Leading Causes of Death of New Hampshire Residents, 1999 - 2001

New Hampshire Department of Health and Human Services
Division of Public Health Services
Bureau of Disease Control and Health Statistics

John H. Lynch, Governor

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Table of Contents

EXECUTIVE SUMMARY ..... **vii**

INTRODUCTION **1**
- How to Understand and Use This Report 2
- Data Source 6

FREQUENTLY ASKED QUESTIONS **8**

OVERVIEW **11**
- Death Rates for All Deaths Combined 11
- Overview of Leading Causes of Death in New Hampshire 17
- Years of Potential Life Lost 18
- Leading Causes of Death by Race and Hispanic Ethnicity 20

LEADING CAUSE OF DEATH BY AGE **21**
- Infants 23
- Age 1 to 4 24
- Age 5 to 14 24
- Age 15 to 24 25
- Age 25 to 34 25
- Age 35 to 44 26
- Age 45 to 55 27
- Age 55 to 64 28
- Age 65 to 74 29
- Age 75 to 84 30
- Age 85 and Older 31

DETAIL ON THE TEN LEADING CAUSES OF DEATH IN NEW HAMPSHIRE **33**
- Diseases of the Heart 33
- Invasive Cancer 37
- Cerebrovascular Disease 41
- Chronic Lower Respiratory Disease 45
- Unintentional Injuries (Accidents) 49
- Diabetes 55
- Alzheimer's Disease 58
- Influenza and Pneumonia 62
- Suicide 67
- Nephritis 71

LEADING CAUSES OF DEATH FOR SELECTED CITIES AND TOWNS **76**
- Bedford 77
- Berlin 78
- Claremont 79
- Concord 80
- Derry 81
- Dover 82
- Exeter 83
- Keene 84
- Laconia 85

MANCHESTER....86
NASHUA....87
PORTSMOUTH....88
ROCHESTER....89
SALEM....90

TECHNICAL APPENDIX....91
AGE-ADJUSTED RATES....91
CONFIDENCE INTERVAL CALCULATIONS....92
LEADING CAUSE OF DEATH DESCRIPTIONS....93
LEADING CAUSE OF DEATH CODING CRITERIA....95
POPULATION ESTIMATES....97

REFERENCES....99

ENDNOTES....102

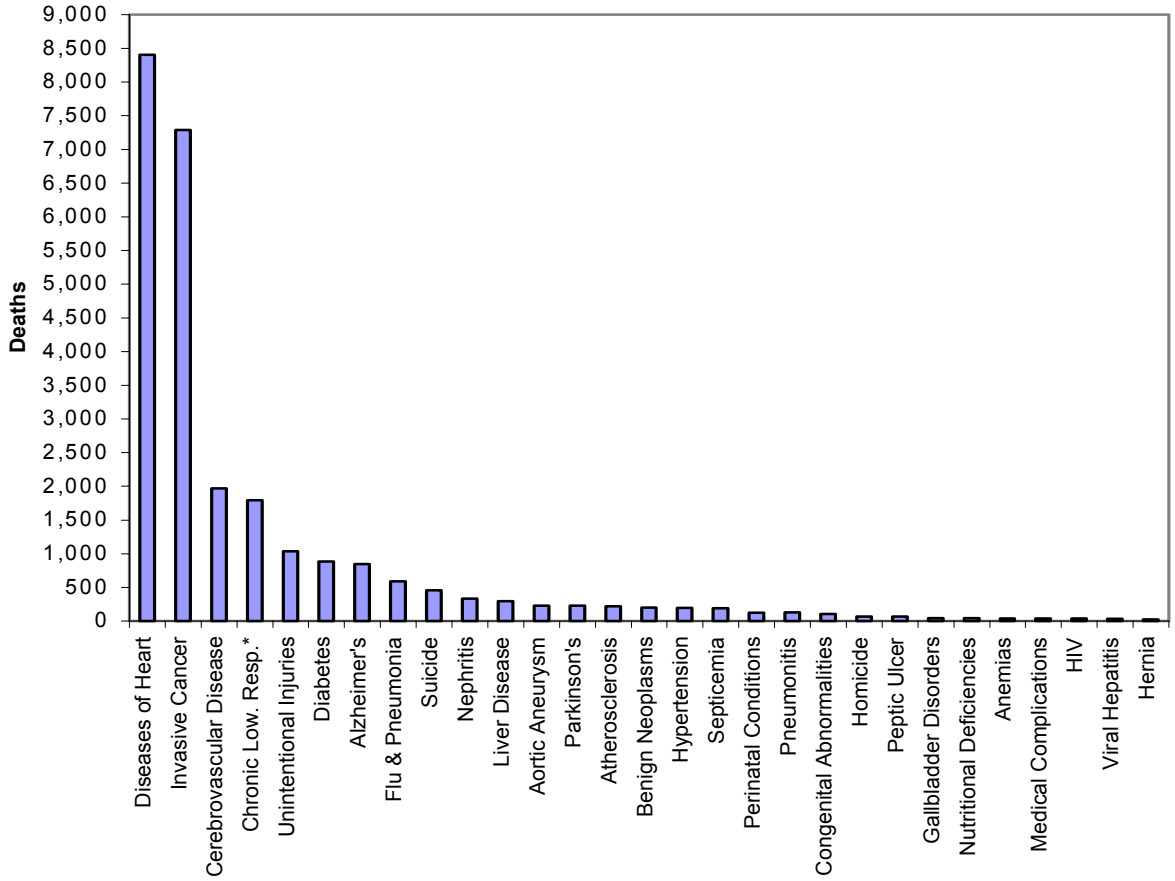
Executive Summary

Introduction

This report focuses on deaths in New Hampshire between 1999 and 2001. Efforts to improve human health and prevent disease should start with a good understanding of the causes of death in society. It is our hope that the information presented in this report will contribute to a healthier New Hampshire.

Overview of Leading Causes of Death in New Hampshire

Figure 1. Deaths by Leading Cause, New Hampshire Residents, 1999-2001



* Chronic lower respiratory disease includes most of the same causes of death as the group chronic obstructive pulmonary disease, used as leading cause of death group prior to 1999.

Table 1. Leading Causes of Death, New Hampshire Residents, 1999-2001

Leading Cause	Deaths	Age-Adjusted Rate / 100,000 (95% Confidence Interval)		US Rate / 100,000
Diseases of Heart	8408	236.1	(231.0, 241.1)	258.3 ↓
Invasive Cancer	7287	202.0	(197.4, 206.7)	198.6
Cerebrovascular Disease	1968	55.7	(53.3, 58.2)	60.0 ↓
Chronic Low. Resp.*	1791	50.7	(48.3, 53.0)	44.4 ↑
Unintentional Injuries	1038	28.4	(26.7, 30.1)	33.9 ↓
Diabetes	885	24.8	(23.2, 26.5)	25.1
Alzheimer's	846	24.1	(22.4, 25.7)	17.8 ↑
Flu & Pneumonia	591	16.7	(15.4, 18.1)	23.0 ↓
Suicide	455	12.1	(11.0, 13.2)	10.5 ↑
Nephritis	335	9.5	(8.4, 10.5)	13.5 ↓

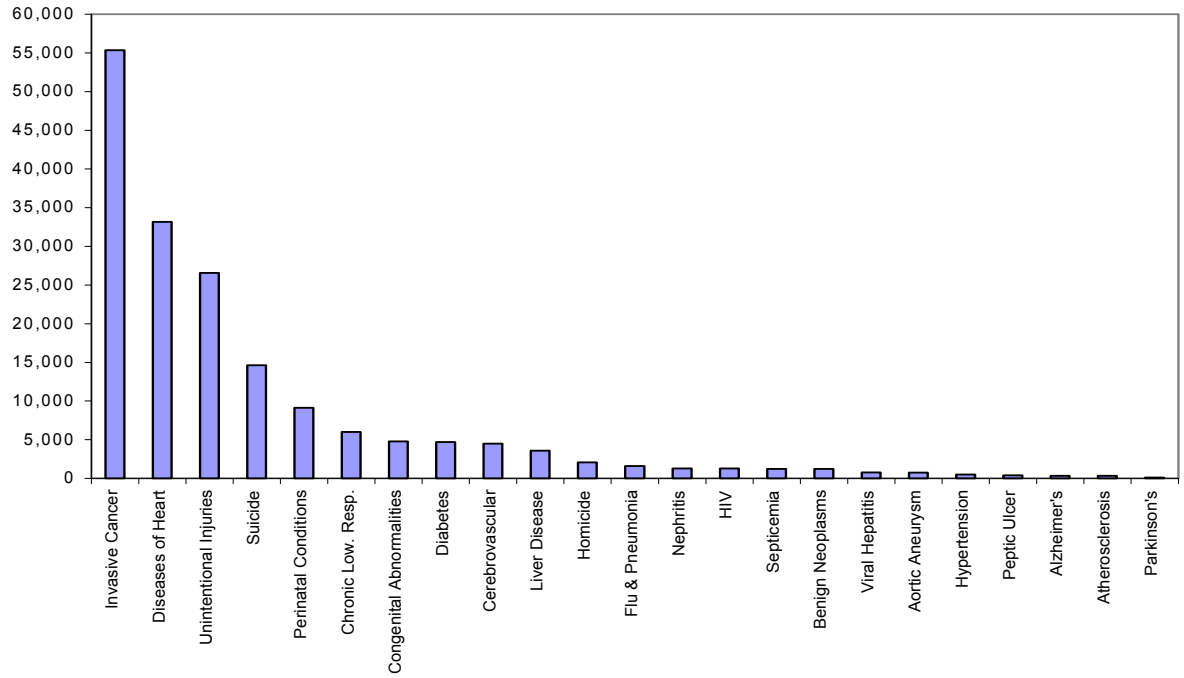
Note: This table includes only leading causes of death where 20 or more deaths have occurred
↓ indicates NH rate is lower than US rate, ↑ indicates NH rate is higher than US rate

* Chronic lower respiratory disease includes most of the same causes of death as the group chronic obstructive pulmonary disease, used as leading cause of death group prior to 1999.

- Compared to the US, New Hampshire has higher death rates for chronic lower respiratory disease, Alzheimer's disease, suicide, and atherosclerosis.
- NH has lower rates for heart disease, cerebrovascular disease, unintentional injuries, influenza and pneumonia, nephritis, liver disease, hypertension, septicemia, perinatal conditions, pneumonitis, congenital abnormalities, homicide, anemias, HIV, and viral hepatitis.

Years of Potential Life Lost

Figure 2. Years of Potential Life Lost, Life Expectancy of 75 Years, New Hampshire Residents, 1999–2001



Note: Years of potential life lost were calculated when 20 or more individuals under age 75 died of a particular cause of death.

- While heart disease is the leading cause of death, it is second to invasive cancer in terms of years of potential life lost when age 75 is set as the upper limit. Unintentional injuries rank third.

Diseases of the Heart

- Heart disease is the leading cause of death in New Hampshire and the US.
- 25% of New Hampshire adults smoke. 23% of New Hampshire adults engage in vigorous physical activity 3 or more times per week. 23% of New Hampshire adults are obese. 42% are at a healthy weight. 26% of New Hampshire adults consume 5 or more fruits and vegetables a day.
- 85% of heart disease deaths occur after age 65, but the life style factors that can contribute to this cause of death can begin as early as childhood.
- Manchester has a higher heart disease death rate than the US or NH.

Invasive Cancer

- Invasive cancer is the leading cause of death in New Hampshire for all age groups between ages 35 and 75. It is the second leading cause of death across all ages.

Cerebrovascular Disease

- More women die from cerebrovascular disease mainly because this is a disease of the elderly and women tend to live longer. Death rates are not different between men and women.
- NH cerebrovascular death rates are lower that US rates except in the 85+-age group. The death rate for women is higher in this age category.

Chronic Lower Respiratory Disease

- Chronic lower respiratory disease includes most of the same causes of death as the group chronic obstructive pulmonary disease (COPD), used as leading cause of death group prior to 1999.
- Chronic lower respiratory disease is primarily a disease of the elderly with 87% of deaths occurring after age 65.
- While there are more deaths among females in the 85+ age group, the rate is higher for males.

Unintentional Injuries (Accidents)

- Unintentional injuries are the third leading cause of years of potential life lost in NH and are the leading cause of death for all age groups between ages 1 and 34.
- Two thirds of injury deaths involve men. Men suffer 300 more deaths a year in NH compared to females.
- The highest rates of injury are found among the oldest age groups. This fact is often hidden by the relatively larger number of deaths in the elderly from other causes.
- Rural areas tend to have higher injury rates, which may account for higher rates in the northern counties of Coos and Carroll.
- Berlin, in rural Coos County, has a death rate that is over twice the NH rate.

Diabetes

- Obesity and lack of exercise are associated with increased risk of diabetes. One-half of adults in New Hampshire are overweight; one-quarter of adults report no leisure-time physical activity in the previous month; and only one-quarter eat the recommended 5 servings of fruits and vegetables daily.
- Between 1999 and 2001, 2,931 NH residents died with diabetes listed as an underlying or contributing cause of death.

Alzheimer's Disease

- The number of people with the disease doubles every 5 years beyond age 65.
- As many as 10 percent of all people 65 years of age and older have Alzheimer's and as many as 50 percent of all people 85 and older have the disease.

- Alzheimer's disease is the 5th leading cause of death among NH residents over age 65.
- NH age-adjusted date rates for Alzheimer's disease are higher than the US for ages above 75.

Influenza and Pneumonia

- Patients 65 years or older are at particular risk for death. Deaths in these patients account for 89% of all pneumonia and/or influenza deaths.
- Since 1960, influenza (flu) and pneumonia have been the leading cause of infectious disease deaths in the US.
- 94% percent of underlying cause of death codes in this category in NH list pneumonia and 6% list influenza.
- 93% of New Hampshire deaths from influenza and pneumonia occur in the 65+ age group.
- More women die of influenza and pneumonia than men. This is due to the greater number of women in the older age groups. While their total deaths are lower, rates are higher for men in older age groups.
- There is an increase of influenza and pneumonia deaths during the flu season. It is uncertain how many of these additional deaths are related to flu because the same risk factors generally increase pneumonia deaths.

Suicide

- More people die from suicide each year than homicide (In the US in 2000 there were 29,350 suicide deaths (an average of 80 per day) and 16,765 homicide deaths).
- Females are more likely to attempt suicide; males are 4 times more likely to die.
- Nationally, males over age 65 have the highest suicide rates.
- Nearly half of all suicides in New Hampshire involve firearms. Males account for 10 times more firearm-related suicide deaths than females in NH.
- NH suicide deaths increased in 2001 and became higher than US rates.
- Suicide rates tend to be higher in rural areas nationally, and this may relate to higher rates seen in rural Carroll, Coos, and Sullivan counties.

Death Rates by Age for All Deaths Combined

- Infant deaths (<1 year) exceed total deaths between 1 and 14 years. The death rate for infants is higher than the death rates for all age groups under age 55.
- 87% of deaths occur after age 54; 79% after age 64.
- Male death rates are higher than female death rates for every age group.

- New Hampshire total death rates are lower than US death rates for every age group except 85 plus.

Leading Causes of Death by Age

- Nearly 25% of the 50 NH deaths to children ages 1 to 4 were the result of unintentional injury. This percentage increases to 60% of 5 to 14 year olds and 55% of 15 to 24 year olds.
- The suicide rate for NH residents between ages 15 and 34 year olds is higher than the US rate while homicide rates are lower.
- Invasive cancer is the number one cause of death in the 35 to 44 year old age group. There are nearly as many deaths from cancer in this age group as total deaths in the next younger (25 to 34) age group. Even though heart disease is the overall leading cause of death in New Hampshire, invasive cancer ranks highest in all age groups from age 35 to 75.
- For 35 to 44 year olds, HIV rates, though lower than the US rate, are highest in the 35 to 44 year old age group. Heart disease becomes a major cause of death in the 35 to 44 year old age group (11.4% of deaths) and the percentage of total deaths from unintentional injury (12.9%) and suicide (10.0%) are still significant portion of total deaths. There is a pattern beginning in this age group of NH rates comparing favorably with US rates. Other causes of death are more prominent in this age group, such as liver, cerebrovascular, chronic lower respiratory, and diabetes
- For 55 to 64 year olds, death rates increase by nearly a factor of 3 compared to the previous age group with invasive cancer still the leading cause of death.
- For 65 to 74 year olds, each of the top 6 leading causes of death increase by 2 to 3 times over the rates for the previous age group. Unintentional injuries drop from 5th to 7th in ranking but death rates from unintentional injuries increase. The rate for CLRD is higher than the US rate.
- For 75 to 84 year olds, heart disease becomes the leading cause of death, but is lower than the US rate. Invasive cancer, CLRD, and Alzheimer's are high compared to US rates.
- For deaths of people 85 and older, heart disease becomes the overwhelming leading cause of death. Invasive cancer, CLRD, and Alzheimer's disease again exceed US rates. Diabetes rates exceed the US rate for the first time.

Introduction

The study of disease in populations (epidemiology) is as old as medicine itself, but the first attempt to measure the impact of disease on society was based on the analysis of births and deaths in London, in 1662, by a hat maker named John Graunt. His recognition of the value of administrative data in providing information about human health forms the basis of modern epidemiology[1].

This report focuses on deaths in New Hampshire between 1999 and 2001. Instead of simply providing data in tables for others to analyze, an attempt is made to present the most useful and interesting findings in the form of graphs and charts. Notes are added to highlight results of special interest, offer explanations, and raise questions for further study.

Graphs facilitate comparisons and help generate questions. Why does one New Hampshire county have a higher death rate than another? How do various causes of death compare in terms of loss of potential years of life? Which causes of death are most common? What are the different patterns of death among age groups and gender? What is the cost to society of premature deaths and what can we do about it? Are we doing better or worse than the rest of the nation?

Death is studied to better understand life. How an individual or a society dies has much to say about how it lives. This report is ultimately about how people live, and should lead to questions such as: "What can we do to improve our lives and maximize our potential as human beings?" If we have lower death rates than another region or compared to the US as a whole, is that good enough, or should we set higher standards? To what extent can life be prolonged and quality of life improved by efforts to promote healthy lifestyles? Opportunities may exist to improve the treatment of disease, increase access to medical care, reduce injury, and clean up our environment. This data should help us ask questions about what we can do better.

A recent paper (2004) published in the Journal of the American Medical Association (JAMA) by Mokdad, Stroup, and Gerberding, "Actual Causes of Death in the United States, 2000" presents findings concerning the impact of modifiable behavioral risk factors as actual causes of death[2]. Based on a study of relevant articles published between 1980 and 2002, 18.1% of US deaths are caused by tobacco, 16.6% by poor diet and physical inactivity, 3.5% by alcohol consumption, 3.1% by microbial agents, 2.3% by toxic agents, 1.8% by motor vehicle crashes, 1.2% by firearms, 0.8% by sexual behaviors, and 0.7% by illicit use of drugs. The study concluded that smoking remains the leading cause of mortality, but that poor diet and physical inactivity may soon outrank tobacco. These findings suggest the potential value of focusing on modifiable behavioral risk factors to help reduce death rates.

Efforts to improve human health and prevent disease should start with a good understanding of the causes of death in society. It is our hope that the information presented in this report will contribute to a healthier New Hampshire.

This report is organized into three major sections. The first section presents an overview of the leading causes of death in New Hampshire. The next section looks at the leading causes by age groups, and the final section provides more detailed information on each of the ten leading causes of death in New Hampshire (e.g., Diseases of the Heart).

How to Understand and Use This Report

New Hampshire Residents

This report is about deaths of New Hampshire residents. New Hampshire residents who die in New Hampshire or in other states are counted. Residents of other states who die in New Hampshire are not included.

Use of Statistics

Data in this report is presented in a variety of ways and is intended to be valuable and educational for individuals with different levels of knowledge about statistics. Information is provided here and in the Frequently Asked Questions section to help explain important statistical concepts. More detailed information is provided in the technical appendix. Frequencies, percentages, and rates are reported in the form of tables, graphs, and charts. Confidence intervals are often displayed. Age-adjusted rates are calculated to allow comparison between geographic areas with different age-group distributions. The reader is encouraged to pay close attention to figure and table titles and legends to know what statistics are being reported. A variety of statistics may be used in a single section.

Frequencies

A frequency is a count of events. For example, the frequency of yearly overall deaths in NH increased from 9549 to 9813 from years 1999 to 2001, while death rates dropped due to increased population. Frequencies are valuable when it is important to know the exact number of events, perhaps as an indication of burden on available resources.

Rates

Rates are often used to make comparisons. In this report, crude rates are the number of deaths in a given population, divided by population. Age-specific rates are simply crude rates for a specific age group, such as children under 5. Standardized (age-adjusted) rates are somewhat more complicated because adjustments are made to account for the fact that different populations may have different age distributions. Standardized rates are explained in detail in the technical appendix, but the basic idea is that the age-specific rates in a population are first calculated and then these rates are applied to a standard population. The standard population used in this report (and used by the National Center for Health Statistics) is the US 2000 estimated population[3]. The

standardized rate is the rate that a population would have if its age-distribution were the same as the standard population. For example, Hillsborough County has a higher proportion of younger people than Coos County, which has a higher proportion of older people. Using age-standardized rates allows us to compare the two counties despite the differences in age distribution of their populations.

Confidence Intervals

Most statistical estimates in this report include 95% confidence intervals (CIs). A 95% confidence interval is a range of values in which the true value can be expected, under similar circumstances, 95% of the time. The confidence intervals are indicated by the symbol **I** in the charts.

Confidence intervals are not used with US rates because the numbers are large enough to allow for a high level of certainty. Please refer to the technical appendix for more information.

Comparing Rates

When comparing rates over time or between groups it is necessary to consider the influence of random variation on the data. To make comparisons, we wish to know what differences are caused by natural variability in the data (noise) and what differences are real differences (because the underlying risk is different). Confidence intervals are constructed to suggest the variability of a single rate estimate. A simple test to compare rates is to determine if their confidence intervals overlap. To interpret this test, if confidence intervals overlap, there is no "statistically significant" difference and if they do not overlap, there is a "statistically significant" difference. For example, the NH rate for Invasive Cancer is 202 with a 95% CI of 197 to 207. The US rate for Invasive Cancer is 199. NH's rate appears higher than the US rate until we check the CI and find that the US rate overlaps, or is contained within, the confidence intervals for NH's rate.

In this report, we avoid the cumbersome phrase: "statistically significant difference" and simply say "different".

Classifying Underlying Cause of Death

Deaths are classified by the information recorded on death certificates by the certifier of the death. The standard coding system used to classify deaths in the US since 1999 is the International Classification of Diseases, Tenth Revision (ICD-10), developed by the World Health Organization (WHO)[4]. An underlying cause of death is defined as the cause of death that initiates the chain of events leading to a person's death. However, it is sometimes difficult to select the appropriate underlying cause of death among the many cause of death terms represented on a typical death certificate, some of which may be ill-defined causes that do not contain useful information (e.g., "sudden death"). WHO designed a standardized set of rules to select an underlying cause of death from information on the death certificate. To improve the ease and consistency of classifying deaths, the National Center for Health Statistics (NCHS) has been developing computerized systems since 1967 to automate the entry, classification, and retrieval of cause-of-death information reported on death certificates. New Hampshire relies on these automated systems for nearly all the coded causes of death in its certificate

database. A small percentage (<5%) of records are coded by hand using the same rules as the automated system.

Leading Cause of Death Groups

The National Center for Health Statistics (NCHS) developed a protocol to classify most of the commonly used underlying causes of death into cause of death groups. For ICD-10, NCHS defined 113 selected causes of death (for all age groups) and 130 selected causes of infant death. For ranking causes of death, NCHS selected a subset of the 113 selected causes to form the 50 leading cause of death group[5]. NCHS cause of death group names are used in this report with the exception of "Accidents". We prefer to use the group name "Unintentional Injuries", which better reflects the preferences of the injury prevention and epidemiology community.

Data Quality and the Death Classification Process

The procedure of adding the underlying cause of death to the electronic death certificate database involves a multi-step process that takes text entries from death certificates and translates this information into the cause of death codes[6]. Additional standard procedures are then used to select the underlying cause of death from among these codes. Every step of this process is open to potential error, from the entries on the death certificate to the final assignment of the underlying cause of death. Some of the error is due to subjectivity and imprecision in diagnosis; physicians might disagree on an individual's cause of death or might fill out the certificate in different ways. The true underlying cause of death may be unknown. Recording errors are possible. Individuals may die of more than one cause, but only one cause is selected as the underlying cause of death. Within a given cause of death category, such as Diseases of the Heart, not all deaths caused by heart disease are the same and most heart disease deaths have contributing causes other than heart disease. In fact, it can be argued that no two human deaths are exactly the same and any system to group deaths is subject to error and loss of information. However, the classification system, with all of its uncertainty and potential for error, is still valuable from a public health perspective. If there is error and misclassification, it is believed that the error and misclassification is consistent across populations and that valid comparisons can be made.

Combining Multiple Years of Data

This report includes three years of data, 1999-2001, primarily to increase the number of events used to estimate rates and frequencies. The result is statistics that are less likely to be affected by random variability and the ability to report on some causes of death that could not otherwise be reported due to small numbers for a single year.

Reporting at the Town Level

New Hampshire is divided into 10 counties, and further divided into 235 cities and towns and 24 unincorporated areas. New Hampshire residents are often interested in what is happening at the town or sub-town level. Because of small numbers, it is not possible to come up with meaningful statistics for every town. Based on the problem of small numbers and graphical considerations, the decision was made to omit town-level data for towns with less than 450 total deaths during the three-year period. In addition,

rates are not shown whenever there are less than 10 deaths in a category because the small numbers result in uncertain rate calculations that are apt to be highly variable and not useful for comparisons.

Age Groups

We generally employ the age group distribution used for standardized rate calculations by NCHS for mortality statistics[7]. One frequently asked question is why we do not present data for a single age group of 65 years and older. Since most deaths occur in the elderly, it is valuable to include data for the separate age groups of 65-74, 75-84, and 85 years and over. To combine these age groups into a single 65 plus age group results in loss of information. On the other hand, it is sometimes desirable to pool age groups when there are a small number of deaths in a category.

Race/Ethnicity

New Hampshire's population has become more racially and ethnically diverse over the past 20 years. However, New Hampshire still has a predominately white, non-Hispanic population with just over 95% of residents reporting race/ethnicity as white, non-Hispanic on the 2000 US Census[8]. Because of this fact, there are small numbers of non-white and/or Hispanic deaths based on overall population percentages.

An additional factor relating to fewer deaths among non-whites and Hispanics is that this population is generally younger than the white population in New Hampshire. Over 78% of New Hampshire deaths occur among individuals age 65 and over. According to the 2000 Census in New Hampshire, this age group was composed of only a quarter of a percent black/African, less than half a percent Asian, and less than half a percent Hispanic. People reporting two or more races made up slightly less than half of a percent of the 65 and older population. In contrast, over 98% of the people in 65 and older age group reported themselves to be white and non-Hispanic[9].

The small number of deaths of non-white and non-Hispanics does not lessen the importance of minority health issues, but does make it difficult to report substantive numbers for non-white death rates due to small numbers. Tables are presented to show the frequencies of deaths among major race categories and by Hispanic/ non-Hispanic ethnicity. Numbers are sufficient to report standardized rates for African American's for Invasive Cancer and Diseases of Heart, but confidence intervals are too wide to state with certainty that rates for African American's are different than for whites in New Hampshire. CDC Wonder was used to estimate populations and deaths because it is necessary to use special "bridging" procedures to combine Census data, which allows for multiple race classifications, with Vital Records Death Certificate data, which uses an older race classification system that doesn't allow individuals to claim more than one race. We added confidence intervals to the data obtained from CDC Wonder. CDC Wonder did not have information to help us estimate standardized Asian death rates. Hispanic rates were not calculated because the high number of unknowns makes it difficult to estimate the correct denominators, but frequencies are shown for deaths where Hispanic ethnicity was known[10].

New Chronic Lower Respiratory Disease Classification

Chronic lower respiratory disease (CLRD) is the fourth leading cause of death nationally. Prior to 1999, CLRD was called chronic obstructive pulmonary disease (COPD). The recent ICD-10 disease classifications (1999) slightly altered the grouping of respiratory diseases included in CLRD from the previous COPD grouping. For trend analysis, this new grouping cannot be compared directly with the International Classification of Diseases, Ninth Revision (ICD-9) for COPD used in previous years. (See "Frequently Asked Questions" #6 for comments about the use of trend data in this report.)

Risk Factors and Interventions

Risk factors are factors associated with increased risk of disease and death. This paper restricts discussion of risk factors to those that are well accepted by reputable sources. Other risk factors may be known but not validated, or simply unknown. Factors that increase risk of disease may vary in their impact on risk of death. Some risk factors are modifiable and some are not. Interventions to reduce known risk factors vary in effectiveness and the degree of effectiveness may be unknown. Outcome measurements help to evaluate the effectiveness of interventions and reports such as this are one source of data to assist with such measurements. This report does not attempt to provide a comprehensive discussion of the important subject of risk factors and interventions, but attempts to suggest the more important and currently accepted ideas as an introduction to the subject.

Since everyone dies from some cause, reducing the risk of one cause of death may result in more people dying from other causes. For example, reducing cancer rates may result in increasing Alzheimer's or heart disease deaths. The data from this report can be used to suggest possible shifts in death rates resulting from successful interventions. From a public health perspective, it may not be enough to simply reduce death rates. We should examine available data to help clarify and prioritize our goals and objectives, and give careful thought to how we can work most effectively to improve both quality and length of life.

Data Source

The Division of Vital Records Administration within the New Hampshire Department of State is responsible for collecting information on deaths to NH residents and deaths occurring in NH, as mandated by RSA 5-C. Information about out-of-state deaths to NH residents is collected by the state where the death occurs and reported to NH through an interstate exchange agreement.

Death data consists of information from a Death Certificate including but not limited to: sex, age, residence, occupation and education of the deceased, location and date of death, and the underlying cause of death as well as up to 14 contributing causes of death. Much of the information on the certificate is collected specifically for public health purposes. Under RSA 126:24, the Department of Health and Human Services has access to death certificate data and is responsible for analyzing it for health-related needs, such as this report.

Information is complete and available for analysis approximately 18 months after the close of a calendar year. The most recent death data available for analysis at the time of this report is calendar year 2001.

Frequently Asked Questions

1. How do I know if differences are "statistically significant?"

Confidence intervals are valuable to give us an indication of the uncertainty of an estimate and to suggest possible differences for further research. Overlapping or non-overlapping confidence intervals function as a test of statistical significance. There is always some degree of uncertainty with such tests.

Type I error is deciding there is a difference when there really isn't one. With a 95% confidence interval, the probability of a Type I error is 5%. When making multiple comparisons, the probability of making at least one Type I error increases.

A second type of error is the Type II error, which is the probability of deciding there is no difference when there really is one. The probability of a Type II error increases when there are small numbers. Overlapping confidence intervals (suggesting no difference) may be a Type II error. One source of Type II error is that the comparison of confidence intervals is based on separate variance estimates for each rate, while the preferred comparison test uses a pooled variance calculation and is more accurate.

2. Why aren't rates reported with less than 10 events in the numerator?

The relative width of confidence intervals (as a percentage of the rate) increases rapidly with fewer than 10 numerator events. While some degree of uncertainty is always present (the reason for confidence intervals in the first place), this uncertainty increases exponentially as the numerator becomes smaller. Rates based on numerators with fewer than 10 events are not reported to avoid the risk of these numbers being misinterpreted.

3. I don't understand rates. It seems that everyone who reaches age 85 will die in the 85 plus age group so why aren't all the rates in the 85 plus age group the same (100%)?

Rates are explained in the technical appendix. Crude rates or age-specific rates are simply the number of deaths per year divided by population. The phrase "per year" is important. Consider one population where there are 100 individuals over 85-years-old and they all die in one year. The rate would be equivalent to 100% or "1". However, consider another population of 100 85-year-olds where 10 of them die each year. Each year the rate will be 10%. Even though all members of both groups eventually die, the rates of 100% and 10% are certainly different, and can be used to compare the relative risk of dying in each group.

4. Why set an upper limit of age 75 in the Years of Potential Life Lost table?

The years of potential life lost table is intended to show the impact of the age of death in ranking the causes of death. Some tables like this use age 65 or age 85 as the upper limit. An arbitrary upper limit must be defined because life expectancy changes as an individual ages. Every year a person survives pushes up that person's life expectancy. For example, an individual who is 80 years old has a better chance of living to age 85 than a 20 year-old does. Limits such as age 65 give more emphasis to deaths affecting young people and may be an arbitrary limit for quality of life and ability to perform useful work in society. While using age 85 includes more years of potential life lost, the deaths affecting younger people are less prominent in the ranking and deaths from heart disease and invasive cancer rank more highly. Age 75 serves as a compromise upper limit.

