

New Hampshire Cancer Burden Update 2011

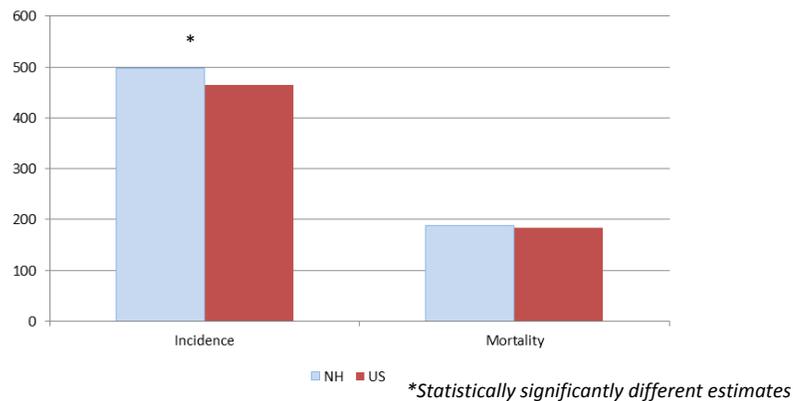


Reaching the goals of

New Hampshire Comprehensive Cancer Collaboration

Cancer is the leading cause of death for both males and females in New Hampshire (NH), claiming 2,609 lives (25.3% of all deaths) in 2007 (1). All cancer sites combined, the New Hampshire invasive cancer age-adjusted incidence rate for 2003-2007 was 497.8 (95% CI: 492.5-503.1) per 100,000 population, compared with the United States (US) rate of 464.5 (95% CI: 464.1-464.8) per 100,000 population. The overall New Hampshire age-adjusted mortality rate was 187.8 (95% CI: 184.5-191.1) compared with 183.8 (95% CI: 183.6-184.0) in the US (2). The incidence rate for all cancer sites combined was statistically significantly higher in New Hampshire when compared with the United States in 2003-2007. The mortality rate was not different.

Figure 1. All cancer sites combined, age-adjusted incidence and mortality rates, New Hampshire and United States, 2003-2007.



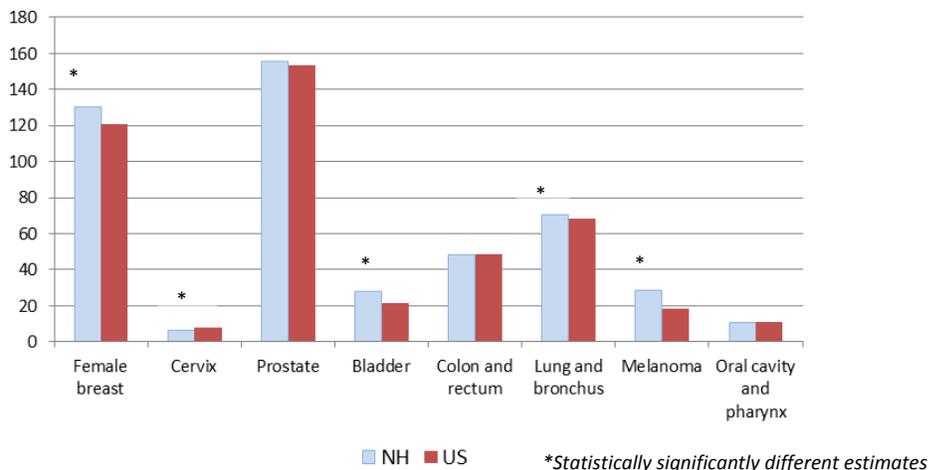
Considering selected cancer sites, Table 1 presents crude and age-adjusted incidence and mortality rates for 2003-2007 (2). Crude rates represent the true burden of the disease in a given population; nevertheless, with respect to different age structure of different populations, the age-adjusted rates are used for comparison. Statistically significantly different estimates (comparing NH and US) are marked with *.

Table 1. Incidence and mortality rates for selected cancer sites, New Hampshire and United States, 2003-2007.

