



British Columbia 2011 Regional Cancer Report

Section 6 » Treatment

Cancer is not a single disease and cancer treatment decisions are complex. Decisions are made based on the pathology, the patient preference and the latest evidence based guidelines. Depending upon cancer type and stage of disease treatments may be used in a number of different ways. Cancer stage, the extent of disease at initial presentation, is the largest determinant of outcomes in cancer and is a major determinant of the choice of treatments. Treatment is often multi-modal so that individual patients will be recommended to consider surgery, radiation and chemotherapy. In some cases there may be different treatments of approximate equal efficacy so that patient choice will play a larger role in determining the pattern of treatments received. Treatment may be offered with the possibility of cure, or at least a significant prolongation of life, or may be offered in a palliative way to alleviate symptoms, when cure is rare. Many individuals will receive both kinds of treatment at different points in their cancer journey.

6.1. Radiation Therapy

Currently there are five BCCA Cancer centres located in four HAs that provide radiation therapy (RT) for cancer care. In addition, a sixth BCCA facility is under construction in Prince George to meet the needs of northern residents.

Locations of BC Cancer Agency Sites



Figure 6-1 shows radiation therapy utilization rates (including brachytherapy) as the percent of cancer patients who received radiation therapy within 365 days of their diagnosis. Regional variations can be seen throughout the figures

with East Kootenay and Northeast HSDAs showing utilization rates below the provincial average. These two HSDAs border Alberta and a proportion of patients receive care there (for whom data was not available). Excluding the border HSDAs the two remaining HSDAs in NH have the highest and lowest rates of radiotherapy utilization, however, overall there was little regional variation in utilization. The opening, in 2012, of the BCCA Centre of the North will influence RT utilization in the North.



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6.1 Radiation Therapy (cont.)

An assessment of breast, lung, prostate and colorectal RT utilization rates by HSDA follows a similar pattern to overall utilization rates; again, regional differences in service use can be observed through the utilization rates. For prostate cancer RT represents one choice for the primary therapeutic approach with another choice being surgery. Consequently it can be anticipated that variations in the use of prostate cancer soon after diagnosis will be greater because there are alternates to its use in some cases. Clinical trials show that adjuvant radiation therapy post breast conserving surgery for early stage breast cancer reduces recurrence [12] whereas local irradiation of the breast is usually not required in patients undergoing mastectomy. Consequently the rate of breast conserving surgery use by region will influence the rate of radiotherapy use in the year after diagnosis.



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6.1. Radiation Therapy (cont.)

Figure 6-1: The Proportion of Cancer Diagnoses (2007-2009) that Accessed Radiation Services within One Year of Diagnosis, by HSDA

