combined in the 45-to-74-year age cohorts and females aged 55-74. "Female breast cancer," however, caused the most cancer deaths in women aged 45-54.

*Ages 75+ Years.* The two age groups above 75 years accounted for 16,229 deaths, or 56.1% of total deaths in 1993. Overall and for each sex cohort in the age groups 75-84 and 85+ years, the leading cause of death was "diseases of the heart." "Ischemic heart disease" was the largest component within this category, accounting for six of every ten deaths. The second leading cause of death in these age groups was "malignant neoplasms." Among cancer deaths, "lung cancer" took the most lives of all decedents between the ages of 75 and 84 and of males aged 85+. "Colorectal cancer," was, however, the leading cause of cancer deaths in the age/sex groups 85+/female and 85+/both sexes.

## AGE-ADJUSTED MORTALITY RATES

Trends in age-adjusted mortality rates (AAMRs) for 1970, 1975, and 1980 to 1993 [9], for all causes and for 15 selected causes of death are shown in Figures 2-6 and Appendix IV. Age-adjusted rates, rather than crude rates, were used so that populations with different age distributions could be compared. (See Appendix III, *Glossary*, for definitions of death rates.) Mortality rates were adjusted to the 1970 U.S. standard million population, using the direct method [10].

### All Causes of Death

The overall mortality rate ("all causes") increased to 620.0 deaths per 100,000 population in 1993, *ending the descent for more than two decades* from a high of 854.6 per 100,000 in 1970 to a low of 612.3 per 100,000 in 1992 (Fig. 3).

### Human Immunodeficiency Virus Infection

Mortality rates for "human immunodeficiency virus (HIV) infection" were not available until 1987, the first year that specific codes were assigned to classify "HIV infection" as a cause of death. Between 1987 and 1993, the AAMRs for "HIV infection" more than tripled, from 3.8 to 12.5 deaths per 100,000 population, surpassing the rates for "motor vehicle accidents," "septicemia," "suicide and self-inflicted injuries," "chronic liver disease and cirrhosis," "nephritis and nephrotic disease," "atherosclerosis," and "homicide and legal intervention." In 1993 alone, the AAMR for "HIV infection" increased by 23%, which was *the largest percent increase that year* among all causes of death listed in Appendix IV.

### Other Selected Causes of Death

*AAMRs That Increased in 1993.* The AAMR for "unintentional injuries" increased for the third consecutive year to 24.5 deaths per 100,000 population, and the rate for "diabetes mellitus" increased to 12.7 per 100,000, its highest level since 1980. Nonetheless, the AAMRs for these two causes of death have not varied greatly during the past 5-10 years. *The AAMR for "homicide and legal intervention" jumped 21.4% in 1993 to 6.8 per 100,000, up from 5.6 per 100,000 in 1992. This is the highest rate to occur in this category since 1980, and represents an increase of 74% over the 1970 rate.* The mortality rates for "cerebrovascular disease," and "chronic liver disease and cirrhosis," which generally had been declining since 1970, rose slightly in 1993. The rates for these two causes of death, however, were still only one-third and two-fifths of their respective 1970 levels. The mortality rate for "septicemia" was the same as the 1992 value (8.3 per 100,000 population), which was 1.4 times the 1983 rate and nearly five times the 1970 rate.

*AAMRs That Decreased in 1993.* The AAMRs for three causes of death fell to their lowest levels in 23 years. They were: "diseases of the heart," 197.3 deaths per 100,000 population; "malignant neoplasms," 161.5 per 100,000; and "atherosclerosis," 3.1 per 100,000. The rate for "chronic obstructive pulmonary disease" decreased by 1.4 deaths to 22.7 per 100,000, following an increase in 1992. The largest rate decrease from 1983 to 1993 was recorded for "diseases of the heart," which fell by 55.5 deaths per 100,000. The largest decrease as a percentage of the 1983 rate, however, was for "atherosclerosis," which dropped by 60.8% from 13.8 to 3.4 deaths per 100,000. Despite small annual variations, AAMRs were relatively stable during the past 5-10 years for "pneumonia and influenza," "chronic obstructive pulmonary disease," "unintentional injuries," "diabetes mellitus," "nephritis and nephrotic disease," or "suicide and self-inflicted injury."

