

Cancer Statistics in Nova Scotia

An Overview 1995-1999



Cancer touches all people. Its effects are pervasive. The need for its control is critical. The Surveillance and Epidemiology Unit of Cancer Care Nova Scotia – Department of Health – compiles and disseminates information on the occurrence of cancer in this province for the purposes of detailing the success of cancer treatment methods and preventive measures and to aid the study of causative agents and risk factors associated with the disease.

CANCER PROFILE

- More than 22,000 Nova Scotians were diagnosed with invasive cancer between 1995-1999, representing approximately 5,000 new cases per year (see Table 1).
- Prostate, lung and colorectal cancers accounted for 57% of all new cancer cases for males.
- Breast, colorectal and lung cancers accounted for 56% of all new cancer cases for females.
- Prostate cancer is the leading type of cancer among males, affecting nearly 600 men in the province annually.
- Females are most often diagnosed with breast cancer, with the disease affecting 600 women in the province annually.
- Two-thirds of all new invasive cancers in Nova Scotians are diagnosed after the age of sixty years.

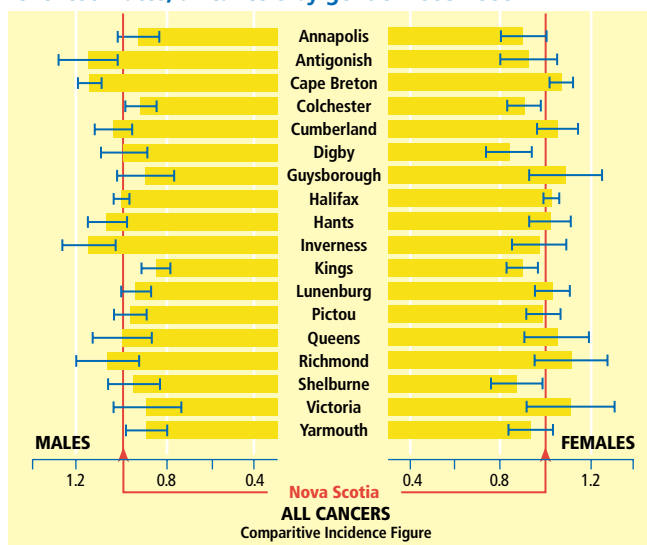


Patient and staff members from the Capital Health Cancer Care Program.

GEOGRAPHIC PATTERNS

- In Nova Scotia, half of all people diagnosed with cancer live in Halifax and Cape Breton Counties where most of the population resides.
- Cape Breton County showed cancer rates (all cancer sites combined) higher than the provincial average that were consistent in both genders¹: males demonstrated elevated incidence of lung, prostate, colorectal and "other cancers" while females demonstrated elevated incidence of lung cancer (see Figure 1).
- Kings and Colchester Counties² showed cancer rates (all cancer sites combined) lower than the provincial average that were consistent in both genders: in Kings County, males demonstrated reduced incidence of prostate cancer and females demonstrated reduced incidence of lung cancer; in Colchester County, males demonstrated reduced incidence of "other cancers" and females demonstrated reduced incidence of breast and lung cancers.

Figure 1. Comparative incidence figures (CIF) based on age-standardised incidence rates, comparing county and provincial level estimates, all cancers by gender 1995-1999.



The rate of cancer in a given county varies significantly from that of the province if the 95% confidence interval (—) of the CIF value (■) does not cross the red reference line (i.e., Nova Scotia estimate).

1 Where males showed stronger evidence of elevated cancer rates than females.
 2 Where females showed stronger evidence of reduced cancer rates than males.

Table 1. Incidence counts¹ and rates of invasive cancer, Nova Scotia 1995-1999.

