Technical Appendix

for indicators that measure progress of the Canadian Strategy for Cancer Control

**2023**

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# Priority 1: Decrease the Risk of People Getting Cancer

## Action 1: Help people to stop smoking or not start in the first place and live healthier lives.

### Percentage of individuals classified as daily or occasional smokers

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| --- | --- | --- |
| **Jurisdiction** | **Item** | **Description** |
| All provinces and territories | **Reporting Years** | 2019 or 2020 for year 1 and 2021 for year 2 of provincial reporting  2017-18 for territories |
| **Denominator** | Number of respondents to the Canadian Community Health Survey who were aged 18+ and responded to the smoking question as well as questions regarding sex, household income quintile, and educational attainment. |
| **Numerator** | Number of respondents who indicated that they were an occasional or daily smoker. |
| **Stratifications** | 1. Sex (male, female)  2. Household income quintile (Q1: lowest to Q5: highest) – for provinces only  3. Individual educational attainment (Less than secondary school graduation; secondary school graduation but no post-secondary education; post-secondary certificate/diploma or university degree) |
| **Data Source** | Canadian Community Health Survey |
| **Comments** |  |

### Percentage of individuals classified as obese/overweight

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| --- | --- | --- |
| **Jurisdiction** | **Item** | **Description** |
| All provinces and territories | **Reporting Years** | 2019 or 2020 for year 1 and 2021 for year 2 of provincial reporting  2017-18 for territories |
| **Denominator** | Number of respondents to the Canadian Community Health Survey who were aged 18+ (and not pregnant) and responded to the BMI question as well as questions regarding sex and household income quintile. |
| **Numerator** | Number of respondents with a BMI between 25.00 and 29.99 (classified as overweight) and 30.00 and above (classified as obese) |
| **Stratifications** | 1. Sex (male, female)  2. Household income quintile (Q1: lowest to Q5: highest) – for provinces only |
| **Data Source** | Canadian Community Health Survey |
| **Comments** |  |

## Action 2: Adopt proven practices known to reduce the risk of cancer

### Percentage of people who received a full course of HPV vaccination by age group (includes catch-up ages), by sex

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| **For school-aged children** | | |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of people who received a full course of HPV vaccination.  The Childhood Immunization Coverage Rates contain the probability a child will have received 2 doses of HPV by age thirteen in the reporting year. The overall approach follows a birth cohort and applies time-to-immunization (survival analysis) methods to compute the probability of immunization over time, with an open birth cohort. The coverage rates are based on a birth cohort and reported in percentage by age of 12. For example, the 2019 rates relate to the 2007 birth cohort which turned age 12 during the reporting year. This is a dynamic model, so there is no fixed numerator and denominator. All rates are reported by sex and/or zone of residence. |
| **Reporting Years** | 2019, 2020; Calendar-year based |
| **Denominator** | Not applicable |
| **Numerator** | Not applicable |
| **Stratifications** | Sex (male, female), health zone |
| **Comments** | Data was downloaded from Alberta Health website in November 2020:  http://www.ahw.gov.ab.ca  /IHDA\_Retrieval/selectResults.do |
| Manitoba | HPV Vaccination | |
| **Jurisdictional target** | No target/not provided |
| **Definition** | This indicator calculates the HPV vaccination completion rate for school-aged individuals: % of individuals who completed the full HPV vaccination (at least 2 doses) by age 17 through Manitoba’s school-based vaccination program |
| **Reporting Years** | 2019, 2020, 2021 |
| **Denominator** | Number of individuals in birth cohorts for the reporting period |
| **Numerator** | Number of individuals who received at least 2 doses of the HPV vaccination through Manitoba’s school-based vaccination program during the reporting period |
| **Stratifications** | Sex (male, female), Regional Health Authority (Interlake Eastern, Northern, Prairie Mountain, Southern, Winnipeg) |
| **Comments** | The 2002 male birth cohort was the first to become eligible to receive HPV vaccination.  The above policy change explains the significant % difference across the 2001 and 2002 birth cohorts.  2001 birth cohort is aged 11 in 2012 and aged 17 in 2018.  2002 birth cohort is aged 11 in 2013 and aged 17 in 2019. |
| Catch up ages | |
| Jurisdictional target | No target/not provided |
| Definition | This indicator calculates the HPV vaccination completion rate for individuals aged 18-27 in the reporting year. |
| Timeframe | 2019, 2020 |
| Denominator | Number of individuals in birth cohorts for the reporting period |
| Numerator | Number of individuals in specified birth-cohorts who received at least 2 doses of the HPV vaccination through Manitoba's vaccination program by specified cut-off date |
| Stratifications | Sex and RHA |
| Comments | Note: MB policy change in 2002 - the 2002 male birth cohort was the first to become eligible to receive HPV vaccination |
| New Brunswick | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of Grade 7 students who received a full course of HPV vaccination.  For those in Grade 7 (age 13/14), a series of two doses of human papillomavirus quadrivalent vaccine (HPV4) was offered to both male and female students from 2017/2018 onwards. |
| **Reporting Years** | 2019/2020 School Year |
| **Denominator** | Total number of students enrolled in the grade/school where a Public Health school immunization program is available |
| **Numerator** | Total number of Grade 7 students with complete HPV series |
| **Stratifications** | Sex (male, female) |
| **Comments** | We have no age specific data since the data that is collected is from grade 7 girls and boys only.  The data for 2019-2020 are subject to change as data cleaning has not been conducted. |
| Nova Scotia | **Jurisdictional target** | Yes – Provincial target immunization rate is 90 % |
| **Definition** | Percentage of Grade 7 students who received a full course of HPV vaccination.  Grade 7 students in Nova Scotia who received 2 valid doses of the HPV vaccine.  Coverage timing:   * Prior to Grade 7 = immunization completed prior to September 1 of the school year; * Within Grade 7: immunization completed between September 1 and August 31 of the Grade 7 school year;   By December of Grade 8: immunization completed between September 1 and December 31 of the students Grade 8 year. Coverage rates include Home-schooled students. Home-schooled students make up 1.1% of the 2018-2019 grade 7 student population. |
| **Reporting Years** | Grade seven students in school year 2018-2019 who received full course of the vaccine prior to January 1, 2020. |
| **Denominator** | Total number of students in grade 7 in 2018-2019 school year |
| **Numerator** | Total number of students in grade 7 in 2018-2019 school year who received both doses of HPV prior to January 1, 2020 |
| **Stratifications** | Sex (male, female) |
| **Comments** | Data was obtained from the Panorama database; in accordance with the NS school-based vaccine immunization coverage report 2018-2019. |
| Prince Edward Island | **Jurisdictional target** | Yes – 90% completely vaccinated by age 17 |
| **Definition** | Percentage of people who received a full course of HPV vaccination.  Vaccination occurs in schools in grade 6. Students who miss vaccine day can get vaccinated at PEI Public Health Nursing. Vaccination in girls began in 2008 and in boys in 2013. |
| **Reporting Years** | 2019, 2020  School based vaccinations for ages 12-17 in boys and 12-18 in girls are based on median age during school year. Yearly based vaccination rates for women aged 19-22. |
| **Denominator** | Ages 12-17 in boys and 12-18 in girls using school enrollment as the denominator. Ages 18 (boys) or 19 (girls) through 22 were based on PEI Medicare enrollment based on their age on December 1, of the reporting year |
| **Numerator** | Number of people completely vaccinated for HPV. This was two doses for those aged 12-15 and three doses for those aged 16-22. |
| **Stratifications** | Age (12-22), sex (male, female) |
| **Comments** | Data was provided by the PEI Chief Public Health Office. This indicator was a hybrid. School based uptake rates were based on the school year for girls up until 18 years old and for boys up until 17 years old. After that, data was presented based on age on December 1, 2019. School based vaccination rates do not count students who are home schooled or students at the Moonlight International Academy as this is a brand-new school. Numerator and Denominator were not available at this time. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of Grade 6 students who received a full course of HPV vaccination.  Reported counts are for grade 6 students. The numerator includes those who have received a final dose of the HPV vaccine. |
| **Reporting Years** | School year 2018/19 |
| **Denominator** | Total number of students in grade 6 in NL (the target grade for the NL HPV Vaccination Program) in the 2018/2019 school year |
| **Numerator** | Number of students in grade 6 in NL who received a final dose of HPV vaccination in the 2018/2019 school year |
| **Stratifications** | None |
| **Comments** | 1. Numerator and denominator counts include grade 6 students only.  2. Currently, NL Public Health is unable to provide male and female vaccination counts. We will provide this information in a future report if it becomes available. |