5. It is now 2005, why doesn't the report include more recent data?

While most data are collected on a reasonably timely basis, some data (especially data collected by other states) are not available for a considerable period of time. There are also necessary delays in data release related to acquisition, data quality evaluation and correction, and database management. Health Statistics and Data Management (HSDM) is committed to doing what it can to improve the timeliness of data availability. At the time of this report, the most recent available data was 2001.

6. Why is there so little trend data in this report?

Most of the data examined by year between 1999 and 2001 failed to show significant trends, possibly as a result of small numbers. Pooling 3 years of data produced tighter confidence intervals and allowed meaningful rates for several less common causes of death in New Hampshire. For the ten leading causes of death, the report does include annual rates for the state.

A larger issue is that the cause of death classification system changed from ICD-9 to ICD-10 in 1999. For trend analysis going further back, the ICD-9 coding system and code groups used before 1999 are not equivalent to those used in ICD-10. Attempts to trend data for many cause of death groups show a discontinuity in graph lines between 1998 and 1999. To address this problem, the National Center for Health Statistics (NCHS) developed comparability ratios based on one year (1996) of deaths nationally, classified both by the ICD-9 and ICD-10 systems. While comparability ratios are not used in this report, it may be of interest, as an example, that the NCHS study obtained a comparability ratio of 1.0478 for Lower Respiratory Disease, thus approximately 5 percent more deaths were classified as CLRD under ICD-10 than as COPD under ICD-9[11].

7. Are age-adjusted rates within this report comparable to age-adjusted rates from prior reports?

NCHS has instructed states to treat ICD-10 as the standard, and adjust data counts and rates prior to 1999 using modified ICD-9 codes and comparability ratios. Therefore, mortality statistics provided in this report are not comparable to previously published mortality statistics based on ICD-9 codes.

8. How does New Hampshire compare to the rest of the US?

Most tables show US rates for comparison. If the US rate is not contained in the NH confidence interval, then NH may be different than the US. Confidence intervals for the US rate are not shown because they involve relatively high numbers and very narrow confidence intervals. One factor to consider is that the US population is more ethnically and racially diverse than NH. Since some ethnic groups have higher rates for certain causes of death, NH rates may be different because the underlying populations are not ethnically equivalent. However, the overall US rate is a commonly used standard and the comparison is valuable.

9. Why is the term "Diseases of the Heart" used instead of "Heart Disease"?

Heart disease is any condition that causes the heart to malfunction and should be considered interchangeable with "diseases of the heart". However, when the words "heart disease" are used generically, most people only think of coronary heart disease, which leads to heart attacks and angina, and is caused by atherosclerosis. It is important to know that there are a wide range of other diseases of the heart including congestive heart failure, valvular heart disease (heart valves), diseases of the pericardium (sac around the heart), diseases of the myocardium (heart muscle), endocarditis (infection of heart valves), and congenital heart disease (birth defects of the heart).

10. Why are some towns and cities and not others chosen for study within the leading causes of death section of this report?

The decision was made to omit town-level data for towns with fewer than 150 average deaths per year. This decision was made based on the number of leading causes death that would be reportable for the smaller towns. Causes with fewer than 5 deaths are not reportable at the town-level because of confidentiality concerns. In addition, rates are not shown for any towns where there are fewer than 10 deaths in a category because the small numbers lead to unstable rate calculations.

11. Who can I contact if I have additional questions or need more information?

Please feel free to contact Health Statistics and Data Management:

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129 Pleasant Street
Concord, NH 03301-3857
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An electronic version of this report is available on the DHHS web site:
http://www.dhhs.nh.gov/DHHS/DPHS

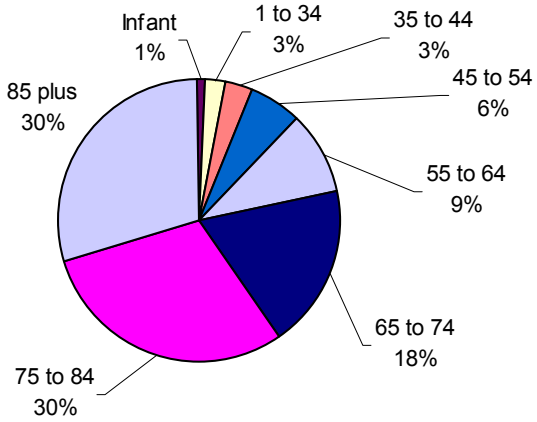
Overview

The overview section covers three sets of statistics. The first section presents total death rates regardless of cause of death. Next, we present ranked overall data on the leading cause of death groups that are used nationally for all but infant deaths (which have their own set of groupings). Finally, we examine the leading cause of death groups ranked by years of potential life lost.

- US standardized death rates obtained from CDC Wonder Website[12].

Death Rates for All Deaths Combined

Figure 3. Overall Percentage of Deaths by Age Group, New Hampshire Residents, 1999-2001



Age Group	Deaths
Infant	222
1 to 4	50
5 to 14	71
15 to 24	290
25 to 34	323
35 to 44	916
45 to 54	1763
55 to 64	2735
65 to 74	5336
75 to 84	8616
85 plus	8732
Total	29054

Note: 1 to 4, 5 to 14, 15 to 24, and 25 to 34 age groups have been combined in the chart above for display purposes.

- Infant deaths (<1 year) exceed total deaths between 1 and 14 years.
- 87% of deaths occur after age 54; 79% after age 64.

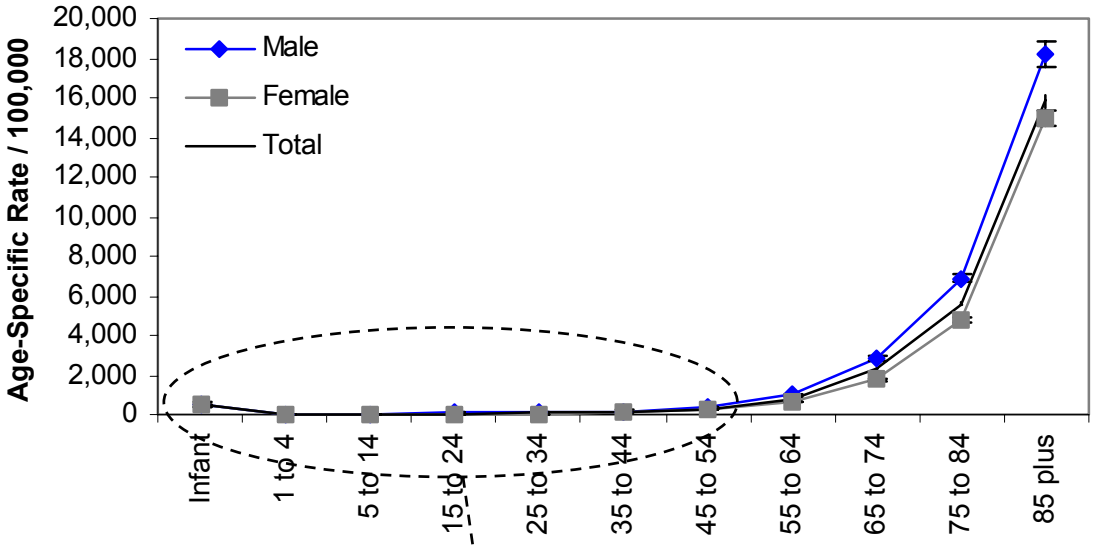
Table 2. Overall Death Rates by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Rate / 100,000	
1999	9,549	819.5	(803.1, 836.0)	875.2	↓
2000	9,692	814.5	(798.3, 830.7)	868.3	↓
2001	9,813	804.6	(788.6, 820.5)	851.6	↓
Total	29,054	812.8	(803.4, 822.1)	865.2	↓

↓ indicates NH rate is lower than US rate

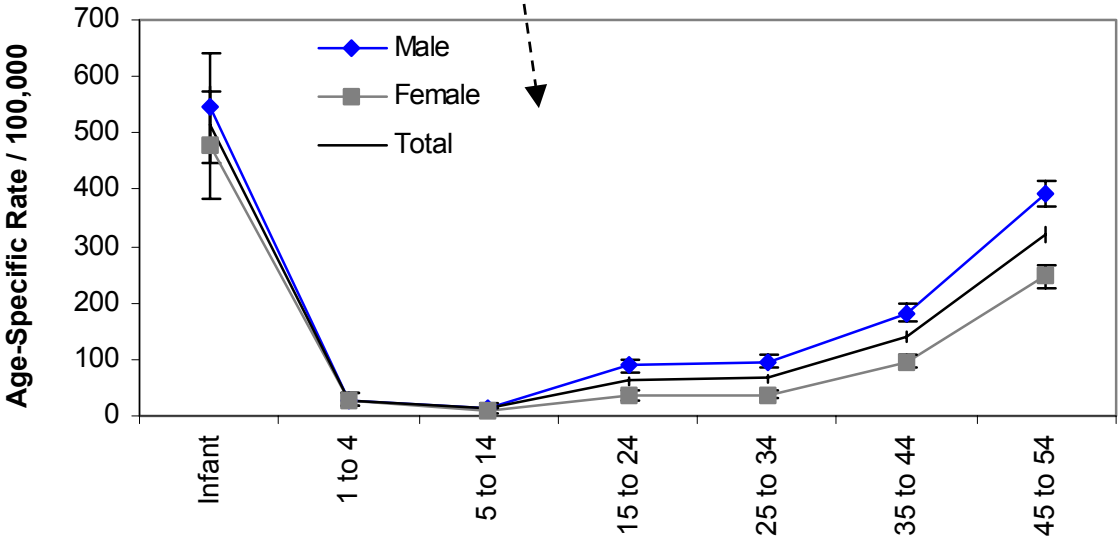
- Overall deaths increased each year from 1999 to 2001, while age-adjusted death rates have decreased.
- The overall New Hampshire rate is lower than the US rate, although the US rate appears to have declined more quickly over the period. NH rates are lower mainly because New Hampshire has much lower rates than the US for diseases of the heart, homicide, and HIV.

Figure 4. Overall Death Rates by Age Group and Gender, New Hampshire Residents, 1999-2001



Note: 95% confidence interval for the statistic is indicated through the use of the error bars above and below the top of each line in this graph. Overlapping confidence bars indicate a lack of significant difference.

Figure 5. Detail on Deaths for Under 55 Year Old Age Groups, New Hampshire Residents, 1999-2001



Note: 95% confidence interval for the statistic is indicated through the use of the error bars above and below the top of each line in this graph. Overlapping confidence bars indicate a lack of significant difference.

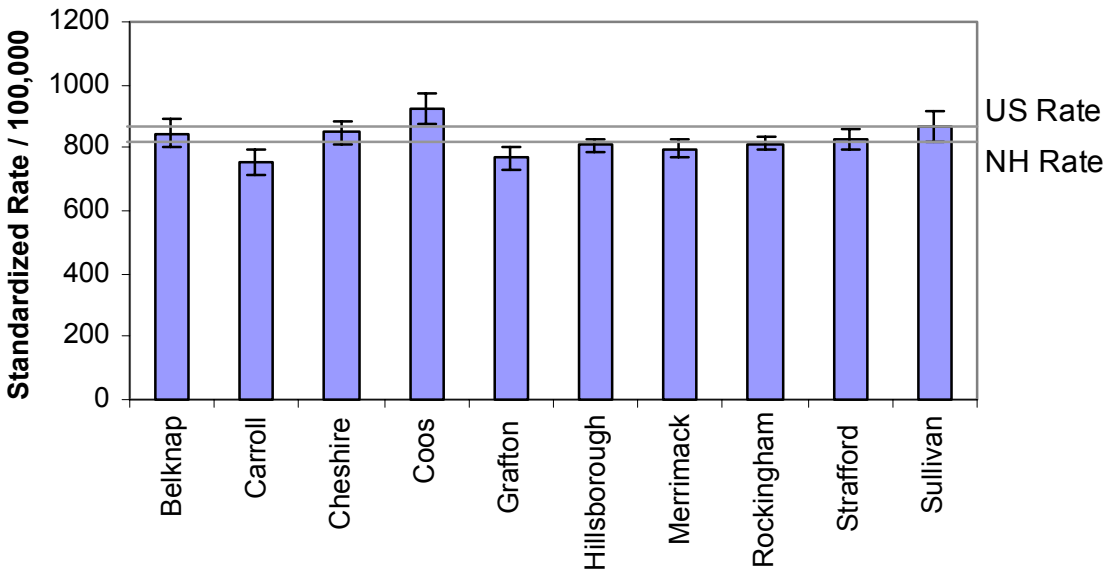
- Note that the death rate for infants is higher that the death rates for all age groups under age 55.
- Male death rates are higher than female death rates for every age group.
- There are more male deaths than female deaths for every age group under age 75.

Table 3. Overall Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

Age Group	Male		Female		Total		US
	Deaths	Rate / 100,000 95% CI	Deaths	Rate / 100,000 95% CI	Deaths	Rate / 100,000 95% CI	Rate
Infant	121	545.6 (448.4, 642.8)	101	478.5 (385.2, 571.9)	222	512.9 (445.4, 580.3)	693.6
1 to 4	27	28.2 (18.6, 41.1)	23	25.6 (16.3, 38.5)	50	27.0 (20.0, 35.6)	33.3
5 to 14	44	15.8 (11.5, 21.2)	27	10.1 (6.7, 14.7)	71	13.0 (10.2, 16.4)	18.0
15 to 24	209	88.2 (76.3, 100.2)	81	34.8 (27.6, 43.2)	290	61.7 (54.6, 68.8)	79.9
25 to 34	231	96.2 (83.8, 108.6)	92	37.7 (30.4, 46.2)	323	66.7 (59.4, 74.0)	102.8
35 to 44	598	182.9 (168.2, 197.5)	318	95.7 (85.2, 106.2)	916	138.9 (129.9, 147.9)	200.0
45 to 54	1,083	393.9 (370.4, 417.3)	680	246.3 (227.8, 264.8)	1,763	319.9 (305.0, 334.8)	424.2
55 to 64	1,672	1,014.4 (965.8, 1,063.0)	1,063	634.1 (596.0, 672.2)	2,735	822.6 (791.8, 853.5)	986.7
65 to 74	3,092	2,827.7 (2,728.0, 2,927.4)	2,244	1,793.6 (1,719.4, 1,867.8)	5,336	2,275.9 (2,214.8, 2,336.9)	2402.9
75 to 84	4,204	6,872.6 (6,664.9, 7,080.4)	4,412	4,771.9 (4,631.1, 4,912.7)	8,616	5,608.4 (5,489.9, 5,726.8)	5652.5
85 plus	2,746	18,175.4 (17,495.6, 18,855.3)	5,986	14,968.5 (14,589.3, 15,347.7)	8,732	15,847.8 (15,515.4, 16,180.2)	15,339.2
Age-Adjusted Total	14,027	984.4 (967.6, 1001.2)	15,027	687.8 (676.7, 698.9)	29,054	812.8 (803.4, 822.1)	865.2

- Notice that New Hampshire total death rates are lower than US death rates for every age group except 85 plus. Although the NH total 85 plus group appears to have a higher death rate, the confidence intervals overlap, so there is no reason to believe they are statistically different.

Figure 6. Overall Death Rates by County, New Hampshire Residents, 1999-2001



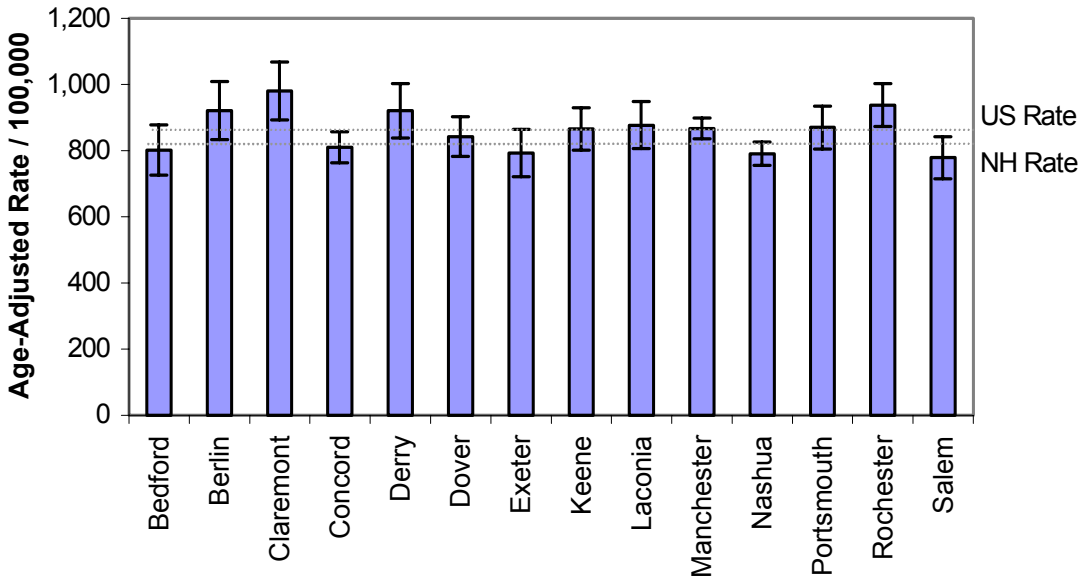
Note: 95% confidence interval for the statistic is indicated through the use of the error bars above and below the top of each column in this graph. Overlapping confidence bars indicate a lack of significant difference.

- Coos County has a higher death rate than the rest of NH, but not different from the US rate.
- Carroll and Grafton counties have lower rates. Please see the frequently asked question about interpretation of confidence intervals on page 8.

Table 4. Overall Death Rates by County, New Hampshire Residents, 1999-2001

County	Deaths	Age-Adjusted Rate	(95% CI)
Belknap	1,658	847.1	(806.2, 888.0)
Carroll	1,261	752.8	(710.7, 794.9)
Cheshire	2,036	850.2	(813.2, 887.2)
Coos	1,278	925.1	(873.6, 976.6)
Grafton	1,999	766.6	(733.0, 800.3)
Hillsborough	8,124	807.1	(789.5, 824.7)
Merrimack	3,397	796.2	(769.2, 823.1)
Rockingham	5,560	812.1	(790.6, 833.7)
Strafford	2,479	827.4	(794.7, 860.0)
Sullivan	1,251	870.9	(822.5, 919.4)
Unknown	11		
NH	29,054	812.8	(803.4, 822.1)
US		865.2	

Figure 7. Overall Death Rates by Selected Cities and Towns, New Hampshire Residents, 1999-2001



Note: Only cities and towns with a total of 300 or more resident deaths between the years 1999 and 2001 are included in this table.

- Town data does not always coincide with respective county data. With the exception of Berlin in Coos County, Manchester, Derry, Rochester, and Claremont show high death rates while their respective counties have normal rates. One possibility is a difference between rural vs. urban within counties. Another possibility is location of nursing homes. For example, Claremont has one of the largest nursing homes in NH.
- 10% of deaths in New Hampshire occur to Manchester residents.
- 43% of NH deaths occur to residents of the 14 largest towns (listed below).

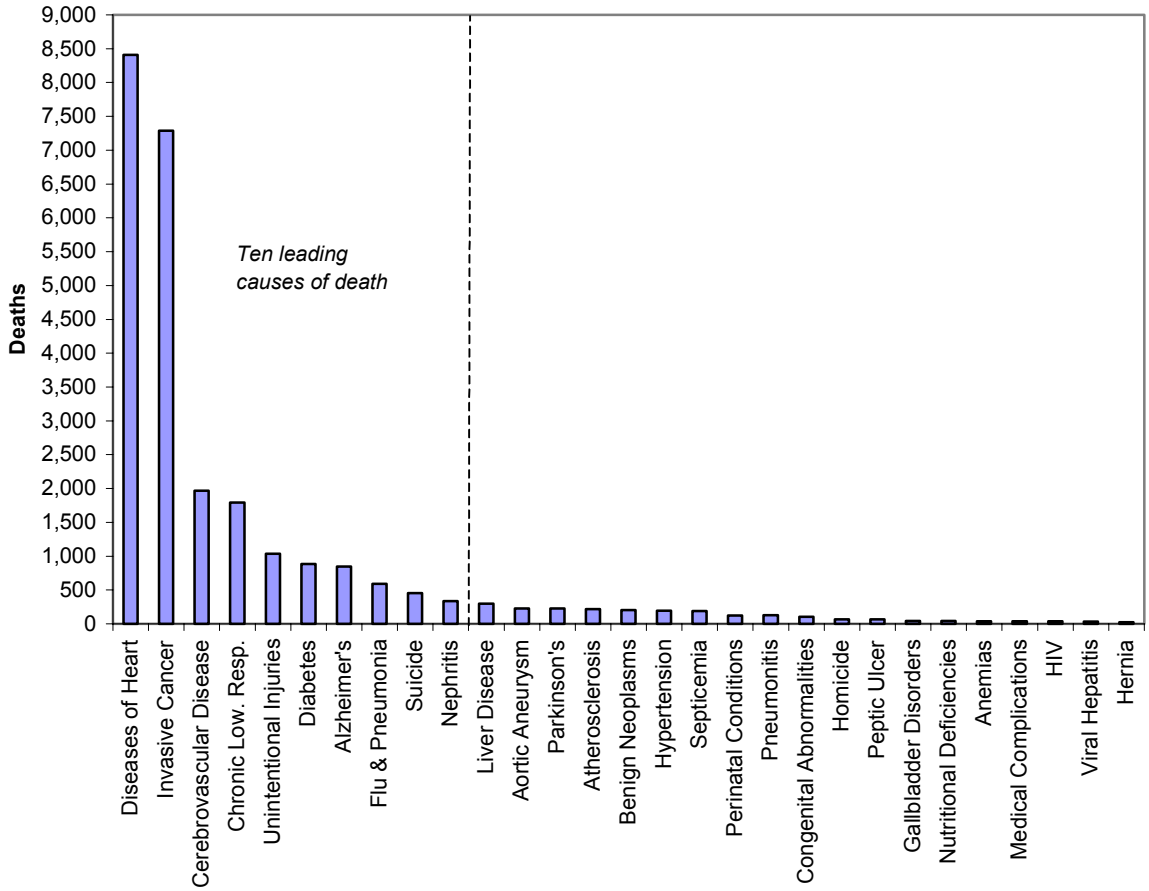
Table 5. Overall Death Rates by Selected Cities and Towns, New Hampshire Residents, 1999-2001

City / Town	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Bedford	452	801.7	(725.9, 877.5)
Berlin	475	921.3	(833.9, 1,008.7)
Claremont	493	980.4	(893.0, 1,067.7)
Concord	1,224	809.5	(762.4, 856.6)
Derry	524	920.7	(838.3, 1,003.0)
Dover	782	842.4	(782.4, 902.5)
Exeter	511	792.5	(720.6, 864.5)
Keene	726	865.3	(801.3, 929.3)
Laconia	610	876.9	(805.6, 948.2)
Manchester	2,916	867.1	(835.5, 898.7)
Nashua	1,918	790.5	(755.0, 825.9)
Portsmouth	719	870.1	(805.4, 934.8)
Rochester	817	937.6	(873.2, 1,002.0)
Salem	584	778.5	(714.5, 842.6)
NH	29,054	812.8	(803.4, 822.1)
US		865.2	

Overview of Leading Causes of Death in New Hampshire

- Figure 8, below, shows frequencies of deaths by category. This is useful for comparing the relative burden of deaths in society from different causes.

Figure 8. Total Number of Deaths by Leading Cause, New Hampshire Residents, 1999-2001



Note: This table includes infant deaths grouped in accordance with the National Center for Health Statistics list of 113 selected causes of death.

- Heart disease is the leading cause of death in New Hampshire with invasive cancer second. Together, cancer and heart disease account for 54% of all deaths.

Table 6. Leading Causes of Death, New Hampshire Residents, 1999-2001

Leading Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)	US Rate / 100,000	Comparison of NH to US
Diseases of Heart	8,408	236.1	(231.0, 241.1)	258.3	↓
Invasive Cancer	7,287	202.0	(197.4, 206.7)	198.6	
Cerebrovascular Disease	1,968	55.7	(53.3, 58.2)	60.0	↓
Chronic Low. Resp.	1,791	50.7	(48.3, 53.0)	44.4	↑
Unintentional Injuries	1,038	28.4	(26.7, 30.1)	33.9	↓
Diabetes	885	24.8	(23.2, 26.5)	25.1	
Alzheimer's	846	24.1	(22.4, 25.7)	17.8	↑
Flu & Pneumonia	591	16.7	(15.4, 18.1)	23.0	↓
Suicide	455	12.1	(11.0, 13.2)	10.5	↑
Nephritis	335	9.5	(8.4, 10.5)	13.5	↓
Liver Disease	297	8.0	(7.1, 8.9)	10.9	↓
Aortic Aneurysm	229	6.5	(5.6, 7.3)	5.6	
Parkinson's	226	6.5	(5.6, 7.3)	5.6	
Atherosclerosis	218	6.2	(5.4, 7.0)	5.2	↑
Benign Neoplasms	202	5.7	(4.9, 6.5)	4.9	
Hypertension	196	5.5	(4.8, 6.3)	15.1	↓
Septicemia	188	5.3	(4.5, 6.0)	11.3	↓
Perinatal Conditions	123	3.7	(3.1, 4.4)	4.8	↓
Pneumonitis	130	3.7	(3.1, 4.3)	5.9	↓
Congenital Abnormalities	106	3.0	(2.5, 3.6)	3.7	↓
Homicide	65	1.8	(1.4, 2.2)	6.3	↓
Peptic Ulcer	66	1.8	(1.4, 2.3)	1.6	
Gallbladder Disorders	41	1.2	(0.8, 1.6)	1.0	
Nutritional Deficiencies	41	1.2	(0.8, 1.6)	1.4	
Anemias	40	1.1	(0.8, 1.5)	1.6	↓
Medical Complications	37	1.0	(0.7, 1.4)	1.1	
HIV	39	1.0	(0.7, 1.4)	5.1	↓
Viral Hepatitis	35	0.9	(0.6, 1.2)	1.9	↓
Hernia	22	0.6	(0.4, 0.9)	0.5	

Note: This table includes only leading causes of death where 20 or more deaths have occurred
↓ indicates NH rate is lower than US rate, ↑ indicates NH rate is higher than US rate

- Compared to the US, New Hampshire has higher death rates for chronic lower respiratory disease, Alzheimer's disease, suicide, and atherosclerosis.
- New Hampshire has lower rates for heart disease, cerebrovascular disease, unintentional injuries, influenza and pneumonia, nephritis, liver disease, hypertension, septicemia, perinatal conditions, pneumonitis, congenital abnormalities, homicide, anemias, HIV, and viral hepatitis.

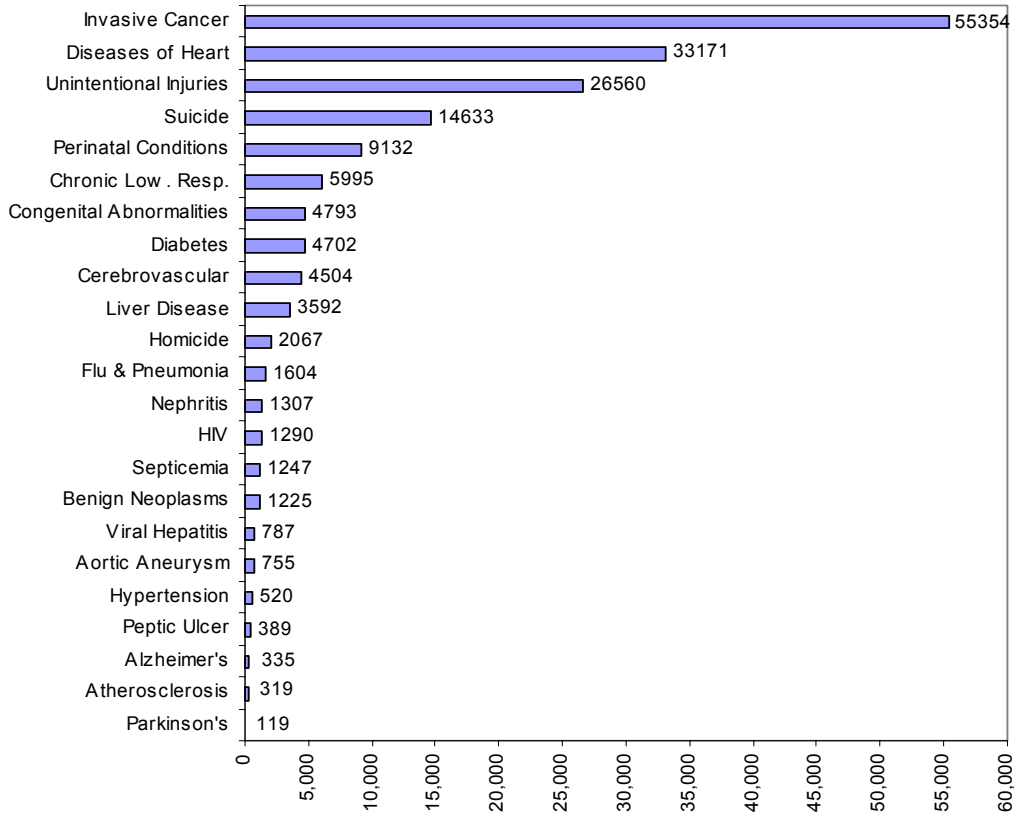
Years of Potential Life Lost

When calculating the years of potential life lost, it is assumed that an individual's life expectancy will be 75 years. The difference between a person's age at death and 75

amounts to the number of years of potential life lost for that individual. Individuals who live beyond 75 years of age are excluded from these results.

- While heart disease is the leading cause of death, cancer is responsible for more years of potential life lost when age 75 is set as the upper limit. Unintentional injuries rank third.
- Causes of death more common among young people will rank higher in this chart, such as unintentional injuries, suicide, perinatal conditions, and congenital deformities.

Figure 9. Years of Potential Life Lost, Life Expectancy of 75 Years, New Hampshire Residents, 1999–2001



Note: Years of potential life lost are calculated only when 20 or more individuals under age 75 died of a particular cause of death.

Leading Causes of Death by Race and Hispanic Ethnicity

Table 7. Leading Causes of Death by Race, New Hampshire Residents, 1999-2001

Leading Causes of Death	Asian	African American / Black	Hawaiian	American Indian	Other	Unknown	White
Diseases of Heart	20	21	1	12	0	4	8350
Invasive Cancer	29	27	0	5	0	8	7218
Cerebrovascular	6	9	0	0	0	2	1951
CLRD	4	4	0	2	1	0	1780
Unintentional Injuries	5	11	0	0	0	5	1017
Diabetes	3	4	0	1	0	1	876
Alzheimer's	0	4	0	0	0	0	842
Flu & Pneumonia	3	2	0	1	0	0	585
Suicide	7	2	0	1	0	2	443
Nephritis	1	2	0	0	0	1	331
Other	15	25	1	7	0	18	5384
Total	93	111	2	29	1	41	28777

Note: race groupings are based on Vital Records race codes in use for the period reported. Hawaiian includes part Hawaiian; American Indian Includes North, Central, and South American, Eskimo & Aleut; Asian includes non-Hawaiian Pacific islanders, Filipinos, as well as other non-white Asian populations.

Table 8. Leading Causes of Death by Ethnicity (any Race), New Hampshire Residents, 1999-2001

Leading Causes of Death	Hispanic	Non-Hispanic	Unknown
Diseases of Heart	13	8134	261
Invasive Cancer	17	7081	189
Cerebrovascular	7	1905	56
CLRD	4	1722	65
Unintentional Injuries	15	970	53
Diabetes	2	864	19
Alzheimer's	1	816	29
Flu & Pneumonia	2	570	19
Suicide	3	437	15
Nephritis	1	316	18
Other	25	5220	205
Total	90	28035	929

Note: ethnicity groupings are based on Vital Records ancestry codes in use for the period reported. Hispanic is made up of the codes for Mexican, Puerto Rican, Cuban, Central or South American, and Other Hispanic. Either Hispanic or non-Hispanic ethnicity could be for any race.

Leading Cause of Death by Age

The following chapter presents data by age group. We have chosen to use the age groups that are used nationally for Leading Cause of Death reporting. The age groups are as follows:

- Infants (less than one year old)
- 1 to 4
- 5 to 14
- 15 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 to 84
- 85 and older

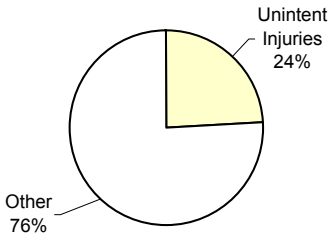
These age groups, with the exception of the infant group, are also used later in the chapter on the ten leading causes of death.