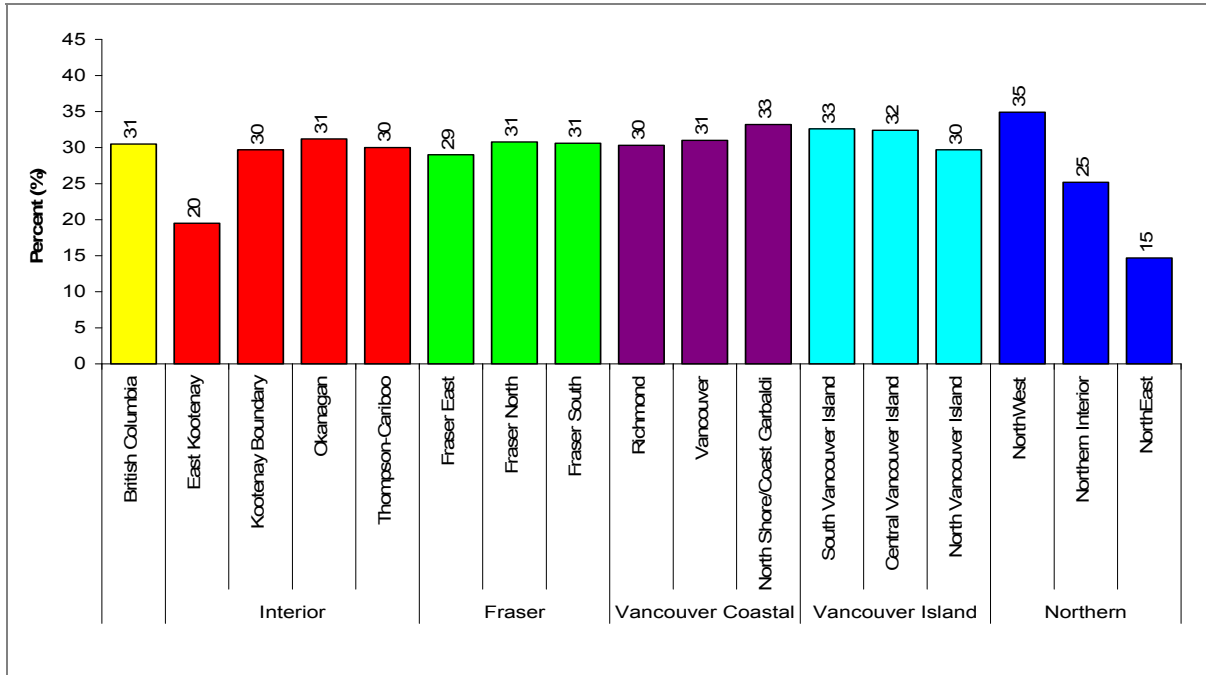
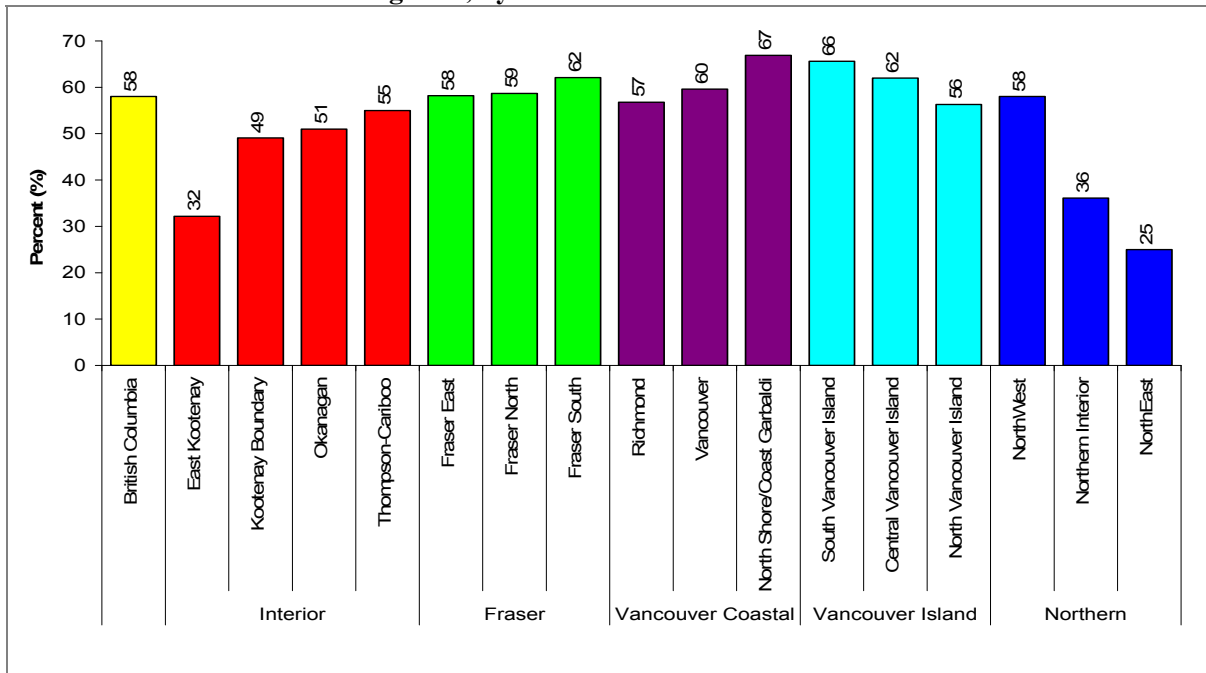


Figure 6-2: The Proportion of Breast Cancer Diagnoses (2007-2009) that Accessed Radiation Services within One Year of Diagnosis, by HSDA





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6.1 Radiation Therapy (cont.)

Figure 6-3: The Proportion of Colorectal Cancer Diagnoses (2007-2009) that Accessed Radiation Services within One Year of Diagnosis, by HSDA