### Percentage of patients with breast, colon and ovarian cancer who undergo genetic testing

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| **Breast Cancer** | | |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Definition** | % of breast cancer patients who received genetic testing results within 6 months of diagnosis |
| **Reporting Years** | 2019, 2020 |
| **Types of genetic tests included** |  |
| **Denominator** | Number of patients with personal history of breast cancer who consented to genetic testing |
| **Numerator** | Number with personal history of breast cancer diagnosed at age ≤ 35 who received genetic testing results within 6 months of diagnosis |
| **Stratifications** | By sex |
| **Comments** | Data excludes patients who:   1. were referred and seen but did not consent to move forward to genetic testing. 2. Were diagnosed with cancer after their genetic testing.   Data includes logistical delays outside of BC Cancer control (e.g., time it takes for patients to submit samples for testing, appointment booking times also depend on patient availability)  Data for breast and colorectal reflects the length of our current waitlist to appointment which is in excess of two years for non-urgent indications - changes to our service delivery model have been made in order to see a dramatic reduction in the waitlist by the end of this calendar year |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | 1. Breast cancer, female: The percent of patients diagnosed with breast cancer diagnosed at age ≤ 35 who received genetic testing within 9 months of diagnosis.  2. Breast cancer, male: The percent of male patients diagnosed with breast cancer who received genetic testing within 9 months of diagnosis. |
| **Reporting Years** | 2019, 2020 |
| **Types of genetic tests included** | Breast Ovarian Cancer Panel, Core or Extended |
| **Denominator** | 1. Total number of female patients who were diagnosed with breast cancer at age ≤ 35 for the reporting year  2. Total number of male patients who were diagnosed with breast cancer for the reporting year |
| **Numerator** | 1. Total number of female patients who were diagnosed with breast cancer at age ≤ 35 for the reporting year and received genetic testing within 9 months of diagnosis.  2. Total number of male patients who were diagnosed with breast cancer for the reporting year and received genetic testing within 9 months of diagnosis. |
| **Stratifications** | Sex (male, female) |
| **Comments** | Denominator inclusions:  1. Invasive cases only  2. Patients aged ≥ 18 at diagnosis  3. Alberta residents only  Notes: Rectal genetic will not be submitted this time due to the lack of data. We may submit in the future years when we have the data. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of patients with breast, colon and ovarian cancer who undergo genetic testing.  Genetic testing can refer to either a test to i) assess an individual's inherent risk for developing cancer (hereditary) or ii) determine whether the genetic profile of an individual's tumor tissue is indicative of a hereditary cancer (i.e., identification of individuals who would benefit from a genetic test for hereditary cancer)  1. Hereditary; breast/ovarian  2. Hereditary; colon cancer  3. Tumor tissue; colorectal (colorectal cancer definition includes colon and rectum and excludes appendix and intestine) |
| **Reporting Years** | 1. Hereditary; breast/ovarian: 2019, 2020  2. Hereditary; colon: 2019, 2020  3. Tumor tissue; colorectal: 2018-2019, 2019-2020 |
| **Types of genetic tests included** | 1. Hereditary; breast/ovarian: Patients were screened using a 2, 6 or 10 gene panel. The 10 gene panel was initiated in Oct 2019 and replaced the 6 gene panel.  2 gene panel: BRCA 1, BRCA 2  6 gene panel: BRCA1, BRCA2, CDH1, PALB2, PTEN, TP53  10 gene panel: BRCA 1, BRCA 2, PALB2, PTEN, TP53, MLH1, MSH2, MSH6, STK11, EPCAM  2. Hereditary; colon: Patients were screened using: the 6 gene panel for hereditary breast/ovarian cancer, the 12 gene panel for Lynch Syndrome/Polyposis (first initiated in Oct 2019) or the Lynch Syndrome Panel  6 gene panel for breast/ovarian  12 gene panel: MLH1, MSH2, MSH6, EPCAM, APC, MUTYH, BMPR1A, SMAD4, PTEN, STK11, POLE, POLD1  Lynch Syndrome gene panel: Completed at Mount Sinai, Toronto  3. Tumor tissue; colorectal: Colorectal cancer (CRC) tumors associated with Lynch Syndrome are characterized by defects in mismatch repair (MMR) genes: MLH1, MSH2, MSH6, PMS2. MMR genes are responsible for maintaining genomic stability by recognizing & correcting genetic mutations. Defects in this system therefore lead to the accumulation of genetic errors (which happen inside a type of DNA sequence called a microsatellite).  Two types of tests can be done on the CRC tumor cells to see if the tumor was caused by MMR gene defects: 1) The MMR immunohistochemistry test determines whether the CRC tumor is deficient in the repair machinery (the MMR system) and 2) The MIS test which assesses levels of microsatellite instability in the CRC tumor, which is a characteristic outcome of malfunctioning MMR genes. (I.e., MIS is a proxy for the presence of MMR gene defects). |
| **Denominator** | 1. Hereditary; breast/ovarian: Total number of patients diagnosed with breast/ovarian cancer during the reporting year. 2. Hereditary; colon: Total number of patients diagnosed with colon cancer for the reporting year. 3. Tumor tissue; colorectal: Total number of colorectal cancer patients diagnosed from Jan 1 2018 to Dec 31 2019 |
| **Numerator** | 1. Hereditary; breast/ovarian: Number of breast/ovarian cancer patients diagnosed in the reporting year and who received a hereditary cancer screen test in the same timeframe 2. Hereditary; colon: Number of colon cancer patients diagnosed in 2019 who got a hereditary cancer screen test in the same year 3. Tumor tissue; colorectal: Number of colorectal cancer patients diagnosed for the reporting years who completed a screen for Lynch Syndrome (MMR or MIS test) in the same timeframe |
| **Stratifications** | 1. Hereditary; breast/ovarian: Age group (20-40, 41-60, 61-70, 71+) 2. Hereditary; colon: N/A due to low sample size 3. Tumor tissue; colorectal: Age group (<70, >= 70), sex (female, male) |
| **Comments** | Lynch Syndrome screening (3. Tumor tissue) is initiated based on age of cancer diagnosis (< 70 years old) or a family history; therefore stratification by RHA would not be informative. |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | Number of women aged 30 to 69 years diagnosed with breast cancer, per 1,000 women who underwent genetic testing prior to cancer diagnosis. |
| **Reporting Years** | 2018, 2019, 2020 |
| **Types of genetic tests included** |  |
| **Denominator** | Number of women aged 30 to 69 years, who received genetic testing through the High Risk OBSP.  • Women aged 30 to 69 years, who underwent genetic testing through the High Risk OBSP, irrespectively of their screening eligibility.  • Age is based on the date of the genetic test requested. |
| **Numerator** | Number of women aged 30 to 69 years diagnosed with breast cancer (ductal carcinoma in situ [DCIS] or invasive), among those who received genetic testing through the High Risk OBSP.  • Women aged 30 to 69 years who were diagnosed with breast cancer (DCIS or invasive) within one year after their High Risk OBSP genetic testing. |
| **Stratifications** | Age group (30-39, 40-49, 50-59, 60-69) |
| **Comments** | Data sources:  • Integrated Client Management System (ICMS): Genetic testing data for the High Risk OBSP. 2018  • Ontario Cancer Registry (OCR): Breast cancer data. 2018-2019  Notes:  • This indicator only includes genetic testing through the High Risk OBSP. Therefore, genetic testing performed outside the High Risk OBSP is not included.  • Breast cancer data is extracted from the OCR, which has about one-year data lag.  • This indicator has a two-year data lag to allow for one-year follow-up after genetic testing, and another year to obtain breast cancer data.  • All women who underwent genetic testing are included regardless of their genetic test results and subsequent screening interventions. |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of patients with breast cancer who had genetic counselling |
| **Reporting Years** | 2019 |
| **Types of genetic tests included** | BRCA1 and BRCA2 |
| **Denominator** | The denominator is the average number of breast cancer patients from 2017 to 2019. |
| **Numerator** | The numerator is the number of women who have been diagnosed with breast cancer who had genetic counselling appointments in 2019. |
| **Stratifications** | Age group (20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+) |
| **Comments** |  |
| Nunavut | **Jurisdictional target** | No target/not provided |
| **Definition** | % of breast cancer patients diagnosed during 2015-2017 who undergo genetic testing. |
| **Reporting Years** | 2015-2017 |
| **Types of genetic tests included** | ICD code Z129 is considered for genetic testing, details of test type is not available. |
| **Denominator** | Total number of breast cancer cases identified during 2015-2017 |
| **Numerator** | Number of breast cancer patients diagnosed during 2015-2017 who undergo genetic testing |
| **Stratifications** | Age group (30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 75-79, 80-84) |
| **Comments** |  |
| **Colon Cancer** | | |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Definition** | % of colorectal cancer patients who received genetic testing results within 6 months of diagnosis |