TUMOUR SITE	AGE AT DIAGNOSIS						1995 - 1999			1999 ²		
	0-29	30-49	50-59	60-69	70-79	80+	INCIDENCE Total	INCIDENCE (%)	RATE ³⁻⁴ per 100,000	INCIDENCE Total	INCIDENCE (%)	RATE ³⁻⁴ per 100,000
MALES												
ORAL (buccal cavity and pharynx)		58	70	89	81	38	340	(2.9)	14.4	75	(2.9)	15.6
DIGESTIVE ORGANS												
Esophagus		10	33	48	40	16	147	(1.3)	6.2	39	(1.5)	8.0
Stomach		18	47	81	96	63	305	(2.6)	13.2	69	(2.7)	14.5
Colon and Rectum (colorectal)		94	218	436	545	337	1,631	(13.9)	70.9	334	(12.9)	70.5
Pancreas		18	35	66	85	45	249	(2.1)	10.8	54	(2.1)	11.4
RESPIRATORY SYSTEMS												
Larynx		9	26	64	51	14	164	(1.4)	7.1	25	(1.0)	5.3
Lung, Trachea and Bronchus		91	316	695	812	319	2,234	(19.0)	96.7	501	(19.4)	106.0
SKIN ⁵	11	87	71	96	83	40	388	(3.3)	16.6	105	(4.1)	21.7
GENITAL ORGANS												
Prostate		30	307	911	1,091	499	2,838	(24.2)	124.8	658	(25.4)	140.2
Testis	45	61	10				118	(1.0)	5.3	24	(0.9)	5.8
URINARY ORGANS												
Bladder	5	39	110	220	259	174	807	(6.9)	35.3	187	(7.2)	39.6
Kidney, Ureter and Other Urinary		67	82	93	128	45	419	(3.6)	17.6	88	(3.4)	18.4
BRAIN	25	55	21	44	40	12	197	(1.7)	8.5	36	(1.4)	7.9
THYROID		16	7	11			44	(0.4)	1.9	11	(0.4)	2.3
LEUKEMIA	32	39	36	56	58	40	261	(2.2)	11.4	65	(2.5)	13.9
OTHER BLOOD AND LYMPH TISSUE												
Non-Hodgkin's Lymphoma	17	104	80	99	86	61	447	(3.8)	19.1	101	(3.9)	21.4
Hodgkin's Lymphoma	35	14	6		6		64	(0.5)	2.9	13	(0.5)	2.6
OTHER CANCERS	42	108	145	253	339	199	1,086	(9.3)	47.3	204	(7.9)	42.9
ALL CANCERS	225	918	1,620	3,266	3,804	1,906	11,739	(100.0)	510.0	2,589	(100.0)	548.1
FEMALES												
ORAL (buccal cavity and pharynx)		8	22	31	45	27	135	(1.2)	4.7	26	(1.1)	4.3
DIGESTIVE ORGANS												
Esophagus		6	5	11	14	19	55	(0.5)	1.8	9	(0.4)	1.4
Stomach		13	18	30	63	50	176	(1.6)	5.8	31	(1.3)	4.8
Colon and Rectum (colorectal)		117	208	308	493	443	1,571	(14.5)	51.2	315	(13.6)	50.0
Pancreas		16	29	62	97	76	281	(2.6)	9.2	70	(3.0)	11.1
RESPIRATORY SYSTEMS												
Larynx			8	14	9		38	(0.4)	1.4	5	(0.2)	1.0
Lung, Trachea and Bronchus		114	232	399	466	211	1,425	(13.1)	49.8	313	(13.5)	52.6
SKIN ⁵	20	121	60	58	66	30	355	(3.3)	13.1	100	(4.3)	8.0
BREAST	5	686	668	676	671	391	3,097	(28.6)	110.0	654	(28.2)	112.0
GENITAL ORGANS												
Cervix	11	139	36	39	31	11	267	(2.5)	10.5	59	(2.5)	11.7
Body of Uterus		58	109	141	143	56	509	(4.7)	18.1	112	(4.8)	19.2
Ovary	14	105	70	96	84	61	430	(4.0)	15.6	92	(4.0)	16.1
URINARY ORGANS												
Bladder		19	44	54	105	81	305	(2.8)	9.9	69	(3.0)	10.7
Kidney, Ureter and Other Urinary		30	56	59	86	39	273	(2.5)	9.5	68	(2.9)	11.3
BRAIN	24	30	20	27	31	27	159	(1.5)	5.9	29	(1.2)	5.1
THYROID	20	54	29	21	17	9	150	(1.4)	5.9	34	(1.5)	6.7
LEUKEMIA	37	27	22	33	43	46	208	(1.9)	7.5	37	(1.6)	6.4
OTHER BLOOD AND LYMPH TISSUE												
Non-Hodgkin's Lymphoma	14	57	65	88	97	57	378	(3.5)	13.5	80	(3.4)	14.1
Hodgkin's Lymphoma	18	22		8			57	(0.5)	2.4	11	(0.5)	2.6
OTHER CANCERS	19	96	111	182	285	283	976	(9.0)	31.9	207	(8.9)	32.5
ALL CANCERS	199	1,722	1,815	2,337	2,848	1,924	10,845	(100.0)	377.7	2,321	(100.0)	391.6