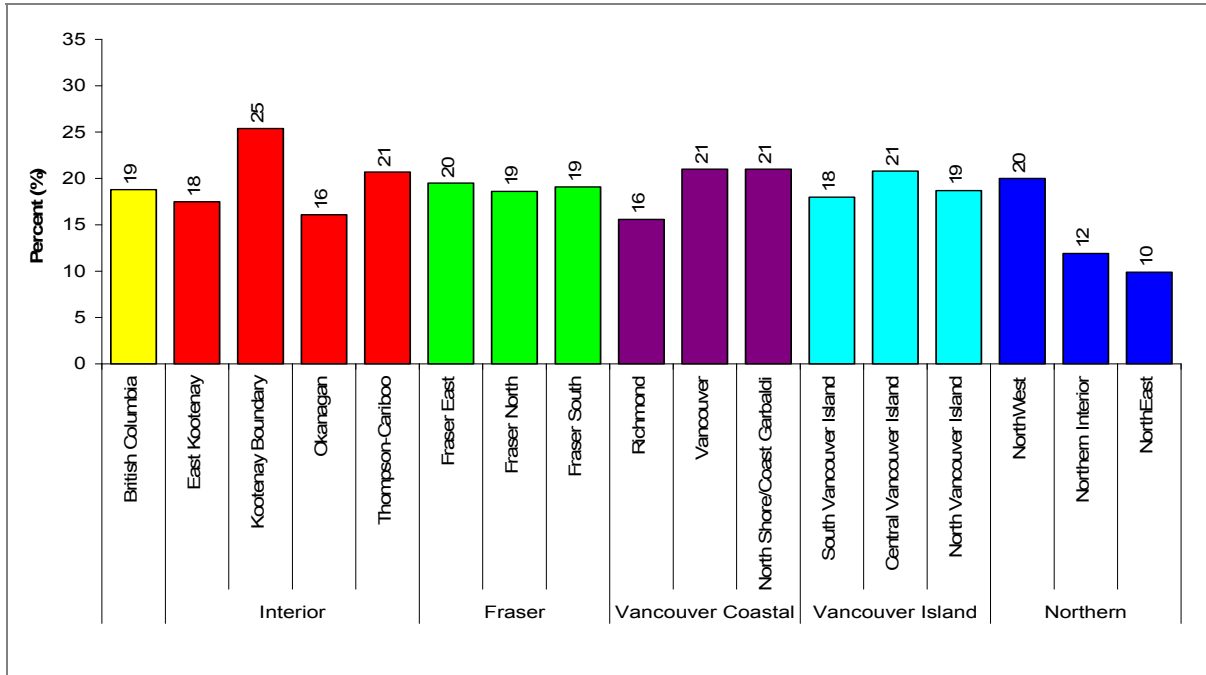
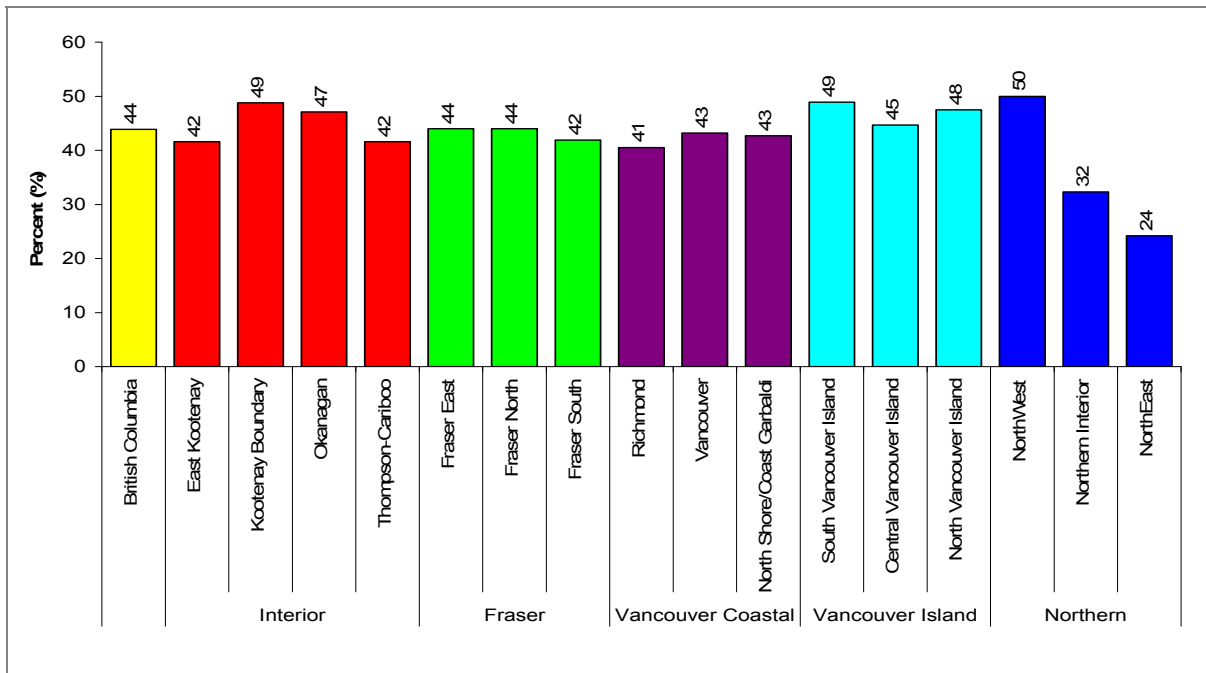


Figure 6-4: The Proportion of Lung Cancer Diagnoses (2007-2009) that Accessed Radiation Services within One Year of Diagnosis, by HSDA