| **Reporting Years** | 2019, 2020 |
| **Types of genetic tests included** |  |
| **Denominator** | # of patients with personal history of colorectal cancer (CRC) diagnosed at age ≤ 40 who consented to genetic testing |
| **Numerator** | # of patients with personal history of CRC cancer diagnosed at age ≤ 40 who received genetic testing results within 6 months of diagnosis |
| **Stratifications** | None |
| **Comments** | See comments above for breast cancer. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | See above for breast cancer section. |
| **Reporting Years** | See above for breast cancer section. |
| **Types of genetic tests included** | See above for breast cancer section. |
| **Denominator** | See above for breast cancer section. |
| **Numerator** | See above for breast cancer section. |
| **Stratifications** | See above for breast cancer section. |
| **Comments** |  |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of patients with colorectal cancer who had genetic counselling with the following criteria:  The numerator is the number of patients who have been diagnosed with colorectal cancer who had genetic counselling appointments during the reporting year. The denominator is the average number of colorectal cancer patients from 2017 to 2019. |
| **Reporting Years** | 2019 |
| **Types of genetic tests included** | Hereditary Nonpolyposis Colorectal Cancer (HNPCC) and Polyposis syndrome (FAP, MYH) |
| **Denominator** | The denominator is the average number of colorectal cancer patients from 2017 to 2019. |
| **Numerator** | The numerator is the number of patients who have been diagnosed with colorectal cancer who had genetic counselling appointments in 2019. |
| **Stratifications** | Sex (male, female), age group (20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+) |
| **Comments** |  |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | % of colorectal cancer patients under 40 years of age that undergo genetic testing within one year of being diagnosed. |
| **Reporting Years** | Diagnosis years- 2017-2019; Genetic testing - up to Dec 1, 2020. |
| **Types of genetic tests included** | No specific test name. Tests include tumour screening, known familial mutation, and multi-gene panel testing; IHC |
| **Denominator** | Number of patients under 40 who were diagnosed with invasive colorectal cancer in calendar years 2017- 2019 |
| **Numerator** | Number of patients under 40 who were diagnosed with colorectal cancer in calendar years 2017-2019 who had undergone a genetic test for colorectal cancer within one year of diagnosis. |
| **Stratifications** | None |
| **Comments** | 1. Exclusions: a). Non-invasive cancers; b) patients over 40 years of age; b) patients diagnosed outside NL; c) patients who received genetic testing outside of NL; d) histology codes: i) 8240 - Carcinoid tumor, NOS; ii) 9687 - Burkitt lymphoma, NOS; e) patients whose pathology reports could not be found; f) if patient declined genetics testing  2. NL can only report on colorectal cancer genetics testing at this time.  3. Numbers are too small to perform any stratification.  4. A patient was included in the numerator if immunohistochemistry (IHC) test was completed, regardless of if he/she was referred to and/or seen by a genetics councillor.  5. 2017-2019 years were aggregated as number of cases per year were too small to report. |
| Nunavut | **Jurisdictional target** | Not applicable |
| **Definition** | % of colon cancer patients diagnosed during 2015-2017 who undergo genetic testing. |
| **Reporting Years** | 2015-2017 |
| **Types of genetic tests included** | ICD code Z129 is considered for genetic testing, details of test type is not available. |
| **Denominator** | Total number of colon cancer cases identified during 2015-2017 |
| **Numerator** | Number of colon cancer patients diagnosed during 2015-2017 who undergo genetic testing |
| **Stratifications** | None |
| **Comments** | See comments above for breast cancer. |
| **Ovarian Cancer** | | |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Definition** | % of ovarian cancer patients who received genetic testing results within 6 months of diagnosis |
| **Timeframe** | 2019, 2020 |
| **Types of genetic tests included** |  |
| **Denominator** | Number of patients with personal history of ovarian cancer who consented to genetic testing |
| **Numerator** | Number of patients with personal history of ovarian cancer who received genetic testing results within 6 months of diagnosis |
| **Stratifications** | None |
| **Comments** | See comments above for breast cancer.  For ovarian cancer: cannot differentiate between epithelial and non-epithelial – therefore would never expect 100% testing |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | % of ovarian cancer patients who received genetic testing results within 6 months of diagnosis |
| **Reporting Years** | 2019, 2020 |
| **Types of genetic tests included** |  |
| **Denominator** | Number of patients with personal history of ovarian cancer who consented to genetic testing |
| **Numerator** | Number of patients with personal history of ovarian cancer who received genetic testing results within 6 months of diagnosis |
| **Stratifications** | None |
| **Comments** | See comments above for breast cancer.  Epithelial and non-epithelial ovarian cancers cannot be differentiated – thus 100% testing is not expected |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | % of colorectal cancer patients screened for Lynch Syndrome during specified timeframe. (Colorectal cancer definition include colon and rectum and excludes appendix and intestine).  1. Colon cancer (hereditary cancer screen)  2. Colorectal cancer (tumour tissue screen) |
| **Reporting Years** | 2018-2019, 2019-2020 |
| **Types of genetic tests included** | 1. Patients were screened using the following: the 6 gene panel for hereditary breast/ovarian cancer, the 12 gene panel for Lynch Syndrome/Polyposis (first initiated in Oct 2019) or the Lynch Syndrome Panel completed at Mount Sinai, Toronto.  6 gene panel for breast/ovarian: See B33  12 gene panel: MLH1, MSH2, MSH6, EPCAM, APC, MUTYH, BMPR1A, SMAD4, PTEN, STK11, POLE, POLD1  Lynch Syndrome gene panel: Samples were sent to Mount Sinai, Toronto (specifics of gene-panel not known)  2. Colorectal cancer (CRC) tumors associated with Lynch Syndrome are characterized by defects in mismatch repair (MMR) genes: MLH1, MSH2, MSH6, PMS2. MMR genes are responsible for maintaining genomic stability by recognizing & correcting genetic mutations. Defects in this system therefore lead to the accumulation of genetic errors (which happen inside a type of DNA sequence called a microsatellite).  Two types of tests can be done on the CRC tumor cells to see if the tumor was caused by MMR gene defects: 1) The MMR immunohistochemistry test determines whether the CRC tumor is deficient in the repair machinery (the MMR system) and 2) The MIS test which assesses levels of microsatellite instability in the CRC tumor, which is a characteristic outcome of malfunctioning MMR genes. Ie: MIS is a proxy for the presence of MMR gene defects. CRC tumors with stable microsatellites are unlikely to be caused by Lynch Syndrome, whereas tumors with any amount of microsatellite instability (low or high) indicate a Lynch Syndrome possibility. |
| **Denominator** | 1. Total number of patients diagnosed with colon cancer in 2019 (2020 for new data point)  2. Total number of colorectal cancer patients diagnosed, from Jan 1, 2018, to Dec 31 2019 (Jan 1st 2019- Dec 31st 2020 for new data point) |
| **Numerator** | 1. Number of colon cancer patients diagnosed in 2019 and got a hereditary cancer screen test in the same year (2020 for new data point)  2. Number of colorectal cancer patients diagnosed from Jan 1 2018 to Dec 31 2019 who completed a screen for Lynch Syndrome (MMR or MIS test) in the same timeframe (Jan 1st 2019- Dec 31st 2020 for new data point) |
| **Stratifications** | Age (<70 and ≥70) and sex (male, female) for tumour tissue screen for Lynch syndrome only |
| **Comments** | Lynch Syndrome screening (ii. on tumor tissue) is initiated based on age of cancer diagnosis (< 70 years old) or a family history; therefore stratification by RHA will not be informative. |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of patients with ovarian cancer who had genetic counselling |
| **Reporting Years** | 2019 |
| **Types of genetic tests included** | BRCA1 and BRCA2 |
| **Denominator** | The denominator is the average number of ovarian cancer patients from 2017 to 2019 |
| **Numerator** | The numerator is the number of women who have been diagnosed with ovarian cancer who had genetic counselling appointments in 2019. |
| **Stratifications** | Age group (20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+) |
| **Comments** |  |
| Nunavut | **Jurisdictional target** | Not applicable |
| **Definition** | % of ovarian cancer patients diagnosed during 2015-2017 who undergo genetic testing. |
| **Reporting Years** | 2015-2017 |
| **Types of genetic tests included** | ICD code Z129 is considered for genetic testing, details of test type is not available. |
| **Denominator** | Total number of ovarian cancer cases identified during 2015-2017 |
| **Numerator** | Number of ovarian cancer patients diagnosed during 2015-2017 who undergo genetic testing |
| **Stratifications** | None |
| **Comments** | See comments above for breast cancer. |