1 Age-specific/site-specific counts < 5 are not presented to ensure confidentiality.

2 Most recent, complete year of data available.

3 Rates are standardised to the age distribution of the 1991 Canadian population.

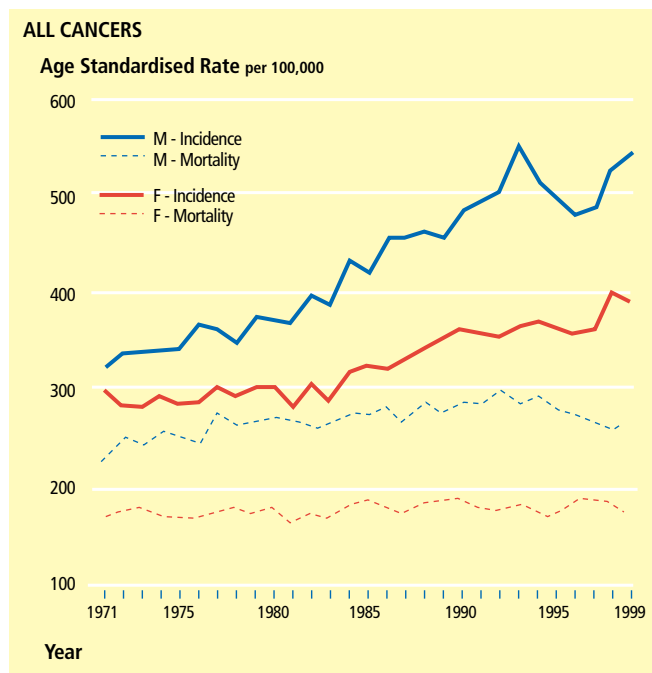
4 The 95% confidence interval (range within which a value is expected to fall with a given probability) is available upon request.

5 Excludes basal and squamous cell skin cancers.

TIME TRENDS

- Cancer incidence and mortality rates³ measured between 1971-1999 were consistently higher for males than females, a pattern associated with the dominance of lung and prostate cancers in males (see Figure 2).
- Cancer incidence has increased at an average annual rate of 1.2% among males and 1.4% among females since 1984. These increases reflect rising rates of breast and lung cancers among females and prostate cancer among males.
- Cancer-related mortality rates were stable despite the continued increase in cancer incidence during the period, 1984-1999. Similar patterns were observed across Canada and have been attributed to lifestyle changes, early detection, improved therapy and interventions, education and supportive care.
- Age-standardised incidence rates (all cancer sites combined) have been consistently high in Nova Scotia relative to other Canadian provinces, over the past 15 years.

Figure 2. Trends in age-standardised incidence and mortality rates of cancer (all cancer sites), males (M) and females (F), Nova Scotia 1971-1999.

