BC Cancer Agency
CARE + RESEARCH
An agency of the Provincial Health Services Authority

Cancer Surveillance & Outcomes

British Columbia 2011 Regional Cancer Report

Produced by:
Cancer Surveillance & Outcomes
Population Oncology
BC Cancer Agency

About This Publication

British Columbia (BC) Regional Cancer Report has been developed by Cancer Surveillance & Outcomes, Population Oncology, BC Cancer Agency (BCCA).

Purpose

This is the first of a newly formatted report. Its aim is to provide health professionals, policy-makers and the public with an overview of regional cancer control information and outcomes across BC. This information can be used to prompt new research investigations and help with resource and business planning.

The report provides information on factors which influence the distribution of cancer in the population: regional demographics, behavioural risk factors. It also provides information on activities aimed to ameliorate the potential impact of cancer: screening participation and cancer treatment information. Information is also presented on outcomes: incidence, mortality (actual and projected), survival and prevalence for different cancer types.

Data Sources

The BC Cancer Registry, the BC Cancer Agency Information System (CAIS), BC Vital Statistics Agency, BC Statistics, 2006 Census data and Canadian Community Health Survey (CCHS) are the main sources of data for this publication. Further detailed information is provided in Appendix A » Statistics Definitions and Descriptions.

Cancers included in this publication are defined according to the groupings outlined in the Canadian Cancer Statistics cancer definitions (Canadian Cancer Statistics 2011, Appendix II, Table A10) which are shown in Appendix B » Cancer Statistics Methodology.

How To Access The Contents Of This Publication

An electronic copy of this publication is available on the BC Cancer Agency, Cancer Surveillance & Outcomes cancer statistics website at:
http://www.bccancer.bc.ca/HPI/CancerStatistics/FF/regstats.htm

Executive Summary

The province of British Columbia covers a large territory that is served regionally by five health authorities (HA): Interior Health (IH), Fraser Health (FH), Vancouver Coastal Health (VCH), Vancouver Island Health Authority (VIHA) and Northern Health (NH), which are further subdivided into a total of 16 health services delivery areas (HSDA). As well, some provincial mandates are addressed by a provincial health authority, Provincial Health Services Authority. Regional diversities create unique cancer control profiles across the five health authorities. This report is intended to provide consolidated information on factors related to cancer occurrence, its management and outcomes.

Recognizing that different patterns of care may occur within HAs indicates a need to report data at the HSDA level; however, it was not always feasible to report in such a manner so some data are reported at the HA level only.

Demographics

FH and VCH serve mostly urban, largely visible minority populations within densely populated areas where educational attainment is comparable or higher than the provincial average and age distributions will remain stable.

In contrast, IH and VIHA are composed of a mixture of rural and urban areas, aging populations and cultural diversity with approximately 10-13% of their populations identifying as either a visible minority or an aboriginal.

The sparsely populated and mostly rural NH must meet the needs of a population where educational attainment is lower, an older population, with the population in the age group 65+ doubling by 2025 and there are small pockets of visible minority populations and populated areas of aboriginal populations.

By 2025 the provincial population will grow by nearly 1 million people with the largest relative growth being in FH, who will see an increase of 30% in their population.

Prevention

Lifestyle changes can reduce cancer risk. Over the last decade, smoking rates have declined; however, the last 5 years have seen less decrease than the earlier 5 years and NH consistently trends higher than the remainder of the province.

Executive Summary (cont.)

Prevention (cont.)

The other three prevention indicators: alcohol consumption, obesity and physical activity have changed little over time. NH had the highest obesity rates and matched the IH for having the highest alcohol consumption rates. VCH had the lowest obesity rates and shared some of the lowest rates for smoking and alcohol consumption with FH. FH was the least active health region although only 45% of the population reported being obese or overweight. VIHA was the most physically active health region.

Variation between regions in behaviours known to affect cancer risk indicates that future cancer burden will vary by region. Variation in preventive behaviours generally exceeds variation in current cancer service utilisation.

Screening

Cervical Cancer Screening

In 2009 in BC, 171 females were diagnosed with cervical cancer and 33 women died from the disease. Between 2007 and 2010 cervical cancer screening participation rates have decreased from 73.1% to 70.7%. Variation in cervical cancer screening participation between regions was low and all areas were above, or close to, the national target.

Breast Screening

Breast cancer accounted for 13.5% (n=3,019) of all new cancer diagnoses in BC in 2009 and for 6.7% (n=596) of all cancer related deaths. In 2010, the provincial screening program participation rate was 53.9%, below the national target minimum of 70% although non-program mammography raises this figure to 64%. Richmond HSDA (63%), reaching just below the national target, had the highest screening participation rate. Further, in East Kootenay HSDA, participation rates have seen an increase of 16% over three years (2007-2010), rising from 32% to 48%. There was variation in participation throughout the province; generally rural areas had lower participation and this may be related to access limitations.

Colorectal Cancer Screening

Colorectal cancer accounted for 9.0% (n=2,072) of all new cancer diagnoses in BC in 2009 and for 12% (n=1,057) of all cancer related deaths. Provincial self reported screening rates for 2008 showed that 23% of the population (age $\geq$ 35) underwent a colonoscopy; regional rates varied from 12.9% in Richmond HSDA to 33% in East Kootenay HSDA. At the HA authority level, FH had the highest rates of new colorectal cancer diagnoses in 2009 (n=926) yet one of the lowest reported colorectal screening rates (20.9%). Of measured screening activity colorectal cancer screening showed the largest variability in delivery between regions and this is likely related to the existence of multiple approaches to screening and the absence of a mature provincial program.