## **MARRIAGES**

### **Marriage Rate**

In 1993, there were 22,814 marriages in Connecticut (Table 11). This was 884 (3.7%) fewer than in 1992, and was the lowest number since 1977. The number of marriages in Connecticut has been declining since it reached an all-time high of 27,892 in 1988. The 1993 total represents a marriage rate of 13.9 persons per 1,000 population, down from the 1992 rate of 14.4 per 1,000.

### **Number of Prior Marriages and Prior Marital Status**

In 16,210 marriages (71.1%), the bride had never been married before, and in 16,206 (71.0%), the groom was marrying for the first time (Table 11). Sixty percent or 13,625 of all the marriages, were between individuals marrying for the first time, and 11.5% or 2,632 were between individuals marrying for a second time. Twenty-six brides and 13 grooms had been married four or more times previously. Twenty-six percent of the brides and grooms had been divorced previously, and 2% were widowed (Table 12). These percentages were unchanged from 1992.

### **Town of Registration**

Eight towns each registered more than 500 marriages in 1993. They were Hartford (1,199), New Haven (882), Bridgeport (797), Stamford (770), Waterbury (731), Greenwich (529), Norwalk (529), and Danbury (510) (Table 2A). No marriages were registered in the town of Andover for the second consecutive year, and no marriages have been registered in the town of Middlefield since 1986.

## **DIVORCES**

### **Divorce Rate**

There were 11,541 divorces in Connecticut in 1993 (about one for every two marriages), for a divorce rate of 7.0 persons per 1,000 population (Table 13A). This was slightly lower than the 1992 rate of 7.3 per 1,000.

### **Grantees and Minor Children**

Of divorces for which the grantee was known, 67.2% were granted to the wife, and 32.8% to the husband (Table 13B). Of divorces for which number of children affected was known, 80% occurred in families with children under the age of 18, and at least 9,786 minor children were affected (Table 14) [11].

### **Duration of Marriages**

The duration of marriage is estimated by subtracting the year the marriage was contracted from the year it was dissolved. The median duration of marriages that terminated in 1993 was 8.0 years, which is the same as the median duration reported annually since 1986. The greatest number of divorces (945) occurred after marriages of 4 years duration. Thirty-two percent of the divorces during 1993 occurred within the first 5 years of marriage, and 60% occurred within 10 years. After 20 or more years of marriage, 1,938 marriages (16.8%) were dissolved, and 15 dissolutions occurred after 50 or more years of marriage (Table 15). More husbands were divorced at age 34, and more wives at age 30, than at any other ages [12].

## NOTES

[1] *Estimated Populations in Connecticut as of July 1, 1993*. Hartford: Connecticut Department of Public Health and Addiction Services, September, 1994.

[2] *Connecticut Population Estimates as of July 1, 1993, Sorted by Change in Population Size from 1990 to 1993*. (Unpublished worksheet.) Hartford: Connecticut Department of Public Health, Office of Policy, Planning and Evaluation.

[3] According to the *Connecticut General Statutes*, "No certificate of birth shall contain any specific statement that the child was born in or out of wedlock or reference to illegitimacy of the child or to the marital status of the mother." The proxy "marital status" indicator is based on the matching of surnames, with the classification "married" assigned under the following three conditions: i) if there is an exact match between the mother's and father's surnames; ii) if the father's and child's surnames match exactly, but the mother's name is missing; iii) if the child's surname is a hyphenated combination of the mother's and father's surnames (either entire surnames or portions of the parents' hyphenated surnames). This method of assessing marital status may be of limited validity in the Connecticut population, because it assumes that married women who do not adopt their husbands' surnames are unmarried.