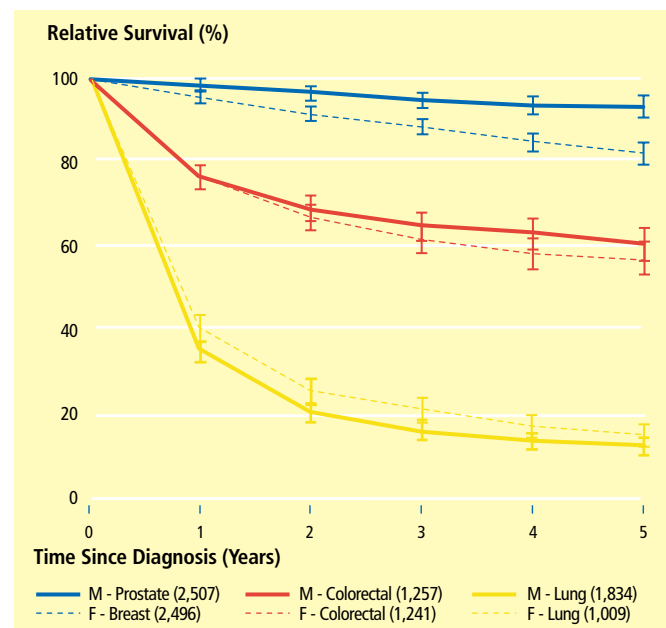


3 Rates standardised to the age distribution of the 1991 Canadian population.

CANCER SURVIVAL

- The survival of cancer patients is influenced by the type of cancer, age at diagnosis, gender, socio-economic status, disease extent, tumour development, disease location, presence of co-morbidity, availability of cancer treatments and supportive care, diagnostic techniques, prior health and other unknown factors.
- Five-year relative survival rates were highest for patients diagnosed with prostate (93%) or breast cancer (82%). Survival rates were low for colorectal cancer (61% in males, 57% in females) and lower still for lung cancer (13% in males, 15% in females) – see Figure 3.
- Irrespective of cancer type, survival rates were higher for patients diagnosed with local (confined to the organ of origin) as opposed to distant (spread to remote organs) disease.
- In Nova Scotia, age at diagnosis did not strongly influence the five-year survival of colorectal or lung cancer patients. However, young males (aged 20-54) diagnosed with prostate cancer and young females (aged 15-39) diagnosed with breast cancer, had lower five-year relative survival rates.

Figure 3. Five-year relative survival for common tumour sites, males (M) and females (F), Nova Scotia 1992-1996.



The total number of cases retained for analysis appears in parenthesis and a 95% confidence interval (I—I) is presented for each estimate.

Table 2. Projected new cases and deaths for selected tumour sites, Nova Scotia¹.

SELECTED TUMOUR SITE	NEW CASES ²						DEATHS ²					
	2005			2010			2005			2010		
	Males	Females	TOTAL	Males	Females	TOTAL	Males	Females	TOTAL	Males	Females	TOTAL
ORAL (buccal cavity and pharynx)	80	35	115	90	40	130	30	15	45	35	15	50
DIGESTIVE ORGANS												
Esophagus	35	15	50	40	15	55	45	15	60	55	20	70
Stomach	65	25	90	60	20	80	25	20	45	15	15	30
Colon and Rectum (colorectal)	415	370	785	485	405	895	100	95	195	100	95	195
Pancreas	60	65	125	65	75	135	60	65	125	65	70	130
RESPIRATORY SYSTEM												
Larynx	30	10	40	30	10	45	15	5	20	20	5	25
Lung, Trachea and Bronchus	565	420	985	640	520	1,160	460	335	795	510	415	920
SKIN	120	95	215	150	110	260	25	10	35	30	5	40
FEMALE BREAST³	.	800	800	.	930	930	.	200	200	.	210	210
GENITAL ORGANS												
Cervix	.	55	55	.	55	55	.	15	15	.	15	15
Body of Uterus	.	125	125	.	145	145	.	15	15	.	15	15
Ovary	.	100	100	.	110	110	.	50	50	.	50	50
Prostate	905	.	905	1,165	.	1,165	165	.	165	185	.	185
Testis	25	.	25	30	.	30	5	.	5	5	.	5
URINARY ORGANS												
Bladder	210	80	285	245	95	340	40	20	60	45	20	70
Kidney	120	80	200	145	95	245	40	20	55	45	20	65
BRAIN	45	35	80	50	40	85	40	25	60	45	25	70
THYROID	10	40	50	15	45	55	5	5	10	5	5	10
LEUKEMIAS	65	50	115	70	55	125	35	30	65	30	30	65
OTHER BLOOD AND LYMPH TISSUE												
Non-Hodgkin's Lymphoma	120	105	225	145	125	270	65	55	120	85	65	150
Hodgkin's Lymphoma	10	15	25	10	15	25	5	5	5	.	.	5
OTHER CANCERS	290	260	550	345	300	640	240	240	480	270	260	535
ALL CANCERS	3,175	2,780	5,955	3,780	3,200	6,980	1,380	1,220	2,600	1,525	1,345	2,870