### 

### Jurisdiction-specific level of implementation status for HPV primary screening to eligible individuals

Data Source: Provincial and territorials cancer agencies and programs

|  |  |  |
| --- | --- | --- |
| **Jurisdiction** | **Item** | **Description** |
| All provinces and territories | **Reporting Years** | Data collected in September 2021 |
| **Denominator** | By Jurisdiction (province or territory) |
| **Numerator** | Level of implementation status |
| **Levels of Implementation Definitions** | Levels of implementation status (to show incremental implementation progress by jurisdiction)   1. No current HPV primary screening activities (i.e., “status quo” cervical cancer screening activities) 2. Planning for implementation: Conducting environmental scanning, gathering requirements to determine approach for implementation (i.e., preparing/submitting business cases, forming advisory committees) and/or planning for pilots/programs for HPV primary screening and/or self-sampling 3. Pilot: Pilot has been implemented to offer HPV primary screening. Pilots include time-bound screening activities that do not have confirmed sustainable funding. 4. Partial implementation: Organized HPV primary screening has rolled out in certain sites or for certain populations across the jurisdiction. Partial implementation includes organized screening being phased-in over a time by gradually increasing capacity of screening sites or if plans are in place to implement organized screening at additional site locations. Partial implementation has secured sustained funding to offer long-term organized screening. 5. Jurisdiction-wide implementation: A fully implemented organized HPV primary screening program, which is available jurisdiction-wide, with or without options for self-sampling and embeds a culturally safe approach to care. |
| **Data Source** | Provincial and territorial cancer agencies and programs |
| **Comments** |  |