The series of pie charts on the next page present an overview of causes of death by age. Causes of death vary by age. Age groups are arranged in order and colors are consistent by cause of death category. It is useful to scan the pie charts from top to bottom in each column to compare proportions. Total deaths are shown on the left of each chart. Because these are percentages of the total and not rates based on the population, pie slices that are larger only indicate the relative burden within the age group. If a pie slice is larger in one age group than another, it only indicates that the cause is a greater proportion of the total for that group, not necessarily that it has a higher number of deaths or a higher rate.

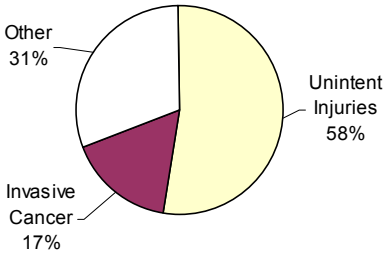
- Notice that invasive cancer increases as a proportion of age-specific deaths into middle age and then decreases among the elderly.
- Unintentional injury deaths increase among young people and then become proportionately less prominent after age 55.

Figure 10. Leading Causes of Death by Age, New Hampshire Residents, 1999–2001*

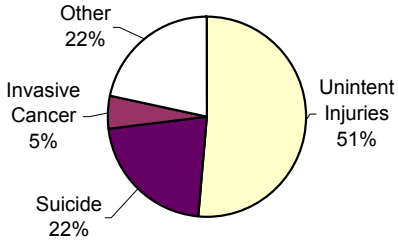
Ages 1-4
50 Deaths



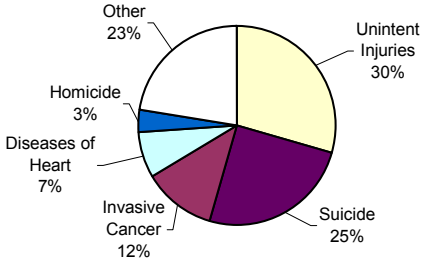
Ages 5-14
71 Deaths



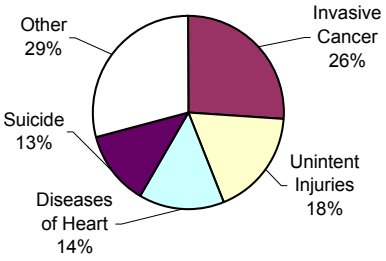
Ages 15-24
290 Deaths



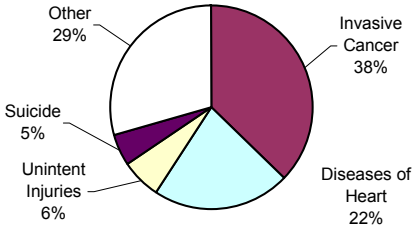
Ages 25-34
323 Deaths



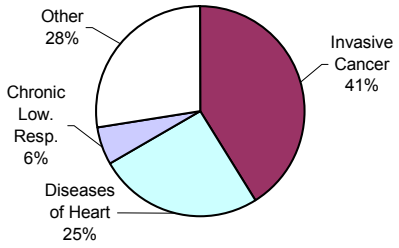
Ages 35-44
916 Deaths



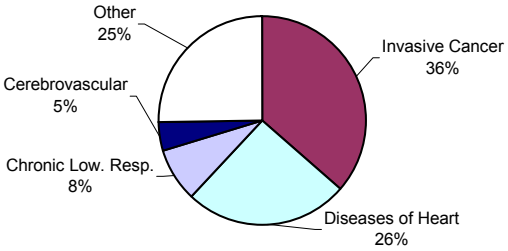
Ages 45-54
1,763 Deaths



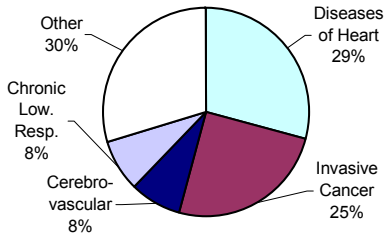
Ages 55-64
2,735 Deaths



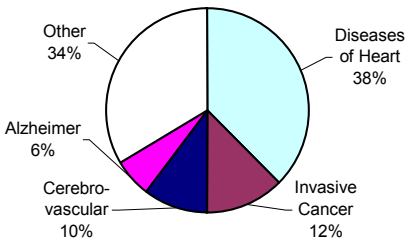
Ages 65-74
5,336 Deaths



Ages 75-84
8,616 Deaths



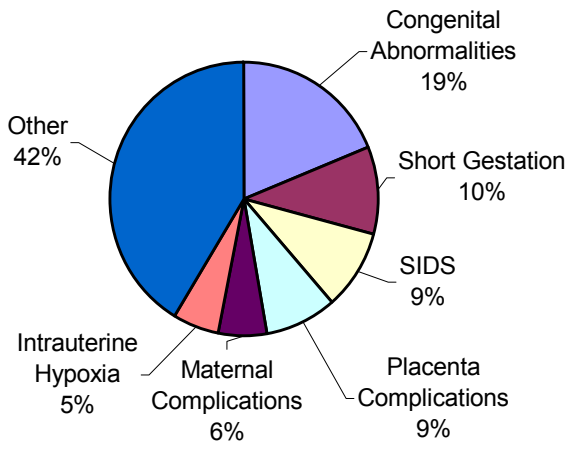
Ages 85 and Older
8,732 Deaths



*Only causes of death responsible for 4% or more of all deaths are represented

Infants

Figure 11. Leading Causes of Death for Infants, New Hampshire Residents, 1999-2001



- Infant deaths (defined as deaths in first year of life) are shown separately because they have their own list of leading causes.

- For further information about infant deaths, please consult:

1. *Child Fatality Review in the United States: A National Overview*
2. *New Hampshire Births: 1999-2000,* (infant mortality section)

(See reference section for detailed citation.)

Table 9. Leading Causes of Death for Infants, New Hampshire Residents, 1999-2001

Infant Leading Cause Groups	Deaths		
	Male	Female	Total
Congenital Anomalies	24	18	42
Short Gestation	10	13	23
SIDS	13	8	21
Placenta Complications	14	5	19
Maternal Complications	9	4	13
Intrauterine Hypoxia	3	9	12
Atelectasis	4	3	7
Interstitial Emphysema	1	5	6
Respiratory Distress	1	3	4
Neonatal Hemorrhage	2	2	4
Homicide	2	2	4
Complications of Labor	0	4	4
Circulatory System	3	1	4
Chronic Resp. Disease	3	1	4
Unintentional Injuries	1	2	3
Renal Failure	1	1	2
Noxious Influences	2	0	2
Maternal Conditions	1	1	2
Hydrops Fetalis	0	2	2
Flu & Pneumonia	1	1	2
Bacterial Sepsis	2	0	2
Volume Depletion	1	0	1
Spinal Muscular Atrophy	1	0	1
Septicemia	1	0	1
Pulmonary Hemorrhage	0	1	1
Neonatal Aspiration	0	1	1
Necrotizing Entercolitis	0	1	1
Invasive Cancer	1	0	1
Congenital Pneumonia	1	0	1
Birth Trauma	1	0	1
Benign Neoplasms	1	0	1
Anoxic Brain Damage	0	1	1
Other	17	12	29
Total	121	101	222

Age 1 to 4

Table 10. Leading Causes of Deaths for Ages 1 to 4 by Gender, New Hampshire Residents, 1999-2001

Age 1 to 4	Deaths		
Leading Causes	Male	Female	Total
Unintentional Injuries	7	5	12
Congenital Abnormalities	5	2	7
Invasive Cancer	3	4	7
Benign Neoplasms	0	2	2
Flu & Pneumonia	1	1	2
Homicide	0	1	1
Chronic Lower Respiratory	1	0	1
Diseases of Heart	1	0	1
Infections of Kidney	0	1	1
Other	9	7	16
Total	27	23	50

Note: rates not presented due to small numbers

- Deaths to infants and children involve relatively small numbers but are important because of the large social weight they carry.

Age 5 to 14

Table 11. Leading Causes of Death Rates for Ages 5 to 14 by Gender, New Hampshire Residents, 1999-2001

Age 5 to 14	Male		Female		Total		
Leading Causes	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	US Rate / 100,000
Unintentional Injuries	25	9.0 (5.8, 13.3)	12	4.5 (2.3, 7.9)	37	6.8 (4.8, 9.4)	7.2
Invasive Cancer	7	*	5	*	12	2.2 (1.1, 3.8)	2.5
Suicide	4	*	2	*	6	*	0.7
Cerebrovascular	1	*	0	*	1	*	0.3
Diabetes	0	*	1	*	1	*	0.1
Benign Neoplasms	0	*	1	*	1	*	0.2
Septicemia	1	*	0	*	1	*	0.2
Homicide	0	*	1	*	1	*	0.9
Anemias	0	*	1	*	1	*	0.1
Meningococcal infection	1	*	0	*	1	*	0.1

* Rates are suppressed when based upon fewer than 10 deaths.

- Injury prevention may be the best means of reducing deaths among children of all ages.

Age 15 to 24

Table 12. Leading Causes of Death Rates for Ages 15 to 24 by Gender, New Hampshire Residents, 1999-2001

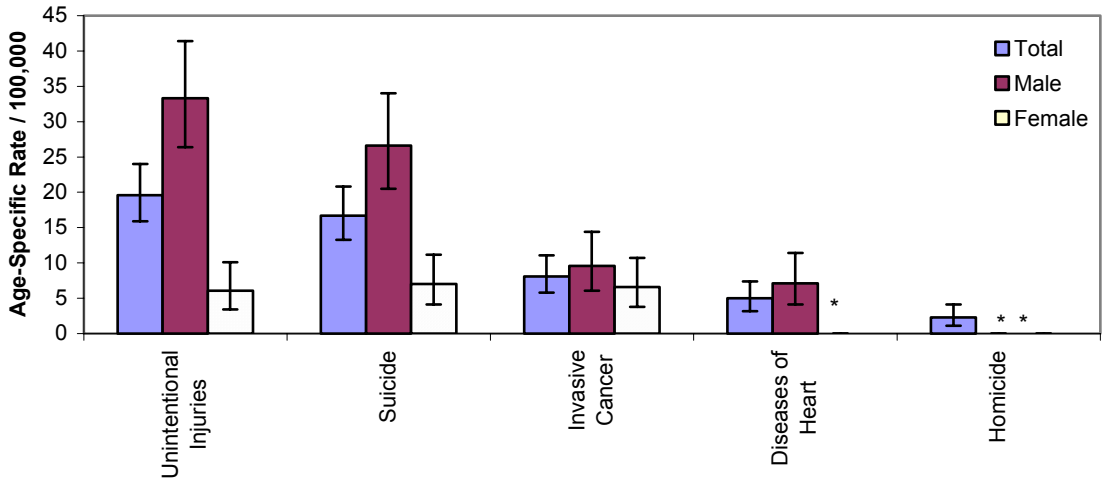
Age 15 to 24	Male		Female		Total		
Leading Causes	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	US Rate / 100,000
Unintentional Injuries	105	44.3 (35.8, 52.8)	44	18.9 (13.7, 25.4)	149	31.7 (26.6, 36.8)	34.6
Suicide	56	23.6 (17.8, 30.6)	7	*	63	13.4 (10.3, 17.1)	10.1
Invasive Cancer	6	*	9	*	15	3.2 (1.8, 5.3)	4.4
Diseases of Heart	6	*	3	*	9	*	0.4
Homicide	4	*	2	*	6	*	5.0
CLRD	2	*	2	*	4	*	0.2
Congenital Anomalies	3	*	1	*	4	*	0.6
Benign Neoplasms	1	*	2	*	3	*	0.1
Cerebrovascular	1	*	1	*	2	*	0.1
Diabetes	2	*	0	*	2	*	0.1

* Rates are suppressed when based upon fewer than 20 deaths.

- The suicide rate for 15 to 24 year olds in NH is higher than the US rate.

Age 25 to 34

Figure 12. Leading Causes of Death Rates for Ages 25 to 34 by Gender, New Hampshire Residents, 1999-2001



* Age-specific rates have been suppressed when based upon fewer than 10 deaths

- Unintentional injuries are the leading cause of death in this age group, but NH has a lower rate than the US rate.
- Similar to the 15 to 24 year old rate, the suicide rate for 25 to 34 year olds is higher than the US rate.

- Homicide is lower than the US rate.

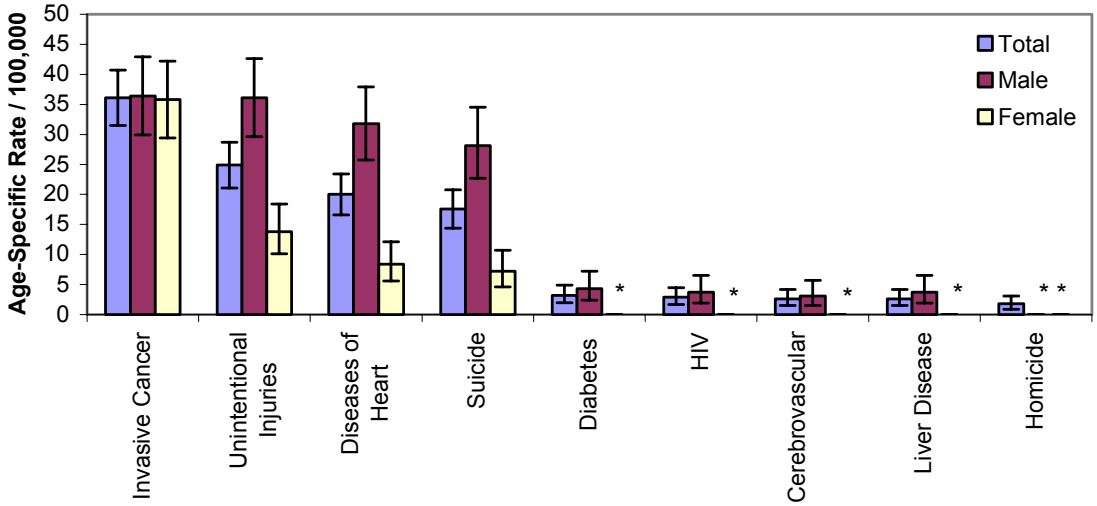
Table 13. Leading Causes of Death Rates for Ages 25 to 34 by Gender, New Hampshire Residents, 1999-2001

Age 25 to 34	Male		Female		Total		
Leading Causes	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	US Rate / 100,000
Unintentional Injuries	80	33.3 (26.4, 41.4)	15	6.1 (3.4, 10.1)	95	19.6 (15.9, 24.0)	28.4
Suicide	64	26.6 (20.5, 34.0)	17	7 (4.1, 11.2)	81	16.7 (13.3, 20.8)	12.5
Invasive Cancer	23	9.6 (6.1, 14.4)	16	6.6 (3.8, 10.7)	39	8.1 (5.8, 11.1)	9.9
Diseases of Heart	17	7.1 (4.1, 11.4)	7	*	24	5.0 (3.2, 7.4)	7.8
Homicide	7	*	4	*	11	2.3 (1.1, 4.1)	11.3
Congenital Anomalies	3	*	5	*	8	*	1.2
Diabetes	4	*	2	*	6	*	1.5
HIV	5	*	1	*	6	*	6.1
Complicated Pregnancy	0	*	5	*	5	*	0.5
Cerebrovascular	2	*	2	*	4	*	1.5

* Rates are suppressed when based upon fewer than 10 deaths.

Age 35 to 44

Figure 13. Leading Causes of Death Rates for Ages 35 to 44 by Gender, New Hampshire Residents, 1999-2001



* Age-specific rates have been suppressed when based upon fewer than 10 deaths

- Invasive cancer becomes the number one cause of death in this age group. There are nearly as many deaths from cancer in this age group as total deaths in the next younger (25 to 34) age group.
- HIV, though rare and much lower than the US rate, is most prominent in this age group.

- Heart disease makes an alarming appearance as a major cause of death in this age group.
- The injury rate is still high (number 2), but it is lower than the US rate.
- The high suicide rate should be of concern.
- Notice a pattern beginning in this age group of NH rates comparing favorably with US rates.

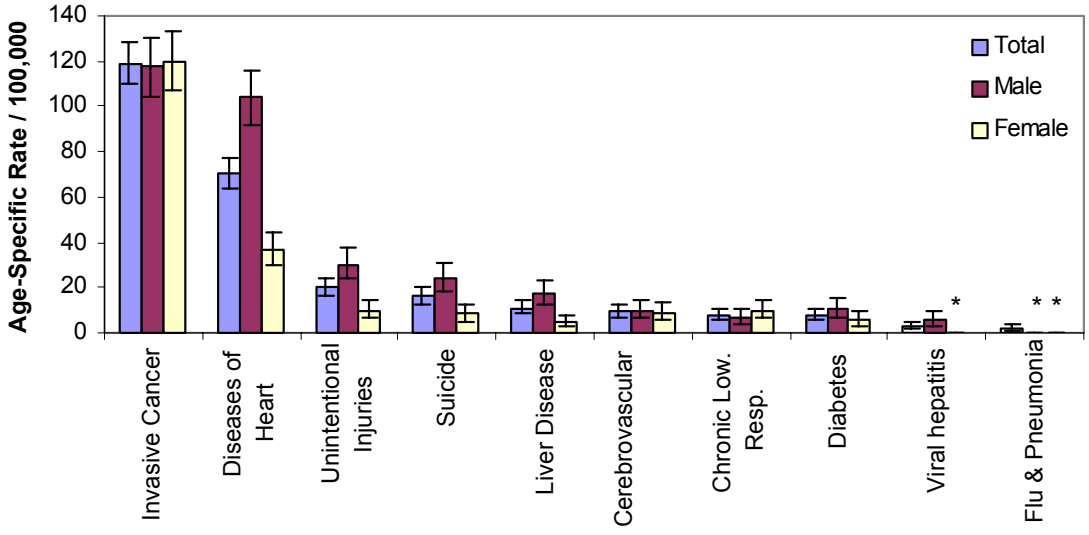
Table 14. Leading Causes of Death Rates for Ages 35 to 44 by Gender, New Hampshire Residents, 1999-2001

Age 35 to 44	Male		Female		Total		
Leading Causes	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	US Rate / 100,000
Invasive Cancer	119	36.4 (29.9, 42.9)	119	35.8 (29.4, 42.2)	238	36.1 (31.5, 40.7)	36.8
Unintentional Injuries	118	36.1 (29.6, 42.6)	46	13.8 (10.1, 18.4)	164	24.9 (21.1, 28.7)	32.8
Diseases of Heart	104	31.8 (25.7, 37.9)	28	8.4 (5.6, 12.1)	132	20.0 (16.6, 23.4)	30.0
Suicide	92	28.1 (22.7, 34.5)	24	7.2 (4.6, 10.7)	116	17.6 (14.4, 20.8)	14.5
Diabetes	14	4.3 (2.4, 7.2)	7	*	21	3.2 (2.0, 4.9)	4.3
HIV	12	3.7 (1.9, 6.5)	7	*	19	2.9 (1.7, 4.5)	13.3
Cerebrovascular	10	3.1 (1.5, 5.7)	7	*	17	2.6 (1.5, 4.2)	5.7
Liver Disease	12	3.7 (1.9, 6.5)	5	*	17	2.6 (1.5, 4.2)	7.4
Homicide	8	*	4	*	12	1.8 (0.9, 3.1)	7.9
Flu & Pneumonia	5	*	2	*	7	*	2.3

* Rates are suppressed when based upon fewer than 10 deaths.

Age 45 to 55

Figure 14. Top 10 Leading Causes of Death Rates for Ages 45 to 54 by Gender, New Hampshire Residents, 1999-2001



* Age-specific rates have been suppressed when based upon fewer than 10 deaths

- Even though heart disease is the overall leading cause of death in New Hampshire, invasive cancer ranks highest in this age group.
- Other causes of death are more prominent in this age group, such as liver, cerebrovascular and chronic lower respiratory diseases, and diabetes.
- This age group compares favorably with most US rates.
- CLRD in the table refers to chronic lower respiratory disease.

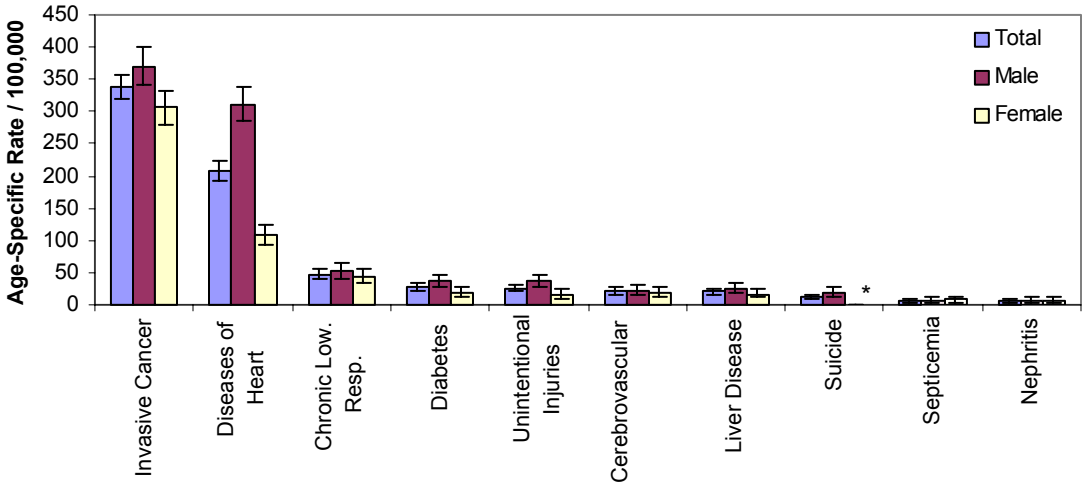
Table 15. Top 10 Leading Causes of Death Rates for Ages 45 to 54 by Gender, New Hampshire Residents, 1999-2001

Age 35 to 44	Male		Female		Total		
Leading Causes	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	US Rate / 100,000
Invasive Cancer	323	117.5 (104.7,130.3)	332	120.2 (107.3, 133.1)	655	118.9 (109.8, 128.0)	127.1
Diseases of Heart	286	104.0 (91.9, 116.1)	102	36.9 (29.7, 44.1)	388	70.4 (63.4, 77.4)	95.2
Unintentional Injuries	83	30.2 (24.1, 37.4)	28	10.1 (6.7, 14.6)	111	20.1 (16.4, 23.8)	31.3
Suicide	66	24.0 (18.6, 30.5)	23	8.3 (5.3, 12.5)	89	16.1 (12.9, 19.8)	14.5
Liver Disease	47	17.1 (12.6, 22.7)	13	4.7 (2.5, 8.0)	60	10.9 (8.3, 14.0)	17.9
Cerebrovascular	27	9.8 (6.5, 14.3)	25	9.1 (5.9, 13.4)	52	9.4 (7.0, 12.3)	15.4
CLRD	18	6.5 (3.9, 10.3)	27	9.8 (6.5, 14.3)	45	8.2 (6.0, 11.0)	8.5
Diabetes	29	10.5 (7.0, 15.1)	16	5.8 (3.3, 9.4)	45	8.2 (6.0, 11.0)	13.2
Viral Hepatitis	16	5.8 (3.3, 9.4)	1	*	17	3.1 (1.8, 5.0)	4.8
Flu & Pneumonia	9	*	2	*	11	2 (1.0, 3.6)	4.6

* Rates are suppressed when based upon fewer than 10 deaths.

Age 55 to 64

Figure 15. Top 10 Leading Causes of Death Rates for Ages 55 to 64 by Gender, New Hampshire Residents, 1999-2001



* Age-specific rates have been suppressed when based upon fewer than 10 deaths

- Death rates increase by a factor of nearly three compared to the previous age group, with invasive cancer still the leading cause of death.

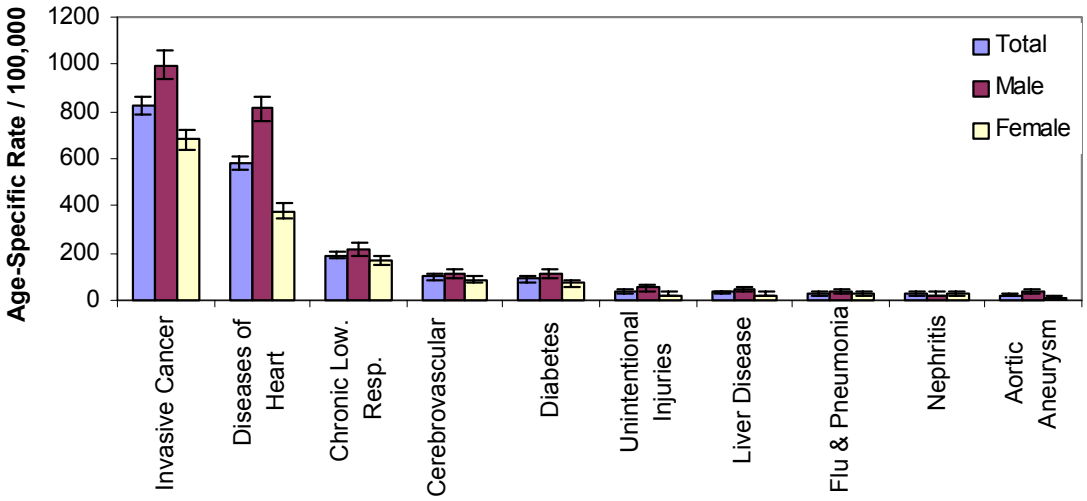
Table 16. Top 10 Leading Causes of Death Rates for Ages 55 to 64 by Gender, New Hampshire Residents, 1999-2001

Age 55 to 64	Male		Female				
Leading Causes	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	US Rate / 100,000
Invasive Cancer	611	370.7 (341.6, 399.8)	514	306.6 (280.1, 333.1)	1,125	338.4 (318.6, 358.2)	365.7
Diseases of Heart	513	311.2 (284.3, 338.1)	183	109.2 (93.4, 125.0)	696	(193.8, 224.8)	261.4
CLRD	85	51.6 (41.2, 63.8)	74	44.1 (34.6, 55.4)	159	(40.4, 55.2)	45.3
Diabetes	59	35.8 (27.3, 46.2)	33	19.7 (13.6, 27.7)	92	(22.3, 34.0)	38.0
Unintentional Injuries	60	36.4 (27.8, 46.9)	27	16.1 (10.6, 23.4)	87	(21.0, 32.3)	29.0
Cerebrovascular	38	23.1 (16.3, 31.7)	32	19.1 (13.1, 27.0)	70	(16.4, 26.7)	39.8
Liver Disease	40	24.3 (17.4, 33.1)	28	16.7 (11.1, 24.1)	68	(15.9, 26.0)	23.4
Suicide	31	18.8 (12.8, 26.7)	8	*	39	11.7 (8.3, 16.0)	12.5
Septicemia	10	6.1 (2.9, 11.2)	13	7.8 (4.2, 13.3)	23	6.9 (4.4, 10.4)	11.9
Nephritis	10	6.1 (2.9, 11.2)	10	6.0 (2.9, 11.0)	20	(3.7, 9.3)	12.6

* Rates are suppressed when based upon fewer than 10 deaths.

Age 65 to 74

Figure 16. Top 10 Leading Causes of Death Rates for Ages 65 to 74 by Gender, New Hampshire Residents, 1999-2001



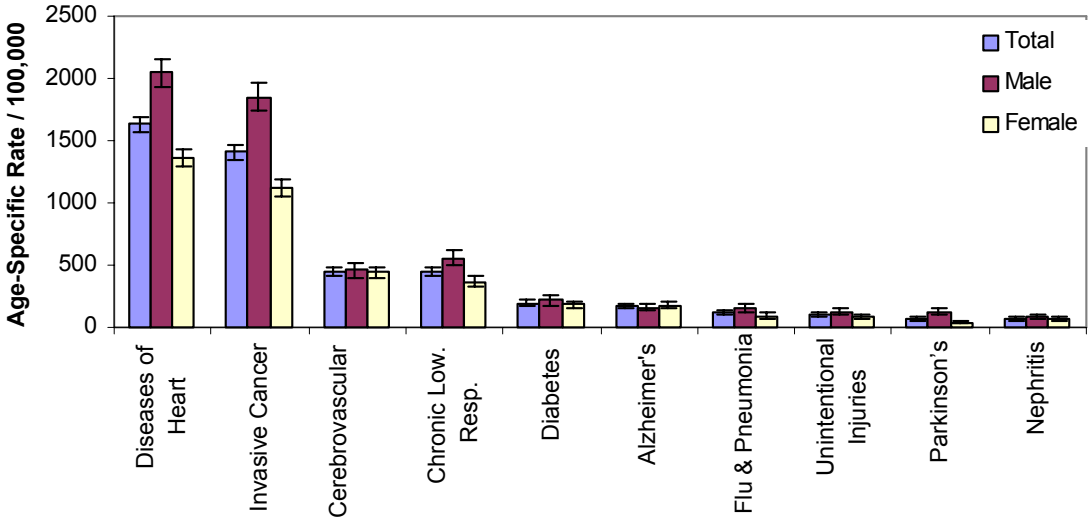
- Invasive cancer continues to lead.
- The top 6 leading causes of death in this age group increase by a magnitude of 2 to 3 times over the previous age group.
- Unintentional injuries drop from 5th to 7th in ranking but death rates from unintentional injuries increase.
- The rate for CLRD is higher than the US rate.

Table 17. Top 10 Leading Causes of Death Rates for Ages 65 to 74 by Gender, New Hampshire Residents, 1999-2001

Age 65 to 74	Male		Female		Total		
Leading Causes	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	US Rate / 100,000
Invasive Cancer	1,090	996.8 (937.6,1056.0)	851	680.2 (634.5, 725.9)	1,941	827.9 (791.1, 864.7)	815.3
Diseases of Heart	888	812.1 (758.7, 865.5)	474	378.9 (344.8, 413.0)	1,362	580.9 (550.0, 611.8)	674.4
CLRD	238	217.7 (190.0, 245.4)	211	168.6 (145.9, 191.3)	449	191.5 (173.8, 209.2)	171.5
Cerebrovascular	125	114.3 (94.3, 134.3)	110	87.9 (71.5, 104.3)	235	100.2 (87.4, 113.0)	127.6
Diabetes	122	111.6 (91.8, 131.4)	89	71.1 (57.1, 87.5)	211	90.0 (77.9, 102.1)	91.3
Unintentional Injuries	58	53.0 (40.2, 68.5)	29	23.2 (15.5, 33.3)	87	37.1 (29.7, 45.8)	30.1
Liver Disease	50	45.7 (33.9, 60.2)	29	23.2 (15.5, 33.3)	79	33.7 (26.7, 42.0)	37.5
Flu & Pneumonia	37	33.8 (23.8, 46.6)	30	24.0 (16.2, 34.3)	67	28.6 (22.2, 36.3)	37.5
Nephritis	25	22.9 (14.8, 33.8)	35	28.0 (19.5, 38.9)	60	25.6 (19.5, 33.0)	38.4
Aortic Aneurysm	40	36.6 (26.1, 49.8)	12	9.6 (5.0, 16.8)	52	22.2 (16.6, 29.1)	20.9

Age 75 to 84

Figure 17. Top 10 Leading Causes of Death Rates for Ages 75 to 84 by Gender, New Hampshire Residents, 1999-2001



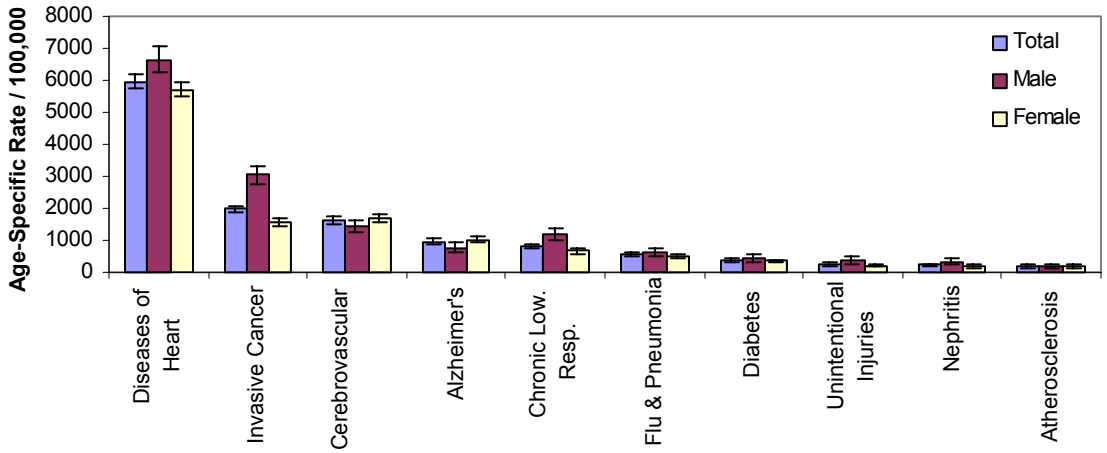
- Heart disease becomes the leading cause of death, but is lower than the US rate.
- Invasive cancer, CLRD, and Alzheimer's disease are higher than the US rates.