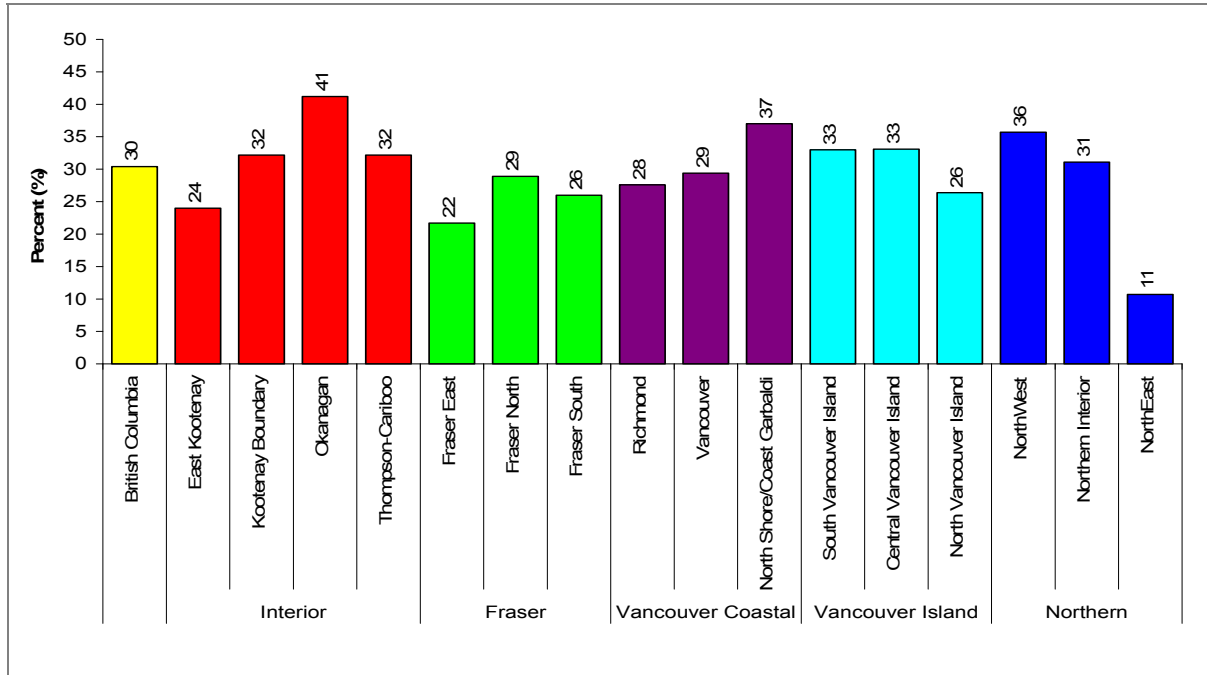


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6.1 Radiation Therapy (cont.)

Figure 6-5: The Proportion of Prostate Cancer Diagnoses (2007-2009) that Accessed Radiation Services within One Year of Diagnosis, by HSDA



6.2. Palliative Radiation Therapy

Patients with advanced or metastatic cancers can benefit from palliative radiation. Indications for its use include cancer-related bone pain, spinal cord compression, bleeding as well as other complication from metastatic processes [13]; as such, palliative radiation becomes an important tool in improving quality of life. Figure 6-6 shows the percentages of patients that received some form of radiation within 6 months prior to their death. Utilization in the North East and East Kootenay are likely artificially low due to unrecorded treatment received in Alberta. Again general variation in use across the province was low.

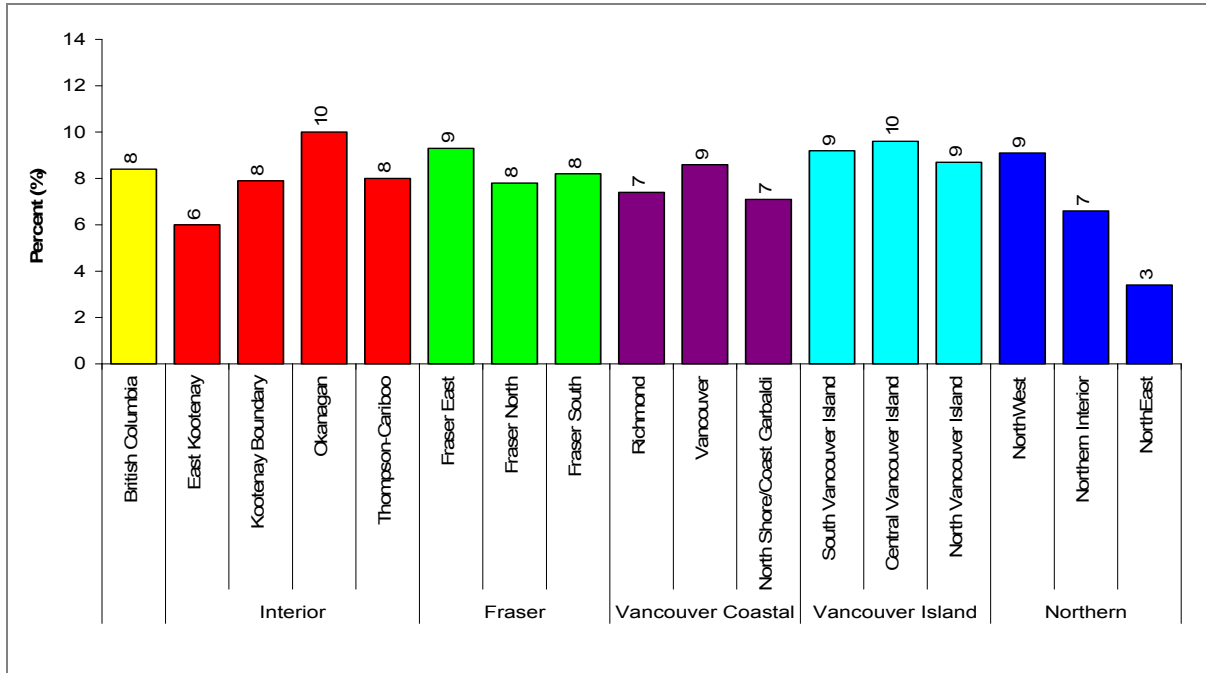


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6.2. Palliative Radiation Therapy (cont.)

