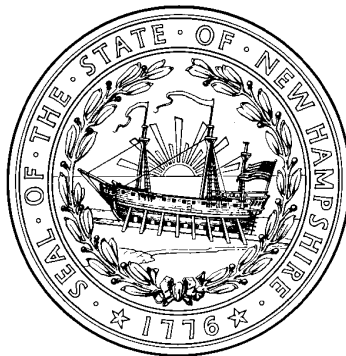# NEW HAMPSHIRE CANCER REPORT 1999-2003

New Hampshire Department of Health and Human Services
Division of Public Health Services
Bureau of Disease Control and Health Statistics
Health Statistics and Data Management
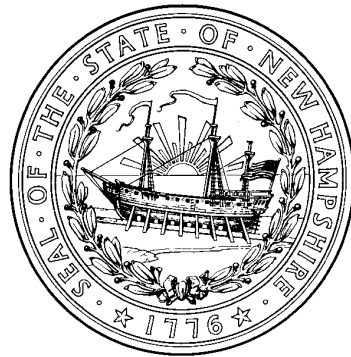New Hampshire State Cancer Registry

NEW HAMPSHIRE CANCER REPORT 1999-2003

New Hampshire Department of Health and Human Services
Division of Public Health Services
Bureau of Disease Control and Health Statistics
Health Statistics and Data Management
New Hampshire State Cancer Registry

John H. Lynch, Governor
John A. Stephen, Commissioner
Department of Health and Human Services
Mary Ann Cooney, Director
Division of Public Health Services
June 2007

New Hampshire Cancer Report 1999-2003
New Hampshire Department of Health and Human Services
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John H. Lynch, Governor
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Department of Health and Human Services
Mary Ann Cooney, Director
Division of Public Health Services
June 2007

Acknowledgements

Understanding the burden of cancer in New Hampshire would not be possible without the contributions of the Tumor Registrars who identify, register, and maintain records of all cancer patients and report the information to the Cancer Registry. The Department of Health and Human Services would like to acknowledge the Registrars' commitment to completeness, accuracy, and integrity of cancer data. Without the dedication of these individuals, the pursuit of cancer control and prevention would be greatly compromised.

Tumor Registrar	Hospital
Marilyn Thorson, BS, CCS	Alice Peck Day Memorial Hospital
Barbara Ellis	Androscoggin Valley Hospital
Shirley Foret	Catholic Medical Center
Claire Davis, CTR	Cheshire Medical Center
Judy Spahr, MLS, MED, CTR	Concord Hospital
Rosemary Couch, CTR	Concord Hospital
Alberta Fraser, RHIT, CCS	Cottage Hospital
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Amanda Timlake, CTR	Dartmouth Hitchcock Medical Center
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Cynthia Dreyer, CTR	Frisbie Memorial Hospital
Karl Neuberger	Huggins Hospital
Susan McGarry	Lakes Region General Hospital
Ann Wiggett, RN	Littleton Hospital
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Doreen Martin, RHIT	Monadnock Community Hospital
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Debbie Dalton, CTR	Elliot Hospital
Simone Boudle, CTR	Elliot Hospital
Joyce Gosselin, CTR	Elliot Hospital
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Barbara Snyder	Portsmouth Regional Hospital
Claire Abel, CTR	Southern NH Regional Medical Center
Cindy Wright, CMT	Speare Memorial Hospital
Debbie Rivet, RHIT, CTR	St. Joseph Hospital
Kelly McLain	Upper Connecticut Valley Hospital
Heather Placey, RHIT	Upper Connecticut Valley Hospital
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Susan Goebel	Wentworth Douglas Hospital
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Table of Contents

Executive Summary

Executive Summary

This report includes cancer incidence and mortality data from 2003 and a summary of incidence rates for the state covering the five years from 1999 through 2003. Tables and Graphs are presented for 23 primary cancer sites. For comparison purposes, rates are presented from the National Cancer Institute's SEER (Surveillance, Epidemiology, and End Results) Program Publication, S*EER Cancer Statistics Review, 1975-2003*.

What's New In This Report?

New features are being introduced with the release of the 2003 Cancer Report:
- ❖ The report contains detailed descriptions of the top 10 cancers affecting New Hampshire residents;
- ❖ A background section on the information about cancer in New Hampshire;
- ❖ A section on race and ethnicity;
- ❖ Mortality trends for more common cancers;
- ❖ Statistical testing has been conducted to highlight significant differences between NH cancer rates by gender, by NH counties, and in comparison with the nation;
- ❖ Data from the Behavioral Risk Factor Surveillance system (BRFSS) is used.
- ❖ The Healthy New Hampshire 2010 document has been used as a benchmark to show the improvements to health specifically to cancer;
- ❖ This combination of different data sources more fully describes the burden of cancer in New Hampshire;
- ❖ Health Statistics and Data Management Section (HSDM) is committed to publishing useful reports that empower public health decision-making. The feedback of communities and public health professionals is sought and encouraged. To learn more about the HSDM's mission and services, please visit the website at http://www.dhhs.state.nh.us/DHHS/HSDM/.

Overall Incidence

Among New Hampshire residents, 6,458 new cases of invasive cancer were diagnosed in 2003 and reported to the New Hampshire State Cancer Registry (NHSCR).

❖ For men, 3,318 newly diagnosed cases of cancer were reported. The majority of these cases were cancer of the prostate (30%), lung (15%), and colorectal (11%).

❖ For women, there were 3,140 new cases of cancer diagnosed in 2003. The highest percentages of cases are cancers of the breast (28%), lung (13%), and colorectal (11%).

In New Hampshire men generally experience higher rates of cancer than women. The only exception is thyroid cancer where women experience higher incidence rates. These findings follow national trends.

Overall Mortality

Cancer was the leading cause of death for residents younger than 85 years old in New Hampshire during 2003; there were 2,475 cancer deaths among New Hampshire residents. The top five types of cancers accounted for 56% of all cancer deaths. These causes remain the same leading mortality causes as in previous years and are summarized with incidence data in the tables below.

Table 1: Primary Sites in Descending Order for New Cases and Deaths, 2003

	Incidence			Mortality	
Rank	**Cancer Site**	**Cases**	**Rank**	**Cancer Site**	**Deaths**
1	Prostate	905	1	Lung & Bronchus	675
2	Breast (female)	885	2	Colorectal	262
3	Lung & Bronchus	868	3	Breast	179
4	Colorectal	674	4	Pancreas	136
5	Melanoma of Skin	392	5	Prostate	136
6	Bladder	340	6	Non-Hodgkin's Lymphoma	100
7	Non-Hodgkin's Lymphoma	258	7	Esophagus	92
8	Uterine	201	8	Leukemia	83
9	Kidney & Renal Pelvis	173	9	Ovary	65
10	Leukemia	164	10	Bladder	58
11	Oral Cavity & Pharynx	162	11	Multiple Myeloma	55
12	Pancreas	133	12	Kidney & Renal Pelvis	53
13	Ovary	114	13	Brain & other CNS	52
14	Esophagus	96	14	Liver and Intrahepatic Bile Duct	52
15	Thyroid	93	15	Melanoma of skin	47
16	Brain & other CNS	90	16	Stomach	43
17	Multiple Myeloma	82	17	Oral cavity and pharynx	37
18	Stomach	70	18	Uterine	20
19	Testis	48	19	Cervix	17
20	Cervix	46	20	Larynx	12
21	Liver and Intrahepatic Bile Duct	45	21	Thyroid	9
22	Larynx	44	22	Hodgkin's disease	3
23	Hodgkin's Disease	38	23	Testis	0
Total Invasive Cancers (Includes sites not grouped above)		**6,458**	**Total Cancers Deaths (Includes sites not grouped above)**		**2,475**

Fig 1: New Hampshire Female Resident Cancer Cases by Primary Site, 2003
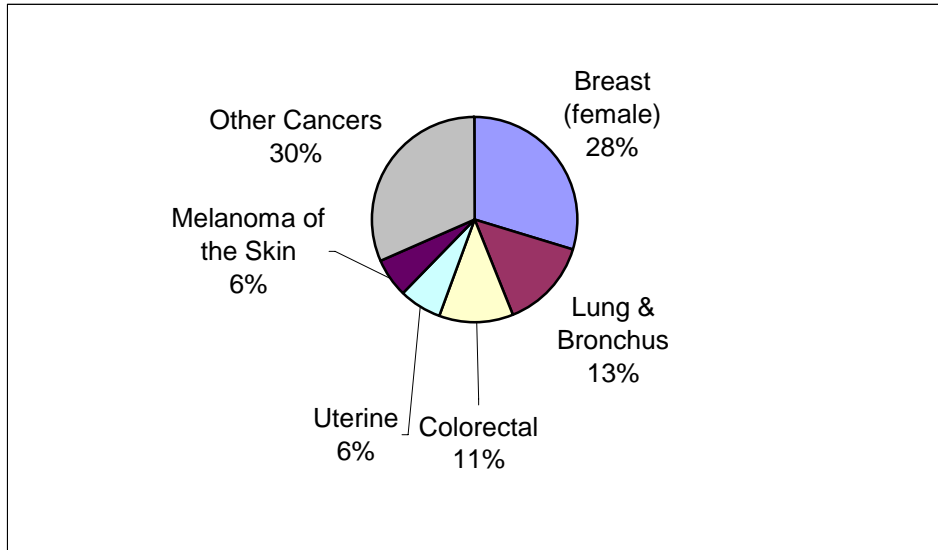
Other Cancers
30%

Melanoma of
the Skin
6%

Uterine
6%

Colorectal
11%

Breast
(female)
28%

Lung &
Bronchus
13%

Fig 2: New Hampshire Female Resident Cancer Deaths by Primary Site, 2003

Other Cancers
28%

Ovary
6%

Pancreas
7%

Colorectal
14%

Lung & Bronchus
28%

Breast (Female)
17%

Fig 3: New Hampshire Male Resident Cancer Cases by Primary Site, 2003

Other Cancers 29%
Prostate 30%
Melanoma of the Skin 7%
Bladder 8%
Colorectal 11%
Lung & Bronchus 15%

Fig 4: New Hampshire Male Resident Cancer Deaths by Primary Site, 2003

Lung & Bronchus 25%
Other Cancers 49%
Prostate 9%
Colorectal 8%
Esophagus 5%
Pancreas 4%
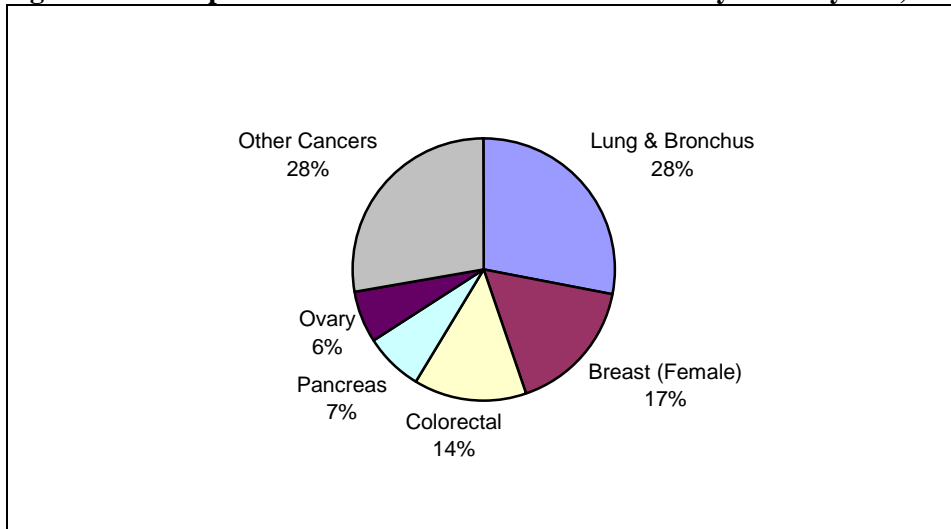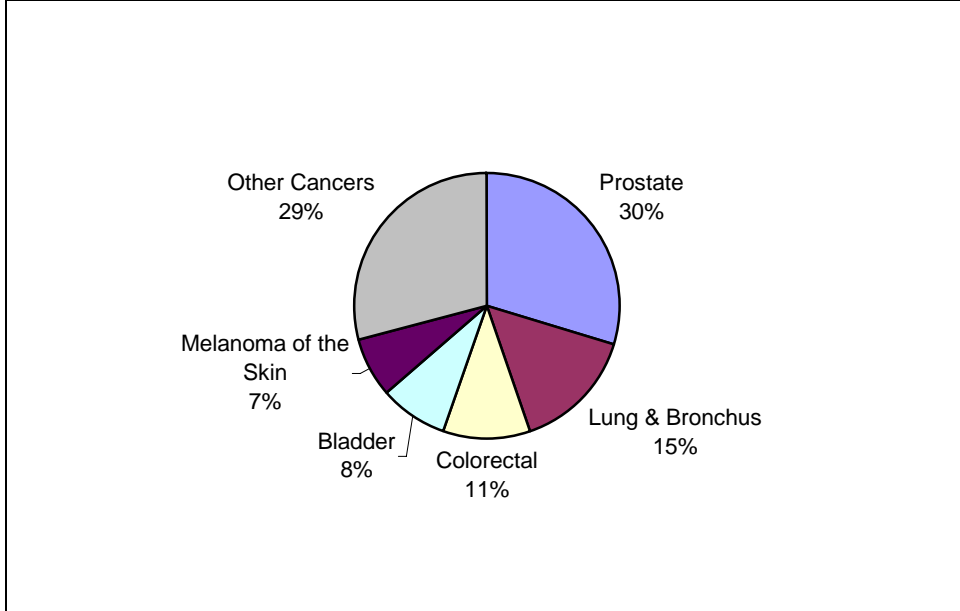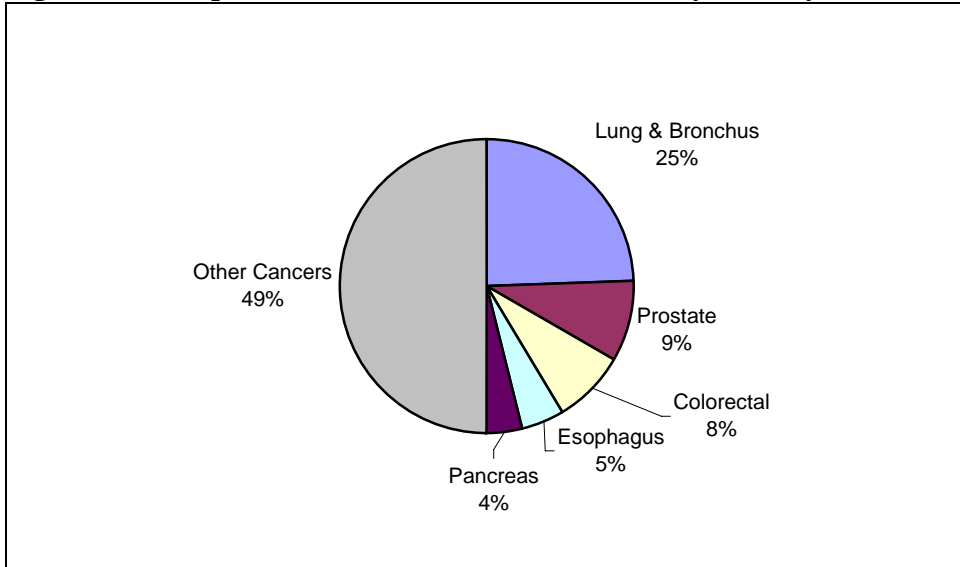
Differences Between New Hampshire and the Nation

Over 96% of New Hampshire's population is white. Cancer incidence and mortality for New Hampshire were analyzed and compared to the SEER (national) white race incidence and mortality age-adjusted rates. Overall, cancer incidence rates in New Hampshire are higher than the national rates. Incidence is higher in both males and females when compared to SEER U.S. white rates. Mortality rates for New Hampshire are lower than SEER U.S. white rates. Among both males and females mortality from cancer is lower than SEER white male and female rates. Comparison of rates for the primary sites are discussed after the following tables.

Table 2: New Cases and Age-Adjusted Incidence Rates by Sex and Primary Site New Hampshire, 1999-2003, SEER U.S. White 2000-2003 Comparison Rates

Cancer Site	Female			Male			Total		
	Cases	NH Rate	SEER	Cases	NH Rate	SEER	Cases	NH Rate	SEER
Bladder	444	**12.7**	10.0	1230	**46.5**	40.2	1674	**27.0**	22.8
Brain & other CNS	192	5.8	5.9	248	8.3	8.3	440	7.0	7.0
Breast (female)	4670	135.3	134.0	--	--	--	--	--	--
Cervical	250	7.5	8.5	--	--	--	--	--	--
Colorectal	1710	**48.4**	44.7	1691	62.8	61.4	3401	54.6	52.0
Esophagus	79	2.2	1.9	303	**10.8**	7.8	382	**6.1**	4.5
Hodgkin's Disease	93	2.9	2.6	111	3.7	3.2	204	3.3	2.9
Kidney & Renal Pelvis	287	8.4	9.0	454	**15.7**	18.0	741	**11.6**	13.0
Larynx	58	1.7	1.4	195	6.9	6.6	253	4.0	3.7
Leukemia	317	9.3	9.8	465	16.8	16.5	782	12.5	12.7
Liver	76	**2.2**	2.8	169	**5.9**	7.8	245	**3.9**	5.1
Lung & Bronchus	2018	**59.0**	54.7	2245	82.1	81.7	4263	68.5	66.0
Melanoma of the Skin	699	**20.8**	17.3	893	**30.3**	26.5	1592	**24.8**	21.1
Multiple Myeloma	159	4.6	4.1	196	7.2	6.5	355	5.7	5.1
Non-Hodgkin's Lymphoma	516	**14.9**	16.8	636	22.7	23.8	1152	**18.3**	19.9
Oral Cavity & Pharynx	234	6.9	6.1	472	16.0	15.7	706	11.0	10.5
Ovary	489	14.2	14.5	--	--	--	--	--	--
Pancreas	356	10.1	9.8	325	12.0	12.7	681	10.9	11.1
Prostate	--	--	--	4674	165.3	163.4	--	--	--
Stomach	121	**3.4**	4.7	241	8.8	10.2	362	**5.8**	7.1
Testis	--	--	--	225	**7.2**	6.2	--	--	--
Thyroid	310	**9.3**	12.7	114	**3.7**	4.5	424	**6.5**	8.6
Uterine	942	**27.5**	23.8	--	--	--	--	--	--
Total Invasive Cancers	15188	**440.3**	424.6	16139	**578.6**	558.3	31369	**497.1**	478.4

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population. (See appendix for an explanation of age adjustment). * Rates are not displayed when there are fewer than 10 cases. -- Specific cancers not found in that gender.

New Hampshire rates in **bold** type are statistically significantly different from the SEER rates using the 95% confidence interval. (See appendix for a description of the statistical methods used.)

Table 3: Deaths and Age-Adjusted Death Rates by Sex and Primary Site New Hampshire, 1999-2003, U.S. White 2000-2003 Comparison Rates

Cancer Site	Female Cases	Female NH Rate	Female SEER	Male Cases	Male NH Rate	Male SEER	Total Cases	Total NH Rate	Total SEER
Bladder	96	2.6	2.3	238	**10.0**	7.8	334	**5.5**	4.5
Brain & other CNS	125	3.7	3.9	181	6.3	5.8	306	4.8	4.8
Breast (Female)	905	25.4	25.3	--	--	--	--	--	--
Cervical	82	2.4	2.4	--	--	--	--	--	--
Colorectal	647	**17.8**	16.2	665	**26.3**	23.4	1312	**21.3**	19.3
Esophagus	77	2.1	1.7	292	**10.6**	7.7	369	**5.9**	4.3
Hodgkin's Disease	*	*	*	19	0.7	0.6	28	0.4	0.5
Kidney & Renal Pelvis	110	3.1	2.8	132	**5.0**	6.2	242	3.9	4.3
Larynx	19	0.6	0.5	54	2.0	2.2	73	1.2	1.2
Leukemia	183	5.2	5.9	266	10.4	10.4	449	7.3	7.8
Liver and Intrahepatic Bile Duct	93	2.6	2.8	185	6.8	6.4	278	4.5	4.4
Lung & Bronchus	1523	**44.0**	42.2	1828	**68.6**	73.4	3351	54.1	55.3
Melanoma of the Skin	74	2.1	2.0	119	4.2	4.3	193	3.0	3.0
Multiple Myeloma	105	3.0	2.9	113	4.3	4.4	218	3.5	3.5
Non-Hodgkin's Lymphoma	232	6.5	6.5	275	10.5	10.1	507	8.2	8.1
Oral Cavity & Pharynx	63	1.8	1.5	126	4.6	3.8	189	**3.0**	2.5
Ovary	301	8.6	9.3	--	--	--	--	--	--
Pancreas	348	9.8	9.0	320	12.0	12.0	668	10.8	10.3
Prostate	--	--	--	658	**29.8**	26.2	--	--	--
Stomach	87	2.3	2.7	139	5.2	5.3	226	3.6	3.8
Testis	--	--	--	12	0.4	0.3	--	--	--
Thyroid	20	0.5	0.5	13	0.5	0.5	33	0.5	0.5
Uterine	134	**3.8**	1.9	--	--	--	--	--	--
Total Cancer Deaths	4670	**132.3**	162.8	4931	**191.1**	237.3	9601	**154.7**	192.4

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population. (See appendix for an explanation of age adjustment). * Rates are not displayed with fewer than 10 cases. -- Gender Specific Cancers.

New Hampshire rates in **bold** type are significantly different from the national rates at the 95% confidence interval. (See appendix for a description of the statistical methods used).

Differences Between New Hampshire and the Nation: Primary Sites

Incidence
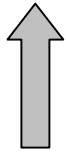
Rates in New Hampshire are significantly higher compared to SEER estimates for the following primary sites:

- **Overall**: Bladder, Esophagus, Melanoma of Skin

- **Male**: Bladder, Esophagus, Melanoma of Skin, Testis

- **Female**: Bladder, Colorectal, Lung & Bronchus, Melanoma of Skin, Uterine
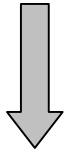
Rates in New Hampshire are significantly lower compared to SEER estimates for the following primary sites:

- **Overall**: Kidney & Renal Pelvis, Liver, Stomach, Non-Hodgkin's Lymphoma, Thyroid

- **Male**: Kidney & Renal Pelvis, Liver, Thyroid

- **Female**: Liver, Non-Hodgkin's Lymphoma, Stomach, Thyroid

Mortality
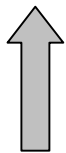
Rates in New Hampshire are significantly higher compared to national rates for the following primary sites:

- **Overall**: Bladder, Colorectal, Esophagus, Oral Cavity & Pharynx

- **Male**: Bladder, Colorectal, Esophagus, Prostate

- **Female**: Colorectal, Lung, Uterine

There are no mortality rates for New Hampshire that are significantly lower than national rates.

Differences Within New Hampshire

There is an increasing demand for community level data, and this report has analyzed cancer rates for the most frequent cancers by county and subjected them to significance testing. For some cancer sites there was no statistically significant differences between counties, while for other sites counties were clearly different from each other, and sometimes different from the state as a whole. For cancers that affect both sexes there were also some counties where the differences between men and women were much more defined. The sections on individual cancer sites contain the results of these county comparisons.

While it is important to look at the cancer burden by sub-state levels such as counties, many issues of concern arise. For example, a county may seem to have a significantly higher rate of a cancer than other counties. This could be because the rate is actually higher due to some characteristic of that region, or it could be because screening is better and, therefore, more cases are captured. Screening might be better because there are more health care providers per capita and these providers are accessible to residents of that area. Socioeconomic factors such as income, education levels, and race may contribute to these access issues. Other issues such as confidentiality and the statistical reliability of smaller numbers of events also must be considered.

While the data does show some differences by county it is still difficult to determine the exact causes of any differences. The only conclusion that can be made at this time is that more research needs to be done to investigate sub-state differences. Such investigations are outside the scope of this report. Meanwhile, the analyses presented here should be interpreted with extreme caution.

Results

To be consistent with previous reports, county level data were analyzed. In New Hampshire, however, counties may not be the best geographic areas on which to base analysis. In the future, the state will explore analysis of data using different geographic areas.