Cancer Site ¹	New Hampshire (All races)		United States (All races)	
	Crude Rate 95% CI	Age-adjusted rate 95% CI	Crude Rate 95% CI	Age-adjusted rate 95% CI
Cancer of the female breast Incidence rate	148.0 143.9-152.3	130.1* 126.5-133.9	132.1 131.9-132.4	120.6 120.4-120.9
Cancer of the female breast Mortality rate	27.1 25.3-28.9	23.1 21.6-24.7	27.3 27.2-27.4	24.0 23.9-24.1
Cancer of the cervix Incidence rate	6.6 5.8-7.6	6.3 5.5-7.2	8.3 8.2-8.4	8.1* 8.0-8.2
Cancer of the cervix Mortality rate	2.6 2.1-3.2	2.3 1.8-2.8	2.6 2.6-2.7	2.4 2.4-2.5
Cancer of the prostate Incidence rate	154.8 150.6-159.2	155.7 151.3-160.2	143.2 143.0-143.5	153.5 153.2-153.8
Cancer of the prostate Mortality rate	20.5 19.0-22.2	26.2 24.3-28.4	19.9 19.8-20.0	24.7 24.6-24.9
In situ and invasive cancer of the bladder - Incidence rate	28.9 27.6-30.2	27.8* 26.6-29.1	21.9 21.8-21.9	21.4 21.3-21.5
In situ and invasive cancer of the bladder - Mortality rate	5.0 4.5-5.6	4.9 4.4-5.5	4.5 4.4-4.5	4.3 4.3-4.4
Cancer of the colon and rectum Incidence rate	51.1 49.4-52.9	48.8 47.1-50.5	50.3 50.1-50.4	48.8 48.7-48.9
Cancer of the colon and rectum Mortality rate	18.2 17.2-19.3	17.5 16.5-18.5	18.2 18.1-18.3	17.6 17.5-17.7
Cancer of the lung and bronchus Incidence rate	73.9 71.8-76.0	70.7* 68.7-72.7	69.5 69.3-69.6	68.0 67.9-68.2
Cancer of the lung and bronchus Mortality rate	55.4 53.6-57.3	53.5 51.7-55.2	53.6 53.5-53.7	52.5 52.4-52.6
Invasive melanoma Incidence rate	30.3 29.0-31.7	28.7* 27.4-30.0	18.7 18.7-18.8	18.3 18.2-18.4
Invasive melanoma Mortality rate	3.3 2.9-3.8	3.1 2.7-3.5	2.8 2.7-2.8	2.7 2.7-2.7
Invasive cancer of the oral cavity and pharynx Incidence rate	11.5 10.7-12.4	10.5 9.8-11.3	11.1 11.0-11.2	10.7 10.6-10.7
Invasive cancer of the oral cavity and pharynx Incidence rate	2.8 2.5-3.3	2.7 2.3-3.1	2.6 2.6-2.7	2.5 2.5-2.6

¹ Definitions used are those of chronic disease indicators (2).

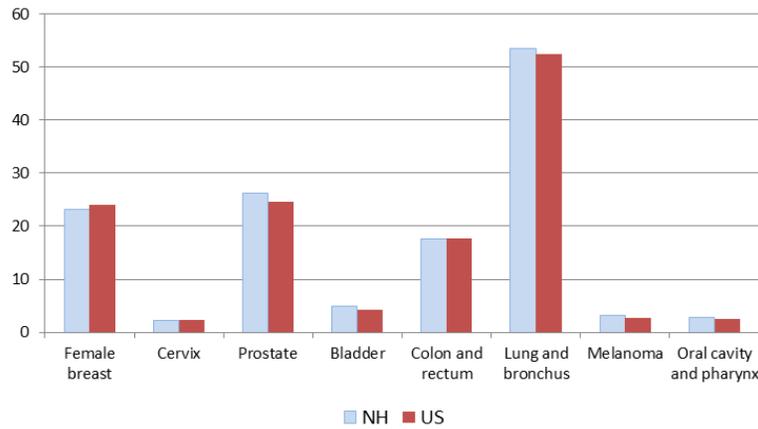
Figure 2: Age-adjusted incidence rates for selected cancer sites, New Hampshire and United States, 2003-2007.