Figure 6-6: The Proportion of Patients dying in 2009 that Received Radiation Therapy in the 6 Months Prior to Death, by HSDA



6.3. Chemotherapy

In the province of BC, community care close to home is desired by patients. All five HAs have Community Oncology Network Clinics (CON). Collaborative arrangements between the HAs and BCCA means that patients are assessed by medical oncologists at the BCCA and if they are medically eligible then the patient can receive care in their local community. The purposes of the following data, displayed in Figure 6-7 through Figure 6-11, are to present utilization rates based on patient location and ability to access care. The statistics provide a broad summary across the province for all cancer drug therapies that are delivered in the five BCCA centres as well as the health authority CON sites. The figures indicate that there is some heterogeneity in the use of chemotherapy across the regions. VIHA has a general pattern of lower usage except for drugs for prostate cancer where rates are comparatively high. Generally variation in usage of chemotherapy is greater than for radiotherapy, which probably results for the larger and more diverse group of physicians who can prescribe anti-neoplastics.



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6.3. Chemotherapy (cont.)

Map Showing Distribution of CON Clinics in BC





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6.3. Chemotherapy (cont.)

Figure 6-7: The Proportion of New Cancer Diagnoses (2007-2009) that Received Any Drug Therapy within One Year of Diagnosis, by HSDA

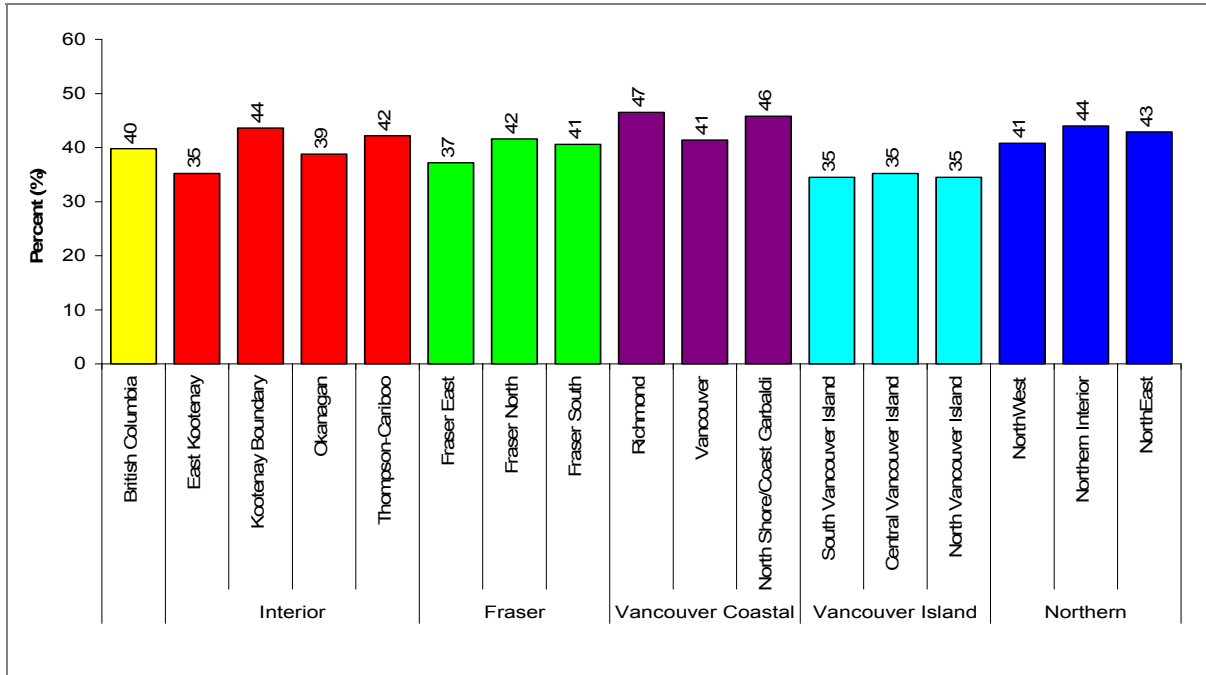
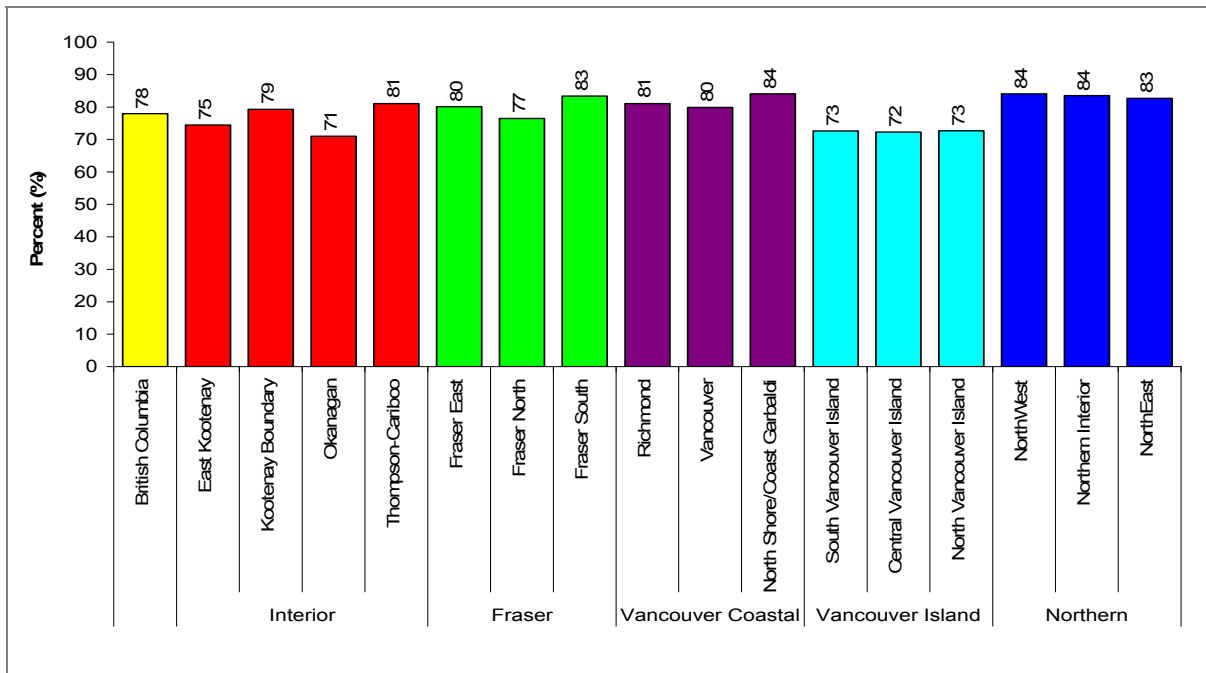