When comparing county rates to the state rate, the following statistically significant results were obtained:

- **Bladder:** Incidence rates are higher for total population for Belknap, Carroll, and Rockingham counties and mortality rates are higher for Belknap, Carroll, Coos and Sullivan counties.

- **Breast (female):** Belknap, Rockingham, and Strafford counties had higher incidence rates compared to the state. Grafton and Rockingham counties had higher mortality rates compared to the state.

- **Colorectal:** Incidence rates are higher for total population for Belknap, Coos and Strafford counties and mortality rates are higher for Carroll and Coos counties.

- **Leukemia:** Incidence rates are higher for total population for Belknap, Coos and Grafton counties and mortality rates are higher for Belknap, Coos, Merrimack and Sullivan counties.

- **Lung & Bronchus:** Incidence rates are higher for total population for Belknap, Coos, Rockingham and Strafford counties and mortality rates are higher for Cheshire, Coos, Rockingham, Strafford and Sullivan counties.

- **Melanoma of Skin:** Incidence rates are higher for total population for Belknap, Cheshire, Grafton and Merrimack counties and mortality rates are higher for Coos, Grafton and Strafford counties.

- **Non-Hodgkin's Lymphoma:** Incidence rates are higher for total population for Belknap, Grafton, Rockingham and Sullivan counties and mortality rates are higher for Belknap, Grafton and Merrimack counties.

- **Ovary:** Incidence rates are higher for Sullivan and Grafton counties and mortality rates are higher for Belknap, Coos and Sullivan counties.

- **Prostate:** Incidence rates are higher for Hillsborough and Merrimack counties and mortality rates are higher for Coos, Grafton and Sullivan counties.

- **Uterine:** Incidence rates are higher for females of Cheshire and Grafton counties and mortality rates are higher for Belknap, Coos, Rockingham and Merrimack counties.

Further information about the occurrence of cancer in New Hampshire by primary site, county, age and stage at diagnosis are presented in this report. Additional information about the incidence of cancer within the state and nationally can be provided on request.

Historical Trends

Mortality data from 1979 to 2003 were analyzed to investigate changes in cancer deaths. The data were age-adjusted to the 2000 United States population and rates per 100,000 were calculated. Detailed information is provided in the primary site group sections of the full report. The following observations for the leading causes of cancers were noted for New Hampshire:

Bladder

- **Overall:** The mortality rate has decreased from 5.3 to 4.5/100,000 between 1980 and 2003.

- **Men:** The mortality rate has decreased from 12.8 to 8.4/100,000 between 1980 and 2003.

- **Women:** The mortality rate has decreased from 4.4 to 1.8 /100,000 between 1980 and 2003.

Comment: Between 1980 and 2002, bladder cancer mortality was higher for New Hampshire compared to the nation (U.S. White) for males and overall, but for females mortality was higher from 1980 to 2000. The New Hampshire female rates started to mirror the national rates beginning in 2001.

Female Breast Cancer

- The mortality rate has decreased from 31.9 to 24.6 per 100,000 between 1980 and 2003.

Comment: Between 1980 and 2001, breast cancer mortality was lower for New Hampshire compared to the nation (U.S. White). The rates started to mirror the national rates beginning in 2003.

Colorectal Cancer

- **Overall:** The mortality rate has decreased from 31.3 to 20.2/100,000 between 1980 and 2003.

- **Men:** The mortality rate has decreased from 38.4 to 21.8/100,000 between 1980 and 2003.

- **Women:** The mortality rate has decreased from 27.3 to 18.8/100,000 between 1980 and 2003.

Comment: While the national mortality rate for colorectal cancer has been declining overall, and in males and females, the decline in women has been slower and the New Hampshire rate is still significantly higher than for women nationwide.

Leukemia

- **Overall:** The mortality rate has been fluctuating between 1979 and 2003. It reached its highest level of 8.9/100,000 between 1985 and 2002.

- **Men:** The mortality rate has increased from 7.7 to 9.3/100,000 between 1980 and 2003.

- **Women:** The mortality rate has decreased from 6.5 to 4.6/100,000 between 1980 and 2003.

Comment: While the national mortality rate has been declining overall, and in males and females, the rate in men of New Hampshire shows significant fluctuation and is significantly higher than men nationwide.

Lung Cancer
- **Overall:** The mortality rate has increased from 48.9 to 52.2/100,000 between 1980 and 2003.

- **Men:** The mortality rate has decreased from 79.5 to 66.8/100,000 between 1980 and 2003.

- **Women:** The mortality rate has increased from 28.6 to 41.3/100,000 between 1980 and in 2003.

Comment: The overall increase is due to the increasing mortality rate in women. Moreover, while the male mortality rate has remained similar to or lower than the national rate, the mortality from lung cancers among females in New Hampshire has been higher than the national rate since 1984.

Melanoma of Skin
- **Overall:** The mortality rate has increased from 2.6 to 3.4/100,000 between 1980 and 2003.

- **Men:** The mortality rate has increased from 4.1 to 5.4/100,000 between 1980 and 2003.

- **Women:** The mortality rate has increased from 1.2 to 2/100,000 between 1980 and 2003.

Comment: Nationally, male rates have been increasing, while female rates have remained the same. The New Hampshire overall and male rates are slightly higher when compared to national rates.

Non-Hodgkin's Lymphoma
- **Overall:** The mortality rate has increased from 7.4 to 7.8/100,000 between 1980 and 2003.

- **Men:** The mortality rate has decreased from 10.5 to 9/100,000 between 1980 and 2003 but the rate varies from year to year.

- **Women:** The mortality rate has increased from 5.3 to 6.7/100,000 between 1980 and 2003.

Comment: The overall increase appears to be due to the increasing mortality rate in women. The New Hampshire rates for women and overall is slightly higher than national rates, whereas the rate among men in New Hampshire is slightly lower than national male rates.

Ovary
- The mortality rate has decreased from 11.1 to 8.8/100,000 between 1980 and 2003.

Comment: The New Hampshire mortality rate is lower than the national rate.

Prostate Cancer
- The mortality rate has decreased from 41.6 to 28/100,000 between 1980 and 2003.

Comment: Between 1984 and 2002, prostate mortality was higher for New Hampshire than nationally. The rates started to mirror the national rates beginning in 2003.

Uterine
- The mortality rate has decreased from 5.4 to 2.7/100,000 between 1980 and 2003.

Comment: The New Hampshire rate is lower than national rates for the year 2003.

Risk Factors and Prevention

In general, many of the most frequently diagnosed cancers are attributed to long-term cigarette smoking. Behaviors such as eating at least five fruits and vegetables per day, regular aerobic exercise, moderate alcohol consumption, and regular medical screenings to detect cancer in its earliest stages have been shown to reduce cancer risk.

This symbol is indicated throughout the report, describing findings of the 2004 & 2005 New Hampshire Behavioral Risk Factor Surveillance System (BRFSS), a phone survey of resident adults assessing risk behaviors and attitudes related to health. The 2004 and 2005 BRFSS results for NH residents are:
- 71% of NH adults did not eat five servings of fruits or vegetables a day.

- 38% of NH adults age 50+ have never had a sigmoidoscopy or colonoscopy exam.

- 52% of NH men 40+ have never had a Prostate Specific Antigen test within the past two years.

- 22% of NH adults had not visited a dentist in the past year.

- 26% of NH adults reported no leisure time physical activity during the preceding month.

- 22% of NH adults are current smokers.

- 20% of NH women aged 40+ did not have a mammogram in the past two years.

- 10% of NH women aged 18+ did not have a Pap test in the last three years.

- 12% of New Hampshire adults do not have health insurance.

- 6% of NH adults reported heavy drinking* in the preceding month (* averaging greater than or equal to two drinks per day for men and greater than or equal to one drink/day for women).

This symbol indicates the goals of *Healthy New Hampshire 2010,* New Hampshire's first disease prevention and heath promotion agenda. New Hampshire has set its target baselines for certain preventable cancers as follows:
- Reduce breast cancer deaths from 28.9 to 26.0/100,000. The present overall mortality rate for breast cancer (female) is 24.6 /100,000 for the year 2003.

- Reduce colorectal cancer deaths from 23.3 to 21.0/100,000. The present overall mortality rate is 20.2 /100,000 for year 2003.

In addition, *Healthy New Hampshire 2010* goals include the following important access and screening benchmarks:

- Increase the percentage of NH citizen's aged 65 and under who have health insurance from 91% to 100%. Uninsured and underinsured people are less likely to receive regular preventive care and screening.

Background of Cancer in New Hampshire

CANCER IN NEW HAMPSHIRE

SUMMARY
In the United States and in New Hampshire, cancer is the leading cause of death for residents <85 years old, with approximately 6,000 new cases and 2,500 people dying from cancer each year in New Hampshire. For the past five years, the top three leading causes of death in New Hampshire have been heart disease, cancer, and cerebrovascular disease (stroke). Unlike the mortality trends for other disease groups, the mortality rate for cancer has risen steadily over the last few decades. Roughly one out of three people will be diagnosed with cancer in their lifetime, and this risk is higher in men than in women.

DEFINITION OF CANCER
Cancer is defined as a disease in which abnormal cells develop, divide, grow, and have the potential to spread throughout the body. Carcinogenesis (the process by which normal cells are transformed into cancer cells) involves a series of changes within cells that may occur over many years. If the spread of these cancer cells is not controlled, death may result. However, cancer is not just one disease; it is an umbrella term for at least 100 different but related diseases.

The cancer is defined as invasive or malignant if the cancer cells from a tumor can invade nearby tissues either by direct growth into adjacent tissue or by migration through the bloodstream and lymphatic system to other parts of the body. This process is called metastasis. For example, cancer that started in the stomach and spread to the pancreas is still stomach cancer. Benign tumors are not considered invasive because they do not metastasize.

SITES
The cells in which they originate define cancers, and they are termed: carcinoma, sarcoma, lymphoma or leukemia. Carcinoma is the most common type of cancer and arises from the cells that cover external and internal body surfaces. After non-melanoma skin cancers the most frequent carcinomas in the U.S. are of the lung, breast and colon. Sarcomas are cancers that arise from cells found in the supporting tissues of the body, such as bone, cartilage, fat, connective tissue and muscle. Lymphomas are cancers that arise in the lymph nodes and tissues of the body's immune system. Leukemias are cancers of the immature blood cells that grow in the bone marrow and tend to accumulate in large numbers in the bloodstream.

STAGE
Stage is a precise clinical and pathological documentation of the extent of disease, or in lay terms it is the way to categorize the extent to which cancer cells have spread from the original site to another part of the body. Knowledge of cancer stage helps physicians and patients in considering options for treatment and in understanding the prognosis. For some cancers, diagnosis at an earlier stage can increase a person's chance of survival. For instance, people diagnosed with colorectal cancer at a localized stage have a 90 percent five-year survival rate, meaning they survive their colorectal cancer for at least five years. People diagnosed with distant stage colorectal cancer have a 10 percent five-year survival rate.

Stage can be grouped into the following categories: in situ, localized, regional, distant and unknown.

> IN SITU – This term means "in place"; it is also known as "non-invasive". Cancer cells are present within the cell group from which they have arisen, but the tumor has not penetrated the basement membrane and there is no stromal invasion. It comes under

criteria of malignant cancer except for not invading the supporting structure of the organ on which it arose. These stage cancers are not included in the incidence for different sites except for bladder cancer.

LOCALIZED - A tumor restricted to the organ of origin. The cancer has gone through the basement membrane and spread to the functional part of the organ, but there is no spread further than the boundaries of the organ.

REGIONAL - The tumor has extended beyond the limits of the organ of origin, and there is potential for spread by lymphatic (lymph nodes) or vascular (blood) supply. Regional stage cancers extend beyond the primary site, directly or involve regional lymph nodes or both.

DISTANT - Distant metastases are tumor cells that have broken away from the primary tumor, have traveled to other parts of the body, and have begun to grow at the new location. Cancer cells can travel by extension lymph nodes, vascular and fluid of body cavity. Frequent sites of distant spread are liver, lung, brain and bones. These organs receive blood flow from all parts of the body and thus are a target for distant metastases.

UNKNOWN - There is not enough information to classify a cancer into any of the above stages.

CAUSATION
Each type of cancer has certain known and/or suspected risk factors associated with it. In many cases, the exact cause of cancer is unknown, and researchers continue to study how and why normal cellular growth becomes uncontrolled. Cancer is almost always caused by a combination of factors that interact in ways that are not yet fully understood. The long period of time between the first cellular abnormality and the clinical recognition that cancer is present, defined as "latency period", often makes it difficult to pinpoint the cause of the cancer.

RISK FACTORS
A risk factor is a condition, an activity or an exposure that increases a person's chance of developing cancer. Cancer develops gradually as a result of a complex mix of factors related to lifestyle. Nearly two-thirds of cancer deaths in the U.S. can be linked to tobacco use, poor diet, obesity and lack of exercise. Approximately one-third of cancer deaths in the U.S. are either due to unknown causes or are associated with other risk factors that are difficult or impossible to change, such as occupational factors, family history of cancer, viruses/other biologic agents, hormonal factors and environmental pollution.

DIET
A poor diet can lead to obesity, which is known to increase a person's risk for breast, colon, endometrium, esophagus and kidney cancers. It is recommended that people eat at least two servings of fruit daily and at least three servings of vegetables daily.

NH BRFSS estimates that in 2005 about 29% of New Hampshire adults consumed five or more servings of fruits and vegetables per day and the percentage was higher in females than in males.

PHYSICAL ACTIVITY

Exercise not only helps to manage a person's weight but also influences hormone levels. The recommendation for exercise is 30 minutes a day, five days a week or more for adults. It has been found that more exercise is beneficial in reducing the risk of breast and colon cancer.

NH BRFSS estimates that in 2005 about 56% of New Hampshire adults did about 30 or more minutes of moderate physical activity five or more days per week, or vigorous physical activity for 20 or more minutes three or more days per week.

TOBACCO

Tobacco use is the single largest preventable cause of disease and premature death in the United States. Smoking tobacco in any form is the leading cause of cancer in both genders combined. The American Cancer Society estimates that 30 percent of cancer deaths and around 87 percent of lung cancer deaths in the U.S. each year are attributable to exposure to tobacco.

NH BRFSS estimates that in 2005 about 20% of New Hampshire adults were current smokers; this proportion was similar in males and females.

ALCOHOL

People who consume more than two alcoholic drinks per day have an increased risk of cancer, especially if they also smoke. Heavy drinking is linked to cancers of the mouth, throat, esophagus, larynx (voice box), liver and breast. Smokers who drink more than two drinks per day further intensify the risk of cancer of the mouth, larynx and esophagus.

NH BRFSS estimates that in 2005 5.2% of adult men had more than two drinks per day and 6% of adult women had more than one drink per day.

RACE, GENDER AND ETHNICITY

Cancer rates can vary by race and ethnicity. Although the reasons for this are largely unknown, socioeconomic factors are probably more important than biological or inherited characteristics in explaining the differences in cancer risk observed among major racial and ethnic populations in the U.S. Cigarette smoking, physical inactivity, obesity and other risk factors vary by race/ethnicity and socioeconomic status. Rates of use of recommended screening tests and stage at diagnosis also vary by race and ethnicity. Following are examples of how cancer rates differ among people according to race and ethnicity:

- **Alaska Native and American Indian:** These groups experience lower cancer incidence rates compared to whites for all sites combined, but they have higher incidence of stomach, liver and cervical cancer than whites.

- **Asian:** The incidence of liver cancer among Asians was higher than whites in 1998-2002. Incidence rates for cervical cancers and stomach cancer in certain Asian groups are also higher.

- **African American:** African American men have the highest incidence and mortality rates of colorectal, prostate, and lung and bronchus cancers. Mortality rates are higher among black women for breast cancer.

- **White:** Among females, non-Hispanic white women have the highest cancer incidence rate, due mainly to their excess of breast cancer. Hispanic/Latina women have a higher rate of cervical cancer than the U.S. non-Hispanic population.

The NH Department of Health and Human Services (DHHS) is committed to presenting its data by race and ethnicity whenever possible. Statistics presented in this report are not broken out by race due to the small number of events among non-white minority groups. Less than 1% of all new cancers diagnosed and of all cancer deaths in New Hampshire from 1999 to 2003 was among non-whites. This is consistent with the percentage of the non-white population in New Hampshire in the older age groups most affected by cancer. DHHS will continue to monitor the burden of cancer on minority populations and will present results by race and ethnicity in future reports when statistically appropriate.

AGE
Cancer occurs in people of all ages, however, the risk of cancer increases with age. In New Hampshire:

- People under the age of 20 represent about one percent of newly diagnosed cases
- 20-49 year olds represent 15 percent
- 50-64 year olds represent 31 percent
- 65-74 year olds represent 25 percent
- 75-84 year olds represent nearly 21 percent
- 85 year and older represent nearly seven percent of newly diagnosed cases

PREVENTION
Although not all cancers can be prevented, making healthy choices could reduce many risk factors relating to lifestyle. For instance, smoking cessation reduces the risk for lung cancer, and using sunscreen to limit exposure to the sun reduces the risk of skin cancer. Improving physical activity and nutrition could help reduce the risk of certain types of cancer, as well as other chronic diseases.

SCREENING AND EARLY DETECTION
Many cancers can be treated quickly and effectively if they are detected in early stages. Regular visits to a health care provider can help maintain good health, guide healthy lifestyle choices, and identify signs and symptoms of various health conditions, including cancer. There are screening tests that can detect certain types of cancers at an early stage, such as mammograms for breast cancer, Pap tests for cervical cancer, fecal occult blood tests sigmoidoscopies and colonoscopies for colorectal cancer.

NH BRFSS estimates that in the year 2004, around 38% of New Hampshire adults aged 50 or older never had a sigmoidoscopy or colonoscopy. The screening rates are higher or better for males than in females.

NH BRFSS estimates that in the year 2004, around 35% of New Hampshire adults aged 50 or older had a blood stool test within the past two years.

NH BRFSS estimates that in the year 2004, around 80% of New Hampshire adult females aged 40 or older had a mammogram within the past two years.

NH BRFSS estimates that in the year 2004, around 90% of New Hampshire adult females aged 18 or older had a Pap smear within the past three years.

TREATMENT

Cancer treatment decisions involve a team of specialists, which may include a medical oncologist, surgeon, radiation oncologist, nurse, nutritionist and social worker. Cancer may be treated with surgery, radiation, chemotherapy, hormones and immunotherapy. Working together, health care providers and people diagnosed with cancer may decide to use a single treatment method or a combination of methods.

Cancer treatment depends not only on the type and location of the cancer, the stage of the disease, the patient's age and general health, but also on other factors such as the place of residence, distance traveled for treatment and health insurance, etc. The National Institute of Health estimated that the overall cost of cancer in 2005 was around $209 billion. Of this, $74 billion were in direct medical costs (medical expenses), another $17 billion for indirect morbidity costs (e.g. productivity loss due to illness), and around $118 billion for indirect mortality costs (cost of lost productivity due to premature death).

SURVIVAL

One way to determine treatment success is by survival, or how long a person lives after being diagnosed with cancer. A five-year relative cancer survival rate is the proportion of patients surviving cancer five years after their diagnosis. The survival rate includes those who are disease-free, in remission or under treatment. Medical advances in cancer diagnosis and treatment have improved survival rates for many cancers.

The American Cancer Society estimates that for people of all races diagnosed with cancer (all sites) from 1995 through 2001, 65 percent survived cancer after five years compared with a 53 percent five-year survival rate for people diagnosed with cancer from 1983 through 1985. With treatment advances, people are living longer with a cancer diagnosis; as of January 2003, the National Cancer Institute (NCI) estimated that approximately 10.5 million (3.6% of U.S. population) were cancer survivors, compared to three million in 1971. According to the NCI, 66% of adults and 80% of children survive at least five years following a cancer diagnosis.

SURVEILLANCE

Cancer surveillance is the systematic collection, analysis and interpretation of cancer data. The goal of cancer surveillance is to improve our understanding of the prevention and treatment of cancer, and ultimately, to reduce illness and death from cancer.

Cancer registries at the local, state and national level collect and analyze data on the diagnosis, stage and treatment of cancer. Operated by the New Hampshire Department of Health and Human Services, the New Hampshire State Cancer Registry (NHSCR) is part of a national effort to gain a better understanding of cancer at the state and national levels. The NHSCR is a statewide population-based cancer surveillance system. The registry collects information about all cancers

diagnosed in New Hampshire residents (except benign tumors, non-melanoma skin cancers and carcinoma in situ of the cervix). The goals of the registry are to:

- Determine the incidence of cancer in the New Hampshire population
- Monitor cancer incidence and mortality trends among state residents
- Identify high-risk populations
- Report findings to health care professionals and the public
- Contribute data for cancer prevention, control and treatment programs
- Support and participate in special studies and research into cancer-related issues specifically related to New Hampshire

Cancer registry data can help identify specific populations that could benefit from increased education and access to cancer prevention and screening. Public health officials use cancer registry data to guide cancer prevention and control programs that are focused on minimizing cancer-related risks. The data can be used in clinical, epidemiological and health services research.

CANCER CLUSTERS
When people observe a number of cases of cancer in their neighborhood, community or workplace, concerns often arise about what is causing the cancers, and whether some exposure may be putting the community at increased risk for cancer. A cancer cluster is the occurrence of more cancers in a particular geographic area than would normally be expected within a certain period of time.

Only an estimated four percent of cancer deaths can be attributed to environmental pollution or radiation. In contrast, almost two-thirds of cancer deaths in the U.S. can be linked to tobacco use, poor diet, obesity and lack of exercise. Most geographic differences in cancer rates appear to result from behavioral differences or differences in lifestyle, not from anything in a person's physical surroundings or from environmental pollution.

With nine percent of people aged 50 and over living with cancer in the U.S., it is not unusual to know several people who have cancer. As the population ages, the occurrence of new cancer cases is expected to increase.

Because a variety of factors often work together to create the appearance of a cluster where nothing abnormal is occurring, most reports of suspected cancer clusters are not shown to be true clusters. A suspected cancer cluster is more likely to be a true cluster if it involves a large number of cases of one type of cancer rather than several different types; a rare type of cancer; or an increased number of cases of a certain type of cancer in an age group not usually affected by that type of cancer.

NEW HAMPSHIRE COMPREHENSIVE CANCER COLLABORATION
The New Hampshire Comprehensive Cancer Collaboration (NHCCC) is an integrated, collaborative approach to reducing the burden of cancer in the population by coordinating priorities, resources and efforts. The NHCCC is a statewide partnership of more than 100 organizations; individuals' and health care professionals working together to reduce the incidence, suffering and deaths related to cancer among all New Hampshire residents. With this intention, the NHCCC has developed 16 priority objectives focusing on five major cancers that affect New Hampshire residents. These priority objectives are:

Primary Prevention Priority Objectives

1: Decrease the percentage of people who report cigarette smoking in the past month among youth from 19.1% to 16% and in adults from 21.7% to 12%.

2: Reduce the number of people in New Hampshire exposed to second-hand smoke in public places through increasing the number of places that are smoke-free and reduce exposure to radon gas in homes.

3: Prevent skin cancer in New Hampshire by decreasing exposure to ultraviolet light.

4: Reduce the prevalence of overweight adults from 50% to 40% and youth from 9.9% to 5%.

5: Increase the percentage of adults and children who engage in physical activity for at least 30 minutes a day, five days a week to 50% from a baseline of 27% for youth and 24% for adults.

6: Increase the percentage of adults and children who eat at least five servings of fruits and vegetables every day to 50% from a baseline of 28.5% in adults.

Prevention and Early Detection Priority Objectives

7: Increase the percentage of women aged 40 or older who receive regular breast cancer screenings to 80%, regardless of education, income or race.

8: Increase the percentage of New Hampshire residents who are aware of the importance of colorectal cancer screening for both prevention and early detection.

9: Increase the percentage of average-risk adults age 50 and older who are screened for colon cancer using sigmoidoscopy or colonoscopy to 70% from the current baseline of 62.2% and increase the proportion of those at increased risk for colorectal cancer receiving recommended screening.