In comparison with the United States, New Hampshire experienced a higher incidence rate of female breast cancer, invasive and in situ cancer of the bladder, invasive melanoma, and cancer of the lung and bronchus in 2003-2007. However, New Hampshire had a lower incidence of cervical cancer during this time period (2003-2007). Given that the incidence of breast cancer is highest among white women, and that the population of New Hampshire is predominantly white, comparing all races in New Hampshire to all races in the United States may not be the best approach. Nevertheless, the age-adjusted estimates for white race only provide similar results to the New Hampshire rate of 130.2 per 100,000 population and the rate of 121.7 per 100,000 in the United States. Similarly, comparing individuals of white race only, the incidence rate of melanoma in New Hampshire was 28.0 per 100,000 population compared with 20.4 in the United States (3).

Though the incidence rates for selected cancer types are higher, mortality rates, however, show that New Hampshire rates are comparable to those seen in the United States.

Figure 3: Age-adjusted mortality rates of selected cancer sites, New Hampshire and United States, 2003-2007.



The differences seen between the incidence and mortality rates can be attributed, in part, to improved medical care and effective population-based screenings. Population-based screening for cancer can detect cancer at an early stage before symptoms appear (4). When cancer is found early, the treatment may be more effective and cancer may be easier to cure. The benefits of breast, cervical and colorectal cancer screening are well recognized. The table below presents the screening proportions among New Hampshire adults as measured by the New Hampshire Behavioral Risk Factor Surveillance System (NH BRFSS) (5). Questions related to screening for cancer are asked by the survey every other year. The most recent New Hampshire prevalence data are included in the Table 2, along with the median screening prevalence among United States adults. Statistically significantly different estimates (comparing NH and US) are marked with*.

Table 2. Percentage of adults who had recommended cancer screening, New Hampshire 2006, 2008, 2010 and United States 2010.

Population-based Cancer Screening	New Hampshire Prevalence % (95% CI)			US Prevalence Median% ²
	2006	2008	2010	2010
Mammography use among women aged >= 40 years, within past two years	79.0 77.2-80.8	83.0 81.5-84.5	80.4* 78.7-82.2	75.4%
Cervical cancer (pap smear) screening among women aged >= 18 years; within past three ys.	88.0 86.2-89.8	86.1 84.4-87.9	83.6* 81.5-85.8	80.9%
Fecal occult blood test among adults aged >= 50 years; within past two years	30.5 28.6-32.4	23.3 21.8-24.9	17.4 16.0-18.8	17%
Sigmoidoscopy/colonoscopy among adults >= 50 years; ever	63.6 61.7-65.5	71.7 70.0-73.4	75.2* 73.5-76.8	64.7%

Compared with the United States, significantly more New Hampshire adults reported having recommended cancer screening in 2010. Nevertheless, the cervical cancer screening prevalence in New Hampshire significantly decreased between 2006 and 2010.

Figure 4: Percentage of adults in selected age categories reporting they had recommended cancer screening, New Hampshire, 2006-2010.