Figure 6-8: The Proportion of Breast Cancer Diagnoses (2007-2009) that Received Any Drug Therapy within One Year of Diagnosis, by HSDA





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6.3. Chemotherapy (cont.)

Figure 6-9: The Proportion of Colorectal Cancer Diagnoses (2007-2009) that Received Any Drug Therapy within One Year of Diagnosis, by HSDA

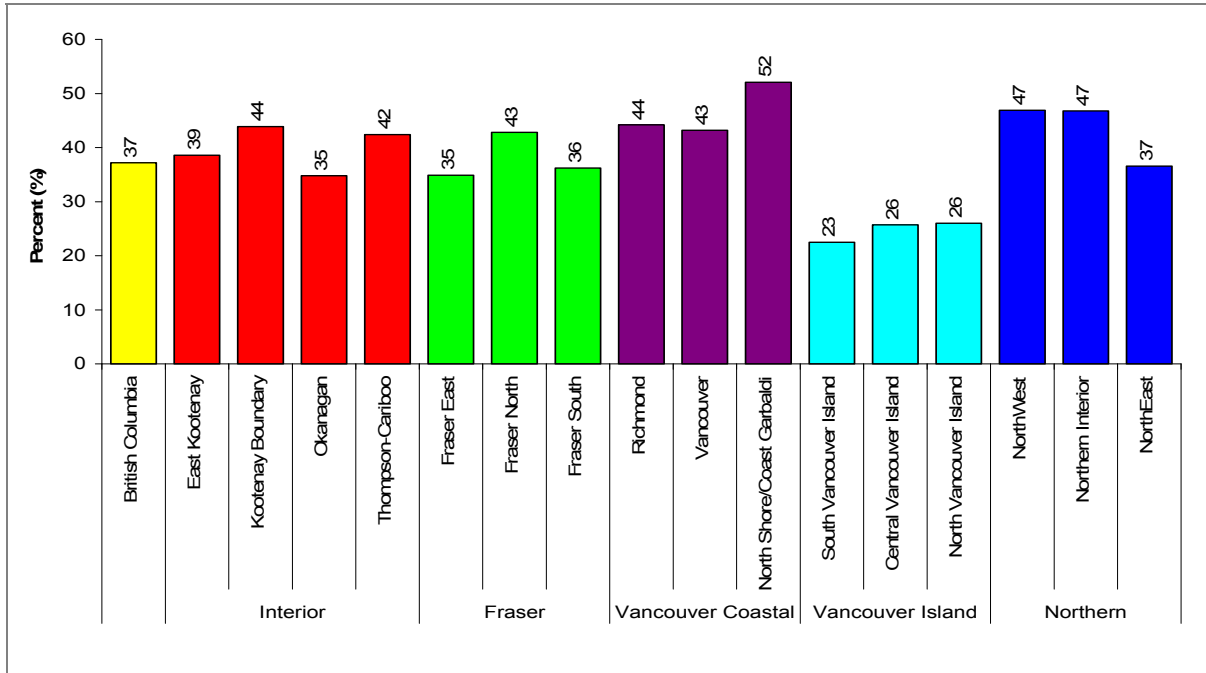
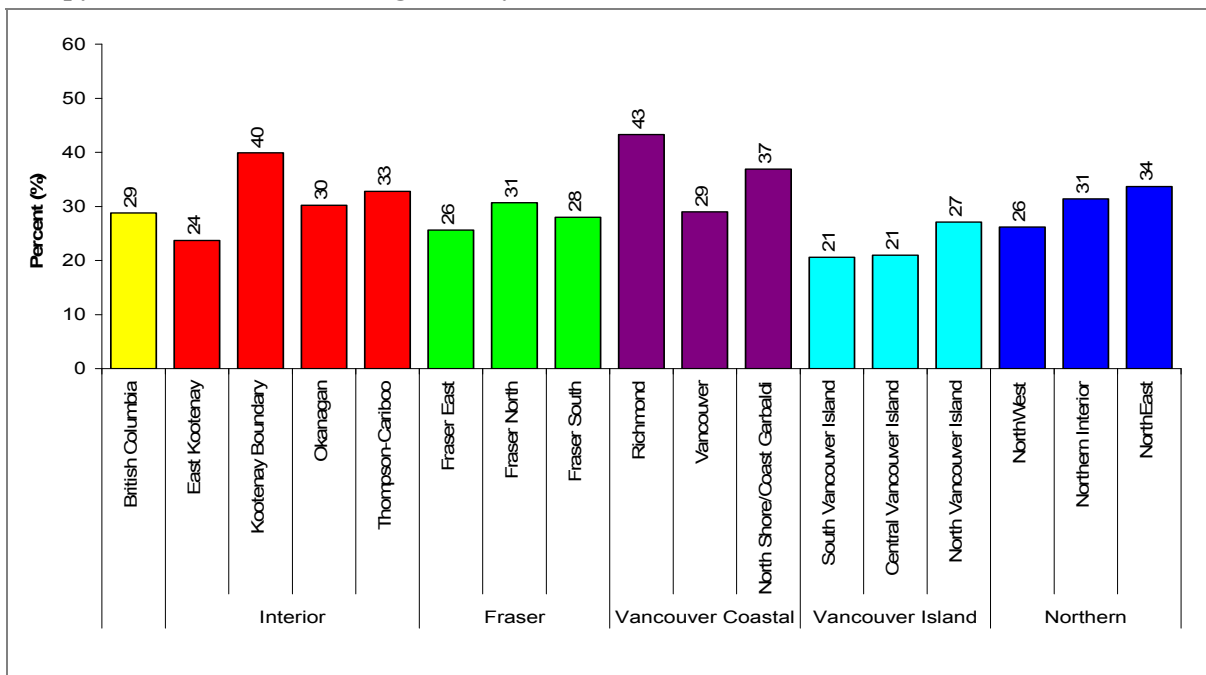


Figure 6-10: The Proportion of Lung Cancer Diagnoses (2007-2009) that Received Any Drug Therapy within One Year of Diagnosis, by HSDA