# Priority 2: Diagnose cancer faster, accurately, and at an earlier stage

## Action 1: Prioritize rapid access to appropriate diagnosis for those suspected of having cancer

### Time from Suspicion of cancer to definitive diagnosis of cancer

Data Source: Provincial cancer agencies and programs

|  |  |  |
| --- | --- | --- |
| **Jurisdiction** | **Item** | **Description** |
| British Columbia | **Jurisdictional target** | Yes (>= 90% receive a diagnosis within the respective time frame for their pathway) |
| **Definition** | Percentage of women who received their diagnosis within 5 weeks (no tissue sample) and 7 weeks (tissue sample) of their abnormal mammogram  The scope for this indicator includes all individuals who require follow-up up from an abnormal mammogram (i.e. not only those who eventually are diagnosed with cancer). This was done to align with other reporting for this wait time from abnormal screen to diagnosis and reflecting that the wait process should be monitored regardless of the ultimate diagnosis. |
| **Reporting Years** | 2019 and 2020 calendar years (reported by year) |
| **Cancer site(s) included** | Breast Cancer |
| **Definition of Suspicion** | An abnormal mammogram |
| **Definition of definitive diagnosis** | The date of definitive diagnosis is:  o For cancer - the date of the first core or open biopsy to diagnose cancer, or  o For benign cases – the last test before a recommendation to return to screen, or other recommendation for recall (e.g. benign open biopsy or other test). |
| **Denominator** | The number of abnormal mammograms that are referred into the specific diagnostic pathway (tissue sample, non-tissue sample pathways) |
| **Numerator** | The number of women that received their diagnosis within 5 weeks (no tissue sample) and 7 weeks (tissue sample) of their abnormal mammogram |
| **Stratifications** | Calendar year (2019, 2020), Diagnostic pathway (non-tissue, tissue) |
| **Comments** |  |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Definition** | Time from last read date to diagnosis of breast cancer (in days - median, 90th percentile) for women screened through the Screening Program for Breast Cancer at the Saskatchewan Cancer Agency. |
| **Reporting Years** | Population: 1 January 2019 – 31 December 2019; January 2020 – 31 December 2020  Screening dates: 1 July 2018 – 31 December 2019; January 2020– 31 December 2020 |
| **Cancer site(s) included** | Breast Cancer |
| **Definition of Suspicion** | Screening Program for Breast Cancer - Last read date. |
| **Definition of definitive diagnosis** | Date of cancer diagnosis (defined by Cancer Registry). |
| **Measures** | Time in days from date of abnormal mammogram read to date of definitive diagnosis (median, 90th percentile) |
| **Stratifications** | Age group (50-59, 60-69, 70-79) |
| **Comments** | Of 790 individuals diagnosed with breast cancer only 226 were screen detected. Screen detected means that an individual was diagnosed with breast cancer within 6 months from the date of screening.  Exclusion Criteria:  • Patients with previous cancer diagnosis within the last 5 years of the current breast cancer  • Males  • <18 years of age |
| Manitoba | Jurisdictional target | 90% of women with an abnormal screen should have a final diagnosis within 5 weeks if no tissue biopsy was performed and within 7 weeks if a tissue biopsy was performed |
| Definition | Median time from screening to diagnosis for women screened for breast cancer |
| Reporting Years | 2017-2018 |
| Cancer site(s) included | Breast Cancer |
| Definition of Suspicion | Date of an abnormal breast check screening result (time 1) |
| Definition of definitive diagnosis | Date of breast tumour diagnosis (time 2) |
| Measures | Time 2 - Time 1 |
| Stratifications | Rural Health Area |
| Comments |  |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | Time from suspicion of cancer to definitive diagnosis of cancer |
| **Reporting Years** | Patients were diagnosed with invasive carcinoma of the breast in 2019. The look-back period to identify the suspicion date is 1 year prior to diagnosis. |
| **Cancer site(s) included** | Breast cancer (SEER recode 26000, behaviour code 3) |
| **Definition of Suspicion** | The date of suspicion was derived from the breast cancer screening date or the earliest of a predetermined set of healthcare encounters within 1 year prior to diagnosis. The lookback period for each set of healthcare encounters depended on the healthcare encounter type, as determined by Groome et al using statistical control charts for the period 2014-2016.1 The statistical control charts were not reproduced. Data sources include the physician billing database (Ontario Health Insurance Program, OHIP), the outpatient hospital procedure database (National Ambulatory Care Reporting System, NACRS), the inpatient hospital procedure database (Discharge Abstract Database, DAD), and the Ontario Breast Screening Program database (Integrated Client Management System, ICMS). A predetermined hierarchy was used to identify which healthcare encounter was responsible for the suspicion date (e.g. the date of the screening mammogram was used as the suspicion date over all other health care encounters, regardless of the chronological order of the events).1 |
| **Definition of definitive diagnosis** | The diagnosis date was ascertained from the Ontario Cancer Registry (OCR), which primarily uses the date the pathological specimen was collected that confirmed the breast cancer diagnosis. |
| **Measures** | Time in days from date of suspicion to date of diagnosis date (median, 90th percentile) |
| **Stratifications** | None |
| **Comments** | The suspicion algorithm has not been validated for patients who had a prior breast cancer diagnosis.1,2  References:  1 Groome PA, Webber C, Whitehead M, et al. Determining the Cancer Diagnostic Interval Using Administrative Health Care Data in a Breast Cancer Cohort. JCO Clin cancer informatics. 2019;3:1-10. doi:10.1200/CCI.18.00131  2 Habbous S, Homenauth E, Barisic A, Kandasamy S, Majpruz V, Forster K, Yurcan M, Chiarelli AM, Groome P, Holloway CMB, Eisen A. Differences in breast cancer diagnosis by patient presentation in Ontario: a retrospective cohort study. CMAJ Open (in press) |
| New Brunswick | **Jurisdictional target** | No target/not provided |
| **Definition** | NB separated this indicator into four separate indicators:  1) Time in weeks from abnormal breast screen to resolution (definitive diagnosis). Wait times for abnormal breast cancer screen to resolution (5 weeks).  2) Time in weeks from abnormal breast screen to resolution (definitive diagnosis). Wait times for abnormal breast cancer screen to resolution (7 weeks).  3) Wait time to follow-up colonoscopy is defined as the time interval from an abnormal fecal test result to follow-up colonoscopy in the measurement timeframe. Target: ≥90% within 60 days of an abnormal fecal test result.  4) Wait time from follow-up colonoscopy to definitive pathological diagnosis is defined as the time from a follow-up colonoscopy procedure to definitive pathological diagnosis (Median and 90th percentile number of calendar days from follow up colonoscopy to a definitive pathological diagnosis). |
| **Reporting Years** | 1) & 2) Time frame for Breast cancer- Jan 1, 2018 – Dec 31, 2019, plus 6 months grace period; Jan 1, 2020 –Dec 31, 2020 plus 6 months grace period;  3) & 4) Time frame for Colon cancer- Jan 1, 2019 – Dec 31, 2020, plus 6 months grace period; Jan 1, 2021 – Dec 31, 2021 plus 6 months grace period; |
| **Cancer site(s) included** | 1) & 2) Breast cancer  3) & 4) Colon cancer |
| **Definition of Suspicion** | 1) Time from Abnormal Breast Screen to Final Resolution Without Tissue Biopsy  2) Date of breast cancer screen  3) Date of positive FIT result  4) Date of a follow-up colonoscopy procedure |
| **Definition of definitive diagnosis** | 1) & 2) Date of breast cancer diagnosis  3) Date of a follow-up colonoscopy procedure  4) Date of colon cancer diagnosis |
| **Denominator** | 1) Number of women aged 50-74 with an abnormal breast screen result and not requiring tissue biopsy.  2) Number of women aged 50-74 with an abnormal breast screen result and requiring tissue biopsy.  3) Number of abnormal fecal test with follow-up colonoscopies within 180 days of the abnormal FIT.  4) Individuals who had a positive follow-up colonoscopy procedure |
| **Numerator** | 1) Number of women who had final resolution within 5 weeks of an abnormal breast screening.  2) Number of women who had final resolution within 7 weeks of an abnormal breast screen  3) Number of colonoscopies within target 60 days  4) Individuals who had a positive follow-up colonoscopy procedure and diagnosed with colon cancer |
| **Stratifications** | 1) & 2) Screen year (2018-2019), age group (50-54, 55-59, 60-64, 65-69, 70-74)  3) & 4) Sex (male, female), age group (50-54, 55-59, 60-64, 65-69, 70-74) |
| **Comments** | 3) & 4) Variable age group is classified based on age at result date. |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Time from suspicion of cancer to definitive diagnosis of cancer |
| **Reporting Years** | All breast cancers and DCIS in women diagnosed during the year were included; Reporting Years: 2019, 2020 |
| **Cancer site(s) included** | Breast (C50-C 50.9) |
| **Definition of Suspicion** | Data from Breast cancer screening Program and for diagnostic imaging of the breast was linked to records from women who were diagnosed with breast cancer.  1. For women who had more than one cancer diagnosed in the year, only the earliest cancer was included in the analysis.  2. The women who did not have any diagnostic imaging were all women >90 years old and were excluded from the analysis.  3. For the women who came in for breast screening and had a suspicion result of BI\_RADS 4 (4A, 4B, 4C) which was a >2% but <95% chance of cancer or a BI-RADS 5 ≥95%, the day of suspicion was the date of the screening mammogram.  4. For women who were sent in for being symptomatic, date of suspicion had an algorithm.  A. The first breast diagnostic imaging procedure (Mammogram, US, MRI) that the women had within 170 days of the diagnosis date was the first procedure. The date of suspicion was the date the appointment was scheduled. Usually, this date was only a few days after the doctor's the referral date.  B. If there was a result of BI-RADS 3 (Probably benign finding – Follow-up in a short time frame was suggested), then the next diagnostic image date with a result of BI-RADS 4 or 5 was used as suspicion.  5. For women who had greater than 170 days between suspicion and diagnosis, the next later suspicion date was used because often women were asked to wait 6 months (182 days) and come back in to be tested again. The number of 170 days was used as a cut-off in case women scheduled just short of 182 days for convenience of the patient.  6. Some of the dates needed to be changed because the diagnostic imaging results were often entered as B, R, L for both, left, and right breast. So, it was possible that a result of return in 6 months for the R breast, but the next entry was suspicion for the L. The algorithm does not adjust for L, R, B because it was not consistent how the results were reported. |
| **Definition of definitive diagnosis** | Definitive diagnosis came from the PEI Cancer Registry diagnosis date. This date was based on Canadian Cancer Registry Rules (CCR) and was most commonly based on the date pathology was taken unless there was no pathology. If no pathology, other factors were examined including diagnostic imaging results. |
| **Measures** | Median, range, and 90th percentile of days from time of suspicion to definitive diagnosis of breast cancer and DCIS were calculated. |
| **Stratifications** | Screen status (screeners, diagnostic women), cancer type (invasive, DCIS), and age group (<40, 40-49, 50-69, 70-74, 75+). |
| **Comments** | 1. Women with breast cancer who did not have any testing identified in the DI RIS database or in Physician's billing for an ER visit were excluded.  2. Women with breast cancer that were diagnosed at autopsy or on death certificate only were excluded  3. Lymphoma codes M95-98, and all sarcoma codes were excluded |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Mean, median and 90th percentile from time to suspicious FIT test to diagnosis of colorectal cancer |
| **Reporting Years** | 2021 |
| **Cancer site(s) included** | Colorectal cancer |
| **Definition of Suspicion** | Abnormal result on FIT test |
| **Definition of definitive diagnosis** | Pathologic diagnosis of cancer and case ascertainment in NL solid tumour registry |
| **Measures** | Average, median and 90th percentile of times |
| **Stratifications** |  |
| **Comments** |  |