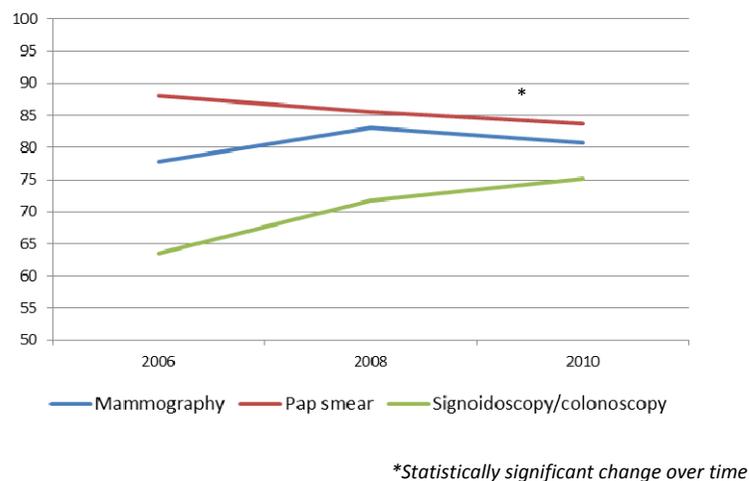
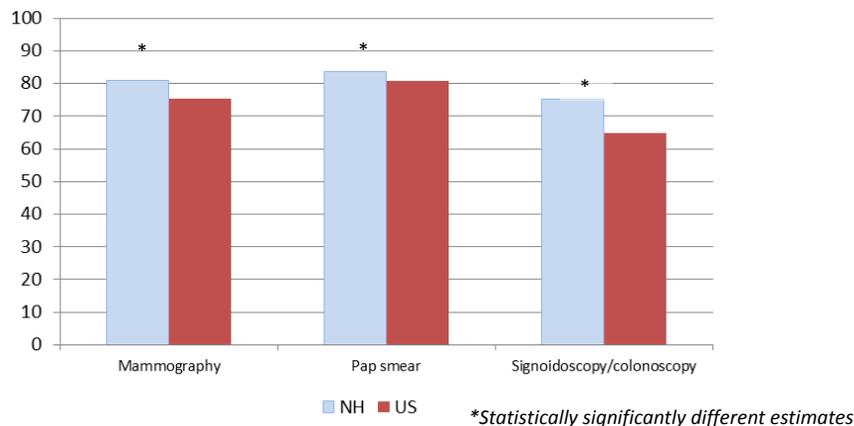


Figure 5. Percentage of adults in selected age categories reporting they had recommended cancer screening, New Hampshire and United States, 2006-2010.



In addition to declining mortality rates, the effectiveness of population-based screening can be documented by the proportion of cancer diagnosed at the late stage. The table below presents early/late stage proportions of invasive cancer for years 1998-2002 and 2003-2007 (6).

Table 3. Invasive cancer by stage, New Hampshire 1998-2002 and 2003-2007.

Cancer Site	1998-2002			2003-2007		
	Early	Late	Unknown	Early	Late	Unknown
Female Breast	65.1%	30.8%	4.1%	66.0%	31.5%	2.5%
Cervix	46.6%	47.0%	6.4%	54.3%	40.6%	5.0%
Colon and Rectum	34.4%	56.9%	8.7%	41.5%	50.4%	8.1%
Melanoma	81.6%	8.2%	10.3%	71.3%	10.3%	18.4%

Early stage includes localized cancers; late stage includes regional and distant cancers. In situ cancer is not included.

The proportion of invasive cancer diagnosed at the late stage declined for cancer of the cervix, colon, and rectum; increasing somewhat for female breast and melanoma.

In conclusion, the incidence for some selected cancer sites is higher in New Hampshire when compared with the United States. However, the mortality is comparable, demonstrating the benefits of population-based screenings, early detection, and effective therapy. The declining reports of cervical cancer screening among New Hampshire women warrant further attention.

References:

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- 2) Centers for Disease Control and Prevention. Chronic Disease Indicators. Available from: <http://apps.nccd.cdc.gov/cdi/>. Accessed on 10/03/2011.
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- 4) Centers for Disease Control and Prevention. MMWR weekly reports. Surveillance of Screening-Detected Cancers (Colon and Rectum, Breast, and Cervix) – United States, 2004-2006. November 26, 2010; Vol 59, No. SS-9.
- 5) Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance Survey. Prevalence and Trends. Available from: <http://apps.nccd.cdc.gov/brfss/index.asp>. Accessed on 10/05/2011.
- 6) Health Statistics and Data Management Section (HSDM), Bureau of Public Health Statistics and Informatics (BPHSI), Division of Public Health Services (DPHS), New Hampshire Department of Health and Human Services (NH DHHS), and the New Hampshire State Cancer Registry (NHSCR), [1998-2008]. Invasive Cancer is classified in accordance with the International Classification of Disease-Oncology-Third Edition (ICD-O-3) and SEER staging as defined in 2000.
- 7) New Hampshire Comprehensive Control Plan 2010-2014. Available from: <http://www.nhcancerplan.org/>. Accessed on 11/17/2011.