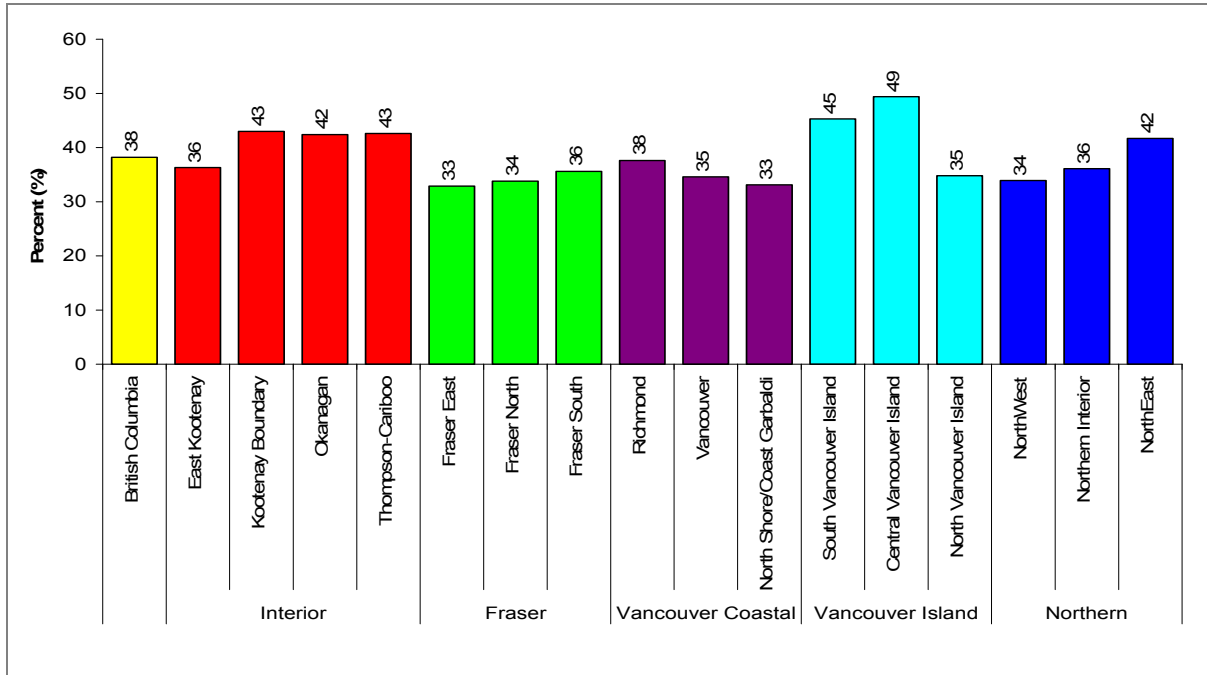


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6.3. Chemotherapy (cont.)

Figure 6-11: The Proportion of Prostate Cancer Diagnoses (2007-2009) that Received Any Drug Therapy within One Year of Diagnosis, by HSDA



6.4. Surgical Oncology

Surgery plays a critical role in the diagnosis, staging and treatment of cancer. It is often the first step in cancer treatment and can be the only treatment required to cure the cancer, but frequently it is used in conjunction with radiotherapy and/or chemotherapy. Unlike radiotherapy and chemotherapy the majority of surgical oncology services are provided in community facilities. Only a small amount of surgical oncology is performed at the BCCA at the Vancouver Centre under the Surgical Oncology Program.

With BCCA being the only facility that offers RT for cancer care, RT data on a provincial level is available and with the collaborative arrangements between the HAs, their CON clinics and the BCCA it also means that provincial data on the delivery of cancer drug therapies is available. In contrast, cancer surgery information is only available for the 60% of cancer cases that are treated at the BCCA.

Across BC, a more comprehensive understanding of the surgical management of cancer is necessary in order to ensure that all BC residents are treated in concordance with up-to-date practice guidelines and standards in surgical oncology. This will require collaboration and coordination between BCCA, the HAs and BC Ministry of Health. It will require the integration



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6.4. Surgical Oncology (cont.)

of cancer surgery data at the Health Authority level with the Provincial Cancer Registry and the BC Cancer Agency Information System (CAIS).

Currently, Cancer Surveillance & Outcomes unit of the BCCA is in collaboration with the Surgical Patient Registry (SPR) of Provincial Health Services Authority to look at the feasibility of linking the SPR data with the BC Cancer Registry and is hoping in the future to work with Canadian Institute for Health Information (CIHI) and the Ministry of Health to further help fill this gap.

In addition, the Surgical Oncology Network was established by BCCA in order to support communication and sharing of knowledge between subspecialty and community surgeons, their respective hospitals and HAs to promote the best surgical oncology care throughout BC. The Surgical Oncology Network has also been collaborating closely with SPR in order to be able to report on cancer surgery wait times. They have been working with surgeons across each of the HAs in order to develop the essential surgical elements (checklist) for cancer surgery synoptic reporting. This will enable critical operative data to be reliably captured in the dictated report to improve the process of care for cancer patients.

6.5. PET/CT Utilization

Positron emission tomography (PET) / computed tomography (CT) scanner is a whole-body imaging tool that is effective technology for diagnosing, staging and managing cancer. The radiotracer used for PET/CT is a special type of sugar, combined with a safe radioactive component and injected into a patient. It is preferentially absorbed by malignant or cancerous cells in the body, where it gives off energy that is detected by the PET/CT scanner. Malignant cells are metabolically active and use sugar as an energy source. The increased activity allows physicians to identify where abnormal metabolic activity is occurring in the body. This technology allows for a more accurate diagnosis of cancer and can help determine how well a patient is responding to treatment. The province of BC has 2 PET/CT scanners, both located at the BCCA Vancouver Centre, the second one was recently added in August 2011.

Table 6-1: PET/CT Utilization Rates for 2009 and 2010 Frequencies, by HA

Health Authority	Number of Patients Booking PET/CT Services	
	2009	2010
Interior Health	309	304
Fraser Health	1235	1232
Vancouver Coastal Health	935	939
Vancouver Island Health	484	526
Northern Health	128	140
Unknown location	60	64
Total	3151	3205