[4] In Connecticut, live births were not tabulated annually by age of mother until 1947, when only 21.3% of total live births were to women aged 30-34. Between 1947 and 1992, the greatest proportions of live births occurred to women aged 20-24 or 25-29. The year 1993 may thus mark the first time in the state's history that the 30-34 age group has given birth to the most babies of any 5-year age cohort. The age-specific birth rate for women aged 30-34 years was, however, greater in 1947 than in 1993 (122.5 and 97.5 births per 1,000 female population, respectively).

[5] Gestational age is calculated using the date of the last menstrual period (LMP) or the clinical estimate of gestational age, if the LMP is not available. Gestational age could not be calculated for 2,480 (5.3%) of the resident births in 1993 (Table 3).

[6] Analysis of 1989 infant mortality data from a linked birth-death file indicated under-reporting of Hispanic ethnicity by about 50% in standard, calendar-year tabulations.

[7] Some of the leading causes of death used by the NCHS for infant deaths are:

<b>ICD-9 Code(s)</b>	<b>Cause of death</b>
480-487	Pneumonia and influenza
740-759	Congenital anomalies
761	Newborn affected by maternal complications of pregnancy
762	Newborn affected by complications of placenta, cord, and membranes
765	Disorders relating to short gestation and unspecified low birth weight
768	Intrauterine hypoxia and birth asphyxia
769	Respiratory distress syndrome
771	Infections specific to the perinatal period
798.0	Sudden infant death syndrome
E-800-E949	Unintentional injuries

The adoption of the NCHS classifications for ranking infant death allows readers to make comparisons with national statistics more easily. The standard cause-of-death categories used by NCHS for infants are different than those used for older age groups. (See, for example, "Table 34. Leading causes of death and numbers of deaths, according to age: United States, 1980 and 1992," in *Health, United States, 1994*, National Center for Health Statistics, Hyattsville, Maryland, Public Health Service, 1995, p. 104.) Also, the NCHS classifications tend to be more narrow and specific than the categories used in prior Connecticut vital statistics reports. For example, the NCHS classification breaks the large category used in prior reports, "Conditions originating in the perinatal period" (ICD-9 codes 760-779), into smaller components, as noted in the table above and in Tables 8 and 10 of the present vital statistics report.

[8] *Median Age at Death for CT Residents, 1993*. Unpublished tables. Hartford: Connecticut Department of Public Health, Office of Policy, Planning and Evaluation.

[9] Age-adjusted death rates for Connecticut residents are not available for 1971-1974 and 1976-1979, and thus could not be used for comparison.

[10] Age-adjusted mortality rates for 1970 and 1980-1993 were calculated using 10-year age intervals, following the direct method. (Fleiss, J.L. 1981. *Statistical Methods for Rates and Proportions*. New York: John Wiley & Sons, p. 224-247.)

The direct method of adjustment requires age-and sex-specific population figures. Population data for different time periods were obtained from different sources, as noted below.

- a) The 1970 rate denominators were published in the Connecticut *Registration Report* for 1970.
- b) The 1975 rate denominators were published in the Connecticut *Registration Report* for 1975.
- c) The 1980 rate denominators were published in the Connecticut *Registration Report* for 1980.

d) The denominators used for the years 1981-1989 were the intercensal estimates published in: U.S. Bureau of the Census, *Preliminary Intercensal Estimates of the Population of States: 1981-1989*, November 1, 1991. The U.S. Bureau of the Census has revised these intercensal figures using the 1990 MARS data. These final intercensal figures vary very little from the preliminary figures; hence, the 1981-1989 AAMRs were not recalculated using the final figures. The final intercensal figures are available upon request from the CT Department of Public Health.

e) The 1990 denominators are the modified age, race, and sex population counts published by the U.S. Bureau of the Census. (U.S. Bureau of the Census. 1990. *Age, sex, race and Hispanic origin information from the 1990 Census: A comparison of census results with results where age and race have been modified*. Publ. No. 1990 CPH-L-74.)

f) The 1991-1993 denominators were calculated based on two components:

- (i) Connecticut population estimates published by the Connecticut Department of Public Health; and
- (ii) age-sex population distributions for Connecticut published by the U.S. Bureau of the Census. The estimated Connecticut age-sex population counts were calculated by multiplying (i) and (ii), with appropriate rounding of the resulting figures.