### Proportion of stage 4 diagnosis (lung, colorectal, bladder and melanoma cancer)

Data Source: Provincial cancer agencies and programs

|  |  |  |
| --- | --- | --- |
| **Jurisdiction** | **Item** | **Description** |
| **Lung Cancer** | | |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Year** | 2018, 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | Counts are combined for Occult and Unknown and for Not available and Unstageable. Age-standardized rates are combined for Occult and Unknown and for Not available and Unstageable. DCO cases are included in Not available and Unstageable category. |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Year** | 2019, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Used pathological stage first. If the pathological stage is blank, used the clinical stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | Cohort includes:  1. Patient age ≥ 18 at diagnosis  2. Alberta residents only Note: Few cases with registry status not completed were excluded. |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Year** | 2018, 2019 |
| **Projected data** | Yes |
| **Staging based on AJCC 8th edition** | No |
| **AJCC 8th edition variable used** | N/A |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | 1.1 Data source and preparation: All cancer data were sourced from the Saskatchewan Cancer Registry. Cancer cases from 1992-2017 (latest complete available year of data) were considered for incidence. Data obtained included the patient number, sex, date of diagnosis, date of death, topography, and morphology and behavior codes. Cancers were grouped into standard categories according to CPAC and ICD-O-3 specifications. Data management was performed in SAS and R.  1.2 Methods - Incidence Projections: Saskatchewan covered population data was obtained from the Ministry of Health website (1) and projected population data was extracted from Statistics Canada, for medium population growth scenarios – medium population growth with historical trend (M1)(2). Each cancer site was grouped by sex, calendar year and age-group (18 age group). Projection methods use the R-package CANPROJ which is a version of NORDPRED modified by CPAC. Projection methods are described in detail elsewhere (3,4,5).  Total incidence by disease site (lung, colorectal, bladder, and melanoma) for all stages combined was projected for the years 2018 and 2019. Due to low case counts in several of the stage groupings, the average ratio of stage breakdown (0-4, other) was calculated for the most recent 5 years of data (2013-2017) by disease site and sex and applied to the projected incidence to obtain breakdown by stage for years 2018 and 2019.  1.3 Methods – Population Projections  Population projection data was sourced from Statistics Canada (2). The projection method used considers interaction among different demographic phenomena and combines rates associated with events (e.g., births, deaths, internal migration, immigration, emigration). The population of each province is projected individually. The medium growth M1 scenario is based on historical trends from 1981-2008 and uses assumptions on the total fertility rate, male and female life expectancy in 2036, immigration rate, emigration rate, returning emigrant rate, net temporary emigration, non-permanent residents, and interprovincial migration. As with other projections, the accuracy of these predictions can be affected by various economic, political and natural events that are difficult to predict, that in turn can affect the growth and composition of the provincial population. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Year** | 2019, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female), Stage (0, I, II,III,IV, Unknown, Occult) |
| **Comments** | Note re AJCC 8th staging variable: A combination of options was used. The 'path\_stage' is used preferentially if available. If it’s missing, unknown or NA, "post\_therapy\_stage" is used. If the latter is missing, unknown or NA, "clinical stage" is used.  If all of the above stages are missing, unknown or NA, the stage is then set to "unknown".  Regarding duplicate patient counts: Duplicate/multiple instances of patients is highly likely given patients may present with cancers at more than one site and/or stage. For simplicity, multiple instances of the same patient have been removed if they occur within the same disease site group (DSG). However, duplicate patients have been retained across DSGs. In other words, if the same patient has more than one cancer across the 4 DSGs (lung, melanoma, bladder or colorectal), they are not removed. |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Year** | 2018, 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Any one of clinical/pathological/post therapy |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** |  |
| New Brunswick | **Jurisdictional target** | No target/not provided |
| **Year** | 2019, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | Lung cancer cases diagnosed in year 2019 are now fully registered. The coding for colon cancer in year 2019 is ongoing and, bladder and melanoma cancers are not staged in New Brunswick. Stage 0 for lung (3 cases) and colon (14 cases) cancers are included in the overall counts (779 for lung and 621 for colorectal) but not required in Tables 1 & 2 (in data submission). Two lung cancer cases are missing Health Region information at the time of data extraction and 1 for colon cancer. |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 (Projected) |
| **Projected data** | Yes |
| **Staging based on AJCC 8th edition** | Yes – combined with AJCC 7th |
| **AJCC 8th edition variable used** | N/A (projection) |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | The data is from the Nova Scotia Cancer Registry. The total case count for 2019 has been estimated by CanProj-R, using methods described in the Canadian Cancer Statistics series, applied to data years 1972 - 2017. Separate models by sex were estimated and summed to obtain a total for both sexes. Projection of stage IV disease is based on JoinPoint projection of the proportion of stage IV disease for the data years 2008 - 2017. Stages I - III are grouped in the above table, as they were not separately estimated. Cases staged as Occult, Unknown or Not Applicable were excluded from the proportion estimates and have been combined for presentation in the above table. The proportion of these cases is tabulated separately by sex and averaged over the final 3 years of available data (2015 - 2017). Models of late-stage proportion were sex-specific at the provincial level, and Health Zone-specific for sub-provincial estimates. For this reason, totals across Health Zone of any site/stage cells cannot be expected to equal the corresponding cell at the provincial level. Staging of cases in the provincial registry system was recorded using the Collaborative Stage framework, which has assigned an AJCC 'best' stage according to AJCC 7th edition (2008 - 2009) and AJCC 8th edition (2010 - 2017). |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Year** | 2018, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Used pathological stage first. If the pathological stage is blank, used the clinical stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | AJCC8 has no consensus on how to assign a final stage to a patient. For this analysis, the pathologic staging was used as the final stage unless there was no stage given or if the stage was unknown at which point, the clinical stage was substituted as the final stage. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Not Applicable |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | 1. NLCCR defines cancers using a multiple primary rule; therefore, patients with multiple primary cancers will be included more than once.  2. AJCC staging coded with value = '99' are categorized as 'Unknown’, value = '88' are 'Not Applicable' and missing values are categorized as 'Not Available'.  3. AJCC 8th edition staging were summarized into each of the stratified stages by prioritizing pathologic staging first, followed by clinical staging if pathologic staging information were unknown or not available and finally by post-treatment staging if both pathologic and clinical staging information was unknown or not available.  4. Due to methodological differences between AJCC-8 and collaborative staging ASIR from 2018 onward is not directly comparable to previous ASIRs.  5. NL can only submit lung cancer staging information at this time, colorectal staging information is currently being entered into NL Cancer Registry and will be the next cancer site to be submitted once completed - tentative completion date of January 31, 2021. Staging for 2019 melanoma and bladder will commence afterwards.  5. As per initial inclusion and exclusion criteria for lung cancer, colorectal cancer, and melanoma, the main tables report counts of malignant cancer cases only (ICD-O-3 behavior code 3). For bladder cancer, the main tables report malignant and in situ cases combined. The additional stratification tables provide counts for lung cancer, colorectal cancer, and melanoma, which include malignant (ICD-O-3 behavior code 3) and in situ (ICD-O-3 behavior code 2) combined. |
| Nunavut | **Jurisdictional target** | Not applicable |
| **Year** | 2015-2017 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | No |
| **AJCC 8th edition variable used** | None of the Above |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** |  |
| **Colorectal Cancer** | | |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Year** | 2018; 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | See comments above for lung cancer. |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Year** | 2019; 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Used pathological stage first. If the pathological stage is blank, used the clinical stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | See comments above for lung cancer. |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Year** | 2018, 2019 |
| **Projected data** | Yes |
| **Staging based on AJCC 8th edition** | No |
| **AJCC 8th edition variable used** | N/A |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | See comments above lung cancer |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Year** | 2019, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female), Stage (0, I, II,III,IV, Unknown, Occult) |
| **Comments** | See comments above for lung cancer. |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Year** | 2018, 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Any one of clinical/pathological/post therapy |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** |  |
| New Brunswick | **Jurisdictional target** | No target/not provided |
| **Year** | 2019, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** |  |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 (Projected) |
| **Projected data** | Yes |
| **Staging based on AJCC 8th edition** | Yes – combined with 7th edition |
| **AJCC 8th edition variable used** | N/A (projection) |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | See comments above for lung cancer. |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Year** | 2018, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Used pathological stage first. If the pathological stage is blank, used the clinical stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | See comments above for lung cancer. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Not Applicable |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | See comments above for lung cancer. |
| Nunavut | **Jurisdictional target** | Not applicable |
| **Year** | 2015-2017 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | No |
| **AJCC 8th edition variable used** | None of the Above |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** |  |
| **Bladder Cancer** | | |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | See comments above for lung cancer. Note that ASIR rates were also provided. |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Year** | 2019, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Used pathological stage first. If the pathological stage is blank, used the clinical stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | See comments above for lung cancer. |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 (Projected) |
| **Projected data** | Yes |
| **Staging based on AJCC 8th edition** | Yes – combined with AJCC 7th |
| **AJCC 8th edition variable used** | N/A (projection) |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** |  |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Year** | 2018 |
| **Projected data** | Yes |
| **Staging based on AJCC 8th edition** | No |
| **AJCC 8th edition variable used** | N/A |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | See comments above lung cancer |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Year** | 2019, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female), Stage (0, I, II, III, IV, Unknown, Occult) |
| **Comments** | See comments above for lung cancer. |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Year** | 2018, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Used pathological stage first. If the pathological stage is blank, used the clinical stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | See comments above for lung cancer. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Not Applicable |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | See comments above for lung cancer. |
| **Melanoma Cancer** | | |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | See comments above for lung cancer. Note that ASIR rates were also provided. |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Year** | 2019, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Used pathological stage first. If the pathological stage is blank, used the clinical stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | See comments above for lung cancer. |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 (Projected) |
| **Projected data** | Yes |
| **Staging based on AJCC 8th edition** | Yes – combined with AJCC 7th |
| **AJCC 8th edition variable used** | N/A (projection) |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** | No |
| **Comments** | No target/not provided |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Year** | 2018 |
| **Projected data** | Yes |
| **Staging based on AJCC 8th edition** | No |
| **AJCC 8th edition variable used** | N/A |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | No |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female) |
| **Comments** | See comments above lung cancer |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Year** | 2019, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | AJCC8\_path\_stage |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** | Sex (male, female), Stage (0, I, II,III,IV, Unknown, Occult) |
| **Comments** | See comments above for lung cancer. |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Year** | 2018, 2020 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | P stage first, C stage second |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | See comments above for lung cancer. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Year** | 2019 |
| **Projected data** | No |
| **Staging based on AJCC 8th edition** | Yes |
| **AJCC 8th edition variable used** | Not Applicable |
| **Inclusion of provincial residents only** | Yes |
| **Inclusion of Occult, Not Available, and Not Applicable (separately)** | Yes |
| **ICD codes alignment** | Yes |
| **Stratifications** |  |
| **Comments** | See comments above for lung cancer. |