Table 18. Top 10 Leading Causes of Death Rates for Ages 75 to 84 by Gender, New Hampshire Residents, 1999-2001

Age 75 to 84	Male		Female		Total		
Leading Causes	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	US Rate / 100,000
Diseases of Heart	1,251	2,045.1 (1931.8, 2158.4)	1,259	1,361.7 (1286.5, 1436.9)	2,510	1,633.8 (1569.9, 1697.7)	1,805.2
Invasive Cancer	1,132	1,850.6 (1742.8, 1958.4)	1,035	1,119.4 (1051.2, 1187.6)	2,167	1,410.6 (1351.2, 1470.0)	1,327.2
Cerebrovascular	280	457.7 (404.1, 511.3)	412	445.6 (402.6, 488.6)	692	450.4 (416.8, 484.0)	458.1
CLRD	342	559.1 (499.8, 618.4)	340	367.7 (328.6, 406.8)	682	443.9 (410.6, 477.2)	387.7
Diabetes	132	215.8 (179.0, 252.6)	171	185 (157.3, 212.7)	303	197.2 (175.0, 219.4)	179.6
Alzheimer's	98	160.2 (130.1, 195.2)	165	178.5 (151.3, 205.7)	263	171.2 (150.5, 191.9)	138.9
Flu & Pneumonia	92	150.4 (121.2, 184.5)	84	90.9 (72.5, 112.5)	176	114.6 (97.7, 131.5)	155.2
Unintentional Injuries	77	125.9 (99.4, 157.4)	75	81.1 (63.8, 101.7)	152	98.9 (83.2, 114.6)	95.9
Parkinson's	74	121 (95.0, 151.9)	38	41.1 (29.1, 56.4)	112	72.9 (59.4, 86.4)	61.4
Nephritis	51	83.4 (62.1, 109.7)	57	61.7 (46.7, 79.9)	108	70.3 (57.0, 83.6)	100.8

Age 85 and Older

Figure 18. Top 10 Leading Causes of Death Rates for Ages 85 and Older by Gender, New Hampshire Residents, 1999-2001



- Heart disease becomes the overwhelming leading cause of death.
- Invasive cancer, CLRD, and Alzheimer's disease again exceed US rates.
- The diabetes death rate also exceeds the US rate.

Table 19. Top 10 Leading Causes of Death Rates for Ages 85 and Older by Gender, New Hampshire Residents, 1999-2001

Age 85 and Older	Male		Female		Total		
Leading Cause	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	US Rate / 100,000
Diseases of Heart	1,003	6,638.7 (6227.8, 7049.6)	2,282	5,706.3 (5472.2, 5940.4)	3,285	5,962.0 (5758.1, 6165.9)	5,920.0
Invasive Cancer	461	3,051.3 (2772.8, 3329.8)	626	1,565.4 (1442.8, 1688.0)	1,087	1,972.8 (1855.5, 2090.1)	1,790.2
Cerebrovascular	221	1,462.8 (1269.9, 1655.7)	671	1,677.9 (1550.9, 1804.9)	892	1,618.9 (1512.7, 1725.1)	1,561.5
Alzheimer's	116	767.8 (628.1, 907.5)	409	1,022.7 (923.6, 1121.8)	525	952.8 (871.3, 1034.3)	658.5
CLRD	182	1,204.6 (1029.6, 1379.6)	263	657.7 (578.2, 737.2)	445	807.6 (732.6, 882.6)	644.1
Flu & Pneumonia	96	635.4 (514.7, 775.9)	208	520.1 (449.4, 590.8)	304	551.7 (489.7, 613.7)	723.9
Diabetes	65	430.2 (332.0, 548.3)	139	347.6 (289.8, 405.4)	204	370.2 (319.4, 421.0)	318.5
Unintentional Injuries	55	364 (274.2, 473.8)	86	215 (172.0, 265.5)	141	255.9 (213.7, 298.1)	272.9
Nephritis	49	324.3 (239.9, 428.7)	78	195 (154.1, 243.4)	127	230.5 (190.4, 270.6)	277.3
Atherosclerosis	27	178.7 (117.8, 260.0)	76	190 (149.7, 237.8)	103	186.9 (150.8, 223.0)	189.1

Detail on the Ten Leading Causes of Death in New Hampshire

The ten leading causes of death in New Hampshire by the number of deaths are:

1. Diseases of Heart
2. Invasive Cancer
3. Cerebrovascular Disease
4. Chronic Lower Respiratory Disease
5. Unintentional Injuries (Accidents, in NCHS publications)
6. Diabetes
7. Alzheimer's Disease
8. Influenza and Pneumonia
9. Suicide
10. Nephritis

This section provides additional information on the ten leading causes of death.

Four of these causes (cancer, unintentional injuries, diabetes, and suicide) are thoroughly addressed in recent NH special reports. Asthma, which is part of the chronic lower respiratory disease group, has its own report. Suicide is covered in the injury report. The Behavioral Risk Factor Surveillance System report has general information on prevention and risk factors. (Please see reference section. Contact HSDM to order copies.)

Diseases of the Heart

Overview:

- Heart disease is the leading cause of death in New Hampshire and the US.
- Heart disease includes deaths from coronary heart disease, congestive heart failure, valvular heart disease, diseases of the pericardium, diseases of the myocardium, endocarditis, and congenital heart disease.

Risk Factors and Prevention (from the American Heart Association and CDC):

- Avoid use of tobacco products. It is estimated that smoking causes 98,000 US heart disease deaths a year.
- Exercise on a regular basis.
- Maintain normal body weight.

- Eat plenty of fruits and vegetables.
- Education regarding the early warning signs of heart attack, including calling 911 for medical emergencies, can reduce death and disability due to heart disease.

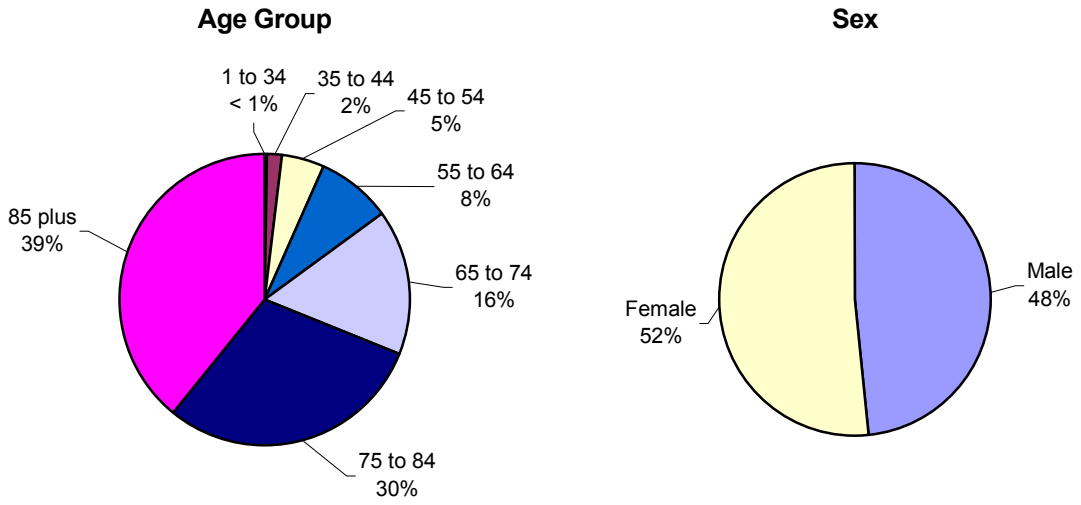
New Hampshire Facts (data from 2003 NH BRFSS):

- 21% of New Hampshire adults smoke.
- 54% of NH adults engaged in at least 30 min of moderate physical activity 5 or more times per week or at least 20 min of vigorous physical activity 3 or more times a week.
- 20% of NH adults engaged in no leisure time physical activity in the past 30 days.
- 20% of New Hampshire adults are obese.
- 57% of adults are overweight or obese.
- 43% of New Hampshire adults are at a healthy weight.
- 29% of New Hampshire adults consume 5 or more fruits and vegetables a day.
- 23% of NH adults have been told by a doctor or other health professional that they have high blood pressure
- 33% of NH adults have been told by a doctor or other health professional that they have high cholesterol

Resources:

- National Center for Health Statistics, Center for Disease Control, Fast Stats, Heart Disease: http://www.cdc.gov/nchs/fastats/heart.htm
- Centers for Disease Control: Cardiovascular Disease: http://www.cdc.gov/doc.do/id/0900f3ec802720b8
- American Heart Association: http://www.americanheart.org

Figure 19. Proportion of Diseases of the Heart Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001



- 85% of heart disease deaths occur after age 65, but the life-style factors contributing to this cause of death begin in childhood.

Table 20. Diseases of the Heart Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	2,757	237.9	(229.0, 246.8)	267.7
2000	2,819	237.9	(229.1, 246.7)	259.2
2001	2,832	232.6	(224.0, 241.2)	248.5
Total	8,408	236.1	(231.0, 241.1)	258.3

Note: Includes 1 infant death grouped by the same rules as non-infant deaths.

- New Hampshire rates are lower than the US. One reason may be that rates for heart disease deaths are higher among African Americans, and New Hampshire has a relatively small African American population.

Figure 20. Diseases of Heart Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001

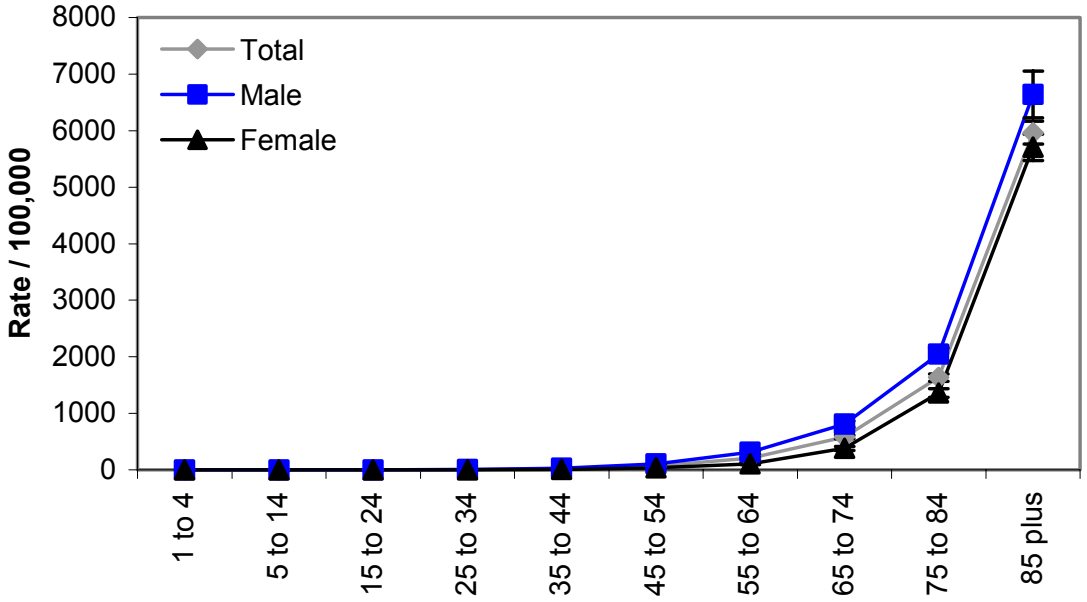


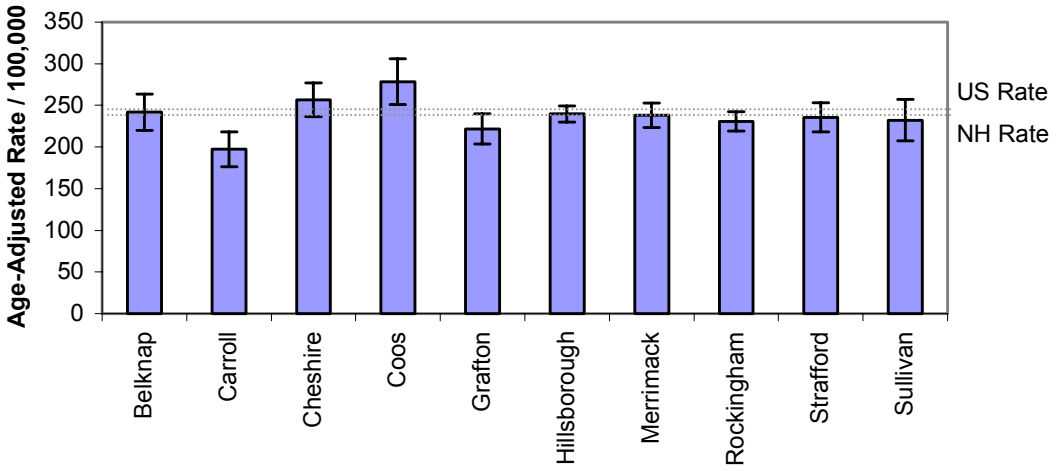
Table 21. Diseases of Heart Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001

Age Group	Male		Female		Total		US Rate
	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	
1 to 4	1	*	0	*	1	*	1.3
5 to 14	0	*	0	*	0	*	0.7
15 to 24	6	*	3	*	9	*	2.6
25 to 34	17	7.1 (4.1, 11.4)	7	*	24	5.0 (3.2, 7.4)	7.8
35 to 44	104	31.8 (25.7, 37.9)	28	8.4 (5.6, 12.1)	132	20.0 (16.6, 23.4)	30.0
45 to 54	286	104.0 (91.9, 116.1)	102	36.9 (29.7, 44.1)	388	70.4 (63.4, 77.4)	95.2
55 to 64	513	311.2 (284.3, 338.1)	183	109.2 (93.4, 125.0)	696	209.3 (193.8, 224.8)	261.4
65 to 74	888	812.1 (758.7, 865.5)	474	378.9 (344.8, 413.0)	1,362	580.9 (550.0, 611.8)	674.4
75 to 84	1,251	2,045.1 (1,931.8, 2,158.4)	1,259	1,361.7 (1,286.5, 1,436.9)	2,510	1,633.8 (1569.9, 1697.7)	1,805.2
85 plus	1,003	6,638.7 (6,227.8, 7,049.6)	2,282	5,706.3 (5,472.2, 5,940.4)	3,285	5962 (5758.1, 6165.9)	5,920.0
Age-Adjusted Total	4,069	113.5 (110.0, 117.0)	4,338	122.6 (119.0, 126.3)	8,407	236.1 (231.0, 241.1)	258.3

* Rates are suppressed when based upon fewer than 10 deaths.

Note: Excludes 1 female infant death (0 year old).

Figure 21. Diseases of Heart Death Rates by County, New Hampshire Residents, 1999–2001



- Carroll County has lower death rates for heart disease than NH and the US.

Table 22. Diseases of Heart Death Rates by County, New Hampshire Residents, 1999–2001

County	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Belknap	475	241.8	(220.0, 263.6)
Carroll	338	197.3	(176.2, 218.4)
Cheshire	619	256.6	(236.4, 276.8)
Coos	400	278.4	(251.0, 305.9)
Grafton	583	221.6	(203.6, 239.6)
Hillsborough	2383	239.6	(230.0, 249.3)
Merrimack	1032	238.0	(223.4, 252.6)
Rockingham	1541	230.7	(219.1, 242.3)
Strafford	696	235.5	(218.0, 253.0)
Sullivan	337	232.1	(207.3, 256.9)
Unknown	4	*	
NH	8408	236.1	(231.0, 241.1)
US		258.3	

* Rates are suppressed when based upon fewer than 10 deaths.

Note: Includes 1 infant death in Belknap County grouped by the same rules as non-infant deaths.

Invasive Cancer

Overview:

- This leading cause of death includes any of the various types of malignant neoplasms, most of which can invade surrounding tissues, may metastasize to several sites, and are likely to recur after attempted removal. For some types of cancer, death can be avoided with early diagnosis and adequate treatment.

Risk Factors and Prevention (from the National Cancer Institute):

- Avoid excessive alcohol consumption.
- Don't use tobacco products.
- Reduce exposure to carcinogenic chemicals in the workplace and environment.
- Females should be screened with breast exams and those women over 40 should also be screened with exams and mammograms.
- Males should be screened as recommended by their health provider for prostate cancer.
- Adults over age 50 should be screened for colon cancer.
- Increase consumption of fruits and vegetables.
- Avoid obesity.
- Avoid exposure to radiation and excessive exposure to sunlight.

New Hampshire Facts:

- Invasive cancer is the leading cause of death in New Hampshire for all age groups between ages 35 and 75. It is the second leading cause of death across all ages.

From the 2003 NH BRFSS:

- 21% of NH adults are current smokers.
- 20% of New Hampshire adults are obese.
- 43% of New Hampshire adults are at a healthy weight.
- 71% of New Hampshire adults do not consume 5 or more fruits and vegetables a day.
- 8% of NH adult males are chronic heavy alcohol drinkers (consuming an average of 2 or more drinks per day).
- 7% of NH adult females are chronic heavy alcohol drinkers (consuming an average of 1 or more drinks per day)
- 51% of NH residents claim that they have heard of radon, know how to have their homes tested, and have had tests performed. (2000 data)
- 41% of NH adults had sunburn in the past 12 months and 38% had 3 or more sunburns.
- 81% of NH women age 40 and older reported having a mammogram in the past 2 years. (2002 data)
- 55% of NH adults aged 50 and older report having either a fecal occult blood test within the past year or a sigmoidoscopy or colonoscopy exam within the past 5 years. (2002 data)

Resources:

- National Center for Health Statistics, Center for Disease Control, Fast Stats, Cancer: http://www.cdc.gov/nchs/fastats/cancer.htm
- Liu, CF. *Cancer in New Hampshire, 1999, An Annual Report on Cancer Incidence and Mortality*. http://www.dhhs.nh.gov/DHHS/HSDM/cancer-data.htm
- National Cancer Institute: http://www.cancer.gov/

Figure 22. Proportion of Invasive Cancer Deaths by Age Group and Sex, New Hampshire Residents, 1999–2001

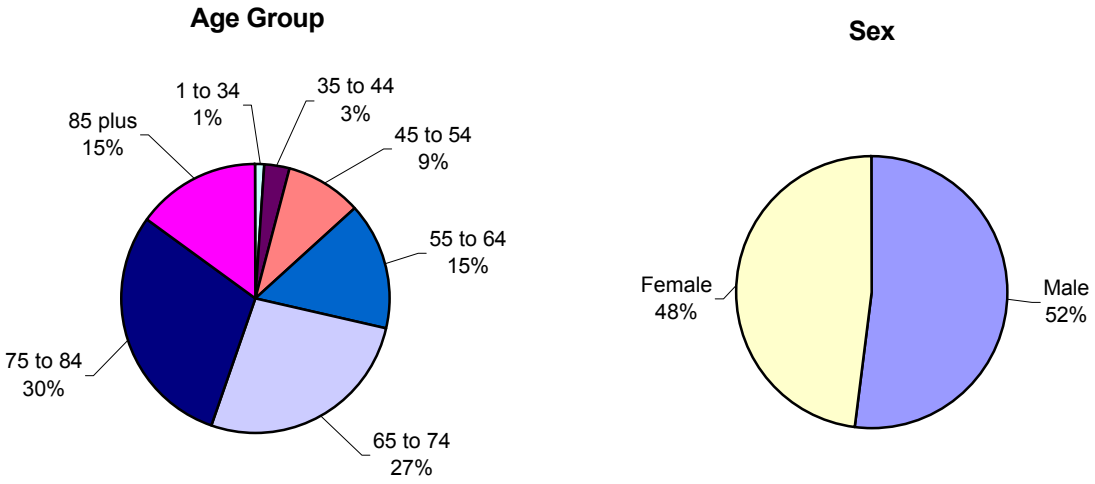


Table 23. Invasive Cancer Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	2,410	204.4	(196.2, 212.6)	200.8
2000	2,485	207.0	(198.9, 215.2)	172.5
2001	2,392	195.0	(187.1, 202.8)	195.6
Total	7,287	202.0	(197.4, 206.7)	198.6

Figure 23. Invasive Cancer Death Rates by Age Group and Sex, New Hampshire Residents, 1999–2001

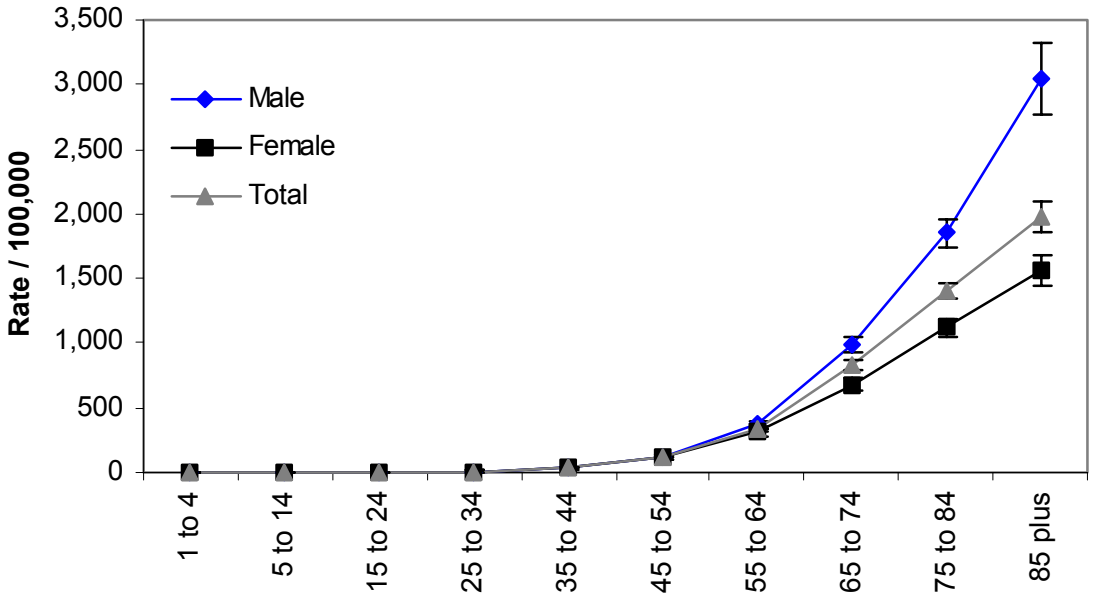
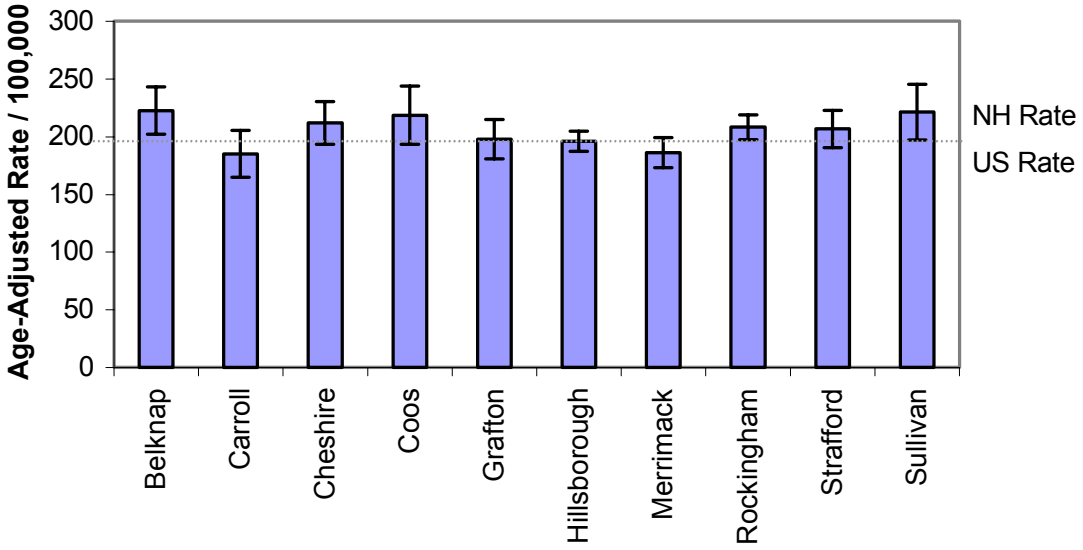


Table 24. Invasive Cancer Death Rates by Age Group and Sex, New Hampshire Residents, 1999–2001

Age Group	Male		Female		Total		US Rate
	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	
1 to 4	4	*	4	*	8	*	2.6
5 to 14	7	*	5	*	12	2.2 (1.1, 3.8)	2.5
15 to 24	6	*	9	*	15	3.2 (1.8, 5.3)	4.4
25 to 34	23	9.6 (6.1, 14.4)	16	6.6 (3.8, 10.7)	39	8.1 (5.8, 11.1)	9.9
35 to 44	119	36.4 (29.9, 42.9)	119	35.8 (29.4, 42.2)	238	36.1 (31.5, 40.7)	36.8
45 to 54	323	117.5 (104.7, 130.3)	332	120.2 (107.3, 133.1)	655	118.9 (109.8, 128.0)	127.1
55 to 64	611	370.7 (341.3, 400.1)	514	306.6 (280.1, 333.1)	1,125	338.4 (318.6, 358.2)	365.7
65 to 74	1,090	996.8 (937.6, 1,056.0)	851	680.2 (634.5, 725.9)	1,941	827.9 (791.1, 864.7)	815.3
75 to 84	1,132	1,850.6 (1,742.8, 1,958.4)	1,035	1,119.4 (1,051.2, 1,187.6)	2,167	1,410.6 (1,351.2, 1,470.0)	1,327.2
85 plus	461	3,051.3 (2,772.8, 3,329.8)	626	1,565.4 (1,442.8, 1,688.0)	1,087	1,972.8 (1,855.5, 2,090.1)	1,790.2
Age-Adjusted Total	3,776	252.5 (244.2, 260.8)	3,511	170.1 (164.5, 175.8)	7,287	202.0 (197.4, 206.7)	198.6

* Rates are suppressed when based upon fewer than 10 deaths.

Figure 24. Invasive Cancer Deaths by County, New Hampshire Residents, 1999–2001



Note: The NH Rate and the US Rate are too close to be distinguished based on the scale of this graph.

Table 25. Invasive Cancer Deaths by County, New Hampshire Residents, 1999–2001

County	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Belknap	446	222.5	(201.8, 243.1)
Carroll	323	184.9	(164.6, 205.2)
Cheshire	506	211.8	(193.3, 230.2)
Coos	298	218.5	(193.4, 243.5)
Grafton	513	197.6	(180.5, 214.7)
Hillsborough	1985	195.9	(187.3, 204.6)
Merrimack	771	186.1	(172.9, 199.3)
Rockingham	1493	208.1	(197.4, 218.8)
Strafford	625	206.6	(190.4, 222.8)
Sullivan	324	221.3	(197.2, 245.5)
NH	7287	202.0	(197.4, 206.7)
US		198.6	

Cerebrovascular Disease

Overview:

- Cerebrovascular disease (often called "stroke") is defined as a pathological change in the blood supply to the brain due to hemorrhage or occlusion of blood vessels.
- Cerebrovascular disease is the third leading cause of death in NH and the US.

Risk Factors and Prevention (from the National Center for Chronic Disease Prevention and Health Promotion):

- Control blood pressure with diet, salt restriction, exercise, and possibly medications.
- Exercise moderately on a regular basis.
- Eat plenty of fruits and vegetables.
- Avoid use of tobacco products.
- Control diabetes if present. (Diabetes doubles the risk of stroke.)
- Control blood cholesterol by avoiding cholesterol and fats in the diet, especially saturated fats. Reduce high-fat meat and dairy product consumption.
- Avoid excessive alcohol consumption.
- Maintain normal body weight.
- Female smokers over age 30 should avoid using oral contraceptives.
- Education regarding the early warning signs of stroke, including accessing 911 for medical emergencies, can reduce death and disability.

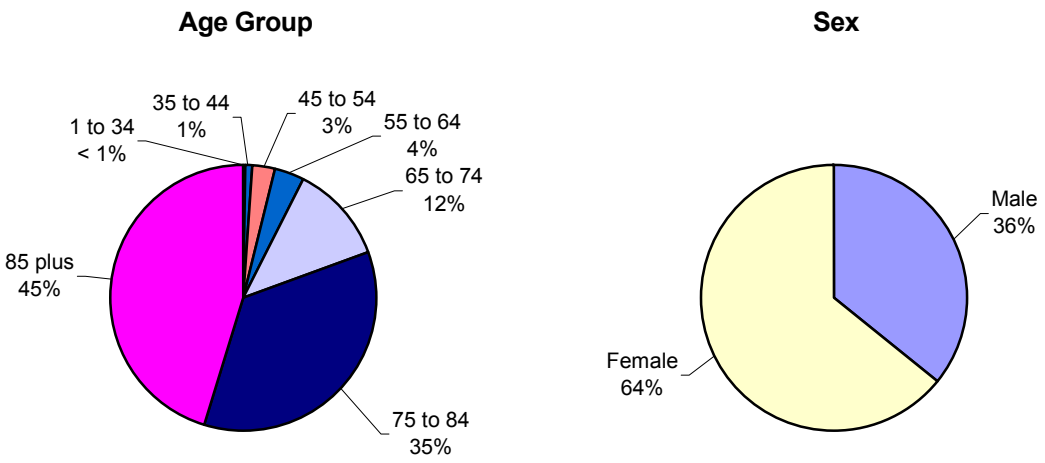
New Hampshire Facts:

- The Healthy New Hampshire 2010 goal is to reduce the overall death rate from strokes from the 1998 benchmark of 55.8 per 100,000 to 44.6. The combined 1999 to 2001 NH rate is 55.7 (53.3, 58.2) showing no change from the 1998 benchmark.

Resources:

- National Center for Health Statistics, Center for Disease Control, Fast Stats, Stroke/Cerebrovascular Disease: http://www.cdc.gov/nchs/fastats/stroke.htm
- National Center for Chronic Disease Prevention and Health Promotion, Stroke Fact Sheet: http://www.cdc.gov/cvh/library/fs_stroke.htm
- Centers for Disease Control, Stroke: http://www.cdc.gov/health/cardiov.htm

Figure 25. Proportion of Cerebrovascular Disease Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001



- More women die from cerebrovascular disease mainly because this is a disease of the elderly and women tend to live longer. Death rates are not different between men and women.