New Hampshire Comprehensive Cancer Control Plan (7) Objectives – Update

Objective Number	Objective Description	Baseline (based on year)	Progress (based on year)
1.	Decrease proportion of youths reporting first use of cigarettes before the age of 13	11.5% (2007)	10.4% (2009)
2.	Decrease Adult smoking prevalence Adult smokeless tobacco use prevalence Adult cigar use prevalence	17.1% (2008) 1.9% (2008) 5.9% (2008)	16.9% (2010) 2.4% (2010) 5.7% (2011)
3.	Increase proportion of adults free from exposure to secondhand smoke at: Workplace Home Car	81.9% (2006) 79.6% (2006) 77.8% (2002)	93.6% (2011) 84.8% (2011) 76.9% (2011)
4.	Increase proportion of youths free from exposure to secondhand smoke: Indoors In a car	56.1% (2007) 75.0% (2007)	Not available
5.	Reduce the average annual increase in overweight and obesity prevalence among adults	+1.5% (2007/2008) -0.2% (2007/2008)	+1.1% (2009/2010) -0.8% (2009/2010)
6.	Reduce the average biennial increase in overweight and obesity prevalence among youth	+1.2% (2005/2007) +0.3% (2005/2007)	-1.1% (2007/2009) +0.7% (2007/2009)
7.	Increase proportion of adults who engage in recommended physical activity: Moderate or Vigorous PA Vigorous PA	54.0% (2007) 31.2% (2007)	53.4% (2009) 32.9% (2009)
8.	Increase proportion of youth who are physically active at least 60 minutes per day on five or more of the past seven days	53.1% (2007)	54.7% (2009)
9.	Decrease proportion of youth that watch TV three or more hours daily	25.1% (2007)	23.0% (2009)
10.	Increase proportion of adults eating fruits and vegetables five or more times per day	28.5% (2007)	Question no longer on BRFSS
11.	Increase proportion of youth eating fruit and vegetables five or more times per day	22.3% (2007)	Question no longer on YRBS
12.	Reduce proportion of youth drinking a sugar sweetened beverage one or more times a day	24.2% (2007)	22.1% (2009)
13.	Increase proportion of mothers who exclusively breastfeed at: Three months Six months	38.0% (2005) 11.6% (2005)	47.2% (2007) 18.8% (2007)
14.	Reduce proportion of adults who report sunburn in the past year	42.6% (2004)	Not available

15.	Strengthen state regulations related to youth indoor tanning/Create a baseline measure of teen indoor tanning	-	-
16.	Promote state-of-the-art diagnostic procedures for melanoma in NH	-	-
17.	Increase proportion of adults 50+ with recommended colorectal cancer screening	67.8% (2006)	75.2% (2010)
18.	Decrease proportion of distant and regional staged colorectal cancer ³	45.0% (2002-2006)	43.6% (2004-2008)
19.	Increase proportion of women 40+ with recommended breast cancer screening Lowest income category Lowest education category	66.4% (2008) 66.8% (2008)	68.9% (2010) 74.4% (2010)
20.	Increase proportion of women between ages 18+ with Pap test within past three years	86.1% (2008)	83.6% (2010)
21.	Increase proportion of women 18+ with Pap test within past three years– Lowest income category	66.8% (2008)	73.4 % (2010)
22.	Increase proportion of men age 40+ who discussed prostate cancer screening with their provider	68.9% (2008)	Not available
23.	Disseminate information about survivorship resources to 50% targeted health care providers	-	-
24.	Increase use of survivorship care plans by 50% among providers working with cancer survivors	-	-
25.	Disseminate consumer-oriented, clinical-trial information to general public	-	-
26.	Increase provider awareness of clinical trials	-	-
27.	Increase participation of hospitals providing palliative-care services to cancer survivors	75.0% (2008)	Not available
28.	Established baseline of access to information about palliative care	-	-
29.	Increase proportion of NH cancer-care settings that have adopted evidence-based assessment and symptom management by 5%	-	-
30.	Identify emerging issues within the continuum of cancer annually	-	-
31.	Develop material for each emerging issue to translate the information and make it accessible to targeted audiences	-	-
32.	Each quarter, disseminate information about emerging issues	-	-
33.	Monitor identified emerging issues until scientific consensus reached	-	-