## Action 2: Strengthen existing screening efforts and implement lung-cancer screening programs across the country

### Proportion of the eligible population that is up to date for colorectal cancer screening

Data Source: Provincial cancer agencies and programs

|  |  |  |
| --- | --- | --- |
| **Jurisdiction** | **Item** | **Description** |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Inclusion of fit test / Reporting Years** | 2016, 2017, 2018, 2019, 2020 |
| **Inclusion of FOBT test / Reporting Years** | Not Applicable |
| **Inclusion of sigmoidoscopy / Reporting Years** | Not Applicable |
| **Inclusion of colonoscopy / Reporting Years** | Not Applicable |
| **Based on 50-74?** | Yes |
| **Age calculation** | Age calculated as of Dec 31 in each year |
| **Denominator** | BC population age 50-74, adjusted for prevalence of colorectal cancer |
| **Numerator** | The number of unique individuals aged 50-74 that have completed a BC Cancer Colon Screening Program FIT test in the past 30 months |
| **Stratifications** | Sex (male, female)\*year (2016-2020) |
| **Comments** | Adjustments for prior history of colorectal cancer in the population are based on age-specific estimates and projections based on prevalence data provided by the BC Cancer Registry. |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Inclusion of fit test / Reporting Years** | 2018-2019, 2019-2020 |
| **Inclusion of FOBT test / Reporting Years** | Not Applicable |
| **Inclusion of sigmoidoscopy / Reporting Years** | 2015-2019 |
| **Inclusion of colonoscopy / Reporting Years** | 2015-2019 |
| **Based on 50-74?** | Yes |
| **Age calculation** | Denominator: Alberta residents aged 50-74 at the index date; Index date was defined as the midpoint in a two-year period, e.g., calendar year: Jan 1st, 2019 for 2018-2019 (2019-2020 for latest data point)  Numerator: Age at exam date |
| **Denominator** | Total number of Alberta screen-eligible individuals, 50-74 years old in each two-year period |
| **Numerator** | Total number of Alberta screen-eligible individuals, 50-74 years old, who had FIT test in past two years and/or sigmoidoscopy/colonoscopy in the past five years |
| **Stratifications** | Age group (50-54, 55-59, 60-64, 65-69, 70-74) |
| **Comments** | We could not stratify the numbers by FIT/colonoscopy/sigmoidoscopy as the time period is across 5 years, and each category is not mutually exclusive (especially if stratifying by age at the same time as patients will be counted multiple times in the calculation). Therefore, we could not provide this stratification. |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Inclusion of fit test / Reporting Years** | 1 January 2018 – 31 December 2019  \*Participants were born between 14 Jan 1943 and 2 Dec 1969. |
| **Inclusion of FOBT test / Reporting Years** | Not Applicable |
| **Inclusion of sigmoidoscopy / Reporting Years** | Not Applicable |
| **Inclusion of colonoscopy / Reporting Years** | 1 January 2013 – 31 December 2019 (programmatic)  1 January 2016 – 31 December 2019 (billing)  \*Participants were born between 14 Jan 1943 and 2 Dec 1969. |
| **Based on 50-74?** | Yes, the population was restricted to those born between 14 January 1943 and 2 December 1969 - would be those who were 50-74 in 2018 or 2019 |
| **Age calculation** | Age at the time of FIT test or the date of colonoscopy examination |
| **Denominator** | The average of the covered population (2018-2019) who are 50-74 years of age |
| **Numerator** | Aged 50-74 combined FIT and colonoscopy examination |
| **Stratifications** | Age group (50-64, 55-59, 60-64, 65-69, 70-74, 50-74 combined), age group\*sex (male, female) |
| **Comments** | Number of people who had at least one FIT from 2018-2019 was based on the FIT test alone, but for those who had at least one colonoscopy examination done was based on the NexJ data from 2013 and colonoscopy examination billing information from 2016-2019. The sigmoidoscopy procedures were excluded from this analysis. Number of individuals who received at least one screening have combined FIT test (2018-2019) and colonoscopy examination. The duplicated procedures between the two datasets were removed. The analysis would be under-estimated because the colonoscopy examination information was only backed for two years. Individuals who had a screening and turned 75 years old were also excluded from the analysis. This also affects the screening rate and is another reason why we are currently working to update the methodology. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Inclusion of fit test / Reporting Years** | No |
| **Inclusion of FOBT test / Reporting Years** | Yes; FOBT test includes both program FOBTs with a positive, negative and indeterminate results, and non-program FOBTs (result of non-program FOBTs is unknown)  Last 2 years (Jan 1, 2018 – Dec 31, 2019) |
| **Inclusion of sigmoidoscopy / Reporting Years** | Yes; Last 5 years (Jan 1, 2015 to Dec 31, 2019) |
| **Inclusion of colonoscopy / Reporting Years** | Yes; Last 5 years (Jan 1, 2015 to Dec 31, 2019) |
| **Based on 50-74?** | Yes |
| **Age calculation** | The numerator includes individuals 50-74 years old as of service date, while the denominator is the total count of individuals aged 50-74 as of June 1, 2019 (see comments). |
| **Denominator** | Number of individuals aged 50-74 (as of June 1, 2019) in Manitoba |
| **Numerator** | Number of individuals aged 50-74 (as of service date) who completed a: a) fecal test with a positive, negative, or indeterminate result in the last two years, or b) a colonoscopy or flexible sigmoidoscopy within the last five years |
| **Stratifications** | Age group (50-54, 55-59, 60-64, 65-69, 70-74, 50-74 combined), sex (male, female), Regional Health Authority (Winnipeg, Southern, Interlake-Eastern, Prairie Mountain, Northern) |
| **Comments** | June 1, 2019: This is the midpoint date in the year which Manitoba Population Health uses to calculate age.  Individuals belonging to unspecified Regional Health Authorities are excluded from the indicator calculation |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Inclusion of fit test / Reporting Years** | Within a 2-year period up to Dec 31 of each year |
| **Inclusion of FOBT test / Reporting Years** | Not Applicable |
| **Inclusion of sigmoidoscopy / Reporting Years** | Within a 10-year period up to Dec 31 of each year |
| **Inclusion of colonoscopy / Reporting Years** | Within a 10-year period up to Dec 31 of each year |
| **Based on 50-74?** | Yes, the indicator is based on those 50-74 years of age |
| **Age calculation** | Ontario population aged 50 to 74 years old as of the index date, January 1st, in each year between 2017 to 2019 (see denominator description) |
| **Denominator** | Derived from the Primary Care Population Dataset (PCPOP), the denominator(s) include all Ontario residents who were 50-74 years of age on index date, corresponding to January 1st of 2017, 2018, and 2019, respectively. People were further excluded if they had:  (1) an invalid ICES key number (IKN),  (2) missing date of birth,  (3) missing postal code,  (4) ineligible for Ontario Health Insurance Plan (OHIP)  (5) no contact with the health care system for an extended period of time,  (6) < 50 or >74 years of age on index date,  (7) any history of colon cancer in the Ontario Cancer Registry (OCR),  (8) any history of total colectomy in OHIP, or  (9) a history of inflammatory bowel disease in the 5 years prior to the index date, in the Ontario Crohn's and Colitis Cohort Database (OCCC). |