Table 26. Cerebrovascular Disease Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	669	58.2	(53.8, 62.7)	61.6
2000	665	56.6	(52.3, 60.9)	60.8
2001	634	52.5	(48.4, 56.6)	57.7
Total	1,968	55.7	(53.3, 58.2)	60.0

Figure 26. Cerebrovascular Disease Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

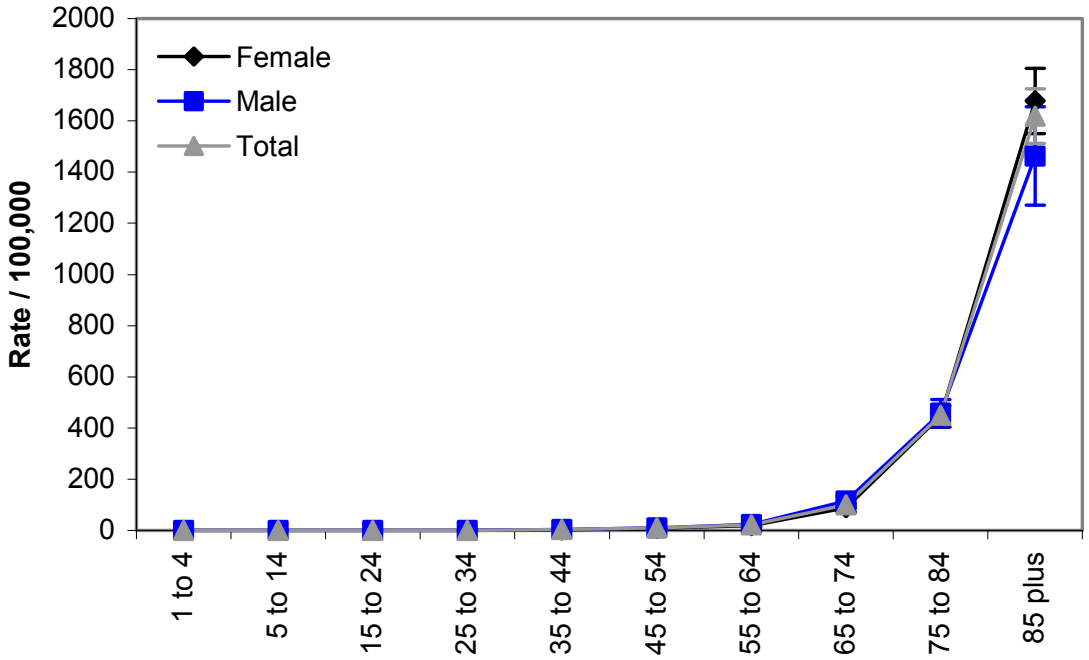


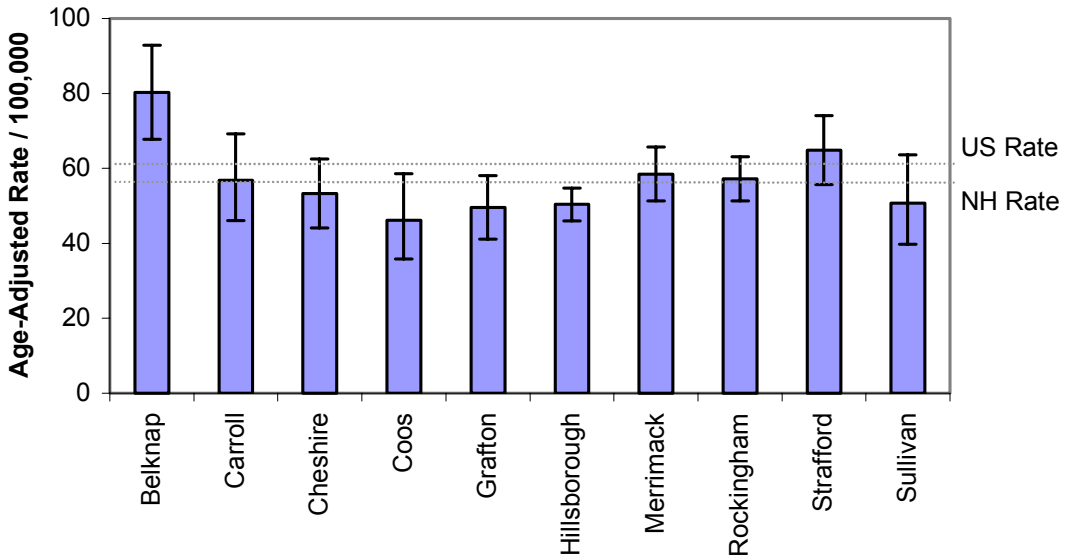
Table 27. Cerebrovascular Disease Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

Age Group	Male		Female		Total		US Rate
	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	
1 to 4	0	*	0	*	0	*	0.8
5 to 14	1	*	0	*	1	*	0.2
15 to 24	1	*	1	*	2	*	0.5
25 to 34	2	*	2	*	4	*	1.5
35 to 44	10	3.1 (1.5, 5.7)	7	*	17	2.6 (1.5, 4.1)	5.7
45 to 54	27	9.8 (6.5, 14.3)	25	9.1 (5.9, 13.4)	52	9.4 (7.0, 12.4)	15.4
55 to 64	38	23.1 (16.3, 31.7)	32	19.1 (13.1, 27.0)	70	21.1 (16.4, 26.6)	39.8
65 to 74	125	114.3 (94.3, 134.3)	110	87.9 (71.5, 104.3)	235	100.2 (87.4, 113.0)	127.6
75 to 84	280	457.7 (404.1, 511.3)	412	445.6 (402.6, 488.6)	692	450.4 (416.9, 484.0)	458.1
85 plus	221	1,462.8 (1,269.9, 1,655.7)	671	1677.9 (1,550.9, 1,804.9)	892	1,618.9 (1,512.7, 1,725.1)	1,561.5
Age-Adjusted Total	705	54.8 (50.7, 59.0)	1,260	55.2 (52.1, 58.3)	1,965	55.6 (53.2, 58.1)	60.0

- Rates are suppressed when based upon fewer than 10 deaths.

- NH cerebrovascular death rates are lower that US rates except in the 85+-age group.
- The NH cerebrovascular death rate for women is higher than for men in the 85+ age group.

Figure 27. Cerebrovascular Disease Deaths by County, New Hampshire Residents, 1999-2001



- The cerebrovascular death rate is higher for Belknap County and lower for Hillsborough County compared to the rest of the state.

Table 28. Cerebrovascular Disease Deaths by County, New Hampshire Residents, 1999-2001

County	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Belknap	157	80.3	(67.8, 92.9)
Carroll	98	56.8	(46.1, 69.2)
Cheshire	129	53.3	(44.1, 62.5)
Coos	67	46.2	(35.8, 58.6)
Grafton	131	49.6	(41.1, 58.1)
Hillsborough	498	50.4	(46.0, 54.8)
Merrimack	255	58.5	(51.3, 65.7)
Rockingham	368	57.2	(51.3, 63.1)
Strafford	191	64.9	(55.7, 74.1)
Sullivan	74	50.7	(39.8, 63.6)
NH	1968	55.7	(53.3, 58.2)
US		60.0	

Chronic Lower Respiratory Disease

Overview:

- Chronic lower respiratory disease includes the related diseases of COPD (chronic obstructive pulmonary disease), emphysema, asthma, and chronic bronchitis.

- Chronic obstructive pulmonary disease (COPD) refers to all diseases that cause a temporary or permanent narrowing of the small bronchi causing difficulty with forced expiration.
- Chronic bronchitis is diagnosed when a patient has excessive airway mucus secretion leading to a persistent, productive cough. In chronic bronchitis, there also may be narrowing of the large and small airways making it more difficult to move air in and out of the lungs.
- Emphysema is a condition where the size of air spaces in the lung increases and those spaces are reduced in number. This process is accompanied by difficulty getting enough oxygen and inability to fully expire air from the lungs. Emphysema and chronic bronchitis often go together.
- Asthma is also included in this group of lung diseases and is defined as an inflammatory disease characterized by reversible (in most cases) airway obstruction.
- Nearly half of all people with chronic lower respiratory disease are undiagnosed.

Risk Factors and Prevention (from the American Lung Association):

- Quit smoking or never start. Smoking causes over 80% of chronic lower respiratory deaths. Most patients with these diseases have a long history of heavy cigarette smoking.
- Avoid second hand smoke.
- Reduce exposure to indoor air pollutants such as smoke from cooking and heating.
- Reduce the incidence of low birth weight births by improving maternal nutrition and health. (Low-birth-weight babies are more prone to respiratory diseases.)
- Avoid occupational dusts and chemicals.
- Avoid outdoor air pollution such as motor vehicle exhaust fumes.
- Reduce the incidence of severe childhood respiratory infections.

New Hampshire Facts:

- NH is working to reduce air pollution transport from other states (ozone and small particles), which may relate to incidence and severity of chronic lower respiratory disease in NH[13].

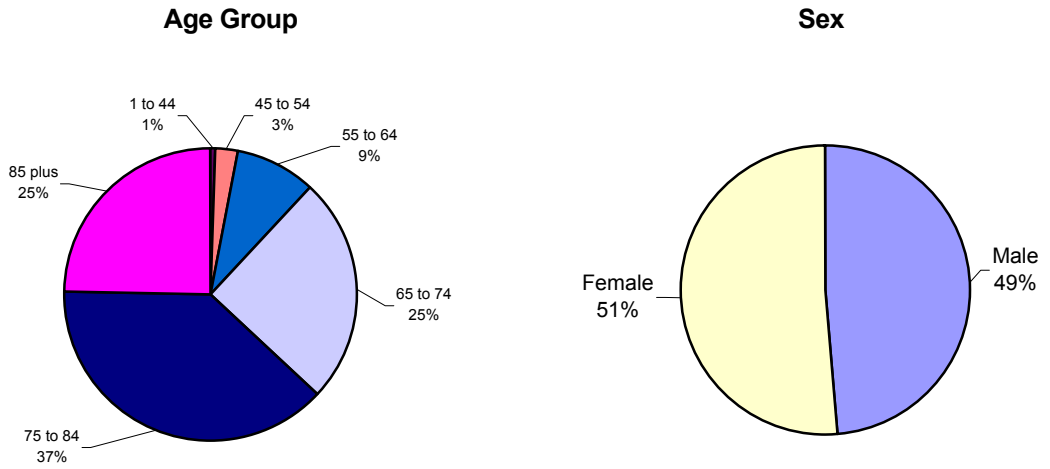
From the 2003 NH BRFSS:

- Smoking tends to be more prevalent in younger adults than in older individuals. One third (33%) of adults aged 18-34 smoke compared to 10% of adults aged 65 or older.
- 53% of current NH smokers say they have tried to quit in the previous year.

Resources:

- National Center for Health Statistics, CDC, Fast Stats, Chronic Obstructive Pulmonary Disease (COPD): http://www.cdc.gov/nchs/fastats/copd.htm
- American Lung Association: http://www.lungusa.org/

Figure 28. Proportion of Chronic Lower Respiratory Disease Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001



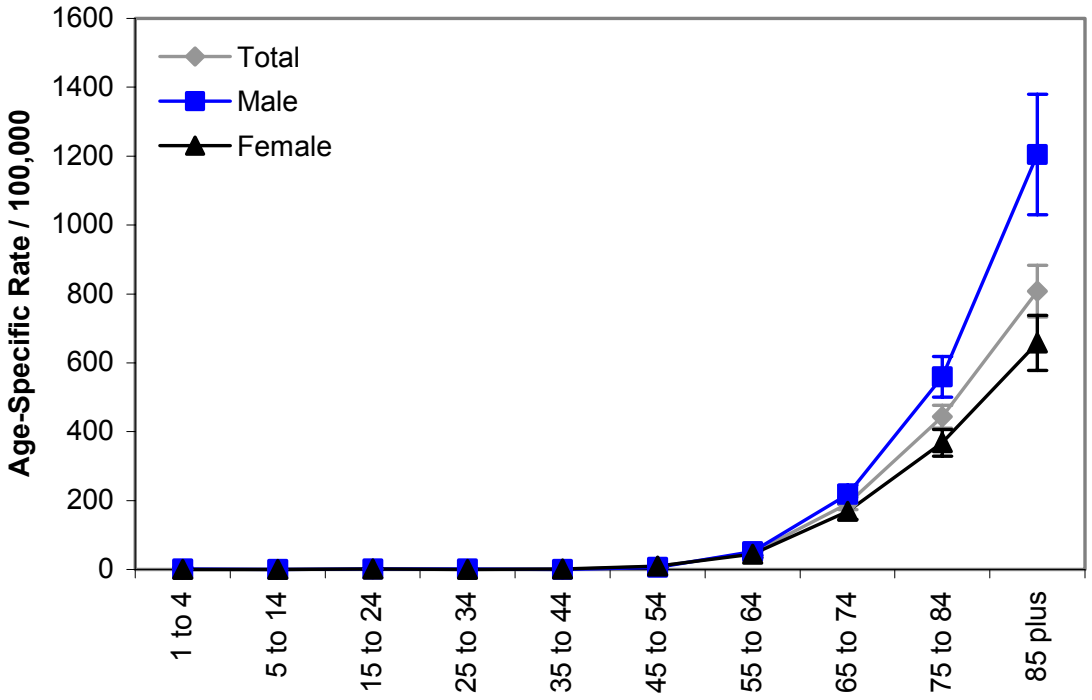
- Chronic lower respiratory disease is primarily a disease of the elderly with 87% of deaths occurring after age 65.

Table 29. Chronic Lower Respiratory Disease Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	593	51.3	(47.2, 55.4)	45.4
2000	581	49.4	(45.3, 53.4)	44.2
2001	617	51.3	(47.2, 55.3)	43.6
Total	1,791	50.7	(48.3, 53.0)	44.4

- Overall death rates for chronic lower respiratory disease are higher than US rates for each year from 1999 to 2001.

Figure 29. Chronic Lower Respiratory Disease Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001



Note: 95% confidence interval for the statistic is indicated through the use of the error bars above and below the top of each line in this graph. Overlapping confidence bars indicate a lack of significant difference.

Table 30. Chronic Lower Respiratory Disease Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

Age Group	Male		Female		Total		US Rate
	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	
0 to 4	1	*	0	*	1	*	0.4
5 to 14	0	*	0	*	0	*	0.3
15 to 24	2	*	2	*	4	*	0.5
25 to 34	2	*	0	*	2	*	0.8
35 to 44	1	*	3	*	4	*	2.1
45 to 54	18	6.5 (3.9, 10.3)	27	9.8 (6.5, 14.3)	45	8.2 (6.0, 10.9)	8.5
55 to 64	85	51.6 (41.2, 63.8)	74	44.1 (34.6, 55.4)	159	47.8 (40.4, 55.3)	45.3
65 to 74	238	217.7 (190.0, 245.4)	211	168.6 (145.9, 191.3)	449	191.5 (173.8, 209.2)	171.5
75 to 84	342	559.1 (499.8, 618.4)	340	367.7 (328.6, 406.8)	682	443.9 (410.6, 477.2)	387.7
85 plus	182	1,204.6 (1029.6, 1379.6)	263	657.7 (578.2, 737.2)	445	807.6 (732.6, 882.7)	644.1
Age-Adjusted Total	871	63.8 (59.5, 68.2)	920	43.3 (40.4, 46.1)	1,791	50.7 (48.3, 53.0)	44.4

* Rates are suppressed when based upon fewer than 10 deaths.

- While there are more deaths among females in the 85+ age group, the rate is higher for males. This is an example of the value of comparing total deaths to death rates.
- NH has higher overall death rates than the US for all age groups older than age 64.

Figure 30. Chronic Lower Respiratory Disease Death Rates by County, New Hampshire Residents, 1999-2001

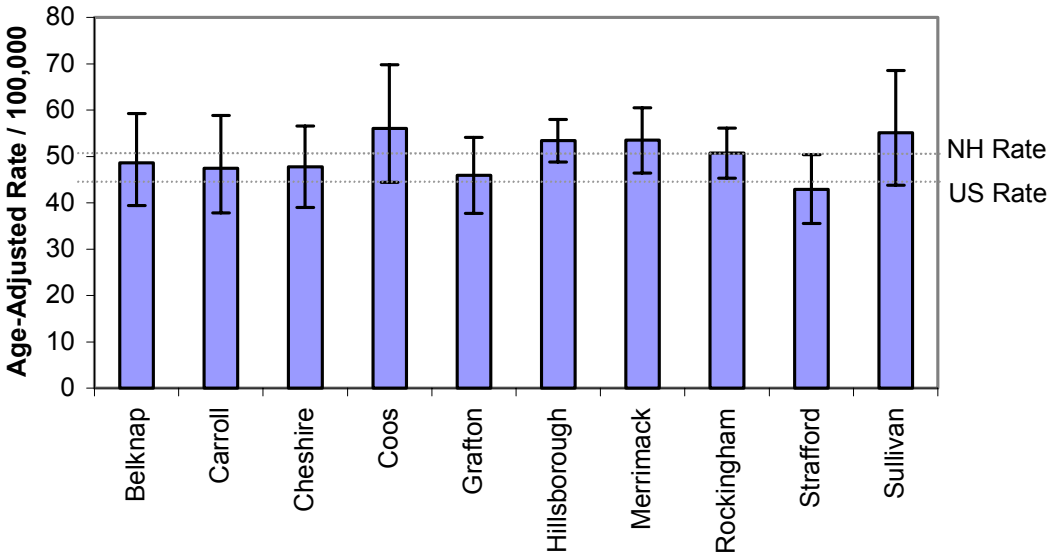


Table 31. Chronic Lower Respiratory Disease Death Rates by County, New Hampshire Residents, 1999-2001

County	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Belknap	97	48.6	(39.4, 59.2)
Carroll	83	47.4	(37.8, 58.8)
Cheshire	115	47.8	(39.0, 56.5)
Coos	79	56.0	(44.4, 69.8)
Grafton	120	45.9	(37.7, 54.1)
Hillsborough	525	53.4	(48.8, 58.0)
Merrimack	225	53.5	(46.4, 60.5)
Rockingham	337	50.7	(45.3, 56.1)
Strafford	128	42.9	(35.5, 50.4)
Sullivan	81	55.1	(43.8, 68.5)
NH	1791	50.7	(48.3, 53.0)
US		44.4	

Unintentional Injuries (Accidents)

Overview:

- Unintentional injury is the preferred term for this cause of death group because homicides and suicides are not included, and the word "accident" suggests that these events cannot be prevented, when in fact, most injuries are preventable. However, NCHS refers to this cause of death group as

accidents when reporting on leading causes of death. The injury prevention and surveillance staff at CDC prefers the term unintentional injury.

Risk Factors and Prevention:

- The following web-site has excellent information on injury prevention: http://www.cdc.gov/ncipc/factsheets/fworks.htm

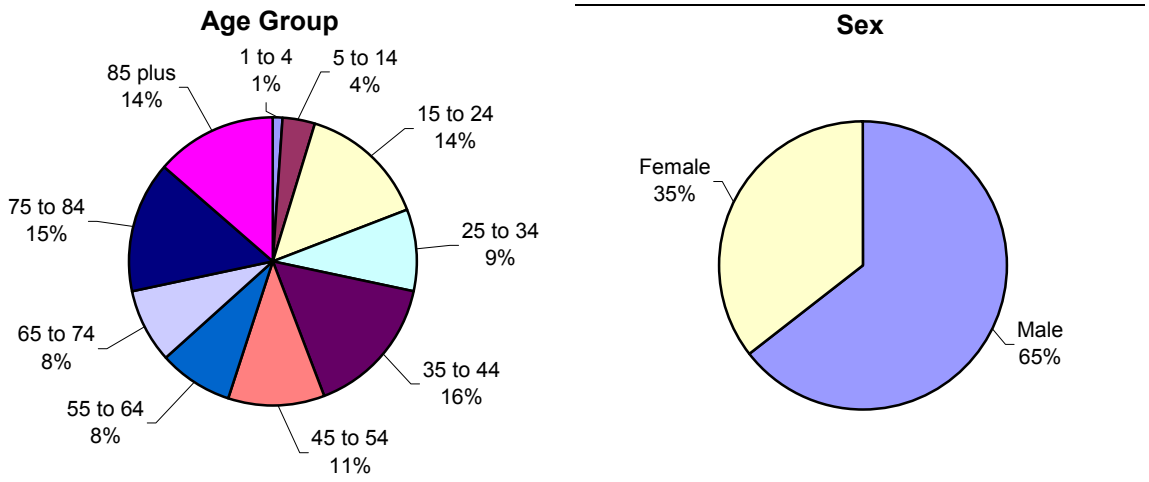
New Hampshire Facts:

- Unintentional injuries are the 5th leading cause of death in NH.
- Unintentional injuries are the 3rd leading cause of years of potential life lost.
- Unintentional injuries are the leading cause of death for all age groups between ages 1 and 34.
- Unintentional injuries are the only leading cause of death to be listed in the first ten leading causes for every age group except infants.

Resources:

- Burns, E., Twitchell, N. *New Hampshire Injuries, 1999-2001*, http://www.dhhs.nh.gov/DHHS/HSDM/LIBRARY/Data-Statistical+Report/default.htm.
- National Center for Health Statistics, CDC, Fast Stats, All Injuries, http://www.cdc.gov/nchs/fastats/acc-inj.htm
- National Center for Injury Prevention and Control: http://www.cdc.gov/ncipc/default.htm

Figure 31. Proportion of Unintentional Injury Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001



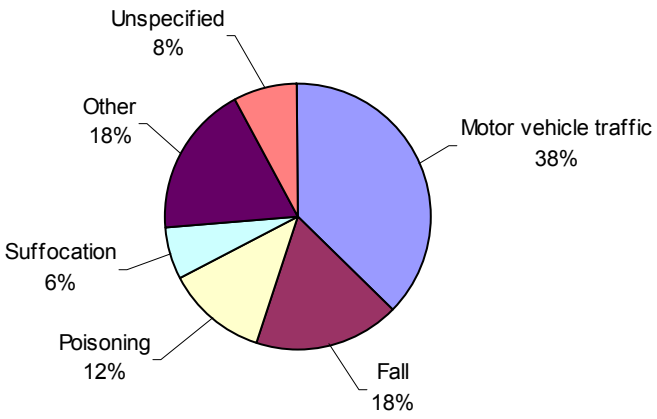
- Injuries are the leading cause of death among younger age groups, but the pie chart shows that all age groups are at risk.
- Two thirds of unintentional injury deaths involve men. Men suffer 300 more unintentional injury deaths a year in NH than females.

Table 32. Unintentional Injury Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	326	27.2	(24.3, 30.2)	33.9
2000	335	27.3	(24.4, 30.3)	33.5
2001	377	30.5	(27.4, 33.6)	34.1
Total	1,038	28.4	(26.7, 30.1)	33.9

- NH overall unintentional injuries death rates are lower than US rates every year from 1999 to 2001.

Figure 32. Unintentional Injury Deaths by Mechanism, New Hampshire Residents, 1999-2001



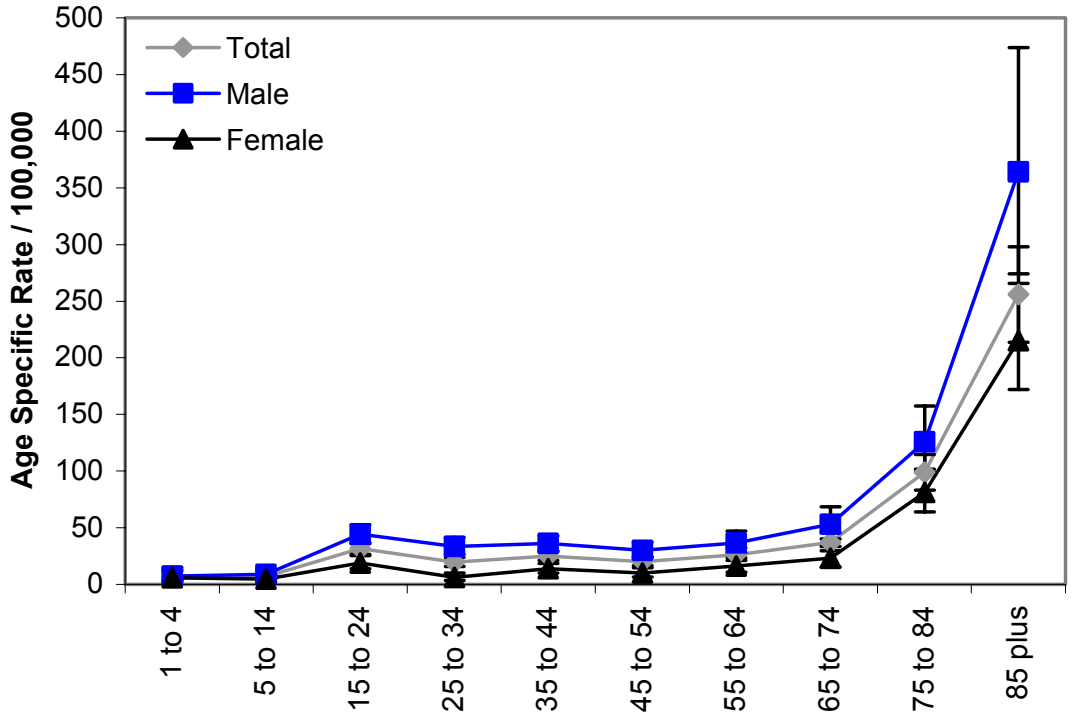
- *New Hampshire Injuries* shows a more detailed breakdown of injury by mechanism, but the above chart is sufficient to point out the large proportions of injury deaths resulting from motor vehicle traffic crashes, falls, poisonings, and suffocation. The following table shows more detail.
- An obvious question is how these mechanisms are distributed across age groups. As might be expected, more motor vehicle traffic deaths involve young adults and most fall deaths involve the elderly. Poisoning death rates are relatively high in the 0-4 and 75+ age group. Please see the Injury Report for more information.

Table 33. Unintentional Injury Deaths by Mechanism, New Hampshire Residents, 1999-2001

Mechanism*	Deaths	Age-Adjusted Rate/ 100,000	(95% CI)
Motor vehicle traffic	385	10.5	(9.5, 11.6)
Fall	186	5.2	(4.5, 6.0)
Poisoning	128	3.3	(2.8, 3.9)
Suffocation	66	1.8	(1.4, 2.3)
Fire/hot object or substance- fire/flame	40	1.1	(0.8, 1.5)
Drowning	29	0.8	(0.5, 1.1)
Other land transport	23	0.6	(0.4, 0.9)
Natural/environmental	22	0.6	(0.4, 0.9)
Other	77	2.1	(1.6, 2.6)
Unspecified	82	2.3	(1.8, 2.9)
Total	1,038	28.4	(26.7, 30.1)

* ICD-10 code ranges for these causes of death mechanisms are included in NH Injuries, 1999-2001.

Figure 33. Unintentional Injury Death Rates by Age and Sex, New Hampshire Residents, 1999–2001



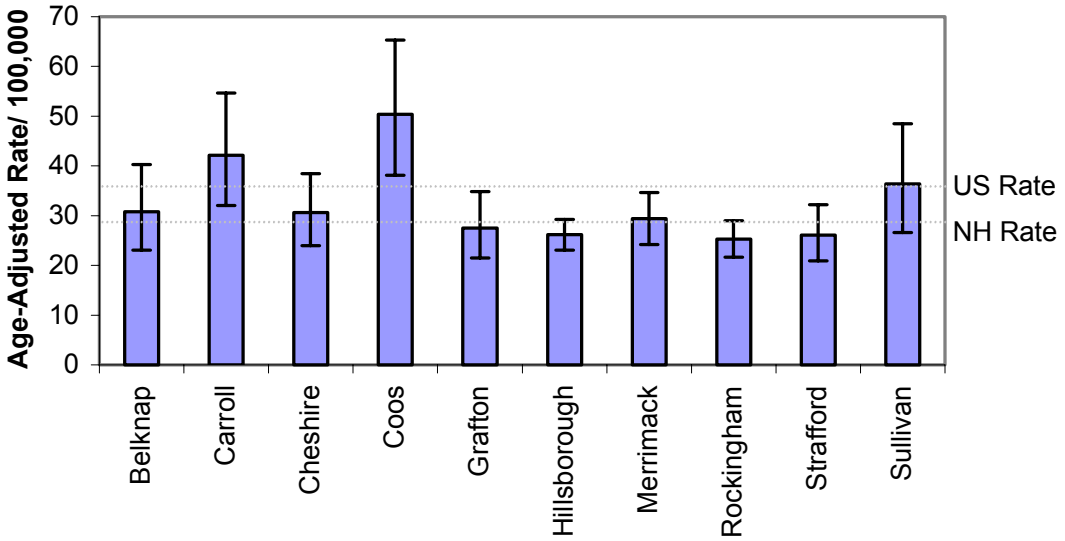
- The highest rates of injury are found among the oldest age groups. This fact is often hidden by the relatively larger number of deaths in the elderly from other causes.

Table 34. Unintentional Injury Death Rates by Age and Sex, New Hampshire Residents, 1999–2001

Age Group	Male		Female		Total		US Rate
	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	
0 to 4	8	*	7	*	15	6.5 (3.6, 10.7)	13.1
5 to 14	25	9 (5.8, 13.3)	12	4.5 (2.3, 7.9)	37	6.8 (4.8, 9.4)	6.5
15 to 24	105	44.3 (35.8, 52.8)	44	18.9 (13.7, 25.4)	149	31.7 (26.6, 36.8)	34.6
25 to 34	80	33.3 (26.4, 41.4)	15	6.1 (3.4, 10.1)	95	19.6 (15.9, 24.0)	28.4
35 to 44	118	36.1 (29.6, 42.6)	46	13.8 (10.1, 18.4)	164	24.9 (21.1, 28.7)	32.8
45 to 54	83	30.2 (24.1, 37.4)	28	10.1 (6.7, 14.6)	111	20.1 (16.4, 23.9)	31.3
55 to 64	60	36.4 (27.8, 46.9)	27	16.1 (10.6, 23.4)	87	26.2 (21.0, 32.3)	29.0
65 to 74	58	53.0 (40.2, 68.5)	29	23.2 (15.5, 33.3)	87	37.1 (29.7, 45.8)	41.4
75 to 84	77	125.9 (99.4, 157.4)	75	81.1 (63.8, 101.7)	152	98.9 (83.2, 114.7)	95.9
85 plus	55	364.0 (274.2, 473.8)	86	215.0 (172.0, 265.5)	141	255.9 (213.7, 298.1)	272.9
Age-Adjusted Total	669	40.3 (37.2, 43.5)	369	18.1 (16.2, 19.9)	1,038	28.4 (26.7, 30.1)	33.9

* Rates are suppressed when based upon fewer than 10 deaths.

Figure 34. Unintentional Injury Death Rates by County, New Hampshire Residents, 1999-2001



- Rural areas tend to have higher injury rates, which may account for higher rates in the northern counties of Coos and Carroll. Reducing injury rates is often a high priority for individuals concerned with rural public health issues.

Table 35. Unintentional Injury Death Rates by County, New Hampshire Residents, 1999-2001

County	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Belknap	53	30.8	(23.1, 40.3)
Carroll	57	42.2	(32.0, 54.7)
Cheshire	73	30.6	(24.0, 38.5)
Coos	57	50.4	(38.1, 65.3)
Grafton	70	27.5	(21.5, 34.8)
Hillsborough	283	26.2	(23.1, 29.2)
Merrimack	123	29.4	(24.2, 34.7)
Rockingham	189	25.3	(21.7, 29.0)
Strafford	87	26.1	(20.9, 32.2)
Sullivan	46	36.4	(26.6, 48.5)
NH	1,038	28.4	(26.7, 30.1)
US		33.9	

Diabetes

Overview:

- Diabetes is a chronic metabolic disorder caused by insulin deficiency or absence, or by insulin excess accompanied by insulin resistance.
- Diabetes is characterized in more severe cases by chronic high blood sugar, sugar in urine, water and electrolyte loss, ketoacidosis, and coma.
- Long-term complications include neuropathy, retinopathy, nephropathy, degenerative changes in blood vessels, and increased susceptibility to infection.
- Diabetes is a risk factor for cardiovascular disease. It is also related to lipid disorders, obesity, hypertension, and impaired kidney function.

Risk Factors and Prevention (from the American Diabetes Association):

- Keep weight in control or lose weight if you are overweight.
- Exercise moderately on a regular basis.
- Eat low fat meals high in fruits, vegetables and whole grain foods.
- Important for persons with diabetes: control blood sugar levels with diet and medication.

New Hampshire Facts:

- Between 1999 and 2001, 2,931 NH residents died with diabetes listed as an underlying or contributing cause of death.

From the 2003 NH BRFSS:

- 57% of adults in New Hampshire are overweight or obese as classified by US Department of Health and Human Services body mass index standards.
- 20% of adults in New Hampshire report no leisure-time physical activity during the previous month.
- 71% of adults in NH do not eat the recommended 5 servings of fruits and vegetables daily.
- Approximately 6% of NH adults had been told by a doctor or other health professional that they have diabetes

Resources:

- American Diabetes Association: http://www.diabetes.org/home.jsp
- National Center for Chronic Disease Prevention and Health Promotion, Diabetes Public Health Resource: http://www.cdc.gov/diabetes/
- National Center for Health Statistics, CDC, Fast Stats, Diabetes: http://www.cdc.gov/nchs/fastats/diabetes.htm.