10: Promote informed decision-making related to prostate cancer screening.

Treatment and Survivorship Priority Objectives

11: Support existing and evolving patient resources and systems that can facilitate optimum care for cancer survivors.

12: Increase the number of New Hampshire residents participating in cancer-related clinical trials.

13: Ensure the availability of a protocol for the introduction and discussion of advanced care directives and other end-of-life issues.

Palliation Priority Objectives

14: Every New Hampshire health care system will offer people living with cancer timely information and access to palliative care.

15: All persons living with cancer shall have effective management of pain and other symptoms.

Emerging Issues Priority Objective

16: Increase public and provider awareness regarding emerging issues in New Hampshire.

New Hampshire Cancer Report, 1999- 2003

Breast (Female) Cancer

- Breast cancer became the most frequently diagnosed cancer in women due to increased use of mammography in the 1980's. The American Cancer Society estimates that the increased incidence in the 1990's of invasive breast cancer was due to increased usage of mammography among women 50 years of age and older.
- The mortality rate for the whole nation, which ranks second among women behind lung cancer, has decreased from 1990 to 2002 especially among women less than 50 years of age. These decreases are attributed to early detection through screening, increased awareness and advances in treatment.

Risk Factors:
Primary factors that affect the risk of breast cancer in females include:
- Older age;
- Inherited genetic mutations (BRCA1 and BRCA2);
- Personal or family history of breast cancer;
- High breast tissue density (measure of glandular tissue to fatty tissue in breast);
- Biopsy-confirmed hyperplasia (especially atypical hyperplasia);
- Long menstrual history (menstrual periods that start early or end late);
- Obesity after menopause;
- Recent use of oral contraceptives;
- Postmenopausal hormone therapy (especially combined estrogen and progestin);
- Never having children/having children after age 30; and
- Consumption of one or more alcoholic beverages per day.

Factors associated with decreasing the risk of the breast cancer are:
- Breastfeeding;
- Moderate or vigorous physical activity; and
- Maintaining healthy body weight.

Survival Rate:
The five-year relative survival rate for localized breast cancer is 98%, for regional spread it is 81%, and for distant metastases it is 26%. For all stages combined the survival rate after a diagnosis of breast cancer declines from 88% at five years to 77% at 10 years.

Early Detection:
Breast self-examination and mammography are considered tools for early detection. Studies have shown that early detection increases the chances of survival and provides more opportunities to use different treatment options.

Screening Guidelines:
Breast Cancer Screening Guidelines recommended by the Breast and Cervical Cancer Program of New Hampshire DHHS are as follows:

> Women aged 18-39:
> - Monthly breast self-examination
> - Breast check at annual health care visit
> - Medical assessment to determine mammogram need <age 40

Women aged 40+:
- Monthly breast self-examinations
- Mammogram every one to two years
- Breast check at annual health care visit

Table 4: Breast (Female): Age-Adjusted Incidence and Mortality Rates, 1999-2003

Age-adjusted Incidence Rate/100,000 (95% CI)			Age-adjusted Mortality Rate/100,000 (95% CI)		
2003 NH Cancers	**1999-2003 New Hampshire**	**2000-2003 U.S. White**	**2003 NH Deaths**	**1999-2003 New Hampshire**	**2000-2003 U.S. White**
885	135.3(131.4,139.1)	134.0	177	24.1(20.5,27.6)	25.3

Table 5: Breast (Female): Age-Specific Incidence and Mortality Rates, 1999-2003

	Incidence				Mortality			
			95% CI				**95% CI**	
Age Group	**Cases**	**Rate**	**Lower**	**Upper**	**Cases**	**Rate**	**Lower**	**Upper**
0 to 14	*	*	*	*	*	*	*	*
15 to 24	*	*	*	*	*	*	*	*
25 to 34	60	15	11.5	19.3	*	*	*	*
35 to 39	154	56.6	47.7	65.6	19	7	4.2	10.9
40 to 44	391	138.8	125	152.6	32	11.4	7.8	16
45 to 49	517	203.1	185.6	220.6	59	23.2	17.6	29.9
50 to 54	578	259.6	238.4	280.8	66	29.6	22.9	37.7
55 to 59	544	321.9	294.8	348.9	102	60.4	48.6	72.1
60 to 64	482	372.2	338.9	405.4	75	57.9	45.5	72.6
65 to 69	477	434.5	395.6	473.5	81	73.8	58.6	91.7
70 to 74	469	458.9	417.4	500.5	102	99.8	80.4	119.2
75 to 79	409	454.1	410.1	498.1	102	113.3	91.3	135.2
80 to 84	313	466.7	415	518.4	98	146.1	118.6	178.1
85 plus	273	399	351.7	446.4	165	241.2	204.4	278

*Rates are not displayed if fewer than 10 events are reported.

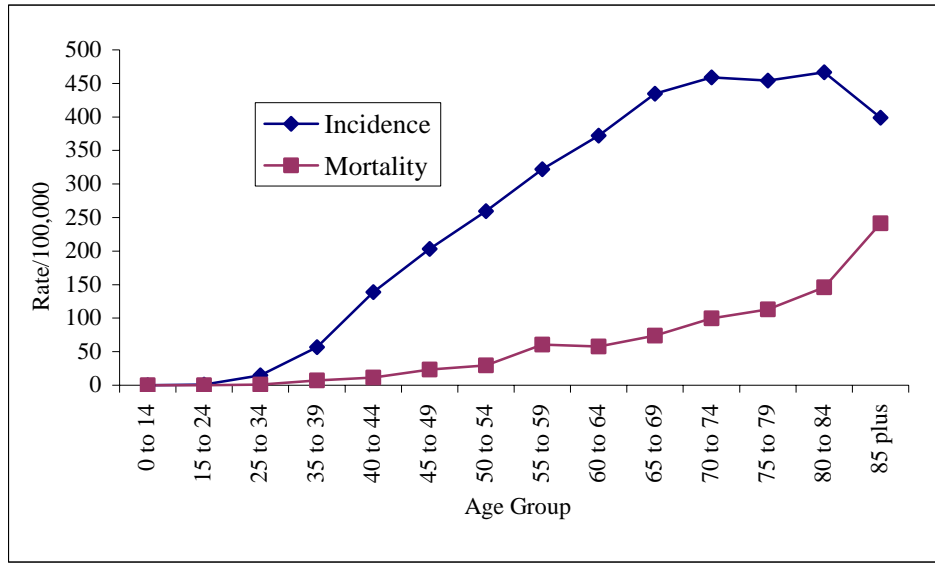**Figure 5: Breast (Female): Incidence and Mortality Rates by Age, 1999-2003**

Table 6: Breast (Female): New cases and Deaths by County, 2003

County	New Cases	Deaths
Belknap	58	10
Carroll	36	8
Cheshire	50	5
Coos	28	5
Grafton	60	16
Hillsborough	267	55
Merrimack	99	26
Rockingham	190	33
Strafford	62	14
Sullivan	35	5
State Total	**885**	**177**

Table 7: Breast (Female): Age-Adjusted Incidence and Mortality Rates by County, 1999-2003

County	Incidence	Rate	Mortality	Rate
Belknap	280	**156.1**	51	27.4
Carroll	175	113.8	38	22.7
Cheshire	289	133.8	39	16.5
Coos	129	109.4	35	26.3
Grafton	321	135.9	69	**28.0**
Hillsborough	1362	135.5	239	23.7
Merrimack	512	130.4	113	26.3
Rockingham	1045	**141.4**	208	**28.6**
Strafford	409	**141.5**	81	26.6
Sullivan	148	111.1	32	23.3
State Total	4,670	135.3	905	25.4

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population. *Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

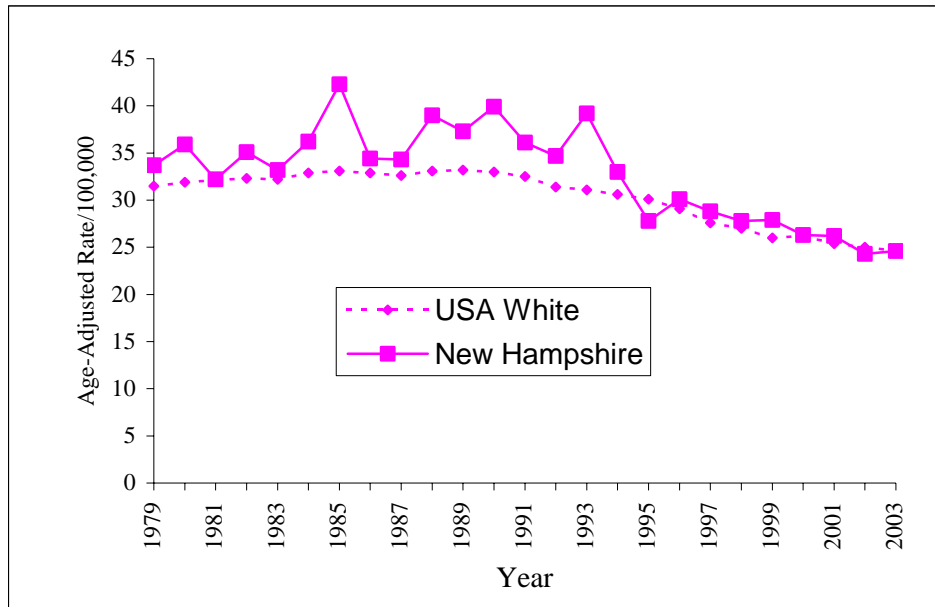**Figure 7: Breast (Female): Age-Adjusted Mortality Rate Trend, 1979-2003**

Figure 8: Breast (Female): Age-Adjusted Incidence and Mortality Rates and 95% Confidence Intervals by County, 1999-2003
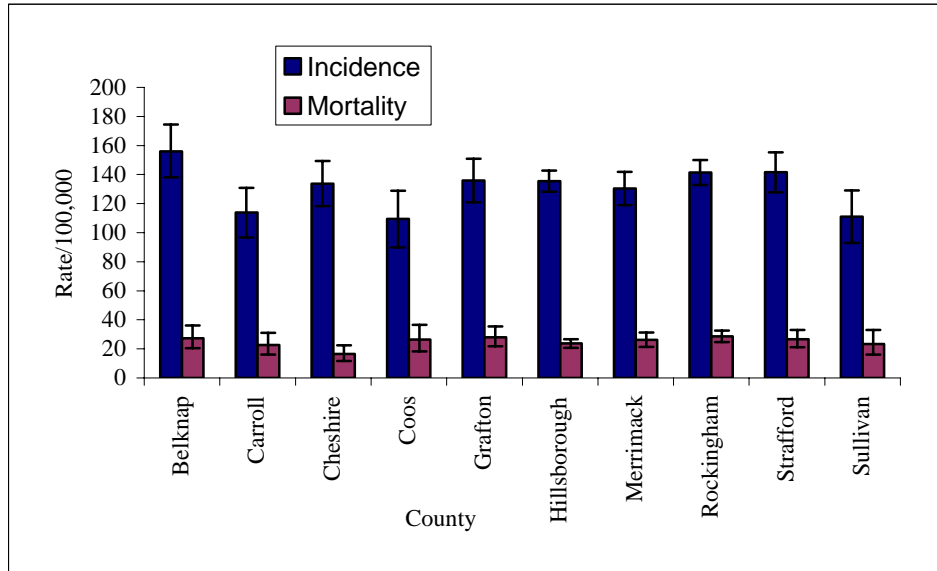

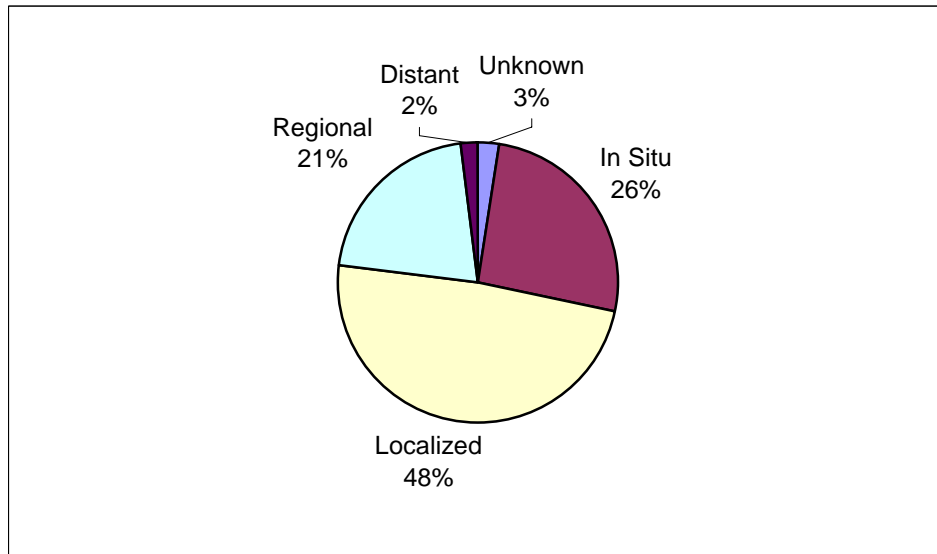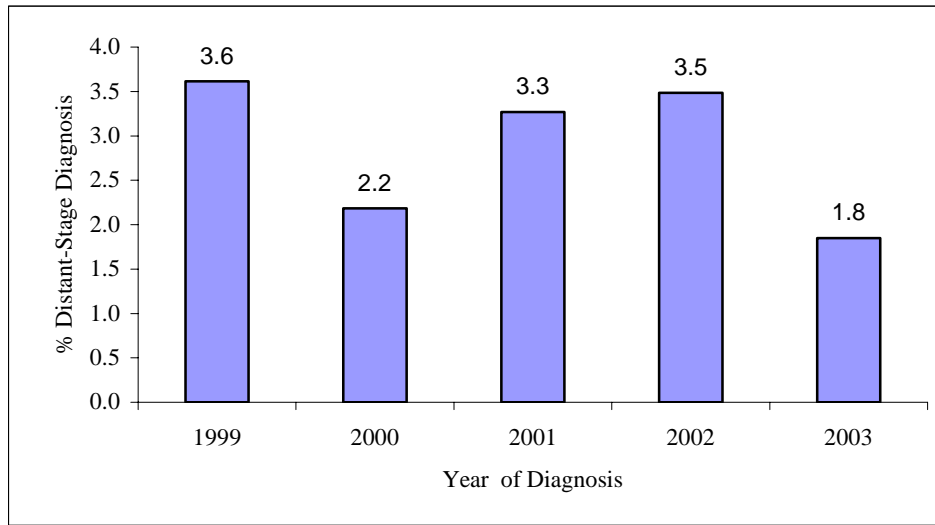**Figure 9: Breast (Female): Stage at Diagnosis, 2003**

Figure 10: Breast (Female): Late Stage Diagnosis Percentages, 1999-2003

For more information about how to access breast and cervical cancer screening services in New Hampshire, contact:

The NH DHHS' "Let No Woman Be Overlooked" program at 1-800-852-3345 ext. 4931 (in NH) or 1-603-271-4931.

Colorectal Cancer

- Colorectal cancer is the third most common cancer in both men and women.
- Incidence rates have decreased by 2% per year from 1990-2002. This could be due to increased screening and polyp removal.
- Nationwide, this cancer accounts for 10% of all cancer deaths. Mortality rates have decreased by 2% per year in New Hampshire from 1980-2000. This could be due to a combination of declining incidences and improved survival rates.

Risk Factors:
- As with other cancers, the colorectal cancer risk increases with age. More than 90% of cases are diagnosed in individuals 50 years of age or older.
- Risk is also higher in people with inherited genetic mutations of Familial Adenopolyposis (FAP) and Hereditary Nonpolyposis Colorectal Cancer (HNPCC).
- Risk increases with family or personal history of colorectal cancer or polyps or inflammatory bowel disease.
- There are also several lifestyle risks, including smoking, alcohol consumption, physical inactivity, diet rich in saturated fat/red meat, and inadequate intake of fruits and vegetables. Overweight people are at an increased risk of death due to colorectal cancer.

Early Detection:
- Men or women at higher risk of developing colorectal cancer should undergo screening.
- Screening identifies pre-cancerous lesions like certain polyps and is used to detect cases at an early stage, which improves survival.

Survival Rate:
- The one-, five- and 10-year relative survival rates for all stages are 83%, 63% and 58%, respectively.
- The five-year survival for the localized stage cancer is 90% but only 39% of cases are diagnosed at this stage due to low rates of screening.
- The five-year survival rate for regional stage cancer is 67%, compared to 10% for the distant or metastastic stage.

Table 8: Colorectal: Age-Adjusted Incidence and Mortality Rates, 1999-2003

	Age-Adjusted Incidence Rate/100,000			Age-adjusted Mortality Rate/100,000		
	2003 NH	1999-2003	2000-2003 SEER	2003 NH	1999-2003	2000-2003 SEER
	New Cases	New Hampshire	US White Rate	Deaths	New Hampshire	US White Rate
Female	348	48.4(46.0,50.6)	44.7	145	17.8(16.5,19.2)	16.2
Male	326	62.8(59.6,65.8)	61.4	123	26.3(24.3,28.4)	23.4
Total	674	54.6(52.7,56.4)	52.0	268	21.3(20.1,22.4)	19.3

Table 9: Colorectal: Age-Specific Incidence and Mortality Rates by Sex, 1999-2003

| | Incidence | | | | | | Mortality | | | | | |
| | Female | | Male | | Total | | Female | | Male | | Total | |
Age Group	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
0 to 14	*	*	*	*	*	*	*	*	*	*	*	*
15 to 24	*	*	*	*	*	*	*	*	*	*	*	*
25 to 34	*	*	14	3.5	23	2.9	*	*	*	*	*	*
35 to 39	16	5.9	15	5.7	31	5.8	*	*	*	*	*	*
40 to 44	43	15.3	38	13.6	81	14.4	*	*	15	5.4	23	4.1
45 to 49	67	26.3	77	30.5	144	28.4	18	7.1	19	7.5	37	7.3
50 to 54	108	48.5	125	56.4	233	52.4	22	9.9	36	16.2	58	13.1
55 to 59	116	68.6	151	89.5	267	79.1	41	24.3	38	22.5	79	23.4
60 to 64	123	95.0	196	157.2	319	125.5	40	30.9	60	48.1	100	39.3
65 to 69	188	171.3	235	230.1	423	199.6	61	55.6	77	75.4	138	65.1
70 to 74	232	227.0	264	312.0	496	265.5	79	77.3	105	124.1	184	98.5
75 to 79	261	289.8	246	380.4	507	327.7	111	123.2	110	170.1	221	142.8
80 to 84	251	374.3	181	448.1	432	402.0	83	123.8	95	235.2	178	165.6
85 plus	289	422.4	147	541.6	436	456.3	179	261.6	101	372.1	280	293.0
State Total	**1,710**	**48.4**	**1691**	**62.8**	**3401**	**54.6**	**647**	**17.8**	**665**	**26.3**	**1,312**	**21.3**

*Rates are not displayed if fewer than 10 events are reported.

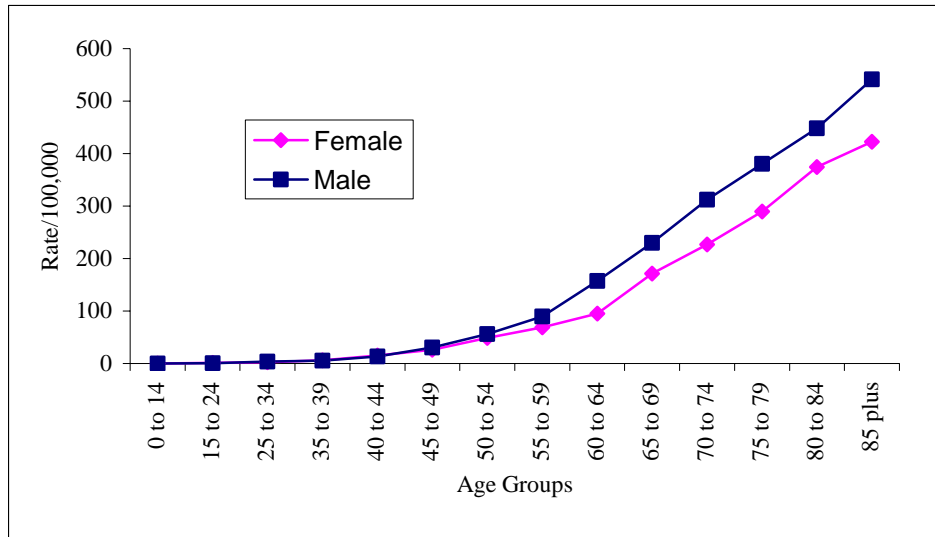**Figure 11: Colorectal Incidence by Age and Sex, 1999-2003**

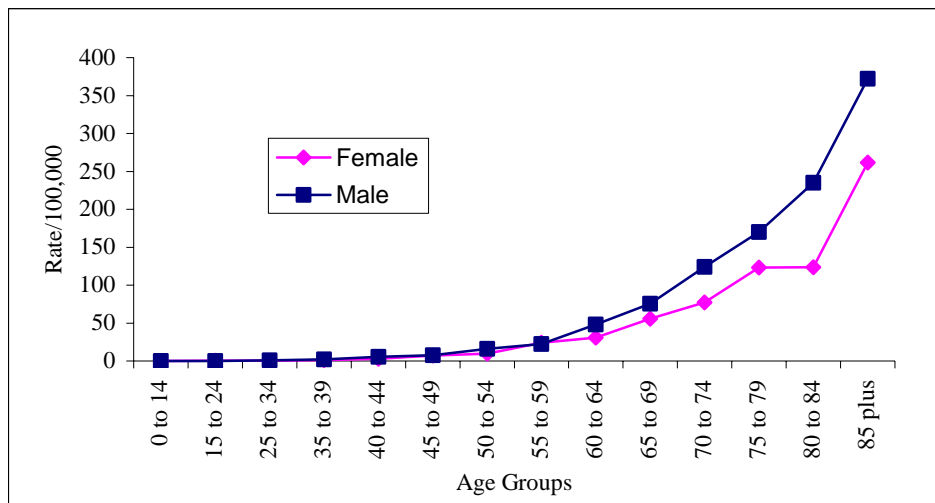**Figure 12: Colorectal Mortality by Age and Sex, 1999-2003**

Table 10: Colorectal New Cases and Deaths by County and Sex, 2003

County	New Cases			Deaths		
	Female	Male	Total	Female	Male	Total
Belknap	19	10	29	8	3	11
Carroll	17	13	30	11	3	14
Cheshire	21	19	40	14	7	21
Coos	14	19	33	8	7	15
Grafton	22	18	40	6	10	16
Hillsborough	128	85	213	43	30	73
Merrimack	35	42	77	18	22	40
Rockingham	56	72	128	26	23	49
Strafford	29	39	68	8	13	21
Sullivan	7	9	16	3	5	8
State Total	**348**	**326**	**674**	**145**	**123**	**268**

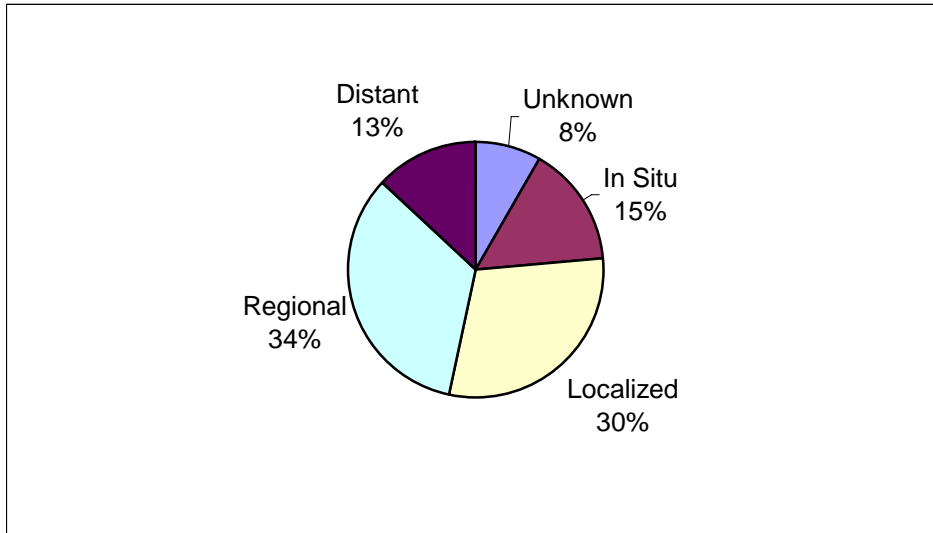**Figure 13: Colorectal: Stage at Diagnosis, 2003**