1 Projected counts are based on 1984-1999 data for all tumour sites with the exception of prostate cancer where counts were derived from the 1981-1990 time period.

2 Projected counts have been rounded to reflect the imprecision of this process.

3 New cases of male breast cancers are included in "Other Cancers".

PROJECTIONS

- Seven thousand new diagnoses of invasive cancer are expected annually, by the year 2010 (see Table 2). This represents a 42% increase relative to 1999.
- These expected increases are attributable to the aging of the population, population growth, increasing exposure to risk factors, enhanced ability to detect cancer and improved registration.
- The rate of cancer incidence increases more rapidly than the rate of cancer mortality. As a result, a greater number of people will be living with the disease in the future. This increase in cancer prevalence among the population must be strategically addressed by the Canadian health care system.
- Cancer is expected to be the leading cause of death in Canada by the year 2010.

A more detailed version
of this report is also available:

Cancer Statistics in Nova Scotia
A Focus on 1995-1999

Order: epi.unit@ccns.nshealth.ca
Download: www.cancercare.ns.ca

OTHER HIGHLIGHTS

- More than 24,000 people are currently living with cancer in Nova Scotia.
- Prostate, breast, lung and colorectal cancers accounted for half of all invasive cancer incidence in the province between 1995-1999.
- In parallel with Canadian trends, lung cancer remained the leading cause of cancer death for both genders, accounting for one third of cancer deaths in men and almost one quarter of cancer deaths in females.
- A total of 187 children aged 0 to 19 years were diagnosed with invasive cancer between 1995-1999.
- Leukemia was the leading form of cancer among children, accounting for a third of all new cases.
- Six cancer types increased at an average annual incidence rate greater than 2%, since 1984: melanoma of the skin (6.8%), prostate (4.7%), non-Hodgkin's lymphoma (3.7%), thyroid (3.0%) and kidney (2.4%) in males; and lung (3.6%), thyroid (3.0%), kidney (2.7%), non-Hodgkin's lymphoma (2.5%) and melanoma of the skin (2.2%) in females.
- Since 1984, increased mortality rates were associated with melanoma of the skin (4.8%), non-Hodgkin's lymphoma (4.3%) and to a lesser extent, kidney cancer (0.7%) in males; and with lung cancer (3.4%) and non-Hodgkin's lymphoma (2.9%) in females.
- Declines were observed in the incidence and mortality rates of stomach and cervical cancers since 1984; the former trend has been attributed to improvements in diet and lifestyle while the latter may be attributable to early detection by organised screening programs.
- Nova Scotia's population is rapidly aging and the number of cancer cases is rising. Incidence rates are expected to increase 46% (males) and 38% (females) over the next decade, placing a very heavy burden upon the health care system, families, local communities and society in general.
- Currently, primary prevention, early detection and the judicious application of adjuvant therapy (where indicated) remain the most pragmatic means of cancer control.

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