Executive Summary (cont.)
Treatment Services

Radiation Services

East Kootenay and North East HSDAs show artificially lower patterns of radiation utilization rates due to unrecorded treatment in Alberta and are excluded from the following comparisons but are included in the figures in Section 7.1.

With the exception of the Alberta border regions and the North there was little variation in the utilization of radiation service following diagnosis or before death. The operation of a new cancer centre in Prince George will change the future pattern seen in the North.

Overall, 31% of all new cancer diagnoses accessed radiation services within a year of diagnosis; and, with regards to palliation, 8.0% of all patients accessed radiation services 6 months prior to death.

At the HSDA level, the greatest variation in access to radiotherapy services (overall) were minimal and were observed in NH with 34.9% of North West HSDA's new diagnoses accessing radiotherapy services while 25.2% of Northern Interior's new cancer diagnoses accessed services during the same time.

Provincially, 58% of new breast cancer diagnoses accessed radiation services within a year of diagnosis; at the HSDA level, the largest variation in radiotherapy utilization rates (for breast cancer) was observed between North Shore/Garibaldi patients (67%) and Northern Interior (36%). This may be related to variations in use of breast conserving surgery, which requires radiation,

Provincially, 19% of new colorectal cancer diagnoses accessed radiation services within a year of diagnosis; at the HSDA level, nominal variations from the provincial rate were noted with 25% of patients from Kootenay Boundary accessing radiotherapy for their colorectal cancer diagnosis while 12% of Northern Interior patients utilized services in the same time.

With respect to lung cancer, 44% of all newly diagnosed patients accessed radiation services in the province of BC; at the HSDA level, the variation in radiotherapy service utilization rates for lung cancer was minimal with Kootenay Boundary and South Vancouver Island reporting 49% of their patients with lung cancer receiving radiotherapy services while 32 % of Northern Interior residents accessed services over the same time period.

Provincially, 30% of new prostate cancer diagnoses accessed radiation services within a year of diagnosis; at the HSDA level, only moderate variations from the provincial rate were noted with Okanagan the highest rate at 41% while Fraser East reported 22% of their patients with prostate cancer utilizing radiotherapy. In this case variation may be related to the use of prostatectomy as an alternate to radiation.

Executive Summary (cont.)

Treatment Services (cont.)

Drug Therapy

Regionally variation in chemotherapy exceeded that of radiotherapy, which is probably related to the larger, more dispersed, physician group which accesses drugs. Vancouver Island patients appeared less likely to be prescribed drugs than patients in other HAs although this was not true for all types of cancer.

Provincially 40% of all new cancer diagnoses received some form of drug therapy within a year of diagnosis. At the HSDA level, there was only moderate variation in patients receiving any drug therapy (within one year of diagnosis) and the largest difference was observed between Richmond at 46.5% and South Vancouver Island and Central Vancouver Island at 34.5%.

Variation in utilization was most marked in the Vancouver Island HSDAs; Central Vancouver Island had the highest proportion of patients receiving drug therapy for prostate cancer (50%). However, a somewhat differential pattern showed that South Vancouver Island reported the lowest proportions of patients receiving any form of drug therapy within 1 year of being diagnosed with colorectal cancer (23%) and lung cancer (21%) while Central Vancouver Island had the lowest proportion of patients with breast cancer receiving any form of drug therapy (72%.).

PET/CT Scanner Utilization Rates

PET/CT Scanner usage was similar to the population distribution with the only anomaly being in the Interior where PET/CT Scanner usage is lower than the population distribution.

Telehealth Utilization Rates

From 2009 to 2010, Telehealth appointments between Medical Oncologists and their patients increased from 1,089 to 1,285 in the health authorities with large rural regions (IH, VIHA and NH)

Radiation Oncologists have tripled the frequencies with which they provide care via telehealth; total appointments in 2009 were 61 whereas in 2010 there were 203 appointments.

Executive Summary (cont.)

Incidence, Mortality, Survival and Prevalence

Across BC, there were 22,223 new cancer diagnoses in 2009, 64,559 people living with a cancer diagnosis and 8,874 people succumbed to some type of the disease. The highest incidence cancers; breast, colorectal, lung and prostate accounted for 53% of all new cases; similarly, these cancers contributed to 50% of all cancer related deaths in 2009. Half of these deaths were from lung cancer and 12% from colorectal cancer, the other 13% was equally shared between breast and prostate cancer. Over the next decade it is projected that the number of new cancer diagnoses and deaths will rise by 30% and 25%, respectively. The greatest increase over the next decade in cancer incidence for the HAs is expected to be in FH at 43% and the greatest increase in cancer deaths is expected in the NH at 44% increase. Regional variations can particularly be seen in 1-year survival for brain and liver cancers, with over a 10% range in 1-year survival between the lowest and highest HA. For lung cancer, NH has a significantly higher mortality rate than VCH (52 per 100,000 versus 28 per 100,000).