Table 11: Colorectal: Age-Adjusted Incidence and Mortality Rates by Sex and County, 1999-2003

County	Incidence						Mortality					
	Female		Male		Total		Female		Male		Total	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Belknap	105	**54.8**	97	63.8	202	**58.6**	37	19.4	36	25.8	73	21.2
Carroll	85	50.7	81	59.5	166	54.9	43	**25.3**	34	26.3	77	**25.8**
Cheshire	121	**53.0**	101	57.7	222	54.8	52	**22.1**	40	25.1	92	22.6
Coos	63	49.8	80	**81.8**	143	**63.7**	30	19.8	29	**30.1**	59	**24.5**
Grafton	127	**51.7**	105	53.1	232	52.5	35	14.1	48	25.5	83	18.7
Hillsborough	502	49.7	485	65.3	987	56.4	188	18.3	187	26.6	375	21.8
Merrimack	189	45.6	184	62.5	373	52.5	75	17.5	85	**30.1**	160	22.2
Rockingham	304	43.2	328	57.8	632	49.8	116	16.6	118	22.9	234	19.3
Strafford	156	**52.0**	163	**74.6**	319	**61.4**	50	15.9	62	**29.6**	112	21.7
Sullivan	58	40.2	64	57.9	122	48.8	21	13.7	26	24.7	47	18.9
State Total	**1,710**	**48.4**	**1,691**	**62.8**	**3,401**	**54.6**	**647**	**17.8**	**665**	**26.3**	**1,312**	**21.3**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population.
*Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

Figure 14: Colorectal: Age-Adjusted Mortality Rate Trends by Sex, 1979-2003
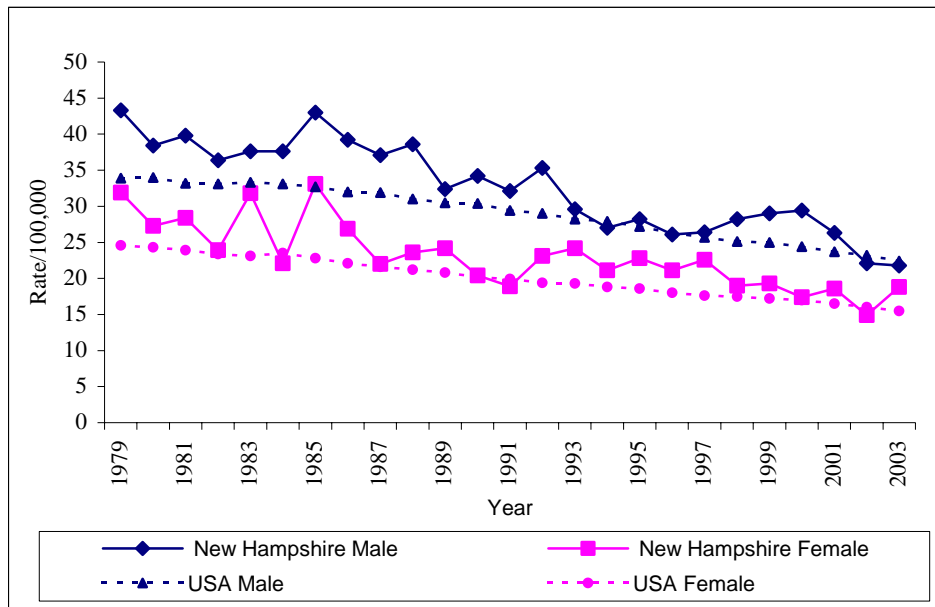
Leukemia

- Leukemia is often thought to be primarily a childhood disease, but it is diagnosed 10 times more frequently in adults than children.
- Acute lymphocytic leukemia (ALL) accounts for about 78% of cases in children (ages 0-19). In adults, acute myeloid leukemia (AML) is the most common. The incidence of AML has increased by 1.8% per year since 1988 and the incidence of chronic lymphocytic leukemia (CLL) has decreased by 1.9% per year since 1992.
- Mortality attributable to leukemia has decreased by 0.5% per year since 1991.

Risk Factors:
- Leukemia occurs more commonly in males than females.
- Persons with certain genetic abnormalities like Down's syndrome have higher incidence.
- Cigarette smoking and exposure to certain chemicals like benzene, a chemical in gasoline and cigarette smoke, are risk factors for myeloid leukemia.
- Exposure to ionizing radiation may cause certain leukemias. Leukemia may also be a side effect of cancer treatment.
- Viruses can cause certain leukemias and lymphomas.

Early Detection:
- Symptoms of leukemia include fatigue, paleness, weight loss, and fever.
- To diagnose leukemia, blood tests and a bone marrow biopsy may be required.

Survival Rate:
- Leukemia five-year survival rates vary by type, ranging from 20% for AML to 74% for CLL.
- Advances in medicine have improved the five-year relative survival from about 38% in the late 1970's to 65% in 2001.

Table 12: Leukemia: Age-Adjusted Incidence and Mortality Rates, 1999-2003

	Age-Adjusted Incidence Rate/100,000			Age-adjusted Mortality Rate/100,000		
	2003 NH New Cases	1999-2003 New Hampshire	2000-2003 SEER US White Rate	2003 NH Deaths	1999-2003 New Hampshire	2000-2003 SEER US White Rate
Female	63	9.3(8.2,10.3)	9.8	32	5.2(4.4,5.9)	5.9
Male	101	16.8(15.2,18.4)	16.5	51	10.4(9.1,11.7)	10.4
Total	164	12.5(11.6,13.4)	12.7	83	7.3(6.6,7.9)	7.8

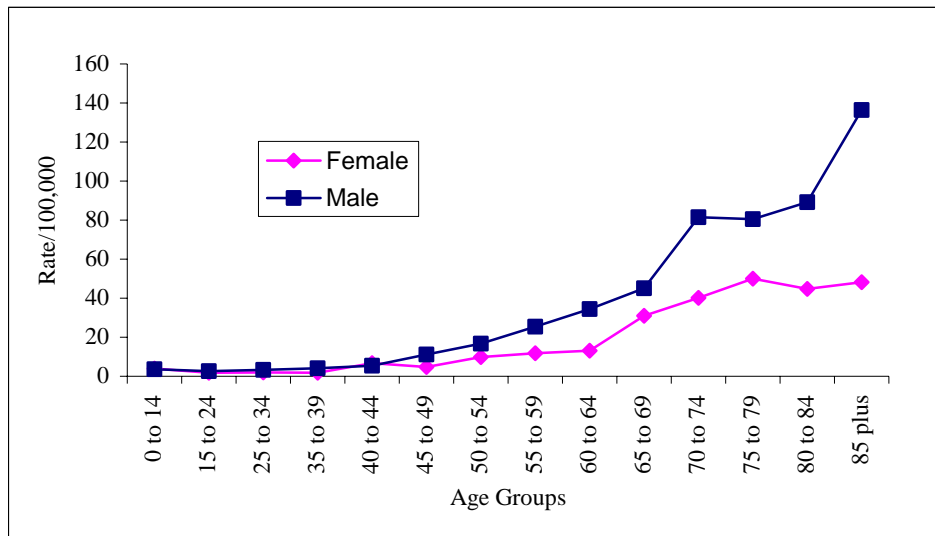**Figure 15: Leukemia: Incidence Rates by Age and Sex, 1999-2003**

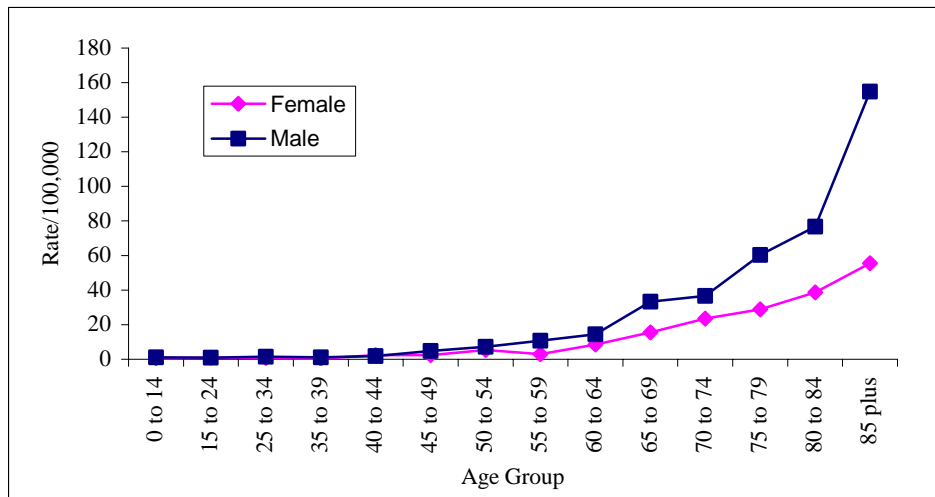
Figure 16: Leukemia: Mortality Rates by Age and Sex, 1999-2003

Table 13: Leukemia: Age-Specific Incidence and Mortality Rates by Sex, 1999-2003

	Incidence						Mortality					
	Female		Male		Total		Female		Male		Total	
Age Group	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
0 to 14	24	3.9	24	3.7	48	3.8	*	*	*	*	10	0.8
15 to 24	*	*	11	2.7	18	2.2	*	*	*	*	*	*
25 to 34	*	*	13	3.3	21	2.6	*	*	*	*	*	*
35 to 39	*	*	11	4.2	16	3.0	*	*	*	*	*	*
40 to 44	19	6.7	15	5.4	34	6.1	*	*	*	*	12	2.1
45 to 49	12	4.7	28	11.1	40	7.9	*	*	12	4.8	18	3.5
50 to 54	22	9.9	37	16.7	59	13.3	12	5.4	16	7.2	28	6.3
55 to 59	20	11.8	43	25.5	63	18.7	*	*	18	10.7	23	6.8
60 to 64	17	13.1	43	34.5	60	23.6	11	8.5	18	14.4	29	11.4
65 to 69	34	31.0	46	45.0	80	37.8	17	15.5	34	33.3	51	24.1
70 to 74	41	40.1	69	81.5	110	58.9	24	23.5	31	36.6	55	29.4
75 to 79	45	50.0	52	80.4	97	62.7	26	28.9	39	60.3	65	42.0
80 to 84	30	44.7	36	89.1	66	61.4	26	38.8	31	76.7	57	53.0
85 plus	33	48.2	37	136.3	70	73.3	38	55.5	42	154.7	80	83.7
State Total	**317**	**9.3**	**465**	**16.8**	**782**	**12.5**	**183**	**5.2**	**266**	**10.4**	**449**	**7.3**

*Rates are not displayed if fewer than 10 events are reported.

Table 14: Leukemia: New Cases and Deaths by County and Sex, 2003

	New Cases			Deaths		
County	Female	Male	Total	Female	Male	Total
Belknap	4	8	12	6	8	14
Carroll	3	4	7	0	2	2
Cheshire	4	6	10	1	1	2
Coos	3	1	4	1	0	1
Grafton	6	15	21	2	3	5
Hillsborough	15	26	41	11	14	25
Merrimack	6	7	13	5	8	13
Rockingham	17	18	35	2	8	10
Strafford	3	13	16	3	7	10
Sullivan	2	3	5	1	0	1
State Total	**63**	**101**	**164**	**32**	**51**	**83**

Table 15: Leukemia: Age-Adjusted Incidence and Mortality Rates by County and Sex, 1999-2003

| County | Incidence | | | | | | Mortality | | | | | |
| | Female | | Male | | Total | | Female | | Male | | Total | |
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Belknap	19	10.1	35	**23.3**	54	**16.2**	15	**7.9**	24	**16.2**	39	**11.3**
Carroll	12	8.6	21	16.8	33	12.5	*	*	13	10.2	20	6.6
Cheshire	24	**11.0**	26	14.4	50	12.5	*	*	16	9.7	25	6.2
Coos	14	**11.6**	24	**25.3**	38	**17.8**	*	*	13	**15.6**	19	**8.8**
Grafton	29	**12.5**	47	**23.3**	76	**17.3**	12	4.8	19	9.8	31	7.1
Hillsborough	78	8.0	108	14.0	186	10.5	45	4.4	61	8.5	106	6.1
Merrimack	37	9.3	58	**18.6**	95	13.2	25	5.7	35	**12.2**	60	**8.4**
Rockingham	61	8.7	90	15.1	151	11.3	32	4.6	53	9.9	85	6.8
Strafford	30	10.2	35	16.6	65	12.4	23	**7.7**	18	9.3	41	7.9
Sullivan	12	8.7	20	17.3	32	13.0	*	*	14	**13.0**	23	**9.2**
State Total	**317**	**9.3**	**465**	**16.8**	**782**	**12.5**	**183**	**5.2**	**266**	**10.4**	**449**	**7.3**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population.
*Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

Figure 17: Leukemia: Age-Adjusted Mortality Rate Trends by Sex, 1979-2003
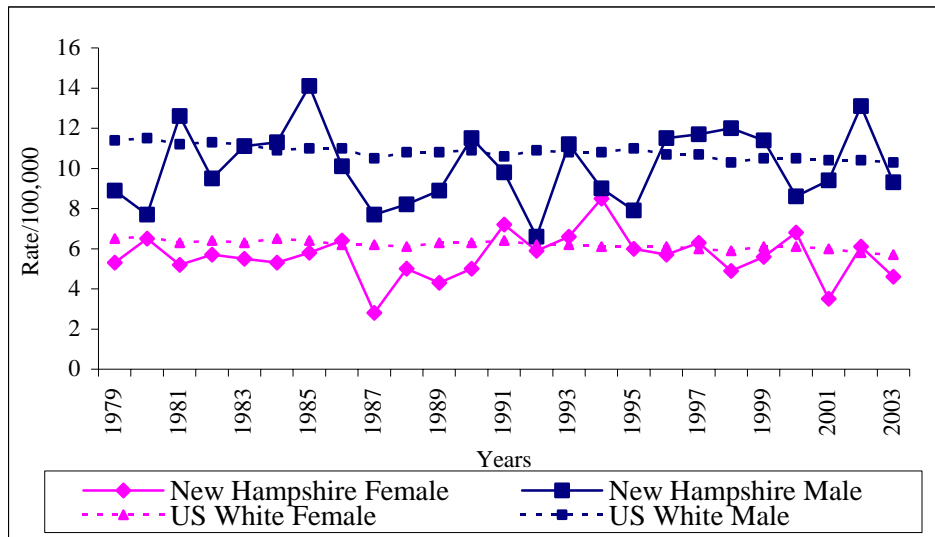
Lung and Bronchus

- Cancer of the lung and bronchus accounts for about 13% of cancer diagnoses.
- The male incidence rate has declined from 94.4 per 100,000 in 1999 to 87.3 in 2002.
- In women, the rate has stabilized in recent years after a long period of increase.
- Lung cancer is the most common cause of cancer-related death in men and women.
- Since 1986, more women have died each year from lung cancer than from breast cancer.
- Over the same period, the death rates in men have decreased by almost 2% per year.
- Presently, the female lung cancer death rates are reaching a plateau phase.

Risk Factors:
- Cigarette smoking is the most important risk factor for lung cancer.
- Other risk factors include secondhand smoke; occupational or environmental exposures to radon, silica and asbestos (especially among smokers); certain heavy metals like arsenic, chromium and cadmium; organic chemicals and radiation; air pollution; and tuberculosis.
- Genetic susceptibility is thought to contribute to lung cancers that occur at younger ages.

Early Detection:
- Early detection efforts have not been shown to reduce mortality.
- Chest x-ray, fiber-optic examination of bronchial passage, and analysis of cells in sputum have limited effectiveness in improving survival.

Survival Rate:
- The one-year survival rate for lung cancer has improved to almost 42% in 2001 from 37% in 1975. This could be due to improved therapies and surgical techniques.
- The five-year survival rate for all stages combined is only 15%, but 50% if the case is detected in localized phase. However, only 16% of cases are detected at this early stage.

Table 16: Lung and Bronchus: Age-Adjusted Incidence and Mortality Rates, 1999-2003

	Age-Adjusted Incidence Rate/100,000			Age-adjusted Mortality Rate/100,000		
	2003 NH	1999-2003	2000-2003 SEER	2003 NH	1999-2003	2000-2003 SEER
	New Cases	New Hampshire	US White Rate	Deaths	New Hampshire	US White Rate
Female	416	59.0(56.4,61.6)	54.7	296	44.0(41.8,46.3)	42.2
Male	452	82.1(78.6,85.6)	81.7	379	68.6(65.3,71.8)	73.4
Total	868	68.4(66.4,70.5)	66.0	675	54.1(52.3,56.0)	55.3

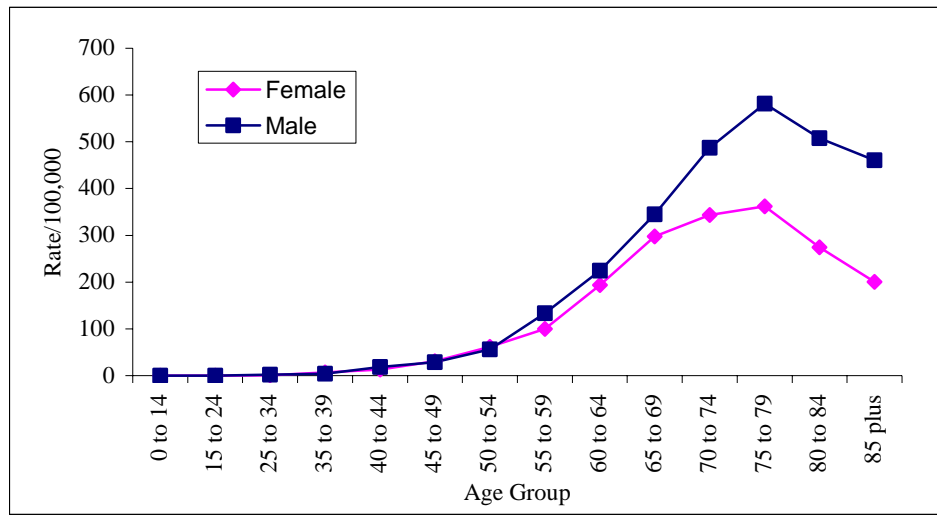**Figure 18: Lung and Bronchus: Incidence Rates by Age and Sex, 1999-2003**

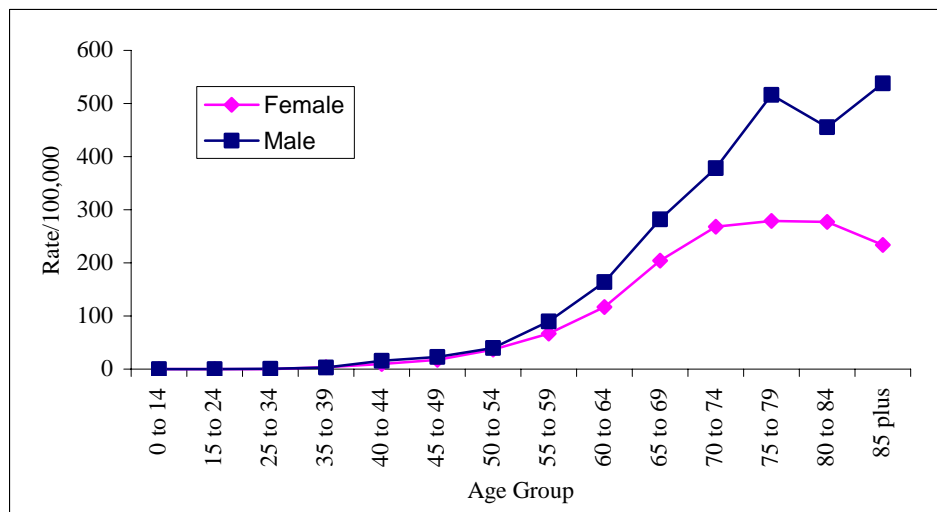**Figure 19: Lung and Bronchus: Mortality Rates by Age and Sex, 1999-2003**

Table 17: Lung and Bronchus: Age-Specific Incidence and Mortality Rates by Sex, 1999-2003

| | Incidence | | | | | | Mortality | | | | | |
| | Female | | Male | | Total | | Female | | Male | | Total | |
Age Group	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
0 to 14	*	*	*	*	*	*	*	*	*	*	*	*
15 to 24	*	*	*	*	*	*	*	*	*	*	*	*
25 to 34	*	*	*	*	*	*	*	*	*	*	*	*
35 to 39	18	6.6	11	4.2	29	5.4	10	3.7	*	*	18	3.4
40 to 44	37	13.1	52	18.6	89	15.9	27	9.6	44	15.7	71	12.6
45 to 49	79	31.0	72	28.5	151	29.8	44	17.3	58	23.0	102	20.1
50 to 54	137	61.5	125	56.4	262	59.0	82	36.8	88	39.7	170	38.3
55 to 59	169	100.0	225	133.3	394	116.7	113	66.9	151	89.5	264	78.2
60 to 64	251	193.8	280	224.6	531	208.9	151	116.6	204	163.6	355	139.7
65 to 69	327	297.9	352	344.6	679	320.4	224	204.1	288	282.0	512	241.6
70 to 74	351	343.5	412	486.9	763	408.4	274	268.1	320	378.2	594	318.0
75 to 79	326	362.0	376	581.5	702	453.7	251	278.7	334	516.5	585	378.1
80 to 84	184	274.4	205	507.5	389	362.0	186	277.3	184	455.5	370	344.3
85 plus	137	200.3	125	460.6	262	274.2	160	233.9	146	537.9	306	320.2
State Total	**2,018**	**59.0**	**2,245**	**82.1**	**4,263**	**68.5**	**1,523**	**44.0**	**1,828**	**68.6**	**3,351**	**54.1**

*Rates are not displayed if fewer than 10 events are reported.