The Connecticut estimates for 1991-1993 may be found in the following publications:

*Estimated Populations in Connecticut as of July 1, 1991.* Hartford: Connecticut Department of Health Services, Division of Health Surveillance and Planning, September, 1992.

*Estimated Populations in Connecticut as of July 1, 1992.* Hartford: Connecticut Department of Public Health and Addiction Services, September, 1993.

*Estimated Populations in Connecticut as of July 1, 1993.* Hartford: CT Department of Public Health and Addiction Services, September, 1994.

The U.S. Census Bureau's estimated age-sex distributions of the Connecticut population may be found in the following publications:

Davis, S. *Estimates of the Population of States by Age, Sex, Race and*

*Hispanic Origin: 1991.* U.S. Bureau of the Census, Population Division, 1994.

Byerly, E. and K. Deardorff. *National and State Population Estimates:*

*1990-1994.* U.S. Bureau of the Census, Current Population Reports, p. 31-32. Washington, DC: U.S. Government Printing Office.

[11] The 1993 estimates of children affected by divorce are probably low, as information about children under 18 in the household was missing from 4,399 divorce records (38.1% of total).

[12] *Birth Years of Husbands and Wives Divorced in Connecticut, 1993.* Unpublished worksheet. Hartford: Connecticut Department of Public Health, Office of Policy, Planning and Evaluation.

## Appendix I

### RATE DEFINITIONS

<b>Age-specific death rate</b>	=	$\frac{\text{Number of deaths in a specific age group}}{\text{Total resident population in specific age group}}$	x 100,000
<b>Crude birth rate</b>	=	$\frac{\text{Number of resident live births}}{\text{Total resident population}}$	x 1,000
<b>Crude death rate</b>	=	$\frac{\text{Number of resident deaths}}{\text{Total resident population}}$	x 1,000
<b>Divorce rate <i>a</i></b>	=	$\frac{\text{Number of persons granted divorces}}{\text{Mid-year total resident population}}$	x 1,000
<b>Fetal death rate <i>b</i></b>	=	$\frac{\text{Number of fetal deaths}}{\text{Number of live births}}$	x 1,000
<b>Infant death rate</b>	=	$\frac{\text{Number of infant deaths}}{\text{Number of live births}}$	x 1,000
<b>Marriage rate <i>a</i></b>	=	$\frac{\text{Number of persons married}}{\text{Mid-year total resident population}}$	x 1,000

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*a* Marriage and divorce counts provided in the tables in this report refer to number of *couples*, not *individuals*, who married or divorced. To calculate the marriage or divorce *rates*, the marriage or divorce counts were multiplied by two.

*b* This fraction is often referred to as a *ratio*, rather than a *rate*, as the denominator (live births) does not contain the numerator (fetal deaths).