- NH DHHS, Public Health Services, Diabetes Education Program,

- Pelletier, A. *New Hampshire Diabetes Data, 2002* http://www.dhhs.nh.gov/DHHS/CDPC/LIBRARY/Data-Statistical+Report/diabetes-data.htm

Figure 35. Proportion of Diabetes Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001

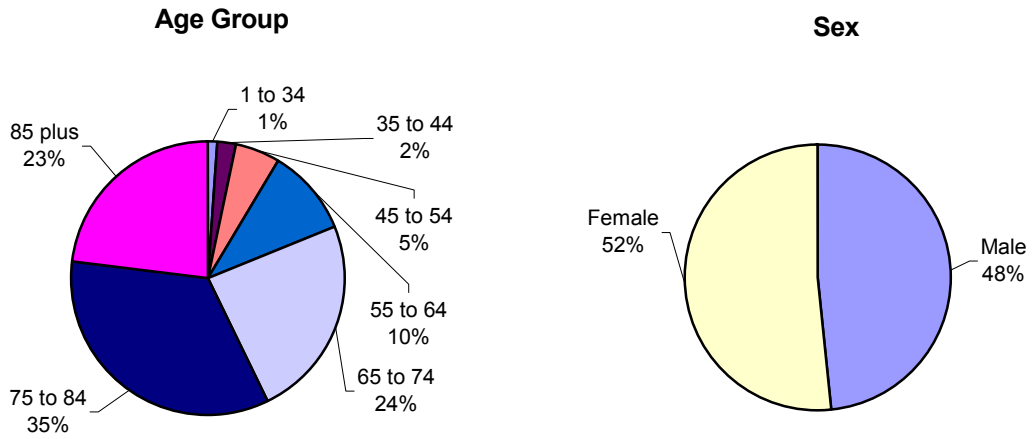


Table 36. Diabetes Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	297	25.6	(22.7, 28.5)	25.0
2000	297	25.0	(22.2, 27.9)	25.0
2001	291	23.8	(21.1, 26.5)	25.2
Total	885	24.8	(23.2, 26.5)	25.1

Figure 36. Diabetes Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

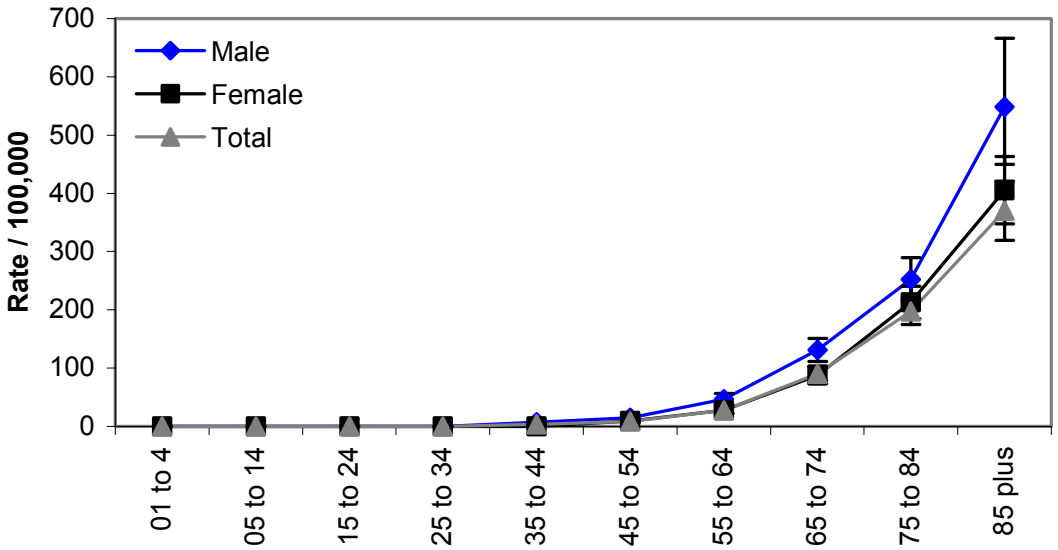


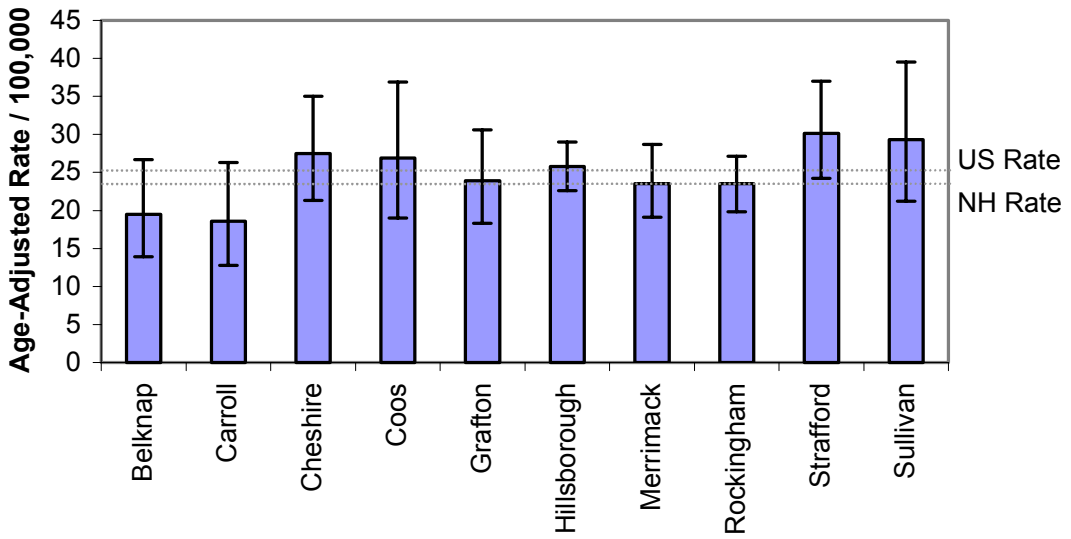
Table 37. Diabetes Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

Age Group	Male		Female		Total		US Rate
	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	
0 to 4	0	*	0	*	0	*	0.0
5 to 14	0	*	1	*	1	*	0.1
15 to 24	2	*	0	*	2	*	0.4
25 to 34	4	*	2	*	6	*	1.5
35 to 44	14	7.2 (2.4, 7.2)	7	*	21	3.2 (2.0, 4.9)	4.3
45 to 54	29	15.1 (7.0, 15.1)	16	9.4 (3.3, 9.4)	45	8.2 (6.0, 10.9)	13.2
55 to 64	59	46.2 (27.3, 46.2)	33	27.7 (13.6, 27.7)	92	27.7 (22.3, 33.9)	38.0
65 to 74	122	131.4 (91.8, 131.4)	89	87.5 (57.1, 87.5)	211	90.0 (77.9, 102.1)	91.3
75 to 84	132	252.6 (179.0, 252.6)	171	212.7 (157.3, 212.7)	303	197.2 (175.0, 219.4)	179.6
85 plus	65	548.3 (332.0, 548.3)	139	405.4 (289.8, 405.4)	204	370.2 (319.4, 421.1)	318.5
Age-Adjusted Total	427	29.3 (26.4, 32.2)	458	21.4 (19.4, 23.4)	885	24.8 (23.2, 26.5)	25.1

* Rates are suppressed when based upon fewer than 10 deaths.

- Diabetes death rates exceed the US rate in 85+ age group.

Figure 37. Diabetes Death Rates by County, New Hampshire Residents, 1999-2001



- Diabetes death rates appear to fluctuate by county but all confidence intervals include the US and NH rates.

Table 38. Diabetes Death Rates by County, New Hampshire Residents, 1999-2001

County	Deaths	Age-Adjusted Rate	(95% CI)
Belknap	39	19.5	(13.9, 26.7)
Carroll	32	18.6	(12.8, 26.3)
Cheshire	66	27.5	(21.3, 35.0)
Coos	38	26.9	(19.0, 36.9)
Grafton	62	23.9	(18.3, 30.6)
Hillsborough	256	25.8	(22.6, 29.0)
Merrimack	99	23.5	(19.1, 28.7)
Rockingham	160	23.5	(19.8, 27.1)
Strafford	90	30.1	(24.2, 37.0)
Sullivan	43	29.3	(21.2, 39.5)
NH	885	24.8	(23.2, 26.5)
US		25.1	

Alzheimer's Disease

Overview:

- Alzheimer's disease (AD) is the most common form of dementia (a brain disorder that seriously affects a person's ability to carry out daily activities)

among older people. It involves the parts of the brain that control thought, memory, and language.

- The causes of AD are unknown, and there is no cure.
- AD is a slow disease, starting with mild memory problems and ending with severe brain damage. The course the disease takes and how fast changes occur vary from person to person. On average, AD patients live from 8 to 10 years after they are diagnosed, though the disease can last for as many as 20 years.
- The number of people with the disease doubles every 5 years beyond age 65.
- As many as 10% of all people 65 years of age and older have Alzheimer's.
- As many as 50% of all people 85 and older have the disease.

Risk Factors and Prevention (from the National Alzheimer's Association):

- Age is the most important known risk factor for AD.
- A family history of the disease is a known risk factor.
- Reduce high blood pressure.
- Maintain healthy blood cholesterol levels.
- Avoid smoking.
- Exercise regularly.
- Eat moderately.

- Maintain social connections.
- Remain intellectually active.
- Being a female may be a risk factor. The greater number of Alzheimer's disease deaths to women is primarily due to the greater number of women in the older age groups, but the increased number of deaths to women is not totally explained by this fact.

New Hampshire Facts:

- AD is the 5th leading cause of death among NH residents over age 65.
- AD is the 7th leading cause of death across all age groups in NH.

Resources:

- National Center for Health Statistics, Fast Stats, Alzheimer's Disease: http://www.cdc.gov/nchs/fastats/alzheimr.htm
- National Alzheimer's Association Website: http://www.alz.org
- For statewide information on services, diagnostic facilities, and support groups, call the Alzheimer's Association of Vermont and New Hampshire at 1-603-226-5868.

- Information on state funded respite services to assist families who care for people with Alzheimer's disease or related disorders is available through Bureau of Elderly and Adult Services at 1-603-271-4687.

Figure 38. Proportion of Alzheimer's Disease Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001

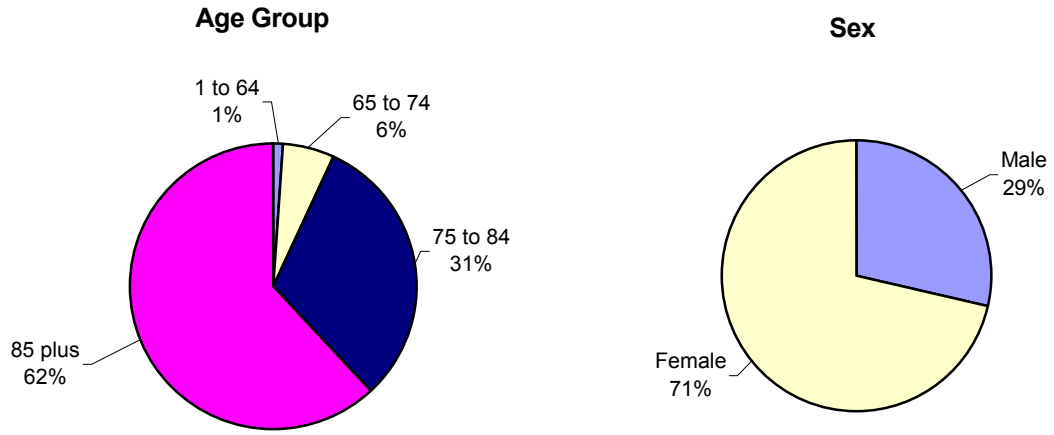


Table 39. Alzheimer's Disease Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	268	23.5	(20.7, 26.3)	16.5
2000	273	23.4	(20.6, 26.2)	18.0
2001	305	25.2	(22.4, 28.0)	19.0
Total	846	24.1	(22.4, 25.7)	17.8

Figure 39. Alzheimer's Disease Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

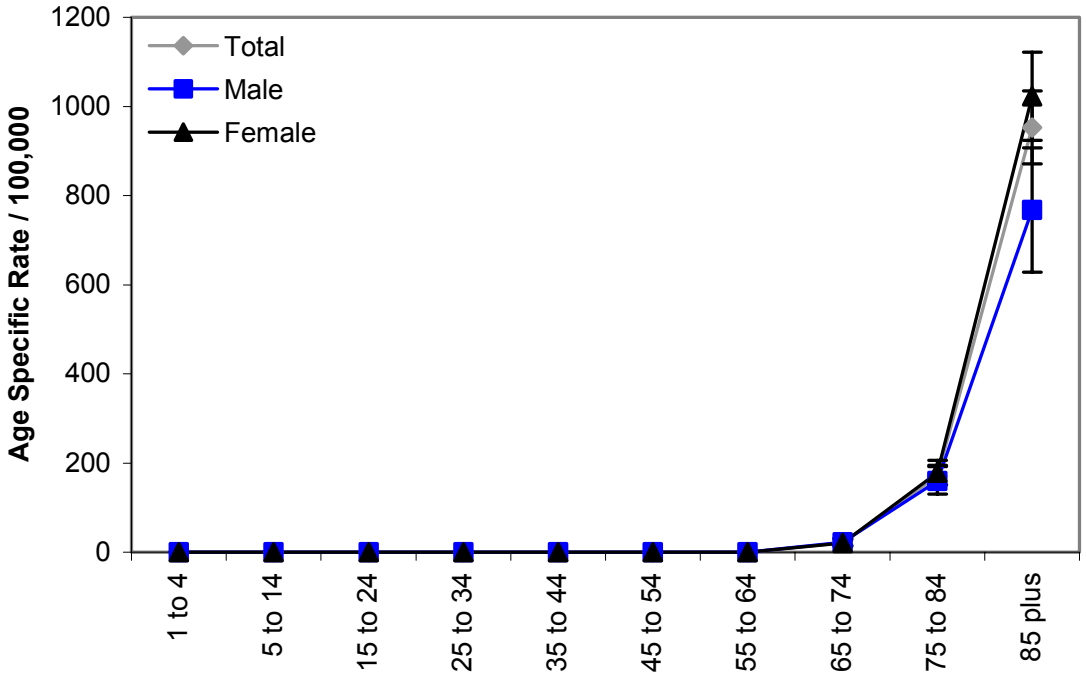


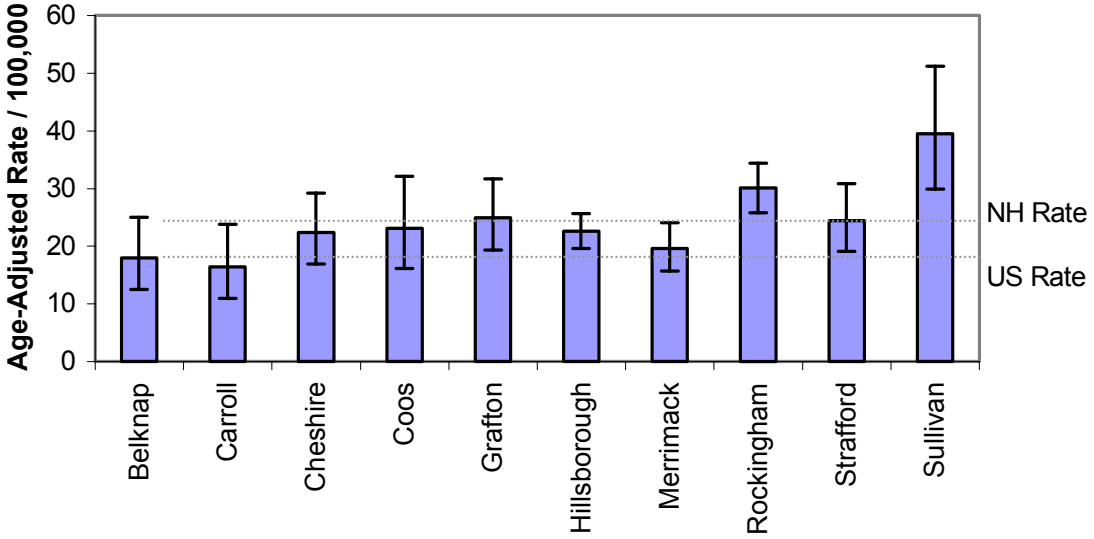
Table 40. Alzheimer's Disease Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

Group	Male			Total			US Rate
	Deaths	100,000 (95% CI)		Deaths	100,000 (95% CI)		
	0			0			0.0
	0			0			0.0
	0			0			0.0
	0			0			0.0
	0			0	*		0.0
45 to 54	0	*		1	*		0.2
55 to 64	4	*		4	*		2.0
65 to 74	24	21.9	(14.0, 32.6)	25	20.0	(12.9, 29.5)	18.2
75 to 84	98	160.2	(130.1, 195.2)	165	178.5	(151.3, 205.7)	138.9
85 plus	116	767.8	(628.1, 907.5)	409	1,022.7	(923.6, 1,121.8)	658.5
Age-Adjusted Total	242	20.8	(18.1, 23.4)	604	25.4	(23.4, 27.5)	17.8

* Rates are suppressed when based upon fewer than 10 deaths.

- NH age-adjusted rates for Alzheimer's disease are higher than the US for ages above 75.

Figure 40. Alzheimer's Disease Death Rates by County, New Hampshire Residents, 1999-2001



- It is possible that patients with Alzheimer's disease move to nursing homes in other counties and increase the rates in those counties.

Table 41. Alzheimer's Disease Death Rates by County, New Hampshire Residents, 1999-2001

County	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Belknap	35	18.0	(12.5, 25.0)
Carroll	28	16.4	(10.9, 23.8)
Cheshire	55	22.4	(16.9, 29.2)
Coos	35	23.1	(16.1, 32.1)
Grafton	66	24.9	(19.3, 31.7)
Hillsborough	221	22.6	(19.6, 25.6)
Merrimack	90	19.6	(15.7, 24.1)
Rockingham	188	30.1	(25.8, 34.4)
Strafford	71	24.4	(19.1, 30.8)
Sullivan	57	39.5	(29.9, 51.2)
NH	846	24.1	(22.4, 25.7)
US		17.8	

Influenza and Pneumonia

Overview:

- Pneumonia encompasses over 30 different diseases that infect or inflame the lungs. The major types of pneumonia are bacterial and viral pneumonia.
- Pneumonia also may be caused by inhalation of food, liquid, gases or dust, and by fungi. Certain diseases, such as tuberculosis, can cause pneumonia.

- Pneumococcus is the most common cause of bacterial pneumonia. In healthy individuals, but especially in people whose body defenses are weakened, the bacteria can multiply and cause serious damage or death. Pneumococcal pneumonia accounts for 10-25 percent of all pneumonia, and causes an estimated 40,000 deaths annually in the US.
- Approximately 50% of pneumonia cases are believed to be caused by viruses and tend to result in less severe illness than bacterial-caused pneumonia. The symptoms of viral pneumonia are similar to influenza (flu) symptoms, including fever, dry cough, headache, muscle pain, weakness, high fever, and increasing breathlessness.
- Because many patients with pneumonia have an unspecified pathogenic etiology, the percentage of deaths due to viral rather than bacterial pathogens is unknown. In many cases, patients are infected with both viruses and bacteria.
- Patients 65 years or older are at particular risk for death. Deaths in these patients account for 89% of all pneumonia and/or influenza deaths.
- Since 1960, influenza and pneumonia have been the leading cause of infectious disease deaths in the US.

Risk factors and Prevention (from the Centers for Disease Control and Prevention):

- Influenza vaccination is recommended for all adults over 50 years of age because this age group has more people with high-risk conditions.
- Pneumococcal vaccination is recommended for adults 65 years or older and for individuals older than age 1 with chronic illness.
- Smokers have a higher risk for pneumonia than do nonsmokers.
- People considered at high risk for pneumonia include the elderly, the very young, and those with underlying health problems, such as chronic obstructive pulmonary disease (COPD), diabetes mellitus, congestive heart failure, and sickle cell anemia. Patients with diseases that impair the immune system, such as AIDS, or patients with other chronic illnesses, such as asthma, or those undergoing cancer therapy or organ transplantation, are particularly vulnerable.
- Early treatment with antibiotics can cure bacterial pneumonia and speed recovery from mycoplasma pneumonia.
- There are generally no effective treatments for most types of viral pneumonia; patients usually recover without treatment.

New Hampshire Facts:

- Influenza and Pneumonia rank as the 8th leading cause of death in NH.
- 94% percent of underlying cause of death codes in this category in NH list pneumonia and 6% list influenza.
- 93% of New Hampshire deaths from influenza and pneumonia occur in the 65+ age group.

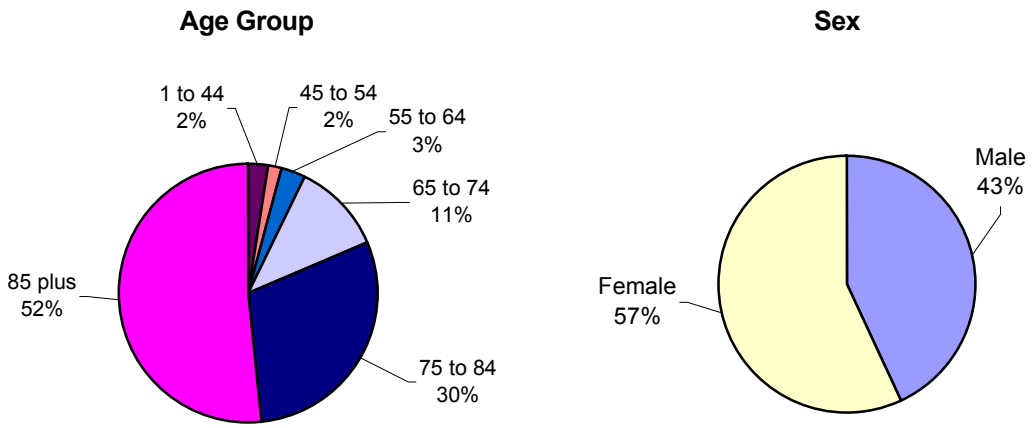
From the 2003 NH BRFSS:

- 69% of NH adults aged 65 and older reported they had received a pneumonia vaccination.
- A New Hampshire 2010 objective is to increase the percentage of independently living adults, age 50 or over, who report having been vaccinated against influenza in the last 12 months from the 1997 NH baseline of 46% to the 2010 target of 80%.
- In 2003, 56% of NH adults aged 50 and older reported they had been vaccinated against influenza in the past 12 mo.

Resources:

- National Center for Health Statistics, CDC, Fast Stats, Influenza: http://www.cdc.gov/nchs/fastats/flu.htm
- National Center for Health Statistics, CDC, Fast Stats, Pneumonia: http://www.cdc.gov/nchs/fastats/pneumonia.htm
- Centers for Disease Control and Prevention, Influenza: http://www.cdc.gov/flu/
- New Hampshire Department of Health and Human Services, Influenza: http://www.dhhs.nh.gov/DHHS/CDCS
- NH DHHS, Communicable Disease Surveillance, Influenza Surveillance Coordinator, Susan Bascom, (603) 271-8325.

Figure 41. Proportion of Influenza and Pneumonia Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001



- The greater number of influenza and pneumonia deaths of women is due to the greater number of women in the older age groups. While total deaths are lower, rates are higher for men in older age groups.

Table 42. Influenza and Pneumonia Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	183	16.0	(13.7, 18.3)	23.5
2000	192	16.4	(14.0, 18.7)	23.7
2001	216	17.8	(15.4, 20.2)	21.8
Total	591	16.7	(15.4, 18.1)	23.0

Figure 42. Influenza and Pneumonia Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001

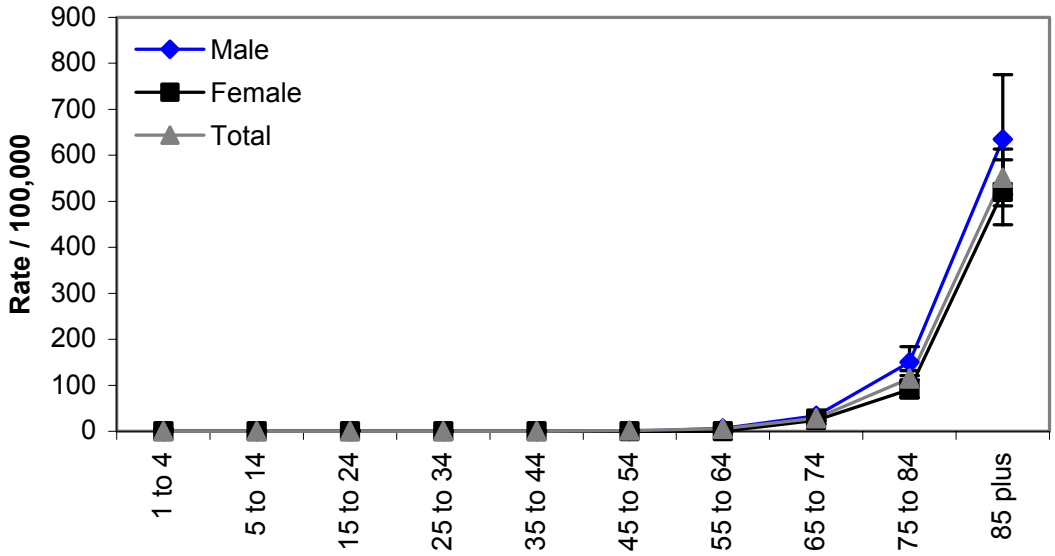
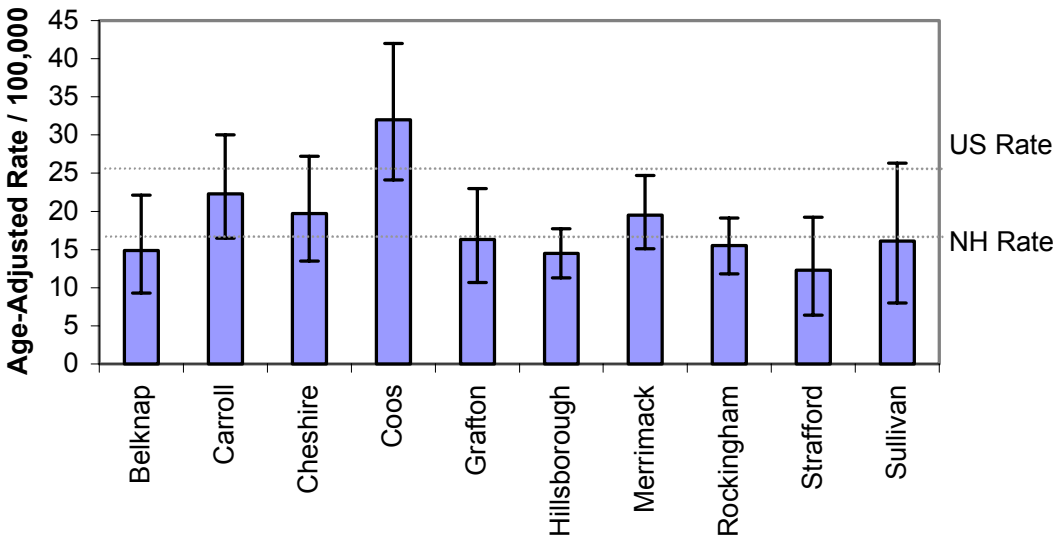


Table 43. Influenza and Pneumonia Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001

Age Group	Male		Female		Total		US Rate
	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	
0 to 4	1	*	1	*	2	*	2.2
5 to 14	0	*	0	*	0	*	0.2
15 to 24	1	*	1	*	2	*	0.5
25 to 34	2	*	1	*	3	*	0.9
35 to 44	5	*	2	*	7	*	2.3
45 to 54	9	*	2	*	11	2.0 (1.0, 3.6)	4.6
55 to 64	10	6.1 (2.9, 11.2)	7	*	17	5.1 (3.0, 8.2)	11.2
65 to 74	37	33.8 (23.8, 46.6)	30	24.0 (16.2, 34.3)	67	28.6 (22.1, 36.3)	37.5
75 to 84	92	150.4 (121.2, 184.5)	84	90.9 (72.5, 112.5)	176	114.6 (97.6, 131.5)	155.2
85 plus	96	635.4 (514.7, 775.9)	208	520.1 (449.4, 590.8)	304	551.7 (489.7, 613.8)	723.9
Age-Adjusted Total	253	20.3 (17.7, 22.8)	336	14.5 (12.9, 16.0)	589	16.7 (15.3, 18.0)	23.0

* Rates are suppressed when based upon fewer than 10 deaths.

Figure 43. Influenza and Pneumonia Death Rates by County, New Hampshire Residents, 1999–2001

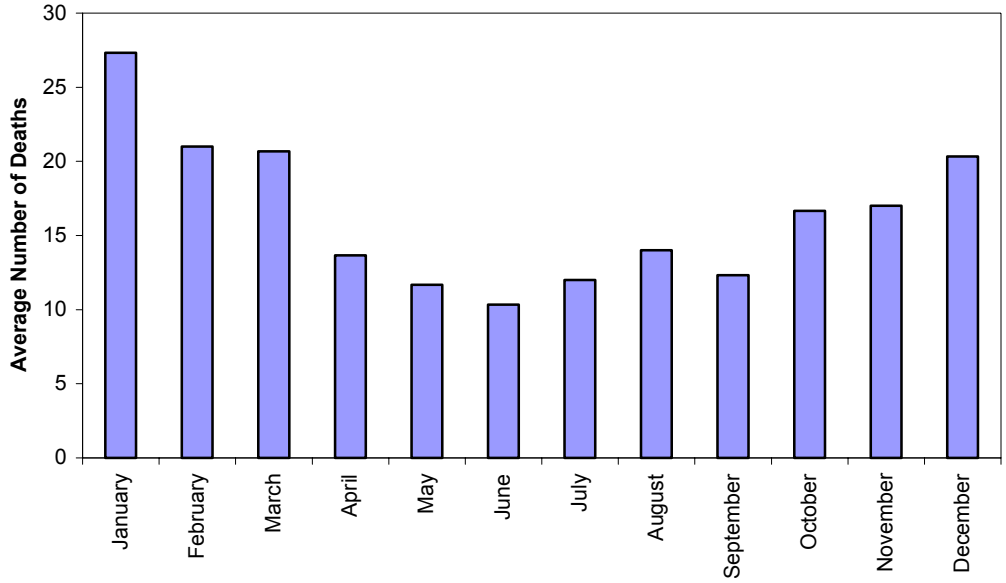


- Higher death rates in Coos County may be of concern.

Table 44. Influenza and Pneumonia Death Rates by County, New Hampshire Residents, 1999–2001

County	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Belknap	29	14.9	(10.0, 21.4)
Carroll	36	22.3	(15.6, 30.8)
Cheshire	48	19.7	(14.5, 26.1)
Coos	46	32.0	(23.5, 42.7)
Grafton	43	16.3	(11.8, 22.0)
Hillsborough	143	14.5	(9.9, 19.2)
Merrimack	87	19.5	(15.6, 24.1)
Rockingham	100	15.5	(9.5, 21.5)
Strafford	36	12.3	(8.6, 17.0)
Sullivan	23	16.1	(10.2, 24.2)
NH Rate	591	16.7	(15.4, 18.1)
US Rate		23.7	

Figure 44. Average Number of Influenza and Pneumonia Deaths Per Month, New Hampshire Residents, 1999-2001



- Note that there is an increase of influenza (flu) and pneumonia deaths during the flu season (beginning of October to mid-May). While it is uncertain how many of these additional deaths are related to flu because the same risk factors generally increase pneumonia deaths, the increase is often attributed to flu.

Suicide

Overview:

- More people die from suicide each year than homicide. In 2000, there were 29,350 suicide deaths in the US (an average of 80 per day) and 16,765 homicide deaths.
- Females are more likely to attempt suicide, but males are 4 times more likely to die.
- Nationally, males over age 65 have the highest suicide rates.

Risk Factors and Prevention (from the National Center for Injury Prevention and Control):

- One of the strongest risk factors for suicide is a previous attempt; therefore, surveillance of suicide attempts can help identify high-risk populations and target prevention strategies.
- Substance and alcohol abuse, mental illness, and depression are risk factors for suicide.
- For New Hampshire young people 15-24 years old, suicide is the second leading cause of death, behind unintentional injury.

- Risk factors for suicide among older persons differ from those among the young. In addition to a higher prevalence of depression, older persons are more socially isolated and more frequently use highly lethal methods.
- Nearly 5 million of the 32 million Americans aged 65 and older suffer from some form of depression.

New Hampshire Facts:

- Suicide is the 9th leading cause of death in New Hampshire.
- Nearly half of all suicides in New Hampshire involve firearms.
- Males account for 10 times more firearm-related suicide deaths than females in NH.

Resources:

- Burns, E, Twitchell, N. *New Hampshire Injuries, 1999-2001.* http://www.dhhs.nh.gov/DHHS/HSDM/LIBRARY/default.htm
- National Center for Health Statistics, CDC, Fast Stats, Suicide: http://www.cdc.gov/nchs/fastats/suicide.htm
- United States Department of Health and Human Services, "The Surgeon General's Call to Action to Prevent Suicide, 1999": http://www.surgeongeneral.gov/library/calltoaction/recommendations.htm
- National Center for Injury Prevention and Control, CDC, Suicide Fact Sheet: http://www.cdc.gov/ncipc/factsheets/suifacts.htm

Figure 45. Proportion of Suicide Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001

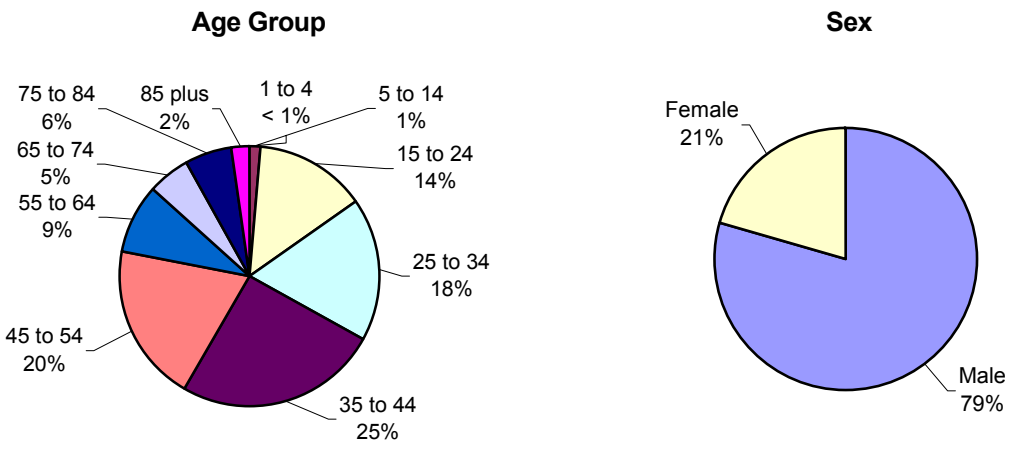
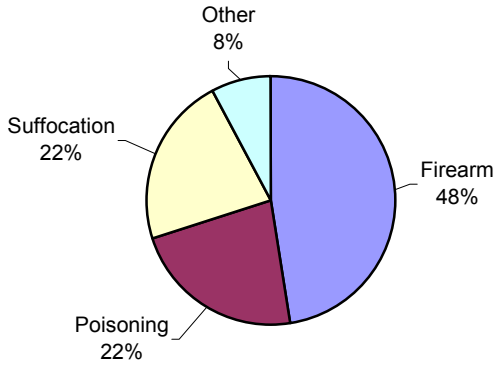


Table 45. Suicide Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	140	11.4	(9.5, 13.3)	10.5
2000	145	11.4	(9.6, 13.3)	10.4
2001	170	13.4	(11.4, 15.4)	10.7
Total	455	12.1	(11.0, 13.2)	10.5

- NH suicide deaths increased in 2001 and became higher than US rates.