Table 18: Lung and Bronchus: New Cases and Deaths by Sex and County, 2003

| | Incidence | | | Mortality | | |
	Female	Male	Total	Female	Male	Total
Belknap	25	28	53	16	23	39
Carroll	15	20	35	12	13	25
Cheshire	18	33	51	15	25	40
Coos	17	17	34	10	15	25
Grafton	22	20	42	16	20	36
Hillsborough	126	122	248	79	104	183
Merrimack	46	51	97	32	46	78
Rockingham	86	103	189	82	76	158
Strafford	44	42	86	23	42	65
Sullivan	17	16	33	10	15	25
State Total	**416**	**452**	**868**	**296**	**379**	**675**

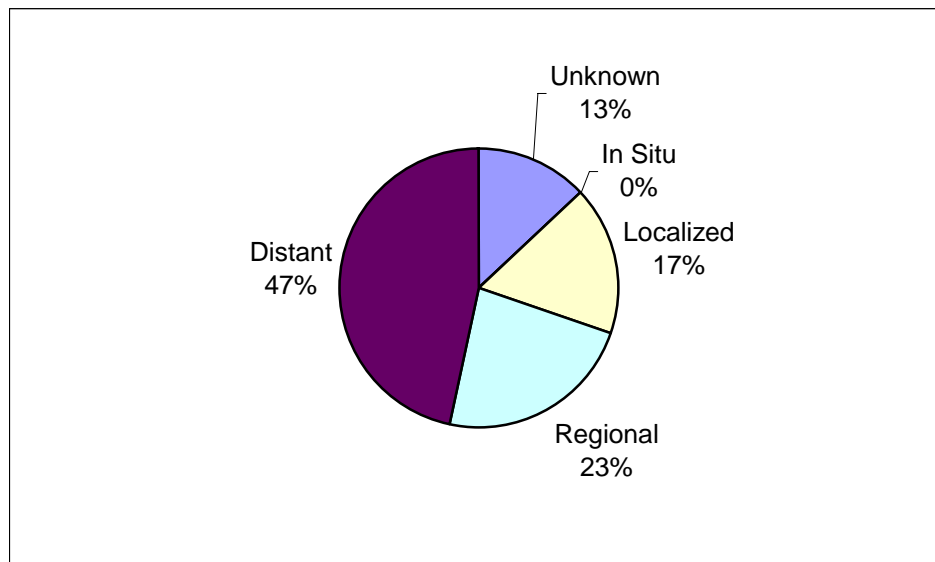**Figure 20: Lung and Bronchus: Stage at Diagnosis, 2003**

Table 19: Lung and Bronchus: Age-Adjusted Incidence and Mortality Rates by Sex and County, 1999-2003

	Incidence						Mortality					
	Female		Male		Total		Female		Male		Total	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Belknap	116	**62.5**	146	**91.3**	262	**75.5**	86	45.3	107	67.8	193	55.6
Carroll	73	44.6	105	74.1	178	57.9	59	35.6	87	60.9	146	47.1
Cheshire	121	54.6	163	**90.7**	284	69.9	99	43.6	137	**79.4**	236	**58.2**
Coos	79	**63.9**	102	**103.3**	181	**78.7**	53	43.1	83	**84.1**	136	**59.3**
Grafton	115	48.5	124	62.8	239	54.0	92	39.0	105	54.0	197	44.7
Hillsborough	585	60.3	577	76.9	1162	66.7	415	42.5	471	65.1	886	51.3
Merrimack	196	49.8	239	78.3	435	61.7	157	38.9	185	61.3	342	48.6
Rockingham	458	**66.5**	480	**86.9**	938	**74.6**	362	**53.0**	394	**72.7**	756	**61.1**
Strafford	200	**69.1**	223	**100.6**	423	**81.6**	140	**47.8**	169	**77.5**	309	**59.9**
Sullivan	74	53.1	86	74.6	160	63.6	58	41.4	90	**80.9**	148	**58.8**
State Total	**2,018**	**59.0**	**2,245**	**82.1**	**4,263**	**68.5**	**1,523**	**44.0**	**1,828**	**68.6**	**3,351**	**54.1**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population.
*Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

Figure 21: Lung and Bronchus: Age-Adjusted Mortality Rate Trends by Sex, 1979-2003
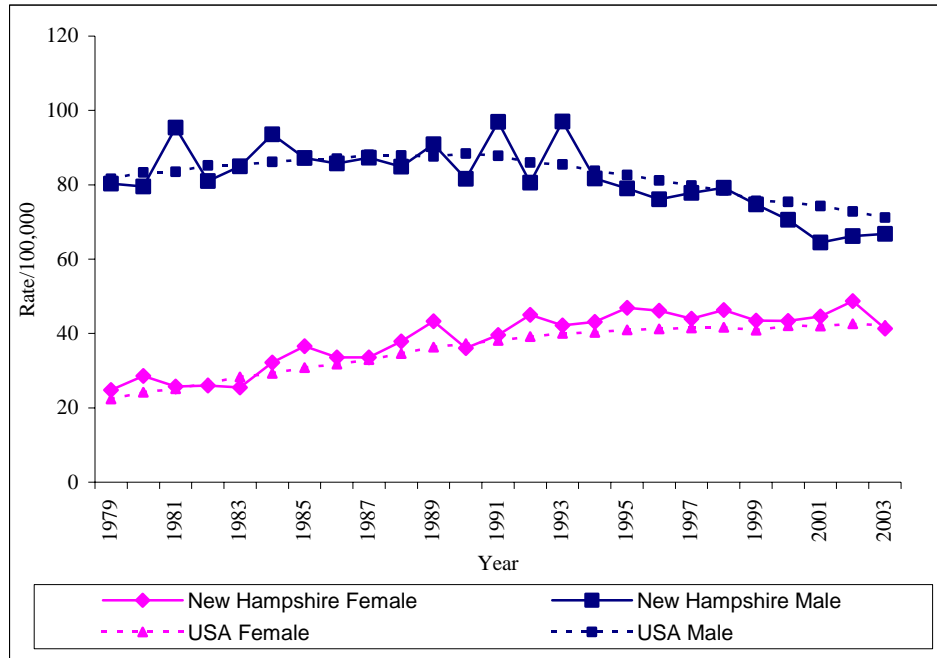
Non-Hodgkin's Lymphoma

- Approximately 88% of diagnosed lymphomas are Non-Hodgkin's Lymphoma (NHL).
- Since the early 1970's, incidence rates for NHL have doubled, in part because of AIDS-related NHL.
- Recent increases in incidence have been limited to women.

Risk Factors:
- Most of the risk factors are associated with severely reduced immune function.
- NHL risk is high in persons with organ transplants who receive immune suppressants to prevent rejections; in people with autoimmune conditions and people infected with HIV, Human T-cell Lymphotropic Viruses (HTLV-I) and probably Hepatitis C Virus (HCV). Epstein-Barr Virus (EBV) is associated with Burkitt's lymphoma, sometimes with NHL and perhaps other related lymphomas. Infection with Helicobacter pylori also increases risk for gastric lymphomas.
- Occupational exposures to herbicides, chlorinated organic compounds and certain other chemicals increase risk.
- Risk of lymphoma is increased among those with a family history of lymphoma.

Survival Rate:
- Survival depends on cell type and stage of disease. The one-year relative survival for NHL is 78% and the five-year survival is 60%.
- The 10-year survival rate for NHL declines to 49%.

Table 20: Non-Hodgkin's Lymphoma: Age-Adjusted Incidence and Mortality Rates, 1999-2003

	Age-Adjusted Incidence Rate/100,000			Age-adjusted Mortality Rate/100,000		
	2003 NH New Cases	1999-2003 New Hampshire	2000-2003 SEER US White Rate	2003 NH Deaths	1999-2003 New Hampshire	2000-2003 SEER US White Rate
Female	127	14.9(13.6,16.2)	16.8	50	6.5(5.6,7.3)	6.5
Male	131	22.7(20.9,24.5)	23.8	50	10.5(9.2,11.8)	10.1
Total	258	18.3(17.2,19.4)	19.9	100	8.2(7.5,8.9)	8.1

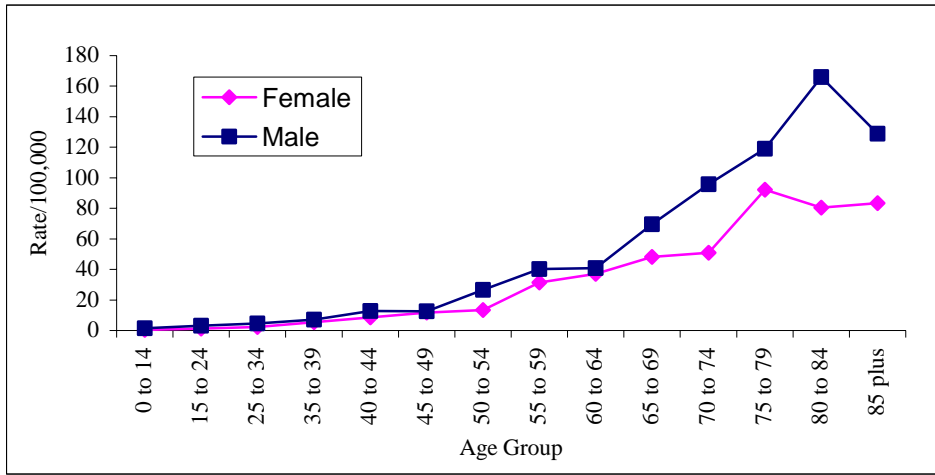**Figure 22: Non-Hodgkin's Lymphoma: Incidence Rates by Age and Sex, 1999-2003**

Figure 23: Non-Hodgkin's Lymphoma: Mortality Rates by Age and Sex, 1999-2003
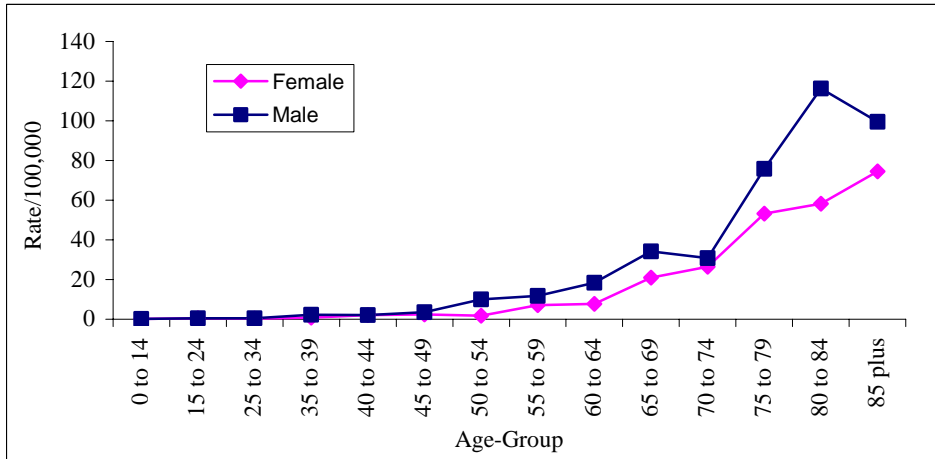
Table 21: Non-Hodgkin's Lymphoma: Age-Specific Incidence and Mortality Rates by Sex, 1999-2003

Age Group	Incidence						Mortality					
	Female		Male		Total		Female		Male		Total	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
0 to 14	*	*	*	*	12	0.9	*	*	*	*	*	*
15 to 24	*	*	13	3.2	18	2.2	*	*	*	*	*	*
25 to 34	*	*	18	4.6	27	3.4	*	*	*	*	*	*
35 to 39	15	5.5	19	7.2	34	6.3	*	*	*	*	*	*
40 to 44	24	8.5	36	12.9	60	10.7	*	*	*	*	12	2.1
45 to 49	30	11.8	32	12.7	62	12.2	*	*	*	*	15	3.0
50 to 54	30	13.5	59	26.6	89	20.0	*	*	22	9.9	26	5.9
55 to 59	53	31.4	68	40.3	121	35.8	12	7.1	20	11.9	32	9.5
60 to 64	48	37.1	51	40.9	99	39.0	10	7.7	23	18.5	33	13.0
65 to 69	53	48.3	71	69.5	124	58.5	23	21.0	35	34.3	58	27.4
70 to 74	52	50.9	81	95.7	133	71.2	27	26.4	26	30.7	53	28.4
75 to 79	83	92.2	77	119.1	160	103.4	48	53.3	49	75.8	97	62.7
80 to 84	54	80.5	67	165.9	121	112.6	39	58.2	47	116.4	86	80.0
85 plus	57	83.3	35	129.0	92	96.3	51	74.5	27	99.5	78	81.6
State Total	**516**	**14.9**	**636**	**22.7**	**1152**	**18.3**	**232**	**6.5**	**275**	**10.5**	**507**	**8.2**

*Rates are not displayed if fewer than 10 events are reported.

Table 22: Non-Hodgkin's Lymphoma: New Cases and Deaths by County and Sex, 2003

County	Incidence			Mortality		
	Female	Male	Total	Female	Male	Total
Belknap	8	9	20	3	6	9
Carroll	4	3	7	4	3	7
Cheshire	6	8	14	2	3	5
Coos	4	4	8	1	1	2
Grafton	8	13	21	6	1	7
Hillsborough	27	30	57	11	15	26
Merrimack	18	10	28	5	4	9
Rockingham	34	29	63	11	10	21
Strafford	11	12	23	7	3	10
Sullivan	7	9	16	0	4	4
State Total	**127**	**131**	**258**	**50**	**50**	**100**

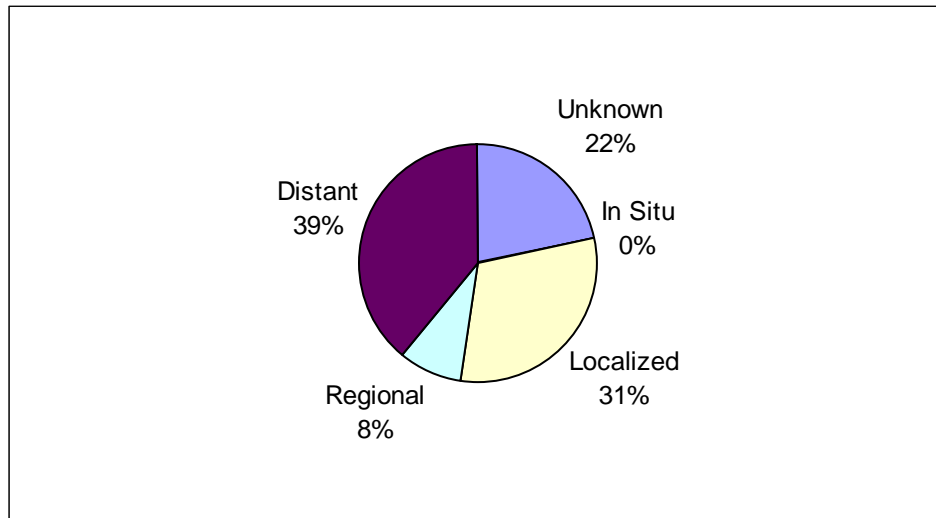**Figure 24: Non-Hodgkin's Lymphoma: Stage at Diagnosis, 2003**

Table 23: Non-Hodgkin's Lymphoma: Age-Adjusted Incidence and Mortality Rates by Sex and County, 1999-2003

	Incidence						Mortality					
	Female		Male		Total		Female		Male		Total	
County	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Belknap	30	**16.4**	46	**29.5**	76	**22.4**	14	7.0	18	11.5	32	**9.2**
Carroll	20	12.9	21	14.8	41	13.8	11	6.6	10	7.1	21	7.1
Cheshire	27	11.9	43	24.2	70	17.2	13	5.7	16	10.1	29	7.2
Coos	16	13.3	23	24.4	39	18.1	*	*	*	*	14	6.1
Grafton	43	**18.3**	51	**25.8**	94	**21.5**	22	**8.8**	20	10.4	42	**9.5**
Hillsborough	134	13.3	169	21.0	303	16.8	65	6.4	80	10.9	145	8.3
Merrimack	60	14.9	67	21.5	127	17.7	28	6.6	38	12.9	66	**9.3**
Rockingham	122	**16.9**	138	24.5	260	**20.0**	49	7.0	54	10.5	103	8.5
Strafford	40	13.6	52	21.7	92	17.4	17	5.6	22	10.5	39	7.6
Sullivan	24	**18.0**	25	22.6	49	**20.2**	*	*	*	*	15	6.0
State Total	**516**	**14.9**	**636**	**22.7**	**1152**	**18.3**	**232**	**6.5**	**275**	**10.5**	**507**	**8.2**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population.
*Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

Figure 25: Non-Hodgkin's Lymphoma: Age-Adjusted Mortality Rate Trends by Sex, 1979-2003.
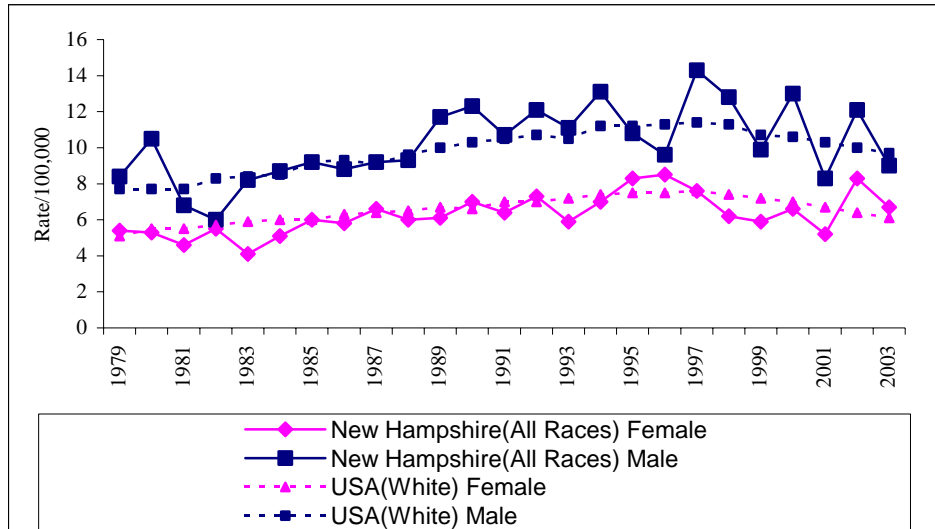
Melanoma of Skin

- Melanoma of the skin is a highly malignant form of skin cancer.
- For the last three decades, melanoma of the skin incidence rate has been increasing, but the rate of increase has slowed from 6% per year in the 1970's to 3% per year in the 1980's.
- It primarily affects whites, who have rates 10 times higher than African Americans.
- The mortality rates for white males and females have been declining since 1988 and 1998.

Risk Factors:

- The major risk factors are a prior melanoma; family history of melanoma; and the presence of many large or unusual moles.
- Other risk factors include sun sensitivity, history of sun exposure, use of tanning booths; autoimmune diseases; history of basal or squamous cell skin carcinoma; and occupational exposure to coal tar, creosote, arsenic compounds or radium.

Prevention:

- Avoid or limit sun exposure during midday hours (10 a.m. - 4 p.m.).
- When outdoors wear hats, sunglasses and long-sleeved shirts and pants to protect skin from exposure to sun.
- Use sunscreen for outdoor activities.
- Children especially need to be protected as exposure in childhood increases the risk for melanoma as an adult.
- Avoid tanning beds and sun lamps, which produce more UV radiation.

Early Detection:

- The American Cancer Society suggests a simple ABCD outline for early detection of melanoma of skin. These are:
    1. A for "Asymmetry": whether one half of the mole is different from other half;
    2. B for "Border": irregularity whether it is ragged, notched or blurred;
    3. C for "Color": whether the pigmentation is uniform or variable with tan, black, or brown; and
    4. D for "Diameter": whether the mole diameter is greater than 6 mm.

Survival Rate:

- If detected early and properly treated, melanoma is highly curable, but compared with other skin cancers it is more likely to spread to other organs of the body.
- The five- and 10-year relative survival rates are 92% and 89%, respectively.
- For localized melanoma, the five-year survival rate is 98%, compared to 64% for regional stage and 16% for those with distant spread.
- Approximately 83% of melanomas are diagnosed at local stage.

Table 24: Melanoma of Skin: Age-Adjusted Incidence and Mortality Rates, 1999-2003

	Age-Adjusted Incidence Rate/100,000			Age-adjusted Mortality Rate/100,000		
	2003 NH New Cases	1999-2003 New Hampshire	2000-2003 SEER US White Rate	2003 NH Deaths	1999-2003 New Hampshire	2000-2003 SEER US White Rate
Female	175	20.8(19.2,22.3)	17.3	15	2.1(1.7,2.7)	2
Male	217	30.3(28.3,32.4)	26.5	32	4.2(3.5,5.0)	4.3
Total	392	24.8(23.5,26.0)	21.1	47	3.0(2.6,3.5)	3.0

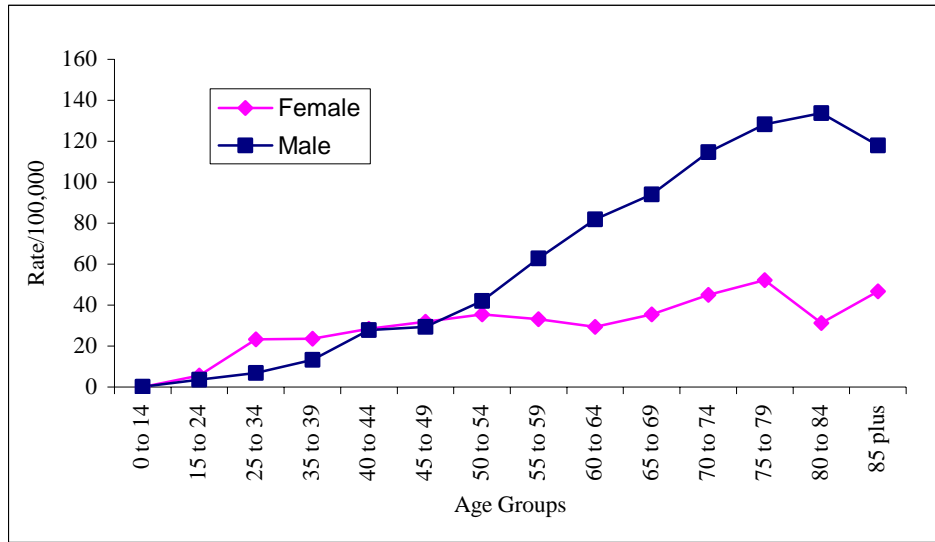**Figure 26: Melanoma of Skin: Age-Specific Incidence Rates by Sex, 1999-2003**

Figure 27: Melanoma of Skin: Age-Specific Mortality Rates by Sex, 1999-2003
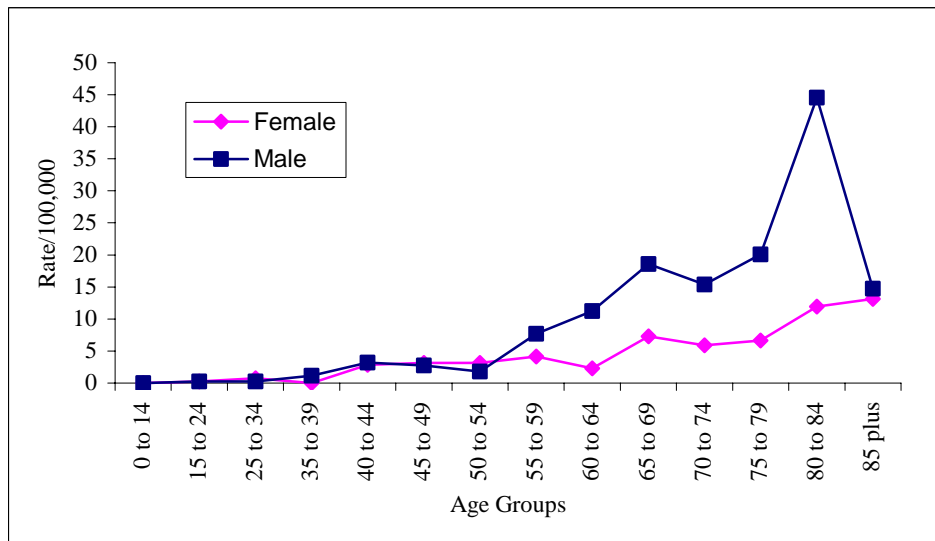
Table 25: Melanoma of Skin: Age-Specific Incidence and Mortality Rates by Sex, 1999-2003

| | Incidence | | | | | | Mortality | | | | | |
| | Female | | Male | | Total | | Female | | Male | | Total | |
Age Group	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
0 to 14	*	*	*	*	*	*	*	*	*	*	*	*
15 to 24	23	5.7	15	3.6	38	4.7	*	*	*	*	*	*
25 to 34	93	23.3	27	6.8	120	15.1	*	*	*	*	*	*
35 to 39	64	23.5	35	13.3	99	18.5	*	*	*	*	*	*
40 to 44	80	28.4	78	27.9	158	28.1	*	*	*	*	17	3.0
45 to 49	81	31.8	74	29.3	155	30.6	*	*	*	*	15	3.0
50 to 54	79	35.5	93	42.0	172	38.7	*	*	*	*	11	2.5
55 to 59	56	33.1	106	62.8	162	48.0	*	*	13	7.7	20	5.9
60 to 64	38	29.3	102	81.8	140	55.1	*	*	14	11.2	17	6.7
65 to 69	39	35.5	96	94.0	135	63.7	*	*	19	18.6	27	12.7
70 to 74	46	45.0	97	114.6	143	76.5	*	*	13	15.4	19	10.2
75 to 79	47	52.2	83	128.4	130	84.0	*	*	13	20.1	19	12.3
80 to 84	21	31.3	54	133.7	75	69.8	*	*	18	44.6	26	24.2
85 plus	32	46.8	32	117.9	64	67.0	*	*	*	*	13	13.6
State Total	**699**	**20.8**	**893**	**30.3**	**1592**	**24.8**	**74**	**2.1**	**119**	**4.2**	**193**	**3.0**

*Rates are not displayed if fewer than 10 events are reported.