## Appendix II

### HEALTH DISTRICT DEFINITIONS USED IN 1992 REGISTRATION REPORT

<b>Health District</b>	<b>Constituent Towns <i>a</i></b>
Bristol-Burlington Health District	Bristol, Burlington
Chesprocott Health District	Cheshire, Prospect, Wolcott, Watertown
East Shore District Dept. of Health	Branford, East Haven, North Branford
Farmington Valley Health District	Avon, Barkhamsted, Canton, Colebrook, East Granby, Farmington, Granby, Hartland, New Hartford, Simsbury
Ledge Light Health District	City of Groton, Town of Groton
Naugatuck Valley Health District	Ansonia, Beacon Falls, Derby, Naugatuck, Seymour, Shelton
Newtown Health District	Town of Newtown, Borough of Newtown
North Central Health District	East Windsor, Ellington, Enfield, Suffield, Vernon, Windsor Locks
Northeast District Dept. of Health	Ashford, Brooklyn, Canterbury, Eastford, Hampton, Killingly, Plainfield, Pomfret, Putnam, Sterling, Thompson, Woodstock
Pomperaug Health District	Oxford, Southbury, Woodbury
Quinnipiack Valley Health District	Hamden, North Haven, Woodbridge
Stafford Health District	Stafford (Stafford Springs Borough), Union
Torrington Area Health District	Bethlehem, Cornwall, Goshen, Harwinton, Kent, Litchfield, Morris, Norfolk, Salisbury, Thomaston, Torrington, Warren, Winchester
Uncas Regional Health District	Montville, Norwich
West Hartford-Bloomfield Health District	Bloomfield, West Hartford
Weston-Westport Health District	Weston, Westport

*a* Constituent towns are listed as of June 8, 1995.

## Appendix III

### GLOSSARY

**Adequacy of prenatal care:** See Kessner Index.

**Age-adjusted death rate (Direct method):** A summary of age-specific death rates, applied to a standard population (this report use the 1970 U.S. standard million) to calculate what rate would be expected if the selected population had the same distribution as the standard population. The total of expected deaths divided by the total of the standard population and multiplied by 100,000 yields the age-adjusted death rate per 100,000.

The 1970 U.S. standard million population distribution is shown below.

Age	Population	Age	Population
<5	84,416	50-54	54,643
5-9	98,204	55-59	49,077
10-14	102,304	60-64	42,403
15-19	93,845	65-69	34,406
20-24	80,561	70-74	26,789
25-29	66,320	75-79	18,871
30-34	56,249	80-84	11,241
35-39	54,656	85+	7,435
40-44	58,958	Total	1,000,000
45-49	59,622		

**Age-specific birth rate:** The number of live births to women in a specific age group per 1,600-64000 females in the population in the same age group.

**Age-specific death rate:** The number of deaths for a specific age group per 100,000 population in the same age group.

**Birth weight:** The first weight of a fetus or infant at time of delivery. This weight is usually measured during the first hour of life, before postnatal weight loss occurs.

**Cause of death:** The underlying cause of death determined to be the primary condition leading to death, based on the international rules and sequential procedure set forth for manual classification of the underlying causes of death by the National Center for Health Statistics and the World Health Organization (*International Classification of Disease, Ninth Revision*). (See also: "Underlying cause of death.")

**Crude death rate:** The number of deaths per 1,000 population. This rate should not be used for making comparisons between different populations when the age, race, and sex distributions of the populations are different. (See "Age-adjusted death rate" and "Age-specific death rate.")

**Divorce:** The final legal dissolution of a marriage.

**Ethnicity:** See "Hispanic ethnicity."

**Fetal death:** Death prior to the complete expulsion or extraction from the mother of a product of conception, which has passed through at least the 20th week of gestation. The fetus shows no signs of life such as heartbeat, pulsation of the umbilical cord, or movement of voluntary muscles.

**Gestational age:** The number of completed weeks elapsed between the first day of the last normal menstrual period (LMP) and the date of delivery.

**Health district:** A local governmental entity consisting of two or more towns that is responsible for the public health of its constituent towns. (See Appendix II for a listing of the 16 health districts in existence in Connecticut as of June 8, 1995.)

**Hispanic ethnicity:** Refers to people whose origins are from Spain, the Spanish-speaking countries of Central America, South America, and the Caribbean, or persons of Hispanic origin identifying themselves as Spanish, Spanish-American, Hispanic, Hispano, Latino, and so on. In Connecticut, the birth, death, and fetal death certificates have a separate line item for the individual's Hispanic status, to attempt to distinguish Hispanic ethnicity from race. Individuals identifying themselves as "Hispanic" can be of any race, and are also counted in the race breakdown as either "white," "black," or "other."

