



Recently published indicators allow for comparison of radiation treatment rates relative to evidence-based guidelines for rectal cancer

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1. INTRODUCTION

The system performance initiative of the Canadian Partnership Against Cancer is the first pan-Canadian report to offer indicators for measuring treatment practice patterns by province and for comparing practice with current guidelines. *The 2011 Cancer System Performance Report*¹ presents data on guideline-based treatment indicators for the second year, allowing for a preliminary trend analysis. The decision to examine indicators measuring treatment practice patterns came from several workshops and consultations involving a broad range of experts and knowledge leaders from across the cancer care landscape. Among the treatment indicators examined is the percentage of resected stage II and III rectal cancer cases receiving neoadjuvant (preoperative) radiation therapy (RT).

2. NEOADJUVANT RT IN RESECTED RECTAL CANCER

Patients with stage II or III rectal cancer are at a high risk of local recurrence. Clinical trials from the 1980s and 1990s demonstrated that postoperative RT in conjunction with chemotherapy for early-stage rectal cancer lowered the rates of local failure and improved survival compared with resection alone^{2,3}. More recently, evidence from clinical trials shows that, compared with postoperative chemoradiotherapy, preoperative chemoradiotherapy improves local control and disease-free survival^{4–7}. Although neoadjuvant RT should be considered for most patients with resectable stage II and III rectal cancer, there may be cases in which preoperative RT is not appropriate, and in those cases, postoperative RT is strongly recommended⁵.

Data on the percentage of patients with resected stage II and III rectal cancer receiving neoadjuvant RT were available for Ontario, Alberta, Newfoundland and Labrador, Manitoba, and Nova Scotia. Data for British Columbia were available only for patients referred to a cancer centre. Because information on

chemotherapy use is not as readily available in Canada, the indicator measures use of preoperative RT only.

3. THE DATA

Of patients diagnosed in 2008 and included in the analysis, an average of 45% received RT preceding surgical resection for stage II or III rectal cancer (Figure 1). Rates ranged from 36% in Manitoba and Nova Scotia to 48% in Ontario. Data for British Columbia show that 56% of patients diagnosed with stage II or III rectal cancer received neoadjuvant RT, although, with data for that province being limited to patients referred to cancer centres, that rate is likely upwardly biased.

For diagnosis years 2007–2008, the percentage of patients with resected stage II or III rectal cancer who received preoperative RT increased in all five provinces with population data. The largest increase occurred

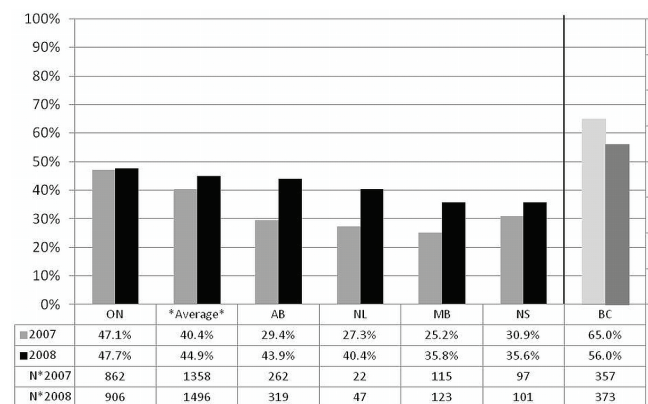


FIGURE 1 Percentage of stage II or III rectal cancer patients receiving radiation therapy before surgical resection, by province, for patients diagnosed in 2007 and 2008. Radiation therapy started up to 120 days before surgery. Data for British Columbia includes only patients referred to cancer centres; data for Prince Edward Island is suppressed because of small numbers. "Average" includes Alberta, Manitoba, Ontario, Nova Scotia, and Newfoundland and Labrador. All data were obtained from the respective provincial cancer agencies.

in Alberta, where the percentage of patients treated with neoadjuvant RT increased from 29% for patients diagnosed in 2007 to 44% for patients diagnosed in 2008. In Newfoundland and Labrador, rates increased to 40% in 2008 from 27% in 2007. Data for this indicator will continue to be updated to determine whether the measured increase in the uptake of evidence-based guidelines continues.

Neoadjuvant therapy rates were similar for men and women, but rates were lower in older patients. In the most recent year, for all provinces combined, 56% of patients less than 60 years of age received neoadjuvant RT; just 20% of patients 80 years of age and older received the same treatment (Figure 2).

3.1 Retrospective Chart Review

To better understand provincial variations in treatment patterns for early-stage rectal cancer, the Partnership is working with cancer agencies to conduct a retrospective chart review of resected rectal (and lung) cancer patients. The chart review (being conducted in Alberta, Saskatchewan, Manitoba, Prince Edward Island, and Newfoundland and Labrador) will help to identify factors that influence preoperative RT referral or treatment rates. Such factors may include comorbid conditions, performance status, other patient-related contraindications for treatment, patient choice, and clinician judgment. Information gained from the chart review will help to formulate strategies for improvements in data collection and indicator calculation and will also help to inform the development of meaningful performance targets and benchmarks in this area.

4. ABOUT THE CANCER SYSTEM PERFORMANCE REPORT

The *Cancer System Performance Report* is published by the Canadian Partnership Against Cancer and made possible through the dedicated efforts of the pan-Canadian Strategic Advisory and Technical Working Groups for System Performance. Pivotal in the data collection efforts are staff from the provincial cancer agencies or their equivalents, the C17 Council, the Canadian Breast Cancer Screening Database, the National Colorectal Cancer Screening Network, and the Pan-Canadian Cervical Screening Initiative. Statistics Canada provided access to data and vetted the output.

The *2011 System Performance Report* can be viewed at <http://www.cancerview.ca/system-performancereport>.

Public-use slides of figures in the present article and the *System Performance Report* can be downloaded at <http://www.cancerview.ca/publicuseslides>.

5. CONFLICT OF INTEREST DISCLOSURES

The authors have no financial conflicts of interest to declare.

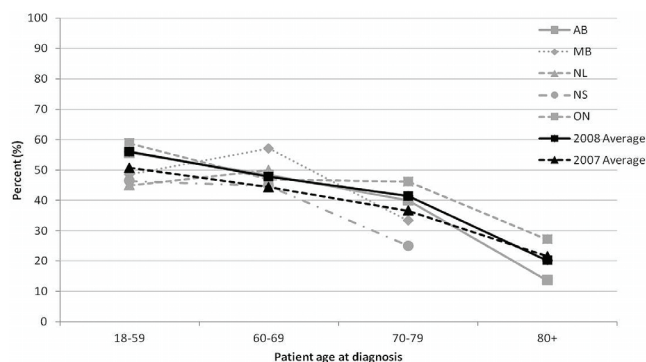


FIGURE 2 Percentage of stage II or III rectal cancer patients receiving radiation therapy before surgical resection, by age group and province, for 2008 diagnoses. Radiation therapy started up to 120 days before surgery. Some data are suppressed because of small numbers. * Average, which includes Alberta, Manitoba, Newfoundland and Labrador, Nova Scotia, and Ontario (provinces that did not submit data for both 2007 and 2008 were excluded). All data were obtained from the respective provincial cancer agencies.

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