Table 26: Melanoma of Skin Incidence and Death by Sex & County, 2003

| | Incidence | | | Mortality | | |
County	Female	Male	Total	Female	Male	Total
Belknap	6	21	27	0	1	1
Carroll	7	7	14	0	2	2
Cheshire	7	10	17	1	2	3
Coos	0	7	7	3	2	5
Grafton	22	16	38	1	4	5
Hillsborough	52	56	108	2	12	14
Merrimack	25	30	55	1	3	4
Rockingham	38	49	87	6	5	11
Strafford	12	10	22	1	1	2
Sullivan	6	11	17	0	0	0
State Total	**175**	**217**	**392**	**15**	**32**	**47**

Table 27: Melanoma of Skin: Age-Adjusted Incidence and Mortality Rates by Sex & County, 1999-2003

County	Incidence						Mortality					
	Female		Male		Total		Female		Male		Total	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Belknap	38	22.20	78	**49.0**	116	**34.5**	*	*	*	*	*	*
Carroll	30	20.52	42	29.9	72	24.7	*	*	*	*	*	*
Cheshire	51	**25.58**	65	**35.7**	116	**29.4**	*	*	*	*	13	3.2
Coos	18	18.18	30	30.6	48	24.1	*	*	*	*	12	**5.7**
Grafton	81	**37.33**	83	**41.1**	164	**38.3**	*	*	11	**5.6**	16	**3.8**
Hillsborough	158	15.63	211	25.2	369	19.6	11	1.1	37	4.9	48	2.6
Merrimack	126	**33.22**	130	**39.4**	256	**35.3**	*	*	15	4.7	23	3.1
Rockingham	129	17.07	183	28.1	312	22.0	21	2.8	25	4.2	46	3.5
Strafford	42	14.44	39	15.4	81	14.6	10	**3.5**	11	4.5	21	**4.0**
Sullivan	25	21.53	29	26.1	54	23.8	*	*	*	*	*	*
State Total	**699**	**20.78**	**893**	**30.3**	**1592**	**24.8**	**74**	**2.1**	**119**	**4.2**	**193**	**3.0**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population. *Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

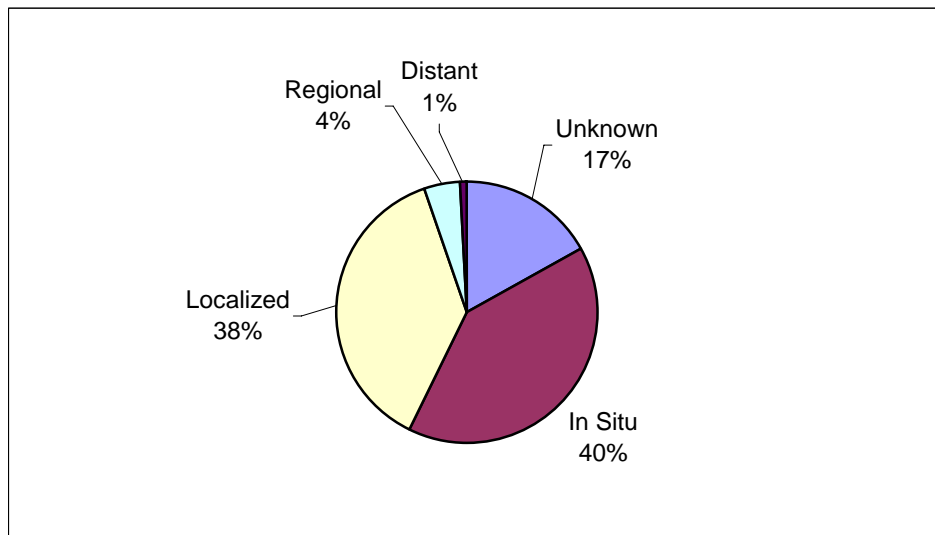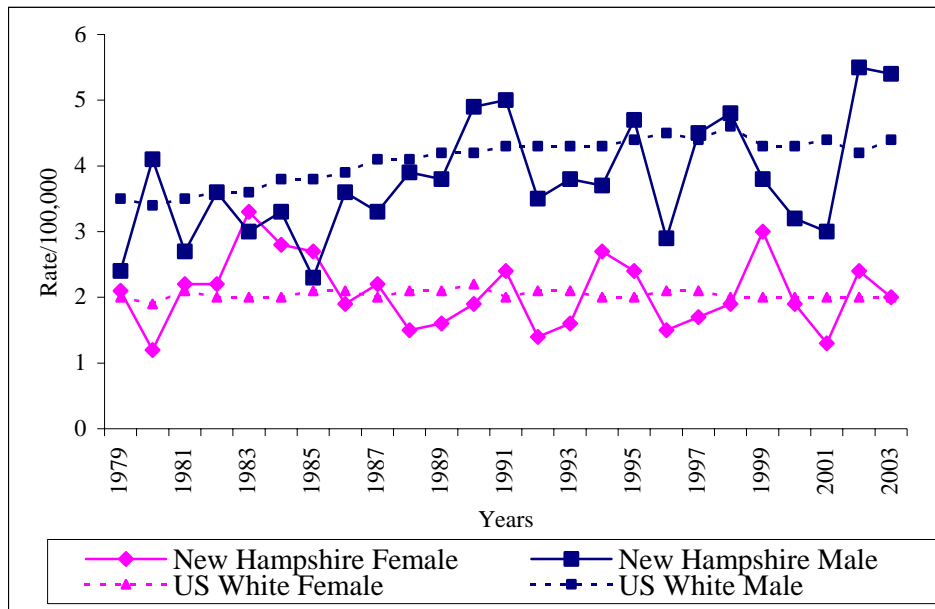**Figure 28: Melanoma of Skin: Stage at Diagnosis, 2003**

Regional 4%
Distant 1%
Unknown 17%
Localized 38%
In Situ 40%

Figure 29: Melanoma of Skin: Age-Adjusted Mortality Rates by Sex, 1979-2003

Urinary Bladder

- Urinary bladder cancer rates among men and women combined have leveled off between 1987 and 2002, after increasing by almost 0.8% per year between 1975 and 1987.
- Bladder cancer incidence is higher in men than women and higher in whites than African Americans.
- Mortality rates among African Americans have decreased since the 1970's, while rates among whites have been stable since the 1980's.

Risk Factors:
- Smoking is the biggest risk factor for bladder cancer. Smokers experience twice the risk for bladder cancer than non-smokers.
- Of deaths from bladder cancer, 48% in men and 28% in women can be attributed to smoking.
- Workers in the dye, rubber or leather industries are at increased risk of developing bladder cancer.
- Communities with high levels of arsenic in drinking water are also at higher risk.
- Drinking more fluids and eating more vegetables may reduce the risk of bladder cancer.

Early Detection:
- Early detection by screening urine for cells or examination of the bladder by cystoscope is usually recommended for people with occupational risks or previous bladder cancer.

Survival Rate:
- For all stages combined, the five-year relative survival is 82%.
- If diagnosed at local stage, the five-year survival rate is 94%. Around 75% of cases are diagnosed at this stage.
- For regional and distant stages, the five-year survival rates are 48% and 6%, respectively.
- The survival rate beyond five-years decreases to 77% at 10 years and 73% at 15 years after diagnosis.

New England Environmental Health Study:
The Department of Health and Human Services – the NH State Cancer Registry (DHHS-NHSCR) and the cancer registries of Vermont and Maine have joined with the National Cancer Institute, Dartmouth College and the United States Geological Survey (USGS) to investigate bladder cancer in New England by means of a case control study in three states. Detailed data were collected on residential history, lifestyle factors, source of drinking water, etc., to identify factors associated with bladder cancer. The results of this study are expected soon.

Table 28: Bladder: Age-Adjusted Incidence and Mortality Rates, 1999-2003

	Age-Adjusted Incidence Rate/100,000			Age-adjusted Mortality Rate/100,000		
	2003 NH	1999-2003	2000-2003 SEER	2003 NH	1999-2003	2000-2003 SEER
	New Cases	New Hampshire	US White Rate	Deaths	New Hampshire	US White Rate
Female	90	12.7(11.5,13.9)	10.0	14	2.6(2.1,3.2)	2.3
Male	250	46.5(43.8,49.1)	40.2	44	10.0(8.7,11.3)	7.8
Total	340	27.0(25.7,28.3)	22.8	58	5.5(4.9,6.1)	4.5

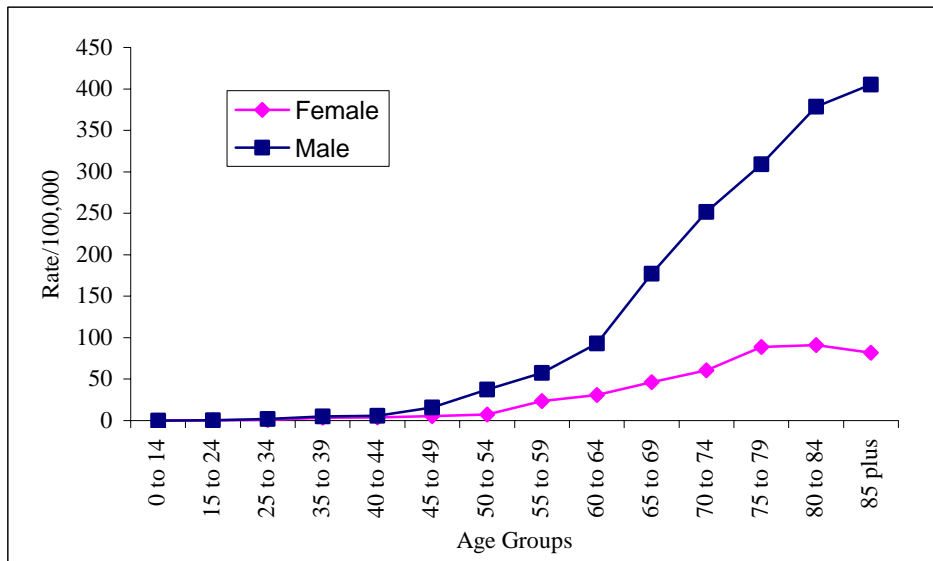**Figure 30: Bladder: Age-Specific Incidence Rates by Sex, 1999-2003**

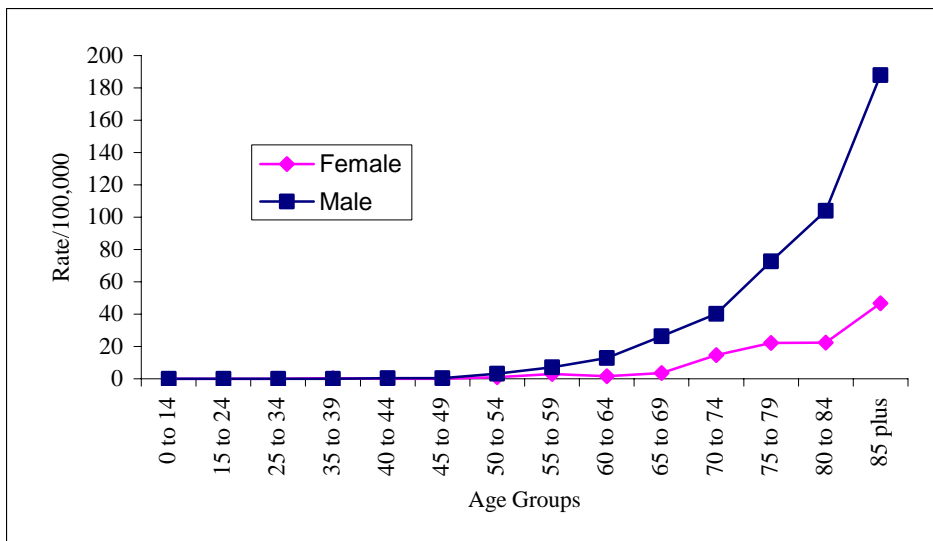**Figure 31: Bladder: Age-Specific Mortality Rates by Sex, 1999-2003**

Table 29: Bladder Age-Specific Incidence and Mortality Rates by Sex, 1999-2003

Age Group	Incidence						Mortality					
	Female		Male		Total		Female		Male		Total	
	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
0 to 14	*	*	*	*	*	*	*	*	*	*	*	*
15 to 24	*	*	*	*	*	*	*	*	*	*	*	*
25 to 34	*	*	*	*	10	1.3	*	*	*	*	*	*
35 to 39	*	*	13	4.9	22	4.1	*	*	*	*	*	*
40 to 44	11	3.9	16	5.7	27	4.8	*	*	*	*	*	*
45 to 49	14	5.5	40	15.8	54	10.6	*	*	*	*	*	*
50 to 54	16	7.2	83	37.4	99	22.3	*	*	*	*	*	*
55 to 59	40	23.7	97	57.5	137	40.6	*	*	12	7.1	17	5.0
60 to 64	40	30.9	116	93.1	156	61.4	*	*	16	12.8	18	7.1
65 to 69	51	46.5	181	177.2	232	109.5	*	*	27	26.4	31	14.6
70 to 74	62	60.7	213	251.7	275	147.2	15	14.7	34	40.2	49	26.2
75 to 79	80	88.8	200	309.3	280	181.0	20	22.2	47	72.7	67	43.3
80 to 84	61	91.0	153	378.8	214	199.2	15	22.4	42	104.0	57	53.0
85 plus	56	81.9	110	405.3	166	173.7	32	46.8	51	187.9	83	86.9
State Total	**444**	**12.7**	**1,230**	**46.5**	**1,674**	**27.0**	**96**	**2.6**	**238**	**10.0**	**334**	**5.5**

*Rates are not displayed if fewer than 10 events are reported.

Table 30: Bladder: Incidence and Mortality Counts by Sex & County, 2003

County	Incidence			Mortality		
	Female	Male	Total	Female	Male	Total
Belknap	3	23	26	0	5	5
Carroll	9	10	19	1	1	2
Cheshire	5	15	20	0	1	1
Coos	5	11	16	3	1	4
Grafton	5	9	14	0	2	2
Hillsborough	27	72	99	5	15	20
Merrimack	7	22	29	2	6	8
Rockingham	20	62	82	3	4	7
Strafford	7	17	24	0	6	6
Sullivan	2	9	11	0	3	3
State Total	**90**	**250**	**340**	**14**	**44**	**58**

Figure 32: Bladder: Stage at Diagnosis, 2003

Figure 32 pie chart: Distant 3%, Unknown 3%, Regional 6%, Localized 39%, In Situ 49%

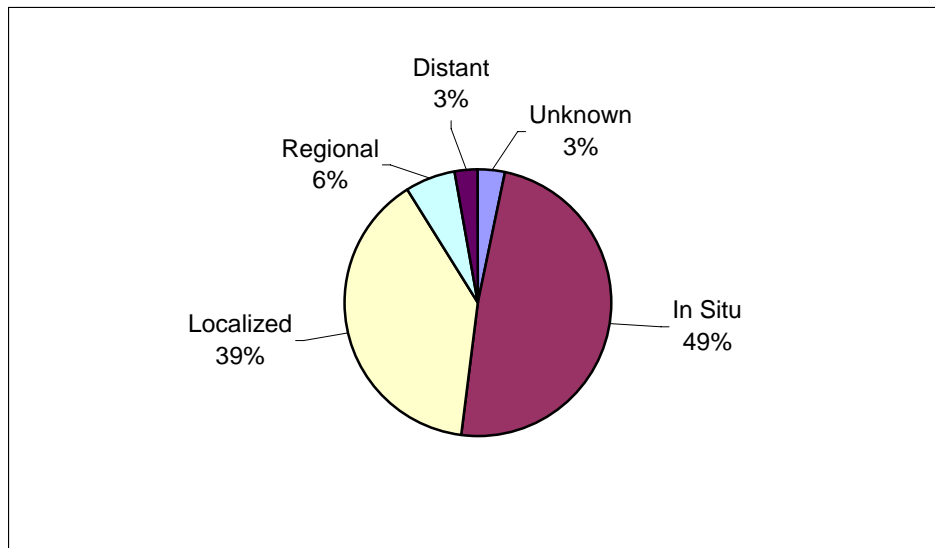**Table 31:   Bladder: Age-Adjusted Incidence & Mortality Rates by Sex & County, 1999-2003**

	Incidence						Mortality					
	Female		**Male**		**Total**		**Female**		**Male**		**Total**	
County	Cases	Rate	Cases	Rate	Cases	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Belknap	23	12.1	90	**59.5**	113	**32.6**	*	*	18	**13.3**	24	**7.0**
Carroll	28	**17.4**	65	46.5	93	**30.5**	*	*	15	**11.8**	21	**6.9**
Cheshire	19	8.1	73	42.1	92	22.4	*	*	15	9.5	18	4.4
Coos	17	13.7	41	42.8	58	26.1	*	*	12	**12.5**	21	**8.8**
Grafton	25	10.1	74	38.4	99	22.2	*	*	18	10.3	24	5.3
Hillsborough	133	13.3	334	46.3	467	26.8	19	1.8	67	10.4	86	5.1
Merrimack	44	10.3	148	**50.8**	192	27.3	13	2.7	22	8.2	35	4.8
Rockingham	98	13.9	260	47.5	358	**28.5**	22	3.2	47	9.8	69	5.9
Strafford	38	13.2	105	47.9	143	27.8	*	*	14	6.5	20	3.9
Sullivan	18	12.9	40	34.4	58	22.8	*	*	10	10.2	16	**6.4**
State Total	**444**	**12.7**	**1230**	**46.5**	**1674**	**27.0**	**96**	**2.6**	**238**	**10.0**	**334**	**5.5**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population.
*Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

Figure 33: Bladder: Age-Adjusted Mortality Rates by Sex, 1979-2003
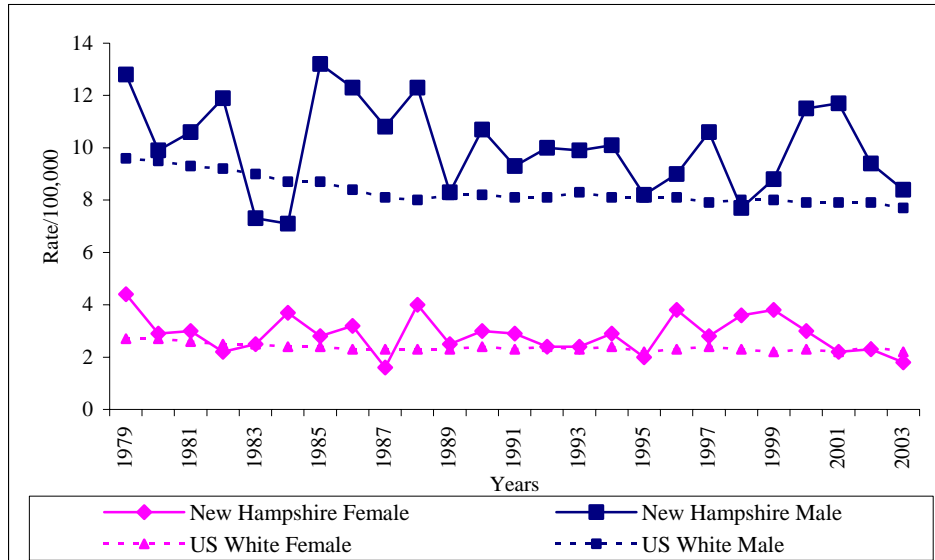
Uterine

- The incidence rates for uterine cancer rose between 1988 and 1997, but appear to have leveled through 2002.
- Death rates were stable from 1997 onwards.

Risk Factors:
- Cumulative exposure to high levels of estrogen often through estrogen replacement therapy (without progesterone) and obesity.
- Risk is also increased with use of tamoxifen, early onset of menstruation, late menopause, never having children, and a history of polycystic ovary syndrome.
- Other risk factors include infertility, hereditary nonpolyposis colon cancer (HNPCC).
- Addition of progesterone to estrogen replacement therapy decreases the risk associated with use of estrogen alone.
- Pregnancy and use of oral contraceptives are inversely associated with the risk of uterine cancer.

Early Detection:
- Postmenopausal bleeding is a symptom of early stage uterine cancer.
- Annual screening by endometrial biopsy for women beginning at age 35 who are at increased risk or with HNPCC.

Survival Rate:
- Survival at one year is 94% and at five years is 96% if diagnosed at local stage.
- The five-year survival for regional disease is 66% and for distant stage is only 25%.
- The overall survival rates are higher in whites than African Americans.

Table 32: Uterine: Age-Adjusted Incidence & Mortality Rates, 1999-2003.

	Age-Adjusted Incidence Rate/100,000			Age-adjusted Mortality Rate/100,000		
	2003 NH	1999-2003	2000-2003 SEER	2003 NH	1999-2003	2000-2003 SEER
	New Cases	New Hampshire	US White Rate	Deaths	New Hampshire	US White Rate
Female	201	27.5(25.7,29.2)	23.8	20	3.8(3.1,4.4)	1.9

Figure 34: Uterine: Age-Specific Incidence & Mortality Rates, 1999-2003
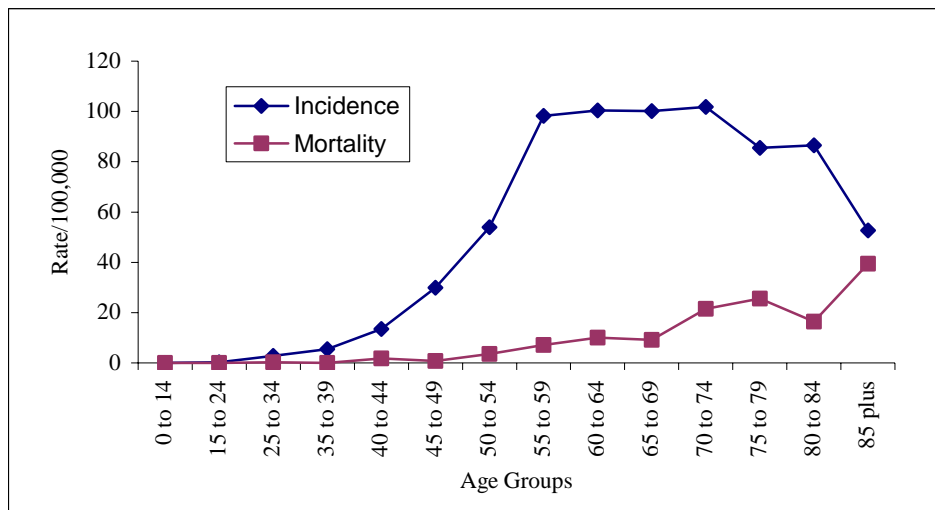
Table 33: Uterine: Age-Specific Incidence & Mortality Rate, 1999-2003

Age Group	Cases	Rate	Lower	Upper	Deaths	Rate	Lower	Upper
		Incidence				**Mortality**		
0 to 14	*	*	*	*	*	*	*	*
15 to 24	*	*	*	*	*	*	*	*
25 to 34	11	2.8	1.4	4.9	*	*	*	*
35 to 39	15	5.5	3.1	9.1	*	*	*	*
40 to 44	38	13.5	9.5	18.5	*	*	*	*
45 to 49	76	29.9	23.5	37.4	*	*	*	*
50 to 54	120	53.9	44.3	63.5	*	*	*	*
55 to 59	166	98.2	83.3	113.2	12	7.1	3.7	12.4
60 to 64	130	100.4	83.1	117.6	13	10.0	5.3	17.2
65 to 69	110	100.2	81.5	118.9	10	9.1	4.4	16.8
70 to 74	104	101.8	82.2	121.3	22	21.5	13.5	32.6
75 to 79	77	85.5	67.5	106.9	23	25.5	16.2	38.3
80 to 84	58	86.5	65.7	111.8	11	16.4	8.2	29.3
85 plus	36	52.6	36.9	72.9	27	39.5	26.0	57.4
State Total	**942**	**27.5**	**25.7**	**29.2**	**134**	**3.8**	**3.1**	**4.4**

 *Rates are not displayed if fewer than 10 events are reported.