**Infant death:** Death occurring to an individual of less than one year (365 days) of age, comprising the sum of *neonatal death* and *postneonatal death*.

**Kessner Index (Modified):** The Kessner Index is a composite indicator of the adequacy of prenatal care a mother receives during her pregnancy. Prenatal care is categorized as *adequate*, *intermediate*, or *inadequate* based on three items from the birth certificate: timing of the first prenatal visit; total number of prenatal visits; and length of gestation. The term, *non-adequate* prenatal care, which is the sum of the intermediate and the inadequate levels of care, is used in Table 4 of the present report.

The modified Kessner Index used in this report differs from the usual definition in that more extensive efforts have been made to minimize the amount of missing information. In addition, certain extreme values of gestational age, which may have resulted from the mother's inability to recall the date of the last menstrual period, have been redefined as "missing" (about 1% of the records). A more detailed definition of the Modified Kessner Index and reference documents can be obtained from the Connecticut Department of Public Health, Office of Policy, Planning and Evaluation.

**Live birth:** The complete expulsion or extraction from the mother of a product of conception, regardless of the duration of pregnancy; after such separation, shows signs of life (e.g., heartbeat, pulsation of the umbilical cord, or movement of voluntary muscles).

**Live birth order:** The number of children born alive to the same mother, including the current birth (first born, second born, third born, etc.).

**Low birth weight:** A birth weight of less than 2,500 grams (approximately 5 lbs., 8 oz.).

**Marital status:** Because of statutory limitations, there is no "marital status" line item on Connecticut birth records. Marital status is inferred by comparing child's and parents' surnames.

A birth is classified as occurring to a married couple if: 1) the parents' surnames are the same; or 2) if the child's and father's surnames are the same and the mother's current surname is missing in the birth certificate. A birth is classified as occurring to an unmarried couple if: 1) the father's name is missing; or 2) the parents' surnames are different.

**Median age at death:** The age that falls exactly in the middle of the entire range of ages ranked in order from low to high, such that 50% of the deaths fall above it and 50% fall below it. If the number of deaths is even, a value halfway between the two ages nearest the middle is used.

**Neonatal death:** Death occurring to an infant less than 28 days of age.

**Occurrence:** Place of occurrence identifies where the vital event actually took place, regardless of the place of residence of the individual.

**Plurality:** The number of siblings born as the result of a single pregnancy; commonly expressed as *singleton* or *multiple*.

**Postneonatal death:** Death occurring to an infant aged 28 days to 364 days.

**Premature:** A live birth or fetal death that occurs before the completion of the 37th week of gestation.

**Race:** A population of individuals who identify themselves from a common history, nationality, or geographical place. When responses in the "race" line item on vital records are associated with the definition of Hispanic origin, they are re-coded to "white race," as described in the National Center for Health Statistics instruction manuals for coding vital records. Individuals identifying themselves as either "white," "black," or "other" race can be of any ethnic group. (See also "Hispanic ethnicity.")

**Residence:** The usual place of abode of the person to whom the vital event occurred. For births and fetal deaths, residence is defined as the mother's usual place of residence.

**Teenage mother:** A woman under 20 years of age on the date of delivery.

**Trimester of pregnancy:** One-third of the total gestation period of a full-term pregnancy, or 13 weeks per trimester. The "third trimester" classification comprises pregnancies of 27 or more weeks gestation. The weekly count begins on the first day of last menstrual period.

**Underlying cause of death:** The disease or injury that initiated the sequence of events leading directly to death, or the circumstances of the accident or violence that produced the fatal injury.

**Very low birth weight:** A birth weight of less than 1,500 grams (approx. 3 lbs., 5 oz.).

*Full copies of the 1993 Registration Report can be requested by contacting Health Care Quality, Statistics, Analysis and Reporting Unit at (860) 509-7120.*