Figure 46. Suicide Deaths by Mechanism, New Hampshire Residents, 1999-2001



- Most suffocation deaths are hangings.
- As mentioned above, firearms are used in nearly 50% of NH suicide deaths.

Table 46. Suicide Deaths by Mechanism, New Hampshire Residents, 1999-2001

Selected Mechanism*	Deaths	Age-Adjusted Rate/ 100,000	(95% CI)
Firearm	216	5.8	(5.0, 6.6)
Poisoning	102	2.6	(2.1, 3.2)
Suffocation	101	2.7	(2.2, 3.2)
Other	36	1.0	(0.7, 1.3)
Total	455	12.1	(11.0, 13.2)

* ICD-10 code ranges for these causes of death mechanisms are included in NH Injuries, 1999-2001.

Figure 47. Suicide Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

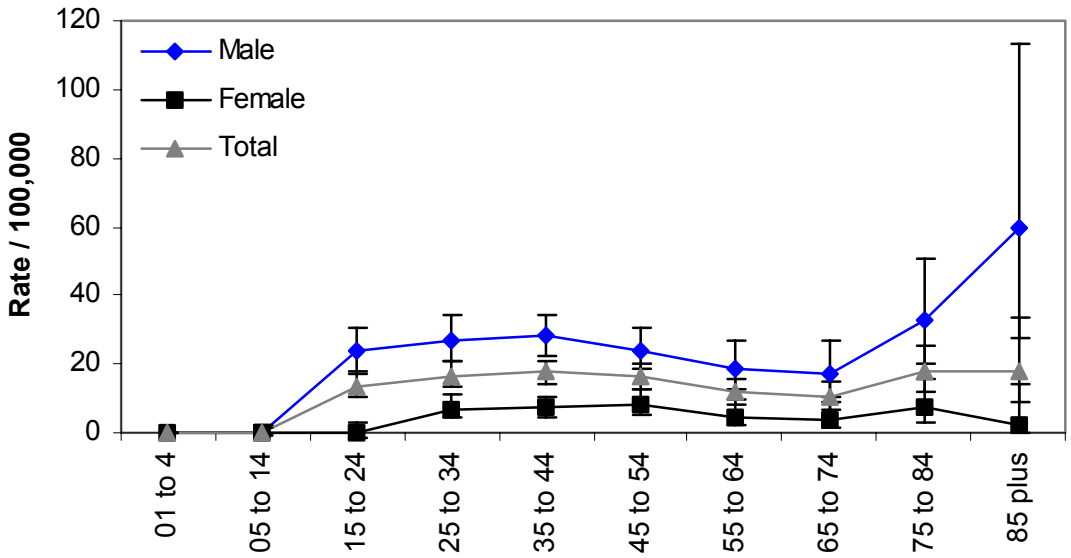
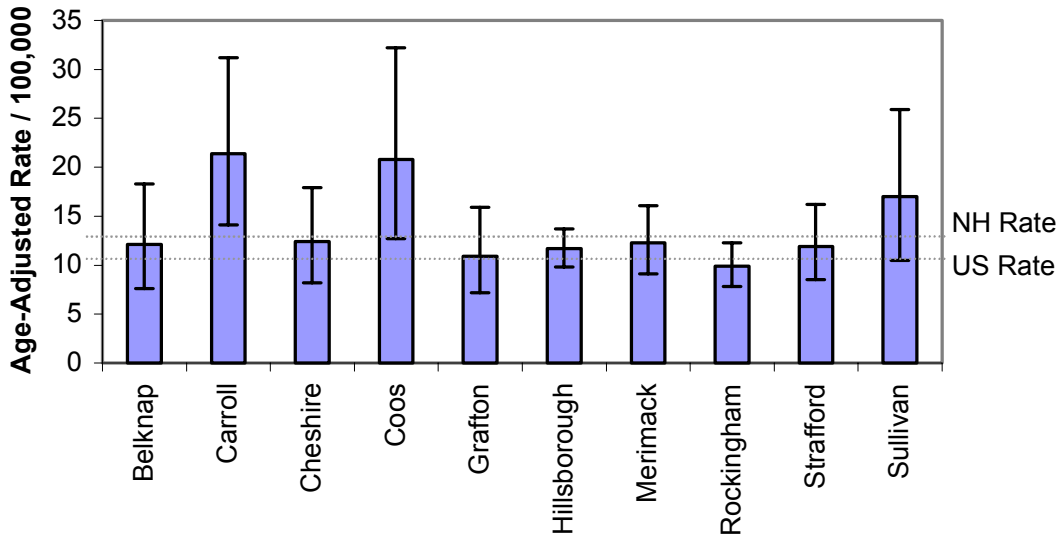


Table 47. Suicide Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

Age Group	Male		Female		Total		US Rate
	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	
0 to 4	0	*	0	*	0	*	0.0
5 to 14	4	*	2	*	6	*	0.7
15 to 24	56	23.6 (17.8, 30.6)	7	*	63	13.4 (10.3, 17.2)	10.1
25 to 34	64	26.6 (20.5, 34.0)	17	7.0 (4.1, 11.2)	81	16.7 (13.3, 20.8)	12.5
35 to 44	92	28.1 (22.7, 34.5)	24	7.2 (4.6, 10.7)	116	17.6 (14.4, 20.8)	14.5
45 to 54	66	24.0 (18.6, 30.5)	23	8.3 (5.3, 12.5)	89	16.1 (13.0, 19.9)	14.5
55 to 64	31	18.8 (12.8, 26.7)	8	4.8 (2.1, 9.5)	39	11.7 (8.3, 16.0)	12.5
65 to 74	19	17.4 (10.5, 27.2)	5	4.0 (1.3, 9.3)	24	10.2 (6.6, 15.2)	13.1
75 to 84	20	32.7 (20.0, 50.5)	7	7.6 (3.1, 15.7)	27	17.6 (11.6, 25.6)	17.7
85 plus	9	59.6 (27.3, 113.1)	1	2.5 (0.1, 13.9)	10	18.1 (8.7, 33.4)	18.7
Age-Adjusted Total	361	20.1 (18.0, 22.2)	94	4.8 (3.8, 5.8)	455	12.1 (11.0, 13.2)	10.5

* Rates are suppressed when based upon fewer than 10 deaths.

Figure 48. Suicide Death Rates by County, New Hampshire Residents, 1999–2001



- Suicide rates tend to be higher in rural areas and may account for higher rates in Carroll, Coos, and Sullivan counties.

Table 48. Suicide Death Rates by County, New Hampshire Residents, 1999–2001

County	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Belknap	22	12.1	(7.6, 18.3)
Carroll	27	21.4	(14.1, 31.2)
Cheshire	28	12.4	(8.2, 17.9)
Coos	20	20.8	(12.7, 32.2)
Grafton	27	10.9	(7.2, 15.9)
Hillsborough	138	11.7	(9.8, 13.7)
Merrimack	51	12.3	(9.1, 16.1)
Rockingham	80	9.9	(7.8, 12.3)
Strafford	40	11.9	(8.5, 16.2)
Sullivan	21	17.0	(10.5, 25.9)
NH	455	12.1	(11.0, 13.2)
US		10.5	

Nephritis

Overview:

- Nephritis is an inflammation of the kidney.
- The most common form of acute nephritis is glomerulonephritis. This condition affects children and teenagers far more often than it affects adults. It is inflammation of the glomeruli, or small round filters located in the

kidney. Acute glomerulonephritis usually develops a few weeks after a strep infection of the throat or skin. Symptoms of glomerulonephritis include fatigue, high blood pressure, and swelling. Swelling is most notable in the hands, feet, ankles, and face.

- Pyelonephritis affects adults more than children, and is an inflammation of the kidney and upper urinary tract. Pyelonephritis usually occurs suddenly, and the acute form of this disease is more common in adult women. The most common cause of this form of bacterial nephritis is the backward flow of infected urine from the bladder into the upper urinary tract. Its symptoms include fever and chills, fatigue, burning or frequent urination, cloudy or bloody urine, and aching pain on one or both sides of the lower back or abdomen.
- A third type of nephritis is hereditary nephritis, a rare inherited condition. Hereditary nephritis can be present at birth. This rare disease presents in many different forms and can be responsible for up to 5% of end-stage renal disease in men.

Risk Factors and Prevention (from the National Kidney Foundation):

- Avoiding exposure to strep infection and obtaining prompt medical treatment for scarlet fever or other infections can prevent streptococcal infections that may lead to glomerulonephritis.
- Pyelonephritis can best be avoided if those with a history of urinary tract infections take care to drink plenty of fluids, urinate frequently, and practice good hygiene following urination.
- Hereditary nephritis cannot be prevented, but research to combat the disease continues.

New Hampshire Facts:

- Nephritis is the 10th leading cause of death in NH.

Resources:

- American Kidney Fund (AKF). Suite 1010,6110 Executive Boulevard, Rockville, MD 20852. (800) 638-8299. http://www.kidneyfund.org/
- National Kidney Foundation. 30 East 33rd St., New York, NY 10016. (800) 622-9010. http://www.kidney.org
- National Center for Health Statistics, CDC, Fast Stats, Kidney Disease: http://www.cdc.gov/nchs/fastats/kidbladd.htm

Figure 49. Proportion of Nephritis Deaths by Age Group and Sex, New Hampshire Residents, 1999-2001

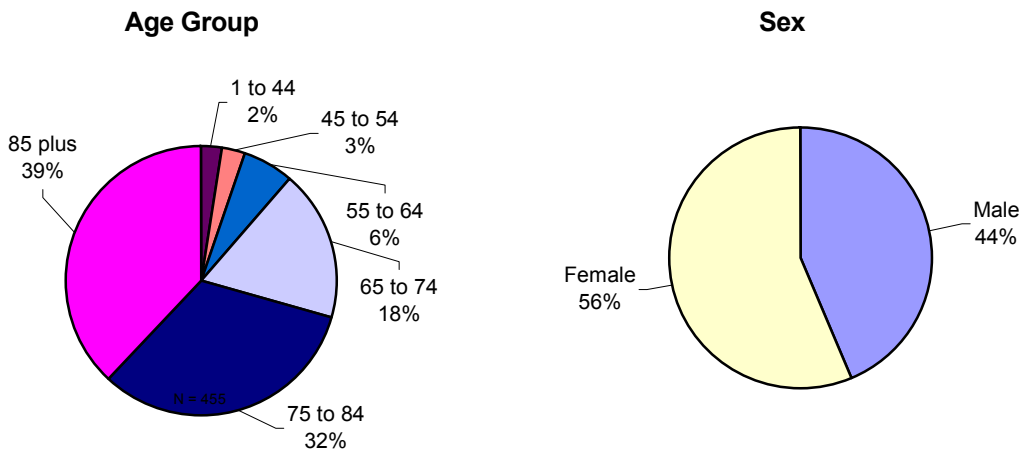


Table 49. Nephritis Deaths by Year, New Hampshire Residents, 1999-2001

Year	Deaths	NH Age-Adjusted Rate / 100,000	(95% CI)	US Age-Adjusted Rate / 100,000
1999	92	7.9	(6.3, 9.6)	13.0
2000	106	8.9	(7.2, 10.6)	13.5
2001	137	11.3	(9.4, 13.3)	13.9
Total	335		(8.4, 10.4)	13.5

Figure 50. Nephritis Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

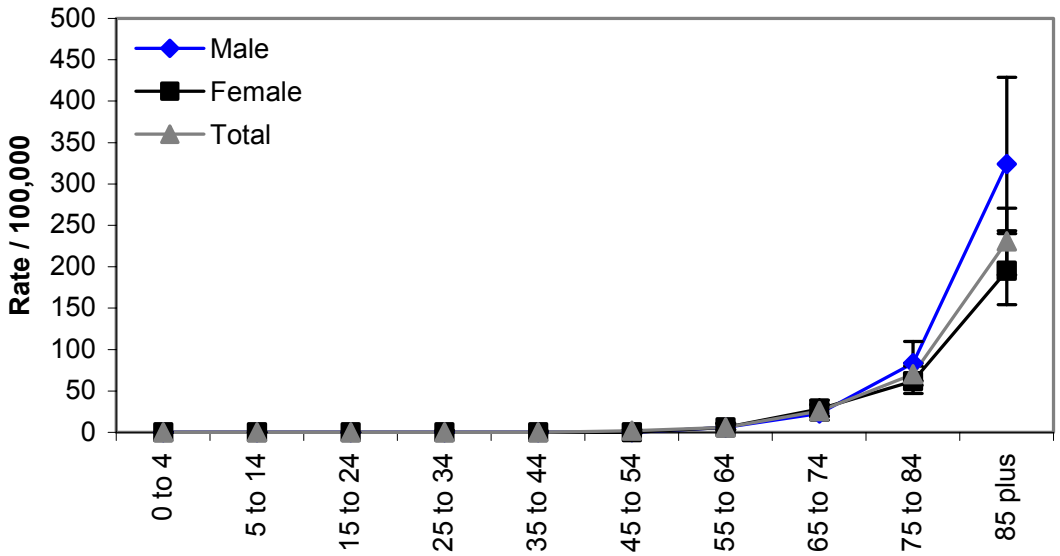
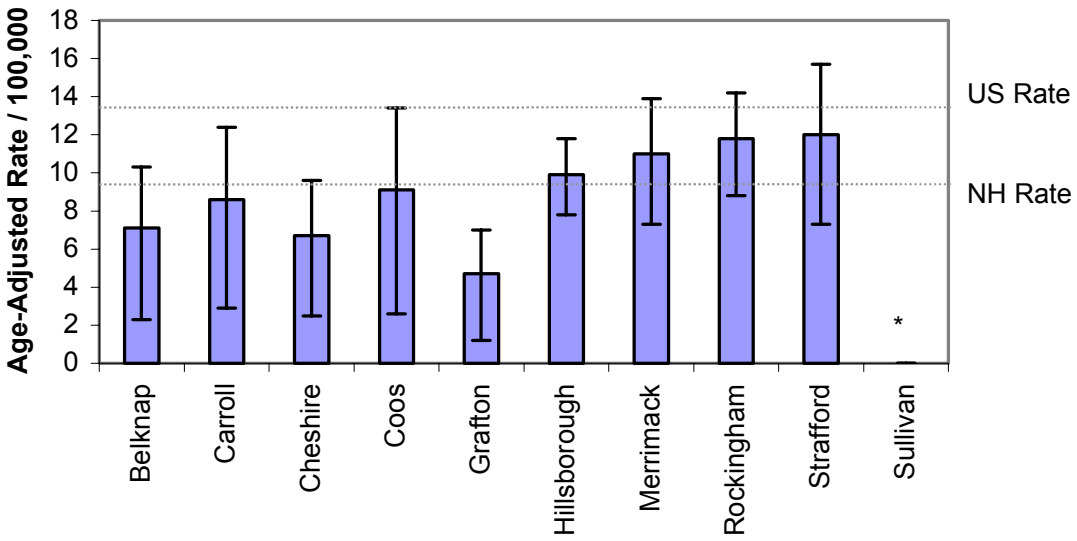


Table 50. Nephritis Death Rates by Age Group and Sex, New Hampshire Residents, 1999-2001

Age Group	Male		Female		Total		US Rate
	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	Deaths	Rate / 100,000 (95% CI)	
0 to 4	1	*	1	*	2	*	0.9
5 to 14	0	*	0	*	0	*	0.1
15 to 24	0	*	0	*	0	*	0.2
25 to 34	2	*	1	*	3	*	0.6
35 to 44	1		4	*	5	*	1.6
45 to 54	7	*	3	*	10	1.8 (0.9, 3.3)	4.4
55 to 64	10	6.1 (2.9, 11.2)	10	6.0 (2.9, 11.0)	20	6.0 (3.7, 9.3)	12.6
65 to 74	25	22.9 (14.8, 33.8)	35	28.0 (19.5, 38.9)	60	25.6 (19.5, 32.9)	38.4
75 to 84	51	83.4 (62.1, 109.7)	57	61.7 (46.7, 79.9)	108	70.3 (57.0, 83.6)	100.8
85 plus	49	324.3 (239.9, 428.7)	78	195.0 (154.1, 243.4)	127	230.5 (190.4, 270.6)	277.3
Age-Adjusted Total	146	11.4	189	8.6	335	9.5	13.5

* Rates are suppressed when based upon fewer than 10 deaths.

Figure 51. Nephritis Death Rates by County, New Hampshire Residents, 1999–2001



* Rates are suppressed when based upon fewer than 10 deaths.

Table 51. Nephritis Death Rates by County, New Hampshire Residents, 1999–2001

County	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
Belknap	14	7.1	(3.9, 11.9)
Carroll	15	8.6	(4.8, 14.3)
Cheshire	16	6.7	(3.8, 10.9)
Coos	13	9.1	(4.8, 15.6)
Grafton	12	4.7	(2.4, 8.2)
Hillsborough	97	9.9	(8.0, 12.0)
Merrimack	46	11.0	(8.1, 14.7)
Rockingham	78	11.8	(9.4, 14.8)
Strafford	35	12.0	(8.3, 16.7)
Sullivan	9	*	
NH	335	9.5	(8.4, 10.5)
US		13.5	

* Rates are suppressed when based upon fewer than 10 deaths.

Leading Causes of Death for Selected Cities and Towns

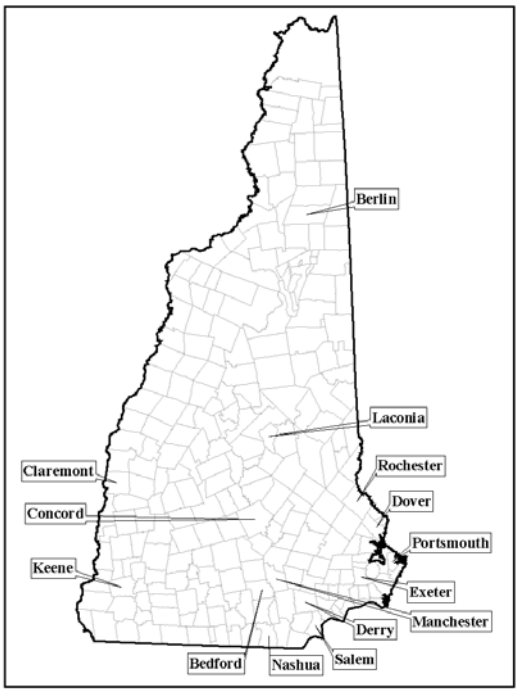
Overview:

There is considerable interest in public health data at the town level. This section contains information on leading causes of death for the 14 selected cities and towns with an average of at least 150 total deaths per year in the three-year period 1999-2001. Information for other towns can be obtained by requesting the information from the department (although smaller towns will have less useful data that in some cases would need to be suppressed to ensure confidentiality). Rates are not shown for towns where there are fewer than 10 deaths in a category because the small numbers lead to unstable rate calculations.

While it is interesting to compare data between towns, apparent differences may be due to location of nursing homes or differences in procedures for recording death certificates. To reduce the temptation to put too much weight on such comparisons, we display data for each town separately.

Selected New Hampshire Cities and Towns

Selected Cities and Towns	County	Deaths Per Year
Bedford	Hillsborough	151
Berlin		158
Claremont	Sullivan	164
Concord	Merrimack	408
Derry	Rockingham	175
Dover	Strafford	261
Exeter	Rockingham	170
Keene	Cheshire	242
Laconia		203
Manchester	Hillsborough	972
	Hillsborough	639
Portsmouth	Rockingham	240
Rochester	Strafford	272
Salem	Rockingham	195



Bedford

Figure 52. Leading Causes of Death for Bedford, New Hampshire Residents, 1999-2001 Average

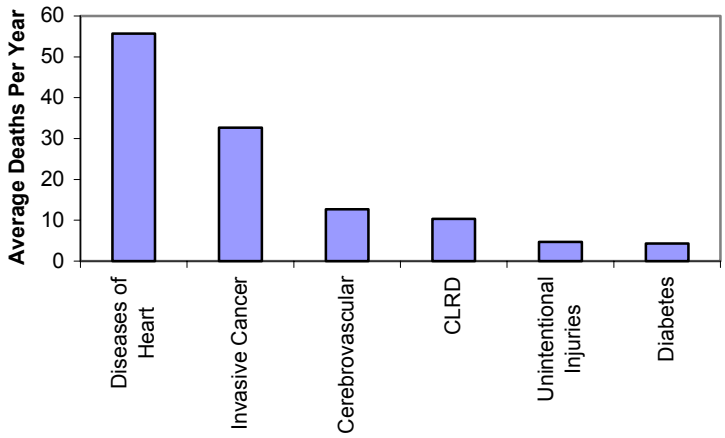


Table 52. Leading Cause of Death Rates for Bedford, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	167	285.7	(241.2, 330.2)
2	Invasive Cancer	98	185.2	(150.3, 225.7)
3	Cerebrovascular	38	63.5	(44.9, 87.2)
4	CLRD	31	53.5	(36.4, 76.0)
5	Unintentional Injuries	14	25.1	(13.7, 42.2)
6	Diabetes	13	24.3	(12.9, 41.5)
7	Flu & Pneumonia	6	*	
8	Suicide	5	*	

Berlin

Figure 53. Leading Causes of Death for Berlin, New Hampshire Residents, 1999-2001 Average

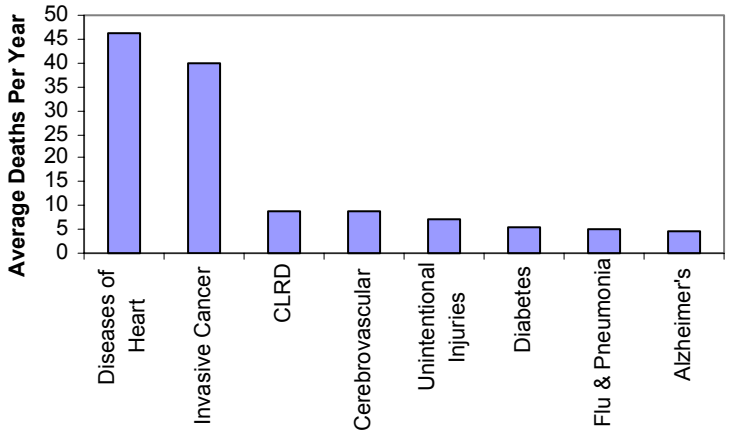


Table 53. Leading Causes of Death Rates for Berlin, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	139	254.0	(210.3, 297.6)
2	Invasive Cancer	120	236.4	(192.5, 280.2)
3	CLRD	27	51.5	(33.9, 75.0)
4	Cerebrovascular	26	47.9	(31.3, 70.2)
5	Unintentional Injuries	21	61.5	(38.1, 94.0)
6	Diabetes	16	30.4	(17.4, 49.4)
7	Flu & Pneumonia	15	23.0	(12.9, 37.9)
8	Alzheimer's	14	22.2	(12.1, 37.2)
9	Nephritis	6	*	
10	Aortic Aneurysm	5	*	

Claremont

Figure 54. Leading Causes of Death for Claremont, New Hampshire Residents, 1999-2001 Average

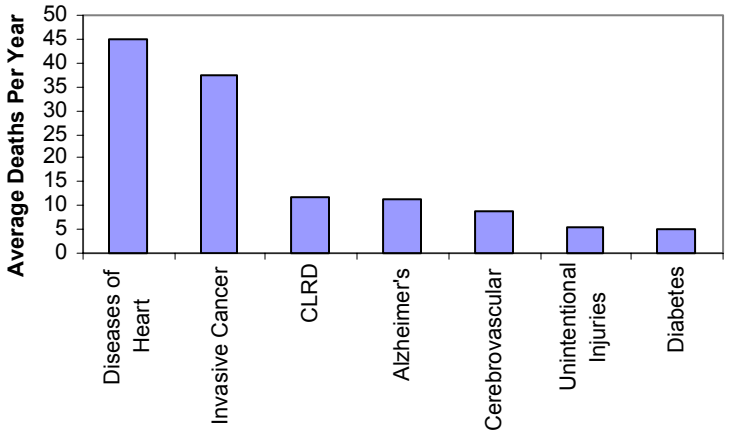


Table 54. Leading Causes of Death Rates for Claremont, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	135	262.3	(217.8, 306.8)
2	Invasive Cancer	112	221.9	(180.4, 263.3)
3	CLRD	35	68.2	(47.5, 94.8)
4	Alzheimer's	34	64.4	(44.6, 90.0)
5	Cerebrovascular	26	49.6	(32.4, 72.7)
6	Unintentional Injuries	16	39.5	(22.6, 64.2)
7	Diabetes	15	29.7	(16.6, 49.0)
8	Liver Disease	8	*	
9	Flu & Pneumonia	7	*	
10	Suicide	6	*	

Concord

Figure 55. Leading Causes of Death for Concord, New Hampshire Residents, 1999-2001 Average

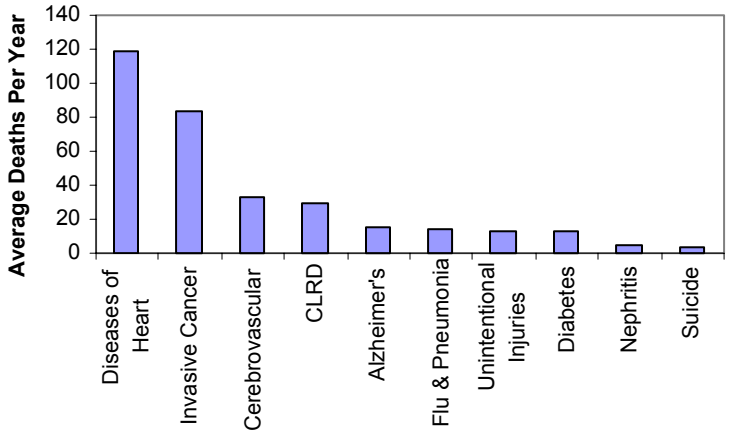


Table 55. Leading Causes of Death Rates for Concord, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	355	221.5	(197.5, 245.5)
2	Invasive Cancer	249	181.0	(157.8, 204.1)
3	Cerebrovascular	98	59.3	(48.1, 72.2)
4	CLRD	89	63.1	(50.7, 77.6)
5	Alzheimer's	47	24.6	(18.1, 32.8)
6	Flu & Pneumonia	41	22.6	(16.2, 30.7)
7	Unintentional Injuries	40	28.4	(20.3, 38.7)
8	Diabetes	38	28.0	(19.8, 38.4)
9	Nephritis	15	10.8	(6.1, 17.8)
10	Suicide	11	8.6	(4.3, 15.3)

Derry

Figure 56. Leading Causes of Death for Derry, New Hampshire Residents, 1999-2001 Average

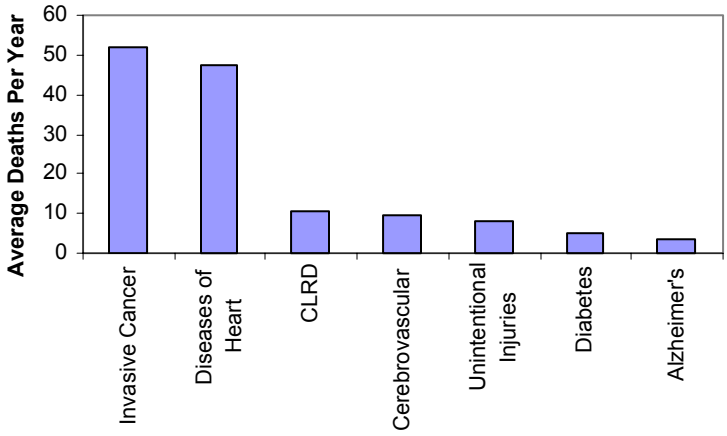


Table 56. Leading Causes of Death Rates for Derry, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Invasive Cancer	156	262.9	(219.8, 305.9)
2	Diseases of Heart	142	276.4	(229.8, 323.0)
3	CLRD	32	59.7	(40.9, 84.3)
4	Cerebrovascular	28	53.3	(35.4, 77.0)
5	Unintentional Injuries	24	31.5	(20.2, 46.9)
6	Diabetes	15	24.4	(13.7, 40.2)
7	Alzheimer's	10	21.7	(10.4, 39.8)
8	Suicide	8	*	
9	Parkinson's	8	*	
10	Flu & Pneumonia	7	*	

Dover

Figure 57. Leading Causes of Death for Dover, New Hampshire Residents, 1999-2001 Average

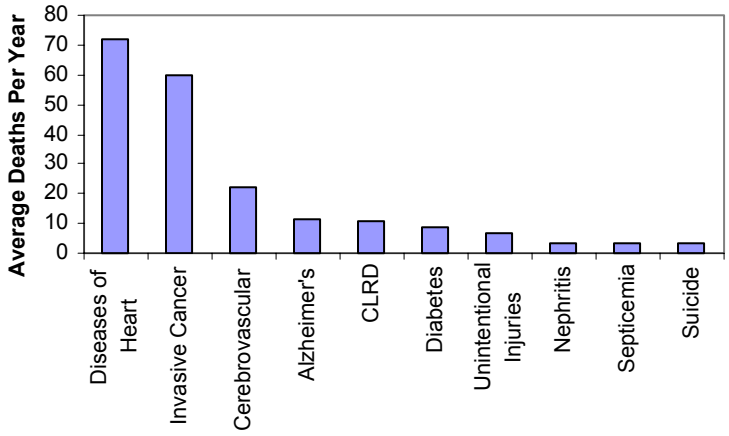


Table 57. Leading Causes of Death Rates for Dover, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	215	222.4	(192.1, 252.7)
2	Invasive Cancer	179	203.4	(173.2, 233.7)
3	Cerebrovascular	67	70.8	(54.9, 89.9)
4	Alzheimer's	34	32.5	(22.5, 45.5)
5	CLRD	33	37.0	(25.5, 52.0)
6	Diabetes	26	27.7	(18.1, 40.6)
7	Unintentional Injuries	20	22.7	(13.8, 35.0)
8	Nephritis	11	10.9	(5.4, 19.4)
9	Septicemia	10	11.4	(5.5, 21.0)
10	Suicide	10	12.3	(5.9, 22.6)

Exeter

Figure 58. Leading Causes of Death for Exeter, New Hampshire Residents, 1999-2001 Average

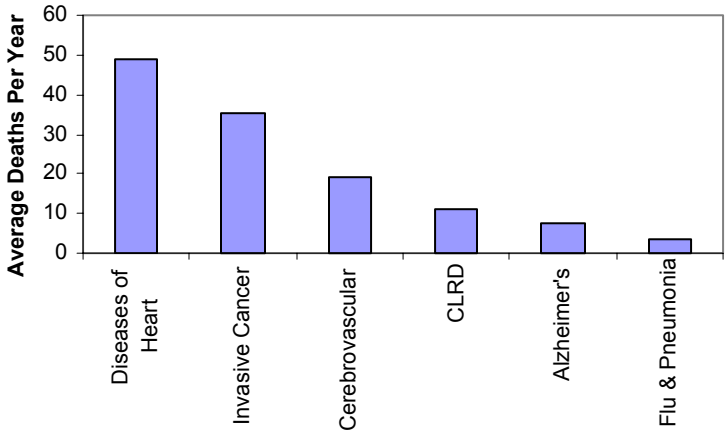


Table 58. Leading Causes of Death Rates for Exeter, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	146	210.4	(174.8, 246.0)
2	Invasive Cancer	106	188.7	(151.7, 225.6)
3	Cerebrovascular	57	78.7	(59.6, 102.0)
4	CLRD	33	51.1	(35.2, 71.7)
5	Alzheimer's	22	28.1	(17.6, 42.5)
6	Flu & Pneumonia	10	12.7	(6.1, 23.3)
7	Diabetes	8	*	
8	Parkinson's	8	*	
9	Unintentional Injuries	8	*	
10	Benign Neoplasms	7	*	