Table 34: Uterine: Incidence and Mortality Counts by County, 2003

	Incidence	Mortality
County	Cases	Deaths
Belknap	10	1
Carroll	10	1
Cheshire	15	0
Coos	3	0
Grafton	18	2
Hillsborough	57	7
Merrimack	26	3
Rockingham	38	4
Strafford	17	2
Sullivan	7	0
State Total	**201**	**20**

Figure 35: Uterine: Stage at Diagnosis, 2003
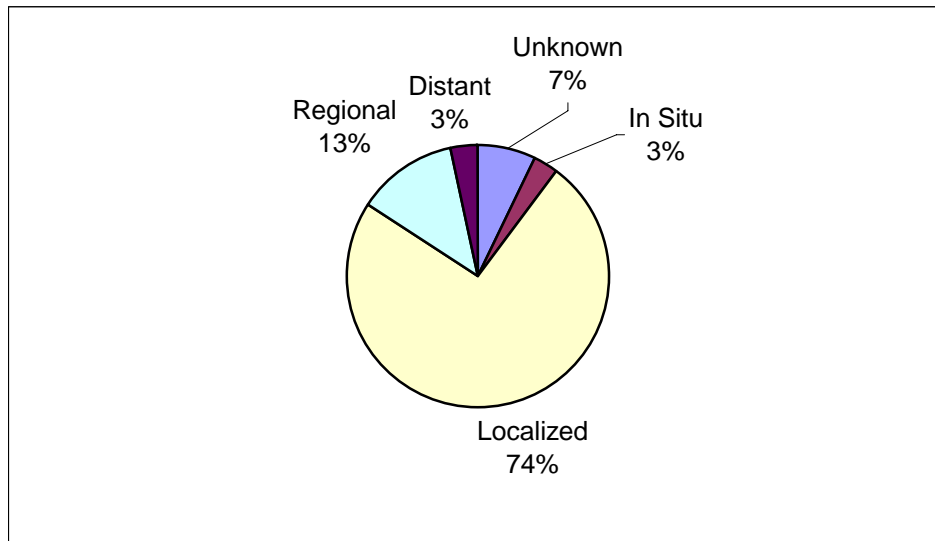
Table 35: Uterine: Age-Adjusted Incidence and Mortality Rate, 1999-2003

County	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
Belknap	54	29.4	13	**6.9**
Carroll	46	28.9	*	*
Cheshire	69	**31.8**	*	*
Coos	27	23	*	*
Grafton	75	**31.6**	*	*
Hillsborough	256	25.7	33	3.3
Merrimack	109	28.4	23	**5.2**
Rockingham	186	25.6	28	**3.9**
Strafford	84	29.4	*	*
Sullivan	36	28.3	*	*
State Total	942	27.5	134	3.8

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population.
*Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

Figure 36: Uterine: Age-Adjusted Mortality Rate, 1979-2003
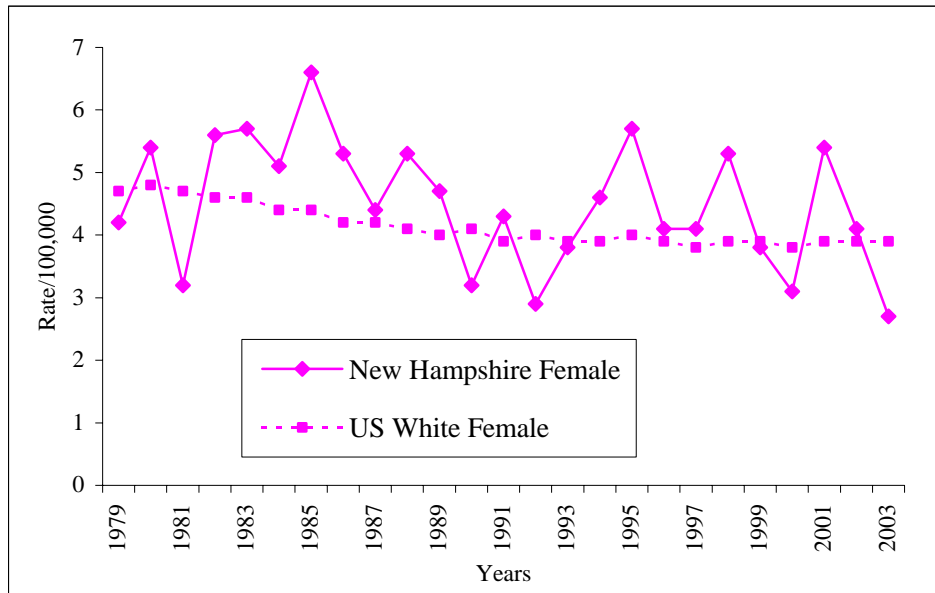
Ovarian Cancer

- Ovarian cancer accounts for about 3% of all cancers among women and ranks second among gynecologic cancers following corpus uterine cancer.
- During the last two decades, the ovarian cancer incidence rate has decreased by 0.7% per year.
- Ovarian cancer causes more deaths than any other cancer of the female reproductive system.

Risk Factors:
- Risk increases with age and it peaks in late 70's.
- The use of estrogen alone as hormone replacement therapy has been shown to increase risk in some studies.
- Higher body weight may be associated with higher risk of ovarian cancer.
- Women who had breast cancer or a family history of breast or ovarian cancer are at greater risk.
- Inherited mutations of the BRCA1 and BRCA2 genes or inherited nonpolyposis colon cancer are at greater risk.
- Incidence is highest in Western industrialized countries.
- Pregnancy and use of oral contraceptives reduce the risk of developing cancer of the ovary.

Early Detection:
- Routine screening for women at average risk is not recommended because no sufficiently accurate screening tests are currently available.

Survival Rate:
- Relative survival varies with age. Women under 65 years of age are likely to survive five years longer than women aged 65 years and older.
- The one-year and five-year survival rates for newly diagnosed cases are 76% and 45%, respectively.
- If the disease is localized at diagnosis, the five-year survival rate is 94%, but only 19% of cases are detected at this stage. The five-year survival rates are 68% for regional and 29% for distant stage of disease.

Table 36: Ovarian: Age-Adjusted Incidence & Mortality Rate, 1999-2003

	Age-Adjusted Incidence Rate/100,000			Age-adjusted Mortality Rate/100,000		
	2003 NH	1999-2003	2000-2003 SEER	2003 NH	1999-2003	2000-2003 SEER
	New Cases	New Hampshire	US White Rate	Deaths	New Hampshire	US White Rate
Female	114	14.2(12.9,15.4)	14.5	65	8.6(7.6,9.6)	9.3

Figure 37: Ovarian: Age-Specific Incidence and Mortality Rates, 1999-2003
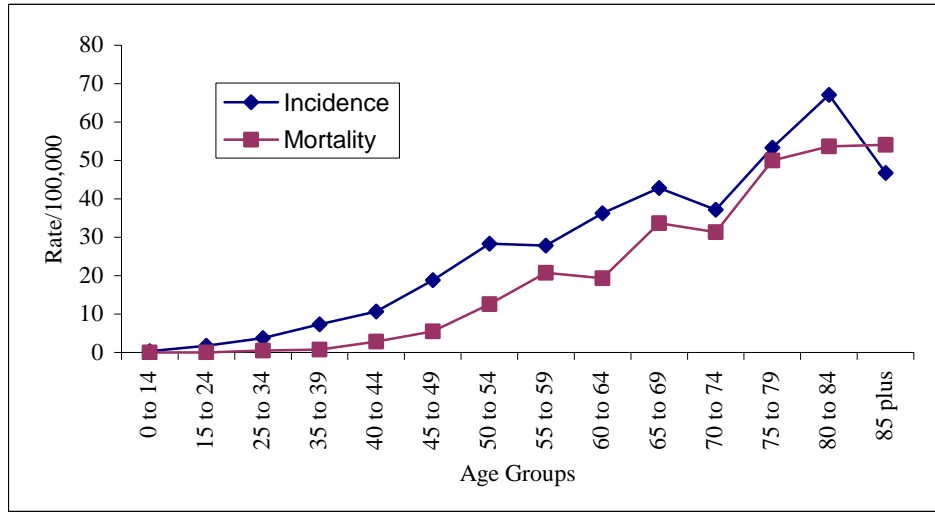
Table 37: Ovarian: Age-Specific Incidence & Mortality Rates, 1999-2003

Age Group	Incidence				Mortality			
	Cases	Rate	Lower	Upper	Deaths	Rate	Lower	Upper
0 to 14	*	*	*	*	*	*	*	*
15 to 24	*	*	*	*	*	*	*	*
25 to 34	15	3.8	2.1	6.2	*	*	*	*
35 to 39	20	7.4	4.5	11.4	*	*	*	*
40 to 44	30	10.6	7.2	15.2	*	*	*	*
45 to 49	48	18.9	13.9	25.0	14	5.5	3.0	9.2
50 to 54	63	28.3	21.7	36.2	28	12.6	8.4	18.2
55 to 59	47	27.8	20.4	37.0	35	20.7	14.4	28.8
60 to 64	47	36.3	26.7	48.3	25	19.3	12.5	28.5
65 to 69	47	42.8	31.5	56.9	37	33.7	23.7	46.5
70 to 74	38	37.2	26.3	51.0	32	31.3	21.4	44.2
75 to 79	48	53.3	39.3	70.7	45	50.0	36.4	66.9
80 to 84	45	67.1	48.9	89.8	36	53.7	37.6	74.3
85 plus	32	46.8	32.0	66.0	37	54.1	38.1	74.5
State Total	**489**	**14.2**	**12.9**	**15.4**	**301**	**8.6**	**7.6**	**9.6**

*Rates are not displayed if fewer than 10 events are reported.

Table 38: Ovarian: Incidence and Death Counts by County, 2003

County	Incidence Cases	Mortality Deaths
Belknap	10	8
Carroll	5	2
Cheshire	6	2
Coos	1	5
Grafton	9	4
Hillsborough	37	19
Merrimack	14	6
Rockingham	21	9
Strafford	6	6
Sullivan	5	4
State Total	**114**	**65**

Figure 38: Ovarian: Stage at Diagnosis, 2003
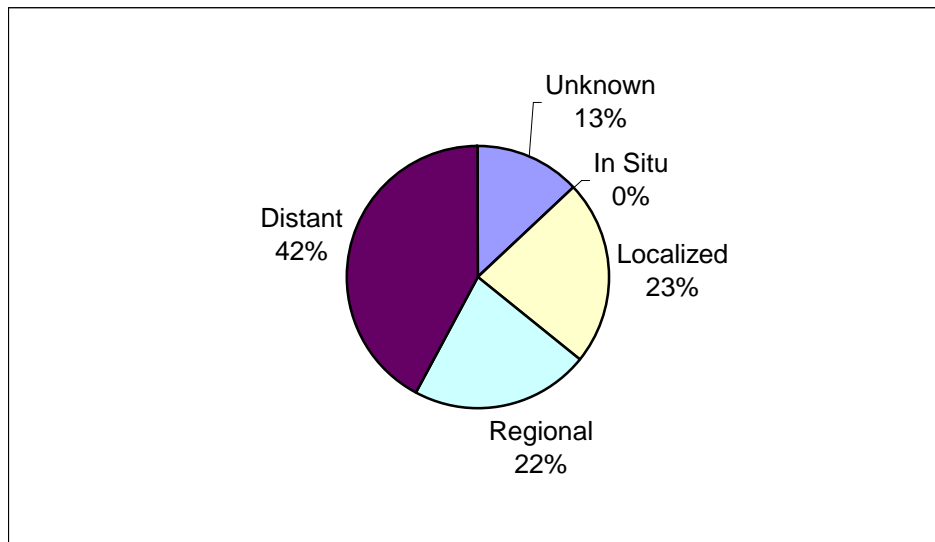
Table 39: Ovarian: Age-Adjusted Incidence and Mortality Rates by County, 1999-2003

County	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
Belknap	28	15.3	22	**11.5**
Carroll	17	11.9	11	7.01
Cheshire	33	15.2	19	8.3
Coos	16	12.6	17	**13.6**
Grafton	40	**17.1**	19	7.7
Hillsborough	153	15.1	92	9.2
Merrimack	58	15	27	6.7
Rockingham	94	12.7	55	7.7
Strafford	27	9.3	23	7.9
Sullivan	23	**18.2**	16	**11.4**
State Total	**489**	**14.2**	**301**	**8.6**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population. *Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

Figure 39: Ovarian: Age-Adjusted Mortality Rates, 1979-2003
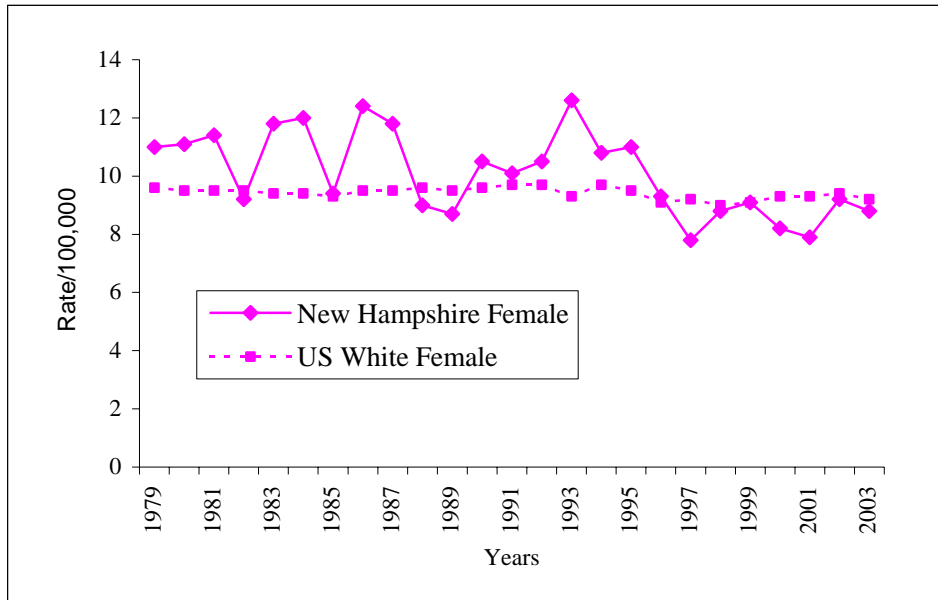
Prostate

- Prostate cancer is the most frequently diagnosed cancer in men. The incidence is higher in African-American men than in white men.
- The incidence rates increased between 1988 and 1992 declined through 1995 and have increased moderately since then. These trends could be attributed to changes in utilization of prostate-specific antigen (PSA) blood testing.
- Higher incidence during the last decade can be attributed to widespread use of the PSA test among men less than 65 years of age.
- Even though rates are declining overall, rates among African Americans remain high in relation to whites.

Risk Factors:
- Risk factors for prostate cancer are age, ethnicity and family history of cancer.
- Disease incidence is highest in African American men and Jamaican men of African descent.
- The disease is common in North America and northwestern Europe and very rare in Asia and South America.
- As with some other cancers, the risk of dying from prostate cancer may increase with obesity.

Early Detection:
- The PSA blood test, a measurement of the prostate specific antigen, which is a protein produced by prostate, and the digital rectal examination should be provided to men aged 50 and older.
- For African American men or men with a family history of the cancer, screening should begin at 45 years of age.
- At this time there are no specific recommendations, however, all men should be educated about the benefits and limitations of the PSA screening tests so they can make informed decisions.

Survival Rate:
- Even though the incidence is high, about 90% of cancers are diagnosed at local and regional stages; as a result the intervention is generally effective. The five-year relative survival rate for these stages reaches almost 100%.
- In the past two decades, the five-year relative survival rate has increased from about 67% to almost 100%.
- The recent data shows that the 10-year survival rate is 93% and 15-year is 77%. This can be attributed to both early detection and improvement in treatment.

Table 40: Prostate: Age-Adjusted Incidence & Mortality Rate, 1999-2003

	Age-Adjusted Incidence Rate/100,000			Age-adjusted Mortality Rate/100,000		
	2003 NH	**1999-2003**	**2000-2003 SEER**	**2003 NH**	**1999-2003**	**2000-2003 SEER**
	New Cases	**New Hampshire**	**US White Rate**	**Deaths**	**New Hampshire**	**US White Rate**
Male	905	165.3(160.5,170.1)	163.4	136	29.8(27.5,32.1)	26.2

Figure 40: Prostate: Age-Specific Incidence & Mortality Rates, 1999-2003
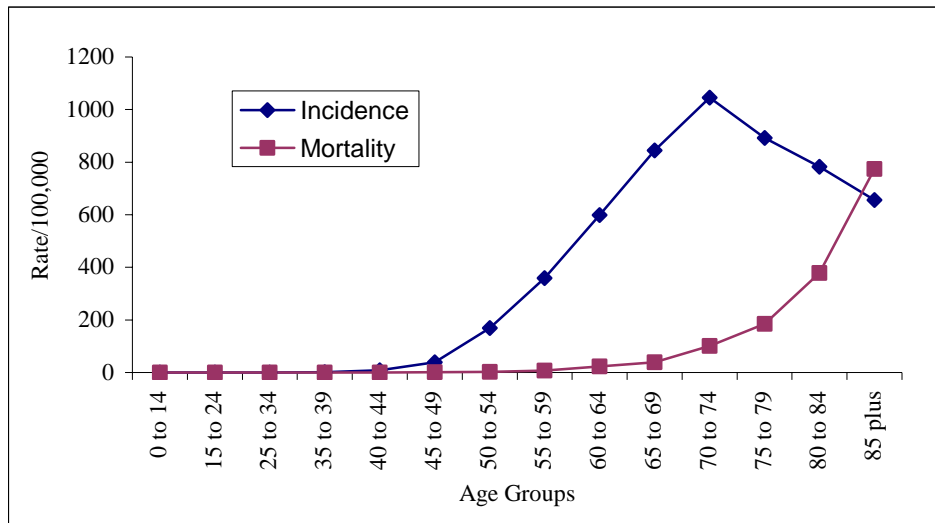
Table 41: Prostate: Age-Specific Incidence & Mortality Rate, 1999-2003

Age Group	Incidence				Mortality			
	Cases	Rate	Lower	Upper	Deaths	Rate	Lower	Upper
0 to 14	*	*	*	*	*	*	*	*
15 to 24	*	*	*	*	*	*	*	*
25 to 34	*	*	*	*	*	*	*	*
35 to 39	*	*	*	*	*	*	*	*
40 to 44	24	8.6	5.5	12.8	*	*	*	*
45 to 49	99	39.2	31.9	47.7	*	*	*	*
50 to 54	375	169.2	152.1	186.3	*	*	*	*
55 to 59	606	359.1	330.5	387.7	12	7.1	3.7	12.4
60 to 64	747	599.2	556.3	642.2	29	23.3	15.6	33.4
65 to 69	863	844.9	788.5	901.3	40	39.2	28.0	53.3
70 to 74	885	1045.9	977.0	1114.8	85	100.5	80.2	124.2
75 to 79	577	892.3	819.5	965.1	120	185.6	152.4	218.8
80 to 84	316	782.3	696.1	868.6	153	378.8	318.8	438.8
85 plus	178	655.8	559.5	752.2	210	773.7	669.1	878.4
State Total	**4674**	**165.3**	**160.5**	**170.1**	**658**	**29.8**	**27.5**	**32.1**

*Rates are not displayed if fewer than 10 events are reported.

Table 42: Prostate: Incidence & Mortality Counts by County, 2003

County	Incidence Cases	Mortality Deaths
Belknap	49	8
Carroll	44	10
Cheshire	46	9
Coos	31	7
Grafton	72	9
Hillsborough	241	34
Merrimack	113	19
Rockingham	217	28
Strafford	55	8
Sullivan	35	4
State Total	**905**	**136**

Figure 41: Prostate: Stage at Diagnosis, 2003

Distant 3%
Unknown 9%
Regional 7%
In Situ 0%
Localized 81%
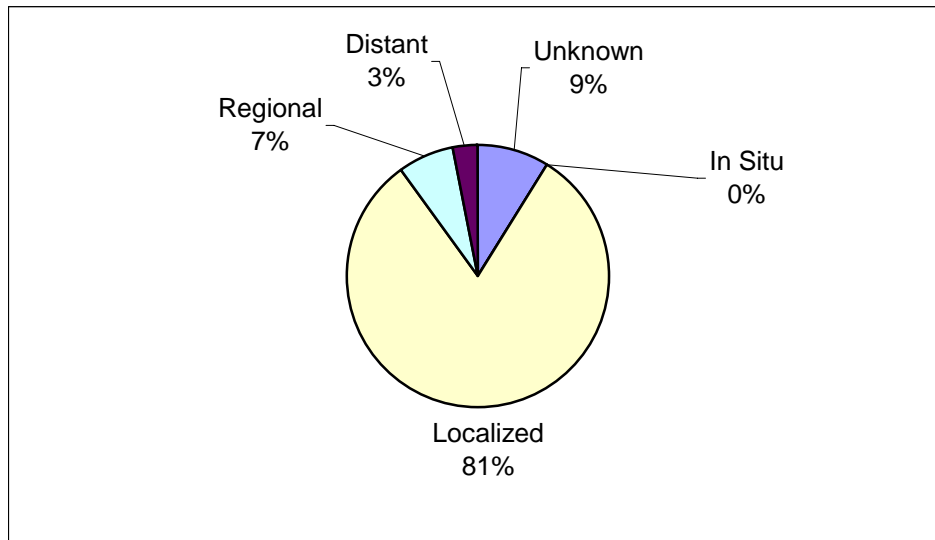
Table 43: Prostate: Age-Adjusted Incidence & Mortality Rates by County, 1999-2003

County	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
Belknap	247	152.4	41	28.1
Carroll	198	134.8	34	27.7
Cheshire	237	129.3	41	27.6
Coos	140	136	36	**40.2**
Grafton	333	163.9	54	**33.5**
Hillsborough	1459	**187.7**	177	30.5
Merrimack	574	**186.6**	74	29.1
Rockingham	1014	167.5	118	28.1
Strafford	286	124.2	51	26.8
Sullivan	184	158.9	32	**33.5**
State Total	**4674**	**165.3**	**658**	**29.8**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population. *Rates are not displayed with fewer than 10 cases. **Bold** numbers in all tables represent county rates that are significantly higher than the state rates at 95% confidence interval.