| **Numerator** | Eligible persons who underwent at least one of the following:  (1) FOBT/FIT test in the reporting year, or one year prior to the index date (i.e., within 2-years up to Dec 31 of each year),  (2) flexible sigmoidoscopy in the reporting year, or in the 9-years prior to the index date, or  (3) Colonoscopy in the reporting year, or in the 9-years prior to the index date |
| **Stratifications** | Age group (50-54, 55-59, 60-64, 65-69, 70-74, 50-74 combined) |
| **Comments** | Data Sources:  CONTACT  Ontario Cancer Registry  Ontario Crohn’s and Colitis Cohort  Ontario Health Insurance Plan  Postal Code Conversion File  Primary Care Population Dataset  PCPOP is a population level dataset that includes all people in Ontario who are deemed alive and eligible as of a reference date. From 2008 and onwards, PCPOP is created bi-annually; such cohorts capture people who are alive and eligible for OHIP as of the reference date, have had some form of recent contact with the healthcare system (see below), and excludes non-Ontario residents.  Registered Persons Database (RPDB)  We use the date of last contact to adjust RPDB population counts to approximate population (total) estimates reported by Statistics Canada. The last contact threshold is 11 years for 2016/17 to 2018/19, and 10 years for 2019/20, indexed to March 31 of the respective year.  Other Important Notes:  Data shown may not agree with Ontario Health (Cancer Care Ontario) reporting for this indicator due to differences in data compilation including the use of different data sources, variations in defining colorectal tests, the exclusion of persons with a history of inflammatory bowel disease, and adjustments made to RPDB population estimates to more closely align with estimates reported by Statistics Canada.  This indicator is both prospective, and retrospective, from the index date (January 1st of each year). For example, the 2017 reporting year (January 1, 2017 - December 31, 2017) will capture fecal tests performed between January 1, 2016 and December 31, 2017, flexible sigmoidoscopies performed between January 1, 2008 and December 31, 2017, and colonoscopies performed between January 1, 2008 and December 31, 2017.  Due to the lookback period, some persons will be younger than 50 years of age when they received one of these tests of interest. |
| New Brunswick | **Jurisdictional target** | No target/not provided |
| **Inclusion of fit test / Reporting Years** | Yes - January 1, 2018-June 30, 2020 |
| **Inclusion of FOBT test / Reporting Years** | Not Applicable |
| **Inclusion of sigmoidoscopy / Reporting Years** | No |
| **Inclusion of colonoscopy / Reporting Years** | Yes - January 1, 2018-June 30, 2020 |
| **Based on 50-74?** | Yes |
| **Age calculation** | Derived based on the date of birth and result date |
| **Denominator** | Population estimates from Statistics Canada |
| **Numerator** | Number of individuals who successfully completed one FIT in the program within 30-month period (24-month screening cycle plus 6 months grace period January 1, 2018-June 30, 2020) |
| **Stratifications** | Age group (50-54, 55-59, 60-64, 65-69, 70-74, 50-74 combined) |
| **Comments** | 1) Tables 1 & 2: Column "Number who received FIT test" is understood as "Number of FIT Tests".  2) Only program-based colonoscopy procedures are reported. |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Inclusion of fit test / Reporting Years** | Yes; April 1, 2017 – March 31, 2019 |
| **Inclusion of FOBT test / Reporting Years** | Not Applicable |
| **Inclusion of sigmoidoscopy / Reporting Years** | No |
| **Inclusion of colonoscopy / Reporting Years** | No |
| **Based on 50-74?** | Yes |
| **Age calculation** | Difference between Date of event and Date of birth |
| **Denominator** | 2017 intercensal estimates provided by Stats Canada |
| **Numerator** | Every NS resident (having valid health card) who had a FIT test result between 01 Apr 2017 and 31 Mar 2019. |
| **Stratifications** | Age group (50-54, 55-59, 60-64, 65-69, 70-74, 50-74 combined) |
| **Comments** | The numerator represents the number of residents who successfully completed a FIT test (not the number who received a test). |
| Prince Edward Island | **Jurisdictional target** | 60% for FIT screening uptake. There was no set overall screening target. |
| **Inclusion of fit test / timeframe** | July 1 2017-Dec 31 2019. FIT testing is recommended every 2 years. A 2.5 year interval was chosen in case individuals had a delay. |
| **Inclusion of FOBT test / timeframe** | Not Applicable |
| **Inclusion of sigmoidoscopy / timeframe** | Jan 1 2010-Dec 31 2019. Scoping recommended every 10 years by Canadian Task Force on Preventive Health Care Guidelines (2016) |
| **Inclusion of colonoscopy / timeframe** | Jan 1 2010-Dec 31 2019. Scoping recommended every 10 years by Canadian Task Force on Preventive Health Care Guidelines (2016) |
| **Based on 50-74?** | Only patients 50-74 were counted |
| **Age calculation** | Age was calculated at time of screening test ("last specimen collected date" was the date used from FIT database) |
| **Denominator** | Average PEI population aged 50-74 for 2018 and 2019 |
| **Numerator** | (A) The number of people that had a FIT test from July 1, 2017 through Dec 31, 2019.  (B) The number of people who had a sigmoidoscopy or colonoscopy from January 1, 2010 through Dec 31, 2019.  (C) The number of people who had either (A) and/or (B). |
| **Stratifications** | Age group (50-54, 55-59, 60-64, 65-69, 70-74, 50-74 combined) |
| **Comments** | \*Males and females did not add up to the total because one patient did not identify their sex for the FIT test.  1. A 2.5 years for FIT test was used as some people may need a few extra days to perform test and bring it into lab.  2. The PEI cancer registry was used to remove everyone that had colorectal cancer already before their test.  3. Some of the testing which was believed to be screening might actually be a diagnostic test for symptomatic people. There was no reasonable way to remove these people. Because of this, the screening was slightly overestimated.  4. Canadian Task Force on Preventive Health Care Guidelines (2016) were used to decide that scoping interval should be 10 years.  5. Sigmoidoscopic exam was included as well as sigmoidoscopic-flexible for the sigmoidoscopy results. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Inclusion of fit test / timeframe** | Yes – 24 months |
| **Inclusion of FOBT test / timeframe** | Not Applicable |
| **Inclusion of sigmoidoscopy / timeframe** | No |
| **Inclusion of colonoscopy / timeframe** | Yes – 60 months |
| **Based on 50-74?** | Yes |
| **Age calculation** | Reporting calendar year 2018 |
| **Denominator** | Number of individuals aged 50-74 years. Data acquired from Community accounts NL (census 2016) |
| **Numerator** | Number of individuals aged 50-74 years who had a successful FIT result in 2 years or a colonoscopy in 5 years to align with program eligibility (Programmatic data) |
| **Stratifications** | Age group (50-54, 55-59, 60-64, 65-69, 70-74, 50-74 combined) |
| **Comments** |  |

### Jurisdiction-specific level of implementation status for lung cancer screening for high-risk individuals

Data Source: Provincial cancer agencies and programs

|  |  |  |
| --- | --- | --- |
| **Jurisdiction** | **Item** | **Description** |
| All provinces and territories | **Reporting Years** | Data collected in April 2022 |
| **Denominator** | By province or territory |
| **Numerator** | Level of implementation status |
| **Level of Implementation (Definitions)** | Level of implementation status