Keene

Figure 59. Leading Causes of Death for Keene, New Hampshire Residents, 1999-2001 Average

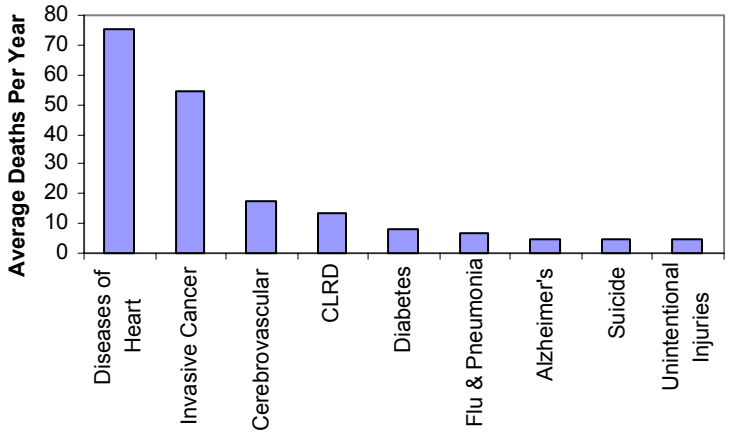


Table 59. Leading Causes of Death Rates for Keene, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	225	260.9	(226.4, 295.4)
2	Invasive Cancer	163	203.9	(172.2, 235.6)
3	Cerebrovascular	53	58.5	(43.8, 76.5)
4	CLRD	40	46.7	(33.3, 63.5)
5	Diabetes	25	31.6	(20.5, 46.7)
6	Flu & Pneumonia	20	21.4	(13.0, 33.0)
7	Alzheimer's	15	16.0	(9.0, 26.4)
8	Suicide	14	19.6	(10.7, 32.9)
9	Unintentional Injuries	14	17.0	(9.3, 28.4)
10	Atherosclerosis	9	*	

Laconia

Figure 60. Leading Causes of Death for Laconia, New Hampshire Residents, 1999-2001 Average

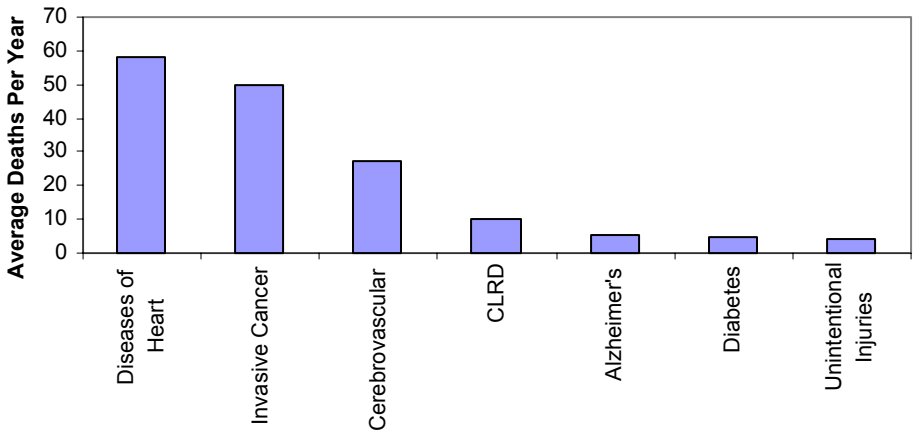


Table 60. Leading Causes of Death Rates for Laconia, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	175	245.3	(208.1, 282.5)
2	Invasive Cancer	150	225.6	(188.9, 262.4)
3	Cerebrovascular	81	102.9	(81.7, 127.9)
4	CLRD	30	41.5	(28.0, 59.3)
5	Alzheimer's	16	19.1	(10.9, 31.0)
6	Diabetes	14	22.2	(12.1, 37.3)
7	Unintentional Injuries	13	24.3	(13.0, 41.6)
8	Atherosclerosis	9	*	
9	Flu & Pneumonia	9	*	
10	Liver Disease	9	*	

Manchester

Figure 61. Leading Causes of Death for Manchester, New Hampshire Residents, 1999-2001 Average

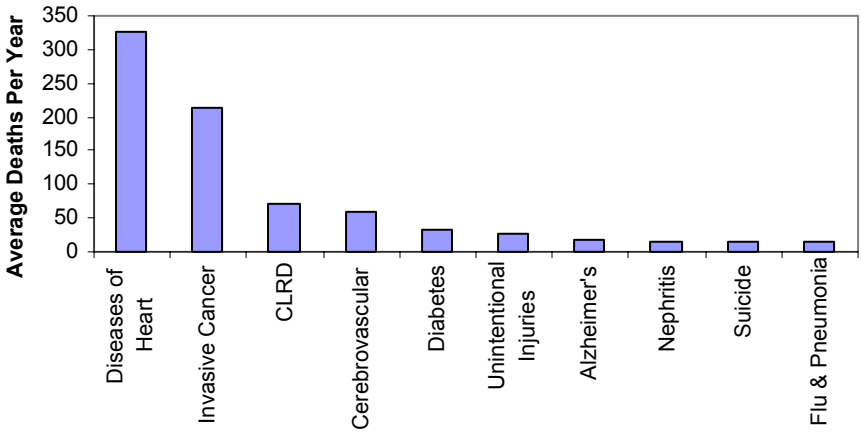


Table 61. Leading Causes of Death Rates for Manchester, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	978	284.7	(266.8, 302.6)
2	Invasive Cancer	642	198.3	(182.9, 213.7)
3	CLRD	217	64.8	(56.1, 73.4)
4	Cerebrovascular	180	51.8	(44.2, 59.4)
5	Diabetes	96	28.5	(23.1, 34.8)
6	Unintentional Injuries	81	24.9	(19.8, 31.0)
7	Alzheimer's	56	15.7	(11.8, 20.3)
8	Nephritis	46	13.4	(9.8, 17.9)
9	Suicide	42	12.7	(9.1, 17.2)
10	Flu & Pneumonia	41	11.9	(8.6, 16.2)

Nashua

Figure 62. Leading Causes of Death for Nashua, New Hampshire Residents, 1999-2001 Average

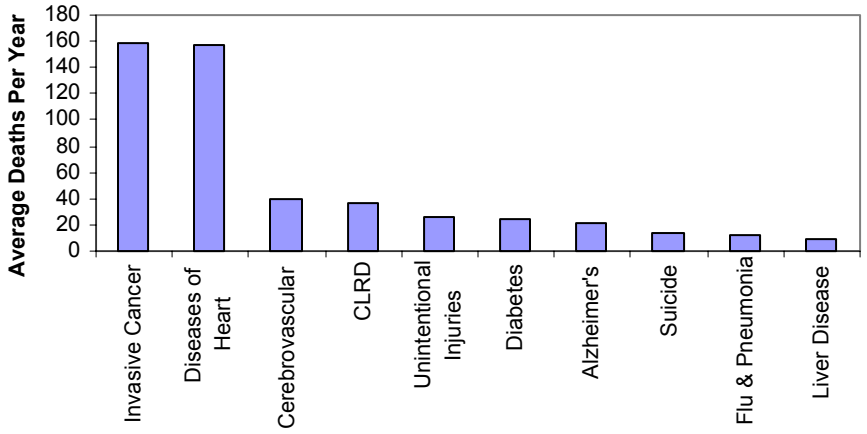


Table 62. Leading Causes of Death Rates for Nashua, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Invasive Cancer	477	196.7	(179.1, 214.4)
2	Diseases of Heart	471	195.6	(177.9, 213.3)
3	Cerebrovascular	120	50.3	(41.3, 59.2)
4	CLRD	112	46.7	(38.1, 55.4)
5	Unintentional Injuries	76	29.9	(23.6, 37.4)
6	Diabetes	75	31.3	(24.6, 39.2)
7	Alzheimer's	63	26.4	(20.3, 33.8)
8	Suicide	43	15.7	(11.3, 21.1)
9	Flu & Pneumonia	35	14.6	(10.2, 20.4)
10	Liver Disease	26	10.4	(6.8, 15.2)

Portsmouth

Figure 63. Leading Causes of Death for Portsmouth, New Hampshire Residents, 1999-2001 Average

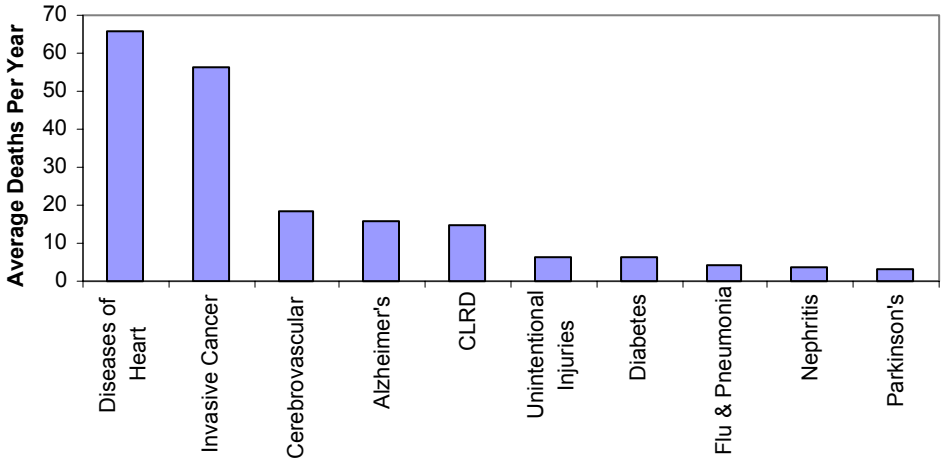


Table 63. Leading Causes of Death Rates for Portsmouth, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	197	226.5	(194.4, 258.7)
2	Invasive Cancer	169	217.7	(184.5, 250.9)
3	Cerebrovascular	56	62.9	(47.5, 81.7)
4	Alzheimer's	48	51.8	(38.2, 68.7)
5	CLRD	45	55.3	(40.3, 74.0)
6	Unintentional Injuries	19	26.3	(15.8, 41.0)
7	Diabetes	19	23.2	(14.0, 36.3)
8	Flu & Pneumonia	12	12.8	(6.6, 22.4)
9	Nephritis	11	12.7	(6.4, 22.8)
10	Parkinson's	10	11.2	(5.4, 20.6)

Rochester

Figure 64. Leading Causes of Death for Rochester, New Hampshire Residents, 1999-2001 Average

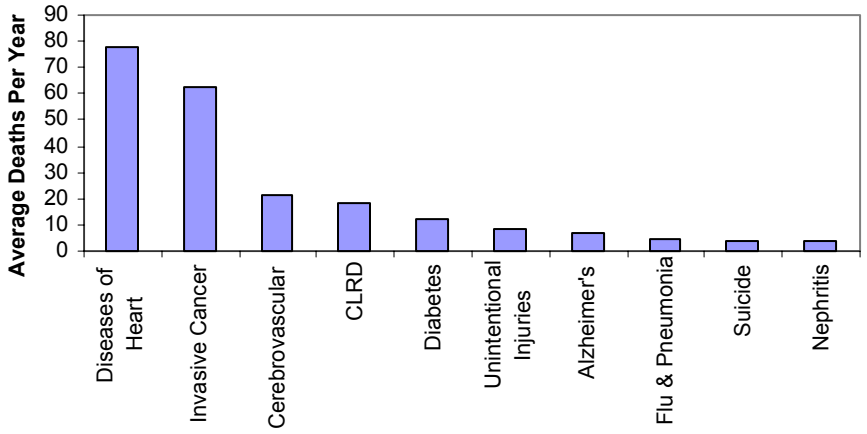


Table 64. Leading Causes of Death Rates for Rochester, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	234	271.8	(236.9, 306.6)
2	Invasive Cancer	187	210.8	(180.6, 241.1)
3	Cerebrovascular	63	73.0	(56.1, 93.4)
4	CLRD	54	61.0	(45.8, 79.6)
5	Diabetes	37	41.8	(29.4, 57.6)
6	Unintentional Injuries	25	29.3	(18.9, 43.2)
7	Alzheimer's	20	23.3	(14.2, 35.9)
8	Flu & Pneumonia	14	16.1	(8.8, 27.1)
9	Suicide	12	13.9	(7.2, 24.3)
10	Nephritis	12	14.1	(7.3, 24.7)

Salem

Figure 65. Leading Causes of Death for Salem, New Hampshire Residents, 1999-2001 Average

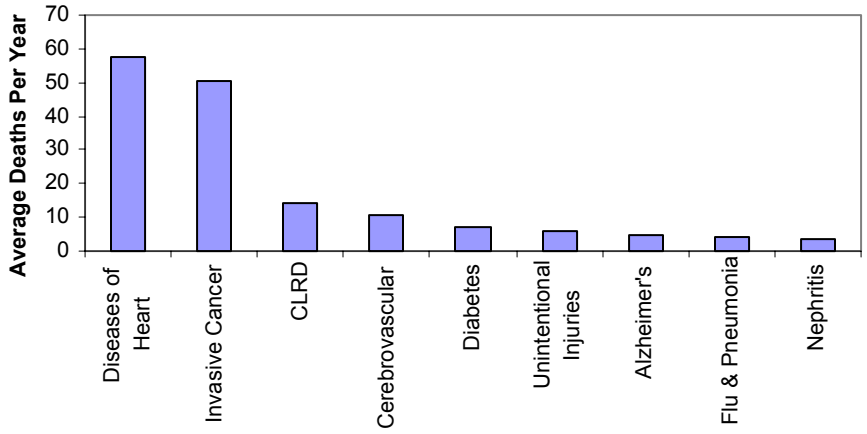


Table 65. Leading Causes of Death Rates for Salem, New Hampshire Residents, 1999-2001

Rank	Cause	Deaths	Age-Adjusted Rate / 100,000	(95% CI)
1	Diseases of Heart	172	233.7	(198.3, 269.1)
2	Invasive Cancer	151	189.9	(159.2, 220.6)
3	CLRD	43	58.7	(42.5, 79.0)
4	Cerebrovascular	32	46.2	(31.6, 65.3)
5	Diabetes	21	26.3	(16.3, 40.2)
6	Unintentional Injuries	17	22.0	(12.8, 35.2)
7	Alzheimer's	15	23.0	(12.9, 37.9)
8	Flu & Pneumonia	12	16.4	(8.5, 28.7)
9	Nephritis	11	15.4	(7.7, 27.5)
10	Aortic Aneurysm	7	*	

Technical Appendix

Age-adjusted Rates

Age-adjusted or standardized rates are calculated so that rates from populations with different age distributions are comparable. For example, if two counties are compared for rates of fall deaths and one of the counties has a higher percentage of elderly adults, the county with the higher percentage of elderly will probably show higher rates of fall deaths as a result of the different age distribution alone. Standardization makes the two populations look similar in regards to age distribution. This makes it possible to know that a difference in rates, if it exists, is not the result of differences in age distribution.

To accomplish this, a "standard" population is chosen. The standard population used in this report is the US Census 2000 population. For each age group in the standard population, a proportion of the total population is calculated. For example, the 0-4 age group comprises .069136 of the total US population in 2000. These proportions are calculated so that the sum of proportions equals one (1). For each age group, the age group proportion is multiplied times the age-specific rate of the population of interest. Basically, this proportion is used to "weight" the age-specific rate calculated for the population of interest. Once the age-specific rates are "weighted", all weighted age-specific rates are summed and the result is the age-adjusted or standardized rate. Standardized rates can be compared to each other as long as the same standard population is used for each calculation.

More generally, the calculation is as follows:

$$R'' = \sum w_i R_i = \text{standardized rate (per 100,000)}$$

where

$w_i = i^{th}$ age specific population proportion in the standard population such that $\sum(w_i) = 1.0$

R_i = age-specific rate (per 100,000) for the i^{th} age group.

D_i = total number of events for the i^{th} age group upon which age-specific rate is based.

Confidence Interval Calculations

To allow comparison of statistics, whenever possible, confidence intervals were calculated at the 95% level and presented in the charts and graphs. The methods used were based on those used by the National Center for Health Statistics at the Centers for Disease Control and Prevention in their reports on death (refer to NCHS reports on deaths for further explanation).

While we have an exact count of deaths in New Hampshire (no uncertainty and no need for confidence intervals), we expect that with a given level of risk in a population, the number of deaths will vary from year to year. When comparing populations, we use the observed death rate to give us information about the underlying risk of death. Confidence intervals are a good way to represent the degree of uncertainty we have about this underlying risk.

A good example of this concept is the experiment of flipping coins. Flipping a coin one hundred times and getting 48 heads is like having a population of 100 individuals and having 48 deaths. The "risk" of getting heads may be .48 or it might be .50 or perhaps .64. We don't know for sure. Some coins are not "fair" and it cannot be automatically assumed that the probability of getting a heads is exactly .50, to fit a preconceived opinion, or that the probability is exactly .48 because that is the result of one experiment. If we could do this experiment many times, we would expect to have more information about the true probability. If the coin is fair, we expect that we will usually get around 50 heads, but we might not be overly surprised if we sometimes get less than 40 or more than 60 heads. In fact, the 95% confidence interval for this experiment (with a fair coin) is between 40 and 60 heads. In the same way, we consider the number of deaths in a population as a sample of one of many possible outcomes based on an unknown risk of death. There is more certainty with larger numbers (more "experiments" leading to tighter confidence intervals). With small numbers, there is sufficient uncertainty about the underlying risk of death so that we don't report rates involving less than 10 deaths.

Confidence intervals for age specific rates are calculated in the following way. When the number of events the rate is based on is 100 or greater, the following formula is used:

Lower 95% limit = $R - (1.96 * R / \sqrt{D})$

Upper 95% limit = $R + (1.96 * R / \sqrt{D})$

where

R = the rate

D = the number of deaths or hospitalizations in the rate

When the number of events is less than 100, the Poisson distribution is used to estimate the confidence interval:

Lower 95% limit = R * L

Upper 95% limit = R * U

where

R = the birth rate

L and U = values in a table derived from the Poisson distribution for the 95% level.

The confidence interval calculation for **age-adjusted rates** is the same for rates based on fewer than 100 events. When based on more than 100 events a different procedure is used that is more complex.

Lower 95% limit = $R'' - (1.96*S(R''))$

Upper 95% limit = $R'' + (1.96*S(R''))$

where

R'' = standardized rate per 100,000

$S(R'') = \sqrt{(\sum (w_i^2 R_i^2 (\frac{1}{D_i})))}$

w_i = i^{th} age specific population proportion in the standard population such that $\sum(w_i) = 1.0$

R_i = age-specific rate (per 100,000) for the i^{th} age group.

D_i = total number of events for the i^{th} age group upon which age-specific rate is based.

Leading Cause of Death Descriptions

Throughout this report, New Hampshire's leading causes of death have been listed. Though the description or label of the leading causes differs somewhat from the leading cause of death descriptions used by the National Center of Health Statistics, the definitions of these cause of death categories match exactly. The following table compares the description or label used within this report to the descriptions used by the National Center for Health Statistics.

Table 66. Comparison of Leading Cause of Death Descriptions used within this Report to Descriptions Used by the National Center for Health Statistics

New Hampshire	National Center For Health Statistics
Unintentional injuries	Accidents
Alzheimer's	Alzheimer's disease
Anemias	Anemias
Aortic Aneurysm	Aortic aneurysm and dissection
Atherosclerosis	Atherosclerosis

New Hampshire	National Center For Health Statistics
Benign Neoplasms	In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior
Cerebrovascular	Cerebrovascular Diseases
Chronic Low. Resp. (CLRD)	Chronic lower respiratory diseases
Congenital Abnormalities	Congenital malformations, deformations and chromosomal abnormalities
Diabetes	Diabetes mellitus
Diseases of heart	Diseases of heart
Flu & Pneumonia	Influenza and pneumonia
Gallbladder Disorders	Cholelithiasis and other disorders of gallbladder
Hernia	Hernia
HIV	Human immunodeficiency virus disease - HIV
Homicide	Assault (homicide)
Hypertension	Essential (primary) hypertension and hypertensive renal disease
Invasive Cancer	Malignant neoplasms
Liver Disease	Chronic liver disease and cirrhosis
Medical Complications	Complications of medical and surgical care
Nephritis	Nephritis, nephrotic syndrome and nephrosis
Nutritional Deficiencies	Nutritional deficiencies
Parkinson's	Parkinson's disease
Peptic Ulcer	Peptic ulcer
Perinatal Conditions	Certain conditions originating in the perinatal period
Pneumonitis	Pneumonitis due to solids and liquids
Septicemia	Septicemia
Suicide	Intentional self-harm (suicide)
Viral Hepatitis	Viral hepatitis

Table 67. Comparison of Leading for Infant Causes of Death Descriptions used within this Report to Descriptions Used by the National Center for Health Statistics

New Hampshire	National Center For Health Statistics
Abdominal Hernia	Hernia of abdominal cavity and intestinal obstruction without hernia
Unintentional injuries	Accidents
Anoxic Brain Damage	Anoxic brain damage not elsewhere classified
Atelectasis	Atelectasis
Bacterial Sepsis	Bacterial sepsis of newborn
Benign Neoplasms	In situ neoplasms, benign neoplasms, neoplasms of uncertain or unknown behavior
Birth Trauma	Birth trauma
Chronic Resp. Disease	Chronic respiratory disease originating in the perinatal period
Circulatory System	Diseases of the circulatory system
Complications of Labor	Newborn affected by other complications of labor and delivery
Congenital Abnormalities	Congenital malformations, deformations and chromosomal abnormalities
Congenital Pneumonia	Congenital pneumonia
Flu & Pneumonia	Influenza and pneumonia
Homicide	Assault (homicide)
Hydrops Fetalis	Hydrops fetalis not due to hemolytic disease
Interstitial Emphysema	Interstitial emphysema and related conditions originating in the perinatal period
Intrauterine Hypoxia	Intrauterine hypoxia and birth asphyxia
Invasive Cancer	Malignant neoplasms

New Hampshire	National Center For Health Statistics
Maternal Complications	Newborn affected by maternal complications of pregnancy
Maternal Conditions	Newborn affected by other maternal conditions which may be unrelated to present pregnancy
Necrotizing Entercolitis	Necrotizing entercolitis of newborn
Neonatal Aspiration	Neonatal aspiration syndromes
Neonatal Hemorrhage	Neonatal hemorrhage
Noxious Influences	Newborn affected by noxious influences transmitted via placenta or breast milk
Placenta Complications	Newborn affected by complications of placenta, cord and membranes
Pulmonary Hemorrhage	Pulmonary hemorrhage originating in the perinatal period
Renal Failure	Renal failure and other disorders of kidney
Respiratory Distress	Respiratory distress of newborn
Septicemia	Septicemia
Short Gestation	Disorders related to short gestation and low birth weight, not elsewhere classified
SIDS	Sudden infant death syndrome
Spinal Muscular Atrophy	Infantile spinal muscular atrophy, type I (Werdnig-Hoffman)
Volume Depletion	Volume depletion, disorders of fluid, electrolyte and acid-base balance

Leading Cause of Death Coding Criteria

Table 68. Leading Cause of Death Classifications for ICD 10, Ages 1 and Older

Leading Cause of Death Group	ICD 10 Code Range(s)
Salmonella infections	A01 - A02
Shigellosis and amebiasis	A03, A06
Tuberculosis	A16 - A19
Whooping cough	A37
Scarlet fever and erysipelas	A38, A46
Meningococcal infection	A39
Septicemia	A40 - A41
Syphilis	A50 - A53
Acute poliomyelitis	A80
Arthropod-borne viral encephalitis	A83 - A84, A85.2
Measles	B05
Viral hepatitis	B15 - B19
Human immunodeficiency virus disease - HIV	B20 - B24
Malaria	B50 - B54
Malignant neoplasms	C00 - C97
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior	D00 - D48
Anemias	D50 - D64
Diabetes mellitus	E10 - E14
Nutritional deficiencies	E40 - E64
Meningitis	G00, G03
Parkinson's disease	G20 - G21
Alzheimer's disease	G30
Diseases of heart	I00 - I09, I11, I13, I20 - I51
Essential (primary) hypertension and hypertensive renal disease	I10, I12
Cerebrovascular Diseases	I60 - I69
Atherosclerosis	I70
Aortic aneurysm and dissection	I71
Influenza and pneumonia	J10 - J18
Acute bronchitis and bronchiolitis	J20 - J21

Leading Cause of Death Group	ICD 10 Code Range(s)
Chronic lower respiratory diseases	J40 - J47
Pneumoconioses and chemical effects	J60 - J66, J68
Pneumonitis due to solids and liquids	J69
Peptic ulcer	K25 - K28
Diseases of appendix	K35 - K38
Hernia	K40 - K46
Chronic liver disease and cirrhosis	K70, K73 - K74
Cholelithiasis and other disorders of gallbladder	K80 - K82
Nephritis, nephrotic syndrome and nephrosis	N00 - N07, N17 - N19, N25 - N27
Infections of kidney	N10 - N12, N13.6, N15.1
Hyperplasia of prostate	N40
Inflammatory diseases of female pelvic organs	N70 - N76
Pregnancy, childbirth and the puerperium	O00 - O99
Certain conditions originating in the perinatal period	P00 - P96
Congenital malformations, deformations and chromosomal abnormalities	Q00 - Q99
Accidents	V01 - X59, Y85 - Y86
Intentional self-harm (suicide)	U03, X60 - X84, Y87.0
Assault (homicide)	U01, U02, X85-Y09, Y87.1
Legal intervention	Y35, Y89.0
Operations of war and their sequelae	Y36, Y89.1
Complications of medical and surgical care	Y40 - Y84, Y88

Table 69. Infant Leading Cause of Death Classifications for ICD 10

Leading Cause of Death Group	ICD 10 Code Range(s)
Diarrhea and gastroenteritis of infectious origin	A09
Tuberculosis	A16-A19
Tetanus	A33, A35
Diphtheria	A36
Whooping cough	A37
Meningococcal infection	A39
Septicemia	A40-A41
Congenital syphilis	A50
Gonococcal infection	A54
Acute poliomyelitis	A80
Varicella (chickenpox)	B01
Measles	B05
Human Immunodeficiency Virus (HIV) disease	B20-B24
Mumps	B26
Candidiasis	B37
Malaria	B50-B54
Pneumocystosis	B59
Malignant neoplasms	C00-C97
In situ neoplasms, benign neoplasms, neoplasms of uncertain or unknown behavior	D00-D48
Diseases of the blood and blood forming organs and certain disorders involving the immune mechanism	D50-D89
Short stature not elsewhere classified	E343
Malnutrition and other nutritional deficiencies	E40-E64
Cystic fibrosis	E84
Volume depletion, disorders of fluid, electrolyte and acid-base balance	E86-E87
Meningitis	G00, G03
Infantile spinal muscular atrophy, type I (Werdnig-Hoffman)	G120
Infantile cerebral palsy	G80
Anoxic brain damage NEC	G931

Leading Cause of Death Group	ICD 10 Code Range(s)
Diseases of the ear and mastoid process	H60-H93
Diseases of the circulatory system	I00-I99
Acute upper respiratory infections	J00-J06
Influenza and pneumonia	J10-J18
Acute bronchitis and acute bronchiolitis	J20-J21
Bronchitis, chronic and unspecified	J40-J42
Asthma	J45-J46
Pneumonitis due to solids and liquids	J69
Gastritis, duodenitis, and noninfective enteritis and colitis	K29, K50-K55
Hernia of abdominal cavity and intestinal obstruction without hernia	K40-K46, K56
Renal failure and other disorders of kidney	N17-N19, N25, N27
Newborn affected by maternal hypertensive disorders	P000
Newborn affected by other maternal conditions which may be unrelated to present pregnancy	P001-P009
Newborn affected by maternal complications of pregnancy	P01
Newborn affected by complications of placenta, cord and membranes	P02
Newborn affected by other complications of labor and delivery	P03
Newborn affected by noxious influences transmitted via placenta or breast milk	P04
Slow fetal growth and fetal malnutrition	P05
Disorders related to short gestation and low birth weight, NEC	P07
Disorders related to long gestation and high birth weight	P08
Birth trauma	P10-P15
Intrauterine hypoxia and birth asphyxia	P20-P21
Respiratory distress of newborn	P22
Congenital pneumonia	P23
Neonatal aspiration syndromes	P24
Interstitial emphysema and related conditions originating in the perinatal period	P25
Pulmonary hemorrhage originating in the perinatal period	P26
Chronic respiratory disease originating in the perinatal period	P27
Atelectasis	P280-P281
Bacterial sepsis of newborn	P36
Omphalitis of newborn with or without mild hemorrhage	P38
Neonatal hemorrhage	P50-P52, P54
Hemorrhagic disease of newborn	P53
Hemolytic disease of newborn due to isoimmunization and other perinatal jaundice	P55-P59
Hematological disorders	P60-P61
Syndrome of infant of a diabetic mother and neonatal diabetes mellitus	P700-P702
Necrotizing entercolitis of newborn	P77
Hydrops fetalis not due to hemolytic disease	P832
Congenital malformations, deformations and chromosomal abnormalities	Q00-Q99
Sudden infant death syndrome	R95
Accidents (unintentional injuries)	V01-X59
Assault (homicide)	X85-Y09, Y871
Complications of medical and surgical care	Y40-Y84

Population Estimates

The population estimate tables below were used in the calculation of rates in this report. Because the only reliable data that is typically available at the town level by age is from the US Census (the last Census was conducted in 2000), we must rely on estimated populations for 1999 and 2001. To do this, we interpolated 1999 from the

1990 and 2000 US Census data, and interpolated 2001 with the 2000 Census data and 2003 estimate data from Claritas Corporation.

Population by County and Age Group, New Hampshire, 1999-2001

County	0 to 4	05 to 14	15 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 to 84	85 plus	Total
Belknap	9,096	23,607	18,899	19,308	28,237	26,901	17,925	13,497	9,009	2,950	169,429
Carroll	6,353	17,794	12,585	13,548	21,230	21,025	15,362	12,962	7,789	2,558	131,206
Cheshire	11,601	30,632	35,669	24,887	35,024	32,986	21,001	15,889	10,471	3,864	222,025
Coos	5,060	13,253	10,774	10,916	15,590	14,951	10,635	9,335	6,485	2,422	99,421
Grafton	12,743	31,171	43,275	29,211	37,032	36,278	23,207	17,067	11,589	4,174	245,746
Hillsborough	77,596	175,253	136,793	164,445	209,239	163,987	95,154	63,092	43,040	15,287	1,143,887
Merrimack	24,486	59,954	50,854	51,184	73,868	62,243	35,900	25,580	17,543	7,619	409,231
Rockingham	54,655	129,925	87,981	110,176	162,958	129,861	73,916	46,482	28,021	9,568	833,543
Strafford	20,124	46,012	60,036	46,067	56,616	44,038	26,707	20,264	13,087	4,437	337,389
Sullivan	6,828	17,041	13,050	14,458	19,564	18,824	12,665	10,292	6,594	2,221	121,537
NH Total	**228,542**	**544,642**	**469,916**	**484,200**	**659,358**	**551,094**	**332,472**	**234,460**	**153,628**	**55,100**	**3,713,414**

Population by Selected City or Town and Age Group, New Hampshire, 1999-2001

Town	0 to 4	5 to 14	15 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 to 84	85 plus	Total
Bedford	3,958	9,392	4,690	5,110	10,402	9,642	5,238	3,062	2,049	1,132	54,674
Berlin	1,595	3,795	3,291	3,514	4,709	4,126	3,052	3,426	2,510	1,056	31,074
Claremont	2,348	5,323	4,662	5,126	6,111	5,482	3,861	3,234	2,621	804	39,572
Concord	7,153	16,129	15,102	18,635	21,552	17,378	9,548	7,080	6,262	3,376	122,213
Derry	7,404	18,360	12,718	15,616	20,764	14,540	6,672	3,625	1,916	779	102,394
Dover	4,597	9,359	12,010	13,936	13,349	10,159	6,338	5,218	3,997	1,859	80,822
Exeter	2,328	6,008	4,028	5,239	7,301	6,194	3,941	3,032	2,702	1,413	42,186
Keene	2,871	7,879	15,399	7,564	9,203	8,934	5,777	4,877	3,830	1,553	67,887
Laconia	2,654	6,352	6,473	6,468	7,375	6,857	4,803	4,021	3,065	1,406	49,473
Manchester	21,622	42,644	42,844	54,555	52,479	41,416	24,678	19,806	16,198	5,615	321,856
Nashua	17,038	37,209	31,129	41,489	45,370	35,420	22,417	15,815	10,452	3,728	260,064
Portsmouth	3,121	6,028	6,420	12,156	10,535	8,833	5,664	4,874	3,634	1,641	
Rochester	5,827	12,193	10,236	12,194	14,690	11,474	7,448	6,198	4,024	1,269	85,553
Salem	5,365	12,456	8,815	10,805	15,876	12,801	8,690	5,502	3,236	939	84,484

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