Figure 42: Prostate: Age-Adjusted Mortality Rates, 1979-2003
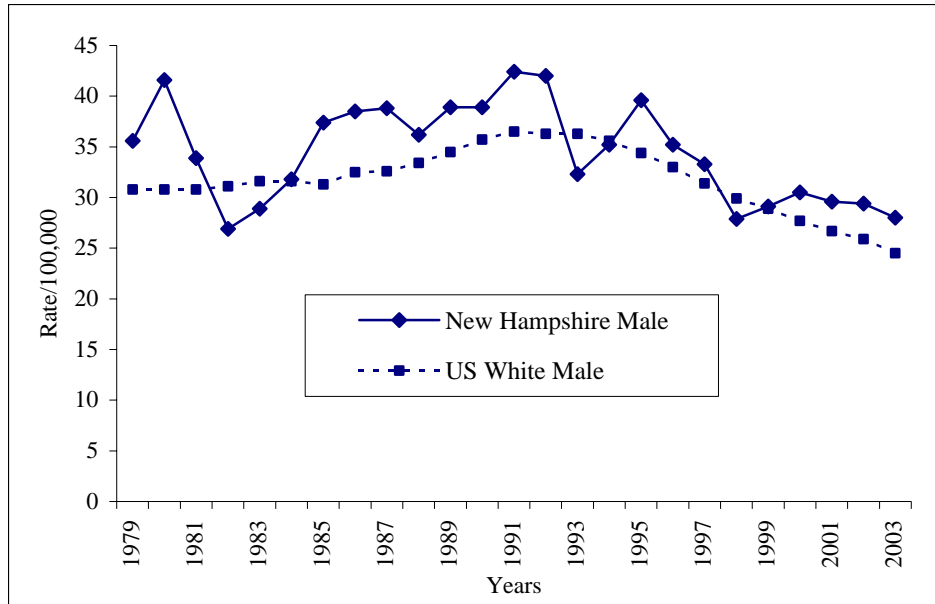
APPENDICES

Table 44: Cancer Incidence Counts and Age-Adjusted Rates and 95% Confidence Intervals, and SEER U.S. White Age-Adjusted Rate by Sex and Primary Site, 1999-2003

Cancer Site	Total			Male			Female		
	Cases	NH Rate	SEER	Cases	NH Rate	SEER	Cases	NH Rate	SEER
Bladder	1674	**27.0**(25.7,28.3)	22.8	1230	**46.5**(43.8,49.2)	40.2	444	**12.7**(11.5,13.9)	10
Brain & other CNS	440	7.0(6.31,7.6)	7.0	248	8.3 (7.3,9.4)	8.3	192	5.8 (5.0,6.6)	5.9
Breast (female)	--	--	--	--	--	--	4670	135.3(131.4,139.2)	134
Cervical	--	--	--	--	--	--	250	7.5 (6.5,8.4)	8.5
Colorectal	3401	54.6(52.8,56.4)	52	1691	62.8 (59.7, 65.8)	61.4	1710	**48.4**(46.1, 50.6)	44.7
Esophagus	382	**6.1**(5.5, 6.7)	4.5	303	**10.8**(9.6,12.1)	7.8	79	2.2(1.8,2.8)	1.9
Hodgkin's Lymphoma	204	3.3 (2.8,3.7)	2.9	111	3.7(3.0, 4.4)	3.2	93	2.9(2.4,3.6)	2.6
Kidney & Renal Pelvis	741	**11.6** (10.8, 12.5)	13	454	**15.7**(14.3,17.2)	18	287	8.4(7.4,9.3)	9
Larynx	253	4.0 (3.5, 4.5)	3.7	195	6.9 (5.9,7.9)	6.6	58	1.7(1.3,2.2)	1.4
Leukemia	782	12.5(11.6, 13.4)	12.7	465	16.8(15.2,18.4)	16.5	317	9.3(8.3,10.3)	9.8
Liver	245	**3.9** (3.4, 4.4)	5.1	169	**5.9**(5.0,6.8)	7.8	76	**2.2**(1.7, 2.7)	2.8
Lung & Bronchus	4263	68.5 (66.4,70.5)	66	2245	82.1(78.7, 85.6)	81.7	2018	**59.0**(56.5,61.6)	54.7
Melanoma of the Skin	1592	**24.8** (23.5,26.0)	21.1	893	**30.3**(28.3,32.4)	26.5	699	**20.8**(19.2, 22.3)	17.3
Multiple Myeloma	355	5.7 (5.1,6.3)	5.1	196	7.2(6.2, 8.2)	6.5	159	4.6(3.9, 5.3)	4.1
Non-Hodgkin's Lymphoma	1152	**18.3** (17.2,19.4)	19.9	636	22.7(20.9,24.5)	23.8	516	**14.9**(13.6, 16.2)	16.8
Oral Cavity & Pharynx	706	11.0 (10.2, 11.8)	10.5	472	16.0(14.5,17.4)	15.7	234	6.9(6.0,7.8)	6.1
Ovarian	--	--	--	--	--	--	489	14.2(12.9,15.5)	14.5
Pancreas	681	10.9 (10.1,11.8)	11.1	325	12.0(10.7,13.3)	12.7	356	10.1(9.0,11.2)	9.8
Prostate	--	--		4674	165.3(160.5, 170.1)	163.4	--	--	--
Stomach	362	**5.8** (5.2, 6.4)	7.1	241	8.8(7.6,9.9)	10.2	121	**3.4**(2.8,4.1)	4.7
Testis	--	--	--	225	**7.2**(6.3,8.1)	6.2	--	--	--
Thyroid	424	**6.5**(5.9,7.2)	8.6	114	**3.7**(3.0,4.4)	4.5	310	**9.3**(8.3,10.4)	12.7
Uterine	--	--	--	--	--	--	942	**27.5**(25.7,29.2)	23.8
Total Invasive Cancers	**31369**	**497.1**(491.6,502.6)	**478.4**	**16139**	**578.6 (569.5,587.7)**	**558.3**	**15188**	**440.3**(433.3,447.4)	**424.6**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population. *Rates are not displayed when there are fewer than 10 cases. -- Specific cancers not found in that gender. **Bold** numbers in this table represent New Hampshire state rates that are significantly different from the SEER (National) rates.

Table 45: Cancer Mortality Counts and Age-Adjusted Rates and 95% Confidence Intervals, and SEER U.S. White Age-Adjusted Rate by Sex and Primary Site, 1999-2003

Cancer Site	Female			Male			Total		
	Deaths	NH Rate	SEER	Deaths	NH Rate	SEER	Deaths	NH Rate	SEER
Bladder	96	2.6(2.1,3.2)	2.3	238	**10.0** (8.7, 11.3)	7.8	334	**5.5**(4.9, 6.1)	4.5
Brain & other CNS	125	3.7 (3.0,4.3)	3.9	181	6.3 (5.3, 7.2)	5.8	306	4.8 (4.3, 5.4)	4.8
Breast (Female)	905	25.4 (23.8, 27.1)	25.3	--	--	--	--	--	--
Cervical	82	2.4 (1.9, 2.9)	2.4	--	--	--	--	--	--
Colorectal	647	**17.8**(16.5,19.2)	16.2	665	**26.3**(24.3, 28.4)	23.4	1312	**21.3** (20.1,22.4)	19.3
Esophagus	77	2.1(1.7,2.7)	1.7	292	**10.6** (9.3, 11.8)	7.7	369	**5.9**(5.3,6.5)	4.3
Hodgkin's Lymphoma	9	0.3(0.1,0.5)	0.4	19	0.7 (0.4, 1.1)	0.6	28	0.4(0.3, 0.6)	0.5
Kidney & Renal Pelvis	110	3.1(2.5,3.6)	2.8	132	**5.0**(4.1,5.9)	6.2	242	3.9(3.4,4.4)	4.3
Larynx	19	0.6(0.3,0.9)	0.5	54	2.0 (1.5,2.6)	2.2	73	1.2(0.9,1.5)	1.2
Leukemia	183	5.2(4.4, 5.9)	5.9	266	10.4(9.1,11.7)	10.4	449	7.3 (6.6,7.9)	7.8
Liver	93	2.6(2.1,3.2)	2.8	185	6.8 (5.8, 7.8)	6.4	278	4.5 (3.9,5.0)	4.4
Lung & Bronchus	1523	**44.0** (41.8,46.3)	42.2	1828	**68.6**(65.3,71.8)	73.4	3351	54.1 (52.3,56.0)	55.3
Melanoma of the Skin	74	2.1(1.7,2.7)	2	119	4.2 (3.5, 5.0)	4.3	193	3.0 (2.6,3.5)	3
Multiple Myeloma	105	3.0(2.4,3.5)	2.9	113	4.3 (3.5, 5.1)	4.4	218	3.5 (3.1,4.0)	3.5
Non-Hodgkin's Lymphoma	232	6.5(5.6,7.3)	6.5	275	10.5(9.2,11.8)	10.1	507	8.2 (7.5, 8.9)	8.1
Oral Cavity & Pharynx	63	1.8(1.4,2.3)	1.5	126	4.6(3.8,5.5)	3.8	189	**3.0**(2.6,3.4)	2.5
Ovarian	301	8.6(7.6,9.6)	9.3	--	--	--	--	--	--
Pancreas	348	9.8(8.8,10.8)	9	320	12.0 (10.7,13.4)	12	668	10.8(10.0,11.6)	10.3
Prostate	--	--		658	**29.8** (27.5, 32.1)	26.2	--	--	--
Stomach	87	2.3(1.9,2.9)	2.7	139	5.2 (4.3, 6.1)	5.3	226	3.6 (3.2,4.1)	3.8
Testis	--	--	--	12	0.4 (0.2,0.7)	0.3	--	--	--
Thyroid	20	0.5(0.3,0.8)	0.5	13	0.5 (0.3, 0.8)	0.5	33	0.5 (0.4, 0.7)	0.5
Uterine	134	**3.8**(3.1,4.4)	1.9	--	--	--	--	--	--
Total Cancer Deaths	**4670**	**132.3 (128.5, 136.1)**	**162.8**	**4931**	**191.1 (185.7, 196.6)**	**237.3**	**9601**	**154.7(151.6,157.8)**	**192.4**

Note: Rates are per 100,000 population and age adjustment is to the 2000 U.S. standard population. *Rates are not displayed when there are fewer than 10 cases. -- Specific cancers not found in that gender. **Bold** numbers in this table represent New Hampshire state rates that are significantly different from the SEER (National) rates.

Appendix 2: Glossary of Terms, Definitions and Notes

AGE ADJUSTMENT AND RATES

All rates in this document are age-adjusted to the 2000 U.S. standard population. This allows the comparison of rates among populations having different age distributions by standardizing the age-specific rates in each population to one standard population. Age-adjusted rates refer to the number of events that would be expected per 100,000 persons in a selected population if that population had the same age distribution as a standard population. Age-adjusted rates were calculated using the direct method as follows:

Where,
m = number of age groups
di= number of events in age group i
Pi= population in age group i
Si= proportion of the standard population in age group i
This is a weighted sum of Poisson random variables, with the weights being (Si /pi)

$$\hat{R} = \sum_{i=1}^{m} s_i (d_i/p_i) = \sum_{i=1}^{m} w_i d_i$$

AGE SPECIFIC RATE

The age-specific rate is the number of individuals diagnosed as having cancer per year within a specific age group, divided by the estimated number of individuals of that age living in New Hampshire at the midpoint of the year.

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM

Since 1990, New Hampshire and 49 other states and three territories have tracked risk behaviors using a telephone survey of adults called the Behavioral Risk Factor Surveillance System.

CONFIDENCE INTERVALS (CI)

The standard error can be used to evaluate statistically significant differences between two rates by calculating the confidence interval. If the interval produced for one rate does not overlap the interval for another, the probability that the rates are statistically different is 95% or higher.

The formula used is:
Where,
R=age-adjusted rate of one population
z = 1.96 for 95% confidence limits
SE= standard error as calculated below

$$R + z (SE)$$

A confidence interval is a range of values within which the true rate is expected to fall. If the confidence intervals of two groups (such as New Hampshire and the U.S.) overlap, then any difference between the two rates is not statistically significant. All rates in this report are calculated at a 95 percent confidence level. For example, the age-adjusted New Hampshire male lung cancer incidence rate is 82.1 (95% CI, 78.6-85.6) per 100,000 population. There is a 95 percent probability that the confidence interval contains the true adjusted rate.

DATA COLLECTION

The New Hampshire Cancer Registry is covered by state statue Title X Chapter 141-B under code of administrative rules of Part He-P 304. These rules require physicians and hospitals to report information on all cases of cancer that they diagnose or treat, with the exception of squamous and basal carcinomas of the skin, benign neoplasms except brain, and in situ carcinomas of the cervix or skin. Through interstate agreements, information on New Hampshire residents diagnosed or treated in other states is also included in registry data. The information is not collected directly from patients.

DATA CONFIDENTIALITY

All individuals working with the Registry database are governed by the confidentiality policy implemented under the New Hampshire Rules and Regulations governing the Registry. Release of confidential cancer data for research or other purposes is governed by RSA 141B. The law requires reporting for public health purposes, and does not allow people to opt out of the reporting. However, the Cancer Registry keeps all information that is required under the rules that could possibly be used to identify an individual, confidential. This includes identifying information regarding individual patients, health care providers and health care facilities. The law permits disclosure of certain confidential data to other cancer registries and federal cancer control agencies to collaborate in a national cancer registry and to health researchers for cancer control and prevention research studies. However, strict requirements, including prior approval of the researcher's academic Institutional Review Board for the protection of human subjects, must be met. Public data releases, such as published statistical reports, are carefully designed in order to provide data to the fullest extent possible while still realizing the mandate to protect patient confidentiality.

DATA QUALITY

Data quality is directly related to the completeness and accuracy of the information reported. New Hampshire State Cancer Registry (NHSCR) data tabulated in this report are based on information received and edited by the NHSCR as of January 2006 and reflect at least 95% of the true cancer incidence rate for the state. Delays in reports from out-of-state hospitals and incomplete medical records account for the balance of the cases. The NHSCR follows standard procedures for ensuring the accuracy of data. A comprehensive set of standard national edits are applied to all case reports received by the NHSCR prior to including those cases in the central database. New case reports are then merged with old case reports to ensure that only primary incident tumors are included. The NHSCR tumor registrars contact registrars at reporting institutions to resolve any outstanding edits. In addition to these quality assurance activities for case processing, the NHSCR conducts quarterly case reabstraction reviews to ensure that professional standards for case abstraction are consistently met across all reporting institutions. To ensure complete case reporting, the NHSCR performs quarterly independent audits of pathology and cytology reports at hospitals, free standing labs, and selected out-of-state laboratories performing microscopic reviews for physician offices. In addition, the NHSCR performs death clearance by linking incident cancer cases with vital statistics death certificates and follows up on all deaths with cancer as a diagnosis that were not previously reported to the Cancer Registry.

GRAPHS

Graphs have varying scales depending on the range of the data displayed. Therefore, caution should be exercised when comparing such graphs.

INCIDENCE

Incidence refers to the number or rate of newly diagnosed cases of cancer. Rates are age-adjusted to 2000 U.S. standard population and exclude basal cell and squamous skin cancers and in situ (malignant but non-invasive) carcinomas except urinary bladder. Some of the rates also include age-specific rates. Rates based on 10 or fewer cases are not calculated, as they are not reliable.

MORTALITY

Mortality refers to the number or rate of deaths from cancer. Rates are age-adjusted to the 2000 U.S. standard population. Some of the rates also include age-specific rates. Rates based on 10 or fewer cases are not calculated. Cancer mortality site groupings are defined by the National Center for Health Statistics and are based on ICD-10 classification. Cause of death before 1999 was coded according to ICD-9; beginning with deaths in 1999, ICD-10 was used.

NEW HAMPSHIRE / U.S. COMPARISON

U.S. incidence and mortality rates for whites, rather than those for all races, are used for comparison because racial minority groups were estimated to make up around four percent of the total New Hampshire population compared with the total U.S. non-white population of 25 percent in 2005 as reported by the American Community Survey. Nationwide, whites have a higher risk compared to people of other races for female breast, melanoma and bladder cancer incidence. Whites have a lower risk compared to other races for prostate, colorectal and cervical cancer. The much smaller populations of New Hampshire residents of other races may have very different risks of these cancers. Combining data over many years will be required to determine cancer rates for these groups.

NEW HAMPSHIRE CANCER REGISTRY

The NHSCR is a central bank of information on all cancer cases diagnosed or treated in NH since January 1, 1987. The registry enables the state to collect information on new cases (incidence) of cancer. Previously, the state only kept records on deaths from cancer. The information maintained by the registry allows the Health Department to study cancer trends and improve cancer education and prevention efforts.

NEW HAMPSHIRE DIVISION OF VITAL RECORDS

In New Hampshire, towns are required to file certified copies of death certificates with the Division of Vital Records and Administration under Department of State for all deaths occurring in their jurisdictions. They are responsible for maintaining the vital statistics system, and they provide death data to the Cancer Registry.

POPULATION WEIGHTS

State and county population estimates for New Hampshire data are provided by Health Statistics and Data Management Section (HSDM), Bureau of Disease Control and Health Statistics (BDCHS), Division of Public Health Services (DPHS), and New Hampshire Department of Health and Human Services (DHHS). Population data are based on U.S. Census data apportioned to towns using New Hampshire Office of Economic Planning (OEP) estimates and projections, and further apportioned to age groups and gender using Claritas Corporation estimates and projections to the town, age group, and gender levels. Data adds up to U.S. Census data at the county level between 1990 and 2005 but do not add to OEP or Claritas data at smaller geographic levels. Please contact Health Statistics for more information on methodology. For comparison purposes, the 2000 U.S. standard population weights used in calculating age-adjusted rates in this report are shown on the next page.

Age Group	2000 weight
0-4	0.0691
5-9	0.0725
10-14	0.0730
15-19	0.0722
20-24	0.0665
25-29	0.0645
30-34	0.0710
35-39	0.0808
40-44	0.0819
45-49	0.0721
50-54	0.0627
55-59	0.0485
60-64	0.0388
65-69	0.0343
70-74	0.0318
75-79	0.0270
80-84	0.0178
85 +	0.0155
All Ages	1.0000

RATE COMPARISONS

To determine if there is a statistically significant difference between cancer incidences in New Hampshire compared to the U.S., the New Hampshire rate is compared to the U.S. SEER rate. If the SEER rate falls within the 95% confidence interval for the state rate, it suggests that the rates are not statistically different from one another. For example, the New Hampshire female breast cancer mortality rate is 24.1 (20.5, 27.6) per 100,000 populations, and the SEER rate is 25.3. Since the SEER rate is found within the confidence interval (20.5, 27.6) of the New Hampshire rate, no statistically significant difference exists between the two rates.

RELIABILITY OF RATES

Several important notes should be kept in mind when examining rates. Rates based on small numbers of events (e.g. less than 10 events) can show considerable variation. This limits the usefulness of these rates in comparisons and estimations of future occurrences. Unadjusted rates are not reliable for drawing definitive conclusions when making comparisons because they do not take factors such as age distribution among populations into account. Age-adjusted rates offer a more refined measurement when comparing events over geographic areas or time periods. When a difference in rates appears to be significant, care should be exercised in attributing the difference to any particular factor or set of factors. Many variables may influence rate differences. Interpretation of a rate difference requires substantial data and exacting analysis.

SMALL NUMBERS

With very small counts, it is often difficult to distinguish between random fluctuation and meaningful change. According to the National Center for Health Statistics, considerable caution must be observed in interpreting the data when the number of events is small (perhaps less than 100) and the probability of such an event is small (such as being diagnosed with a rare disease). The limited number of years of data in the registry and the small population of the state require policies and procedures to prevent the unintentional identification of individuals. To protect patient privacy, county-specific data are published only for commonly diagnosed cancer sites. Data on rare cancer sites, race, and other variables that could potentially identify individuals are not published.

STANDARD ERRORS

The standard errors (S.E.) of the rates were calculated using the following formula:

Where,
w_j = fraction of the standard population in age category
n_j = number of cases in that age category
p = person-years denominator

$$S.E. = \sqrt{\frac{w_j^2 n_j}{p_j^2}}$$

U.S. INCIDENCE RATES

The National Cancer Institute funds a network of Surveillance, Epidemiology and End Results (SEER) registries. The SEER Program currently collects and publishes cancer incidence and survival data from 14 population-based cancer registries and three supplemental registries covering approximately 26 percent of the U.S. population. These rates are used to estimate U.S. cancer incidence rates. U.S. incidence is based on the SEER 9 Registries' white rates.

U.S. MORTALITY RATES

The U.S. Public Use Database Vital Statistical System maintains U.S. mortality rates. Based on the U.S. Public Use Database Vital Statistical System, U.S. cancer mortality rates are 2000-2003 white population rates. The National Cancer Institute funds a network of SEER registries. The SEER Program currently collects and publishes cancer incidence and survival data from 14 population-based cancer registries and three supplemental registries covering approximately 26 percent of the U.S. population. Rates presented in this report are for the U.S. white population and were obtained using CDC Wonder and *SEER Cancer Statistics Review, 1975-2003*.

Appendix 3: References, Resources and Contact Information

REFERENCES

• American Cancer Society: Cancer Reference Information, http://www.cancer.org .

• American Community Survey 2005: http://www.census.gov/acs/www/index.html

• Cancer Clusters Fact Sheet, National Institutes of Health, http://cis.nci.nih.gov/fact/3_58.htm .

• Cancer Facts & Figures - 2005, American Cancer Society, Inc., Atlanta, GA, 2005. http://www.cancer.org/downloads/STT/CAFF2005f4PWSecured.pdf

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• Cancer Topics, National Institutes of Health, National Cancer Institute, http://cancernet.nci.nih.gov/cancertopics

• Cancer Trends progress Report -2005 Update http://progressreport.cancer.gov/highlights.asp

• Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2004-2005. http://www.cdc.gov/brfss/

• Centers for Disease Control and Prevention. National Breast and Cervical Cancer Early Detection Program. http://www.cdc.gov/cancer/nbccedp/index.htm

• Centers for Disease Control and Prevention. Surgeon General's 2004 Report: The Health Consequences of Smoking: http://www.cdc.gov/tobacco/sgr/sgr_2004/index.htm

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•NCI's Office of Cancer Survivorship. Survivor Fact Sheets: http://dccps.nci.nih.gov/ocs/ocs_factsheet.pdf

• New Hampshire Population Estimates, New Hampshire Department of Health and Human Services, 2005.

• New Hampshire State Vital Records Administration, 1999-2003.

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• Schottenfeld, D, Fraumeni, Jr., J, et al. Cancer Epidemiology and Prevention, Second Edition. Oxford University Press, 1996.

• Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 9 Regs Public-Use, Nov 2004 Sub (1973-2003), National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2006, based on the November 2005 submission.

• Surveillance Research Program, National Cancer Institute SEER*Stat software (www.seer.cancer.gov/seerstat) version 6.2.

• United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Office of Analysis and Epidemiology (OAE), Compressed Mortality File (CMF) compiled from CMF 1999-2003, Series 20, No. 2I 2006 on CDC WONDER On-line Database.

RESOURCES
UNITED STATES
• American Cancer Society, www.cancer.org ,
• American Society of Clinical Oncology (ASCO) and People Living With Cancer
www.oncology.com
• Centers for Disease Control and Prevention, www.cdc.gov/cancer
• Harvard Center for Cancer Prevention Your Cancer Risk, www.yourdiseaserisk.harvard.edu
• National Cancer Institute, www.cancer.gov/cancerinformation .
• National Center for Health Statistics, www.cdc.gov/nchswww/default.htm
• National Program of Cancer Registries, www.cdc.gov/cancer/npcr/index.htm
• North American Association of Central Cancer Registries, www.naaccr.org
• State Cancer Profiles, www.statecancerprofiles.cancer.gov
• Surveillance Epidemiology and End Results (SEER) Program, www.seer.cancer.gov
• United States Cancer Statistics: 2002 Incidence, www.cdc.gov/cancer/npcr/uscs/index.htm
• U.S. Department of Health and Human Services Agency for Healthcare Research and Quality
www.preventiveservices.ahrq.gov

NEW HAMPSHIRE
• New Hampshire Department of Health & Human Services, Health Statistics and Data Management.
http://www.dhhs.state.nh.us/DHHS/HSDM/default.htm
• New Hampshire State Cancer Registry. http://www.dartmouth.edu/~nhscr/
• New Hampshire Vital Records Administration http://www.sos.nh.gov/vitalrecords/

BREAST CANCER
• National Cancer Institute - Breast Cancer Home Page,
http://www.cancer.gov/cancertopics/types/breast
• New Hampshire Department of Health & Human Services –Chronic Disease Control Prevention &
Control–Breast and Cervical Cancer Program: Breast Cancer Screening,
http://www.dhhs.state.nh.us/DHHS/CDPC/bccp.htm

COLORECTAL CANCER
• National Cancer Institute - Colon and Rectal Cancer Home Page,
http://www.cancer.gov/cancertopics/types/colon-and-rectal/

LUNG CANCER
•National Cancer Institute - Lung Cancer Home Page,
http://www.cancer.gov/cancertopics/types/lung/

MELANOMA
• National Cancer Institute - Melanoma Home Page,
http://www.cancer.gov/cancertopics/types/melanoma/

NON-HODGKIN LYMPHOMA
• Leukemia and Lymphoma Society, www.leukemia-lymphoma.org
• National Cancer Institute - Lymphoma Home Page,
http://www.cancer.gov/cancertopics/types/non-hodgkins-lymphoma/

OVARIAN CANCER
• National Cancer Institute - Ovarian Cancer Home Page,
http://www.cancer.gov/cancertopics/types/ovarian/
• Ovarian Cancer Control Initiative. Centers for Disease Control and Prevention
 http://www.cdc.gov/cancer/ovarian/

PROSTATE CANCER
• Centers for Disease Control and Prevention Prostate Cancer Screening: A Decision Guide
www.cdc.gov/cancer/prostate/decisionguide/index.htm
• National Cancer Institute Prostate Cancer Home Page,
www.cancer.gov/cancer_information/cancer_type/prostate/

HOW TO REQUEST COPIES OF THIS REPORT:

New Hampshire Department of Health & Human Services
Bureau of Disease Control and Health Statistics
Health Statistics and Data Management
29 Hazen Drive
Concord NH 03301
Phone: (800) 852-3345 ext 4477 or 603-271-4477
E-mail: healthstats@dhhs.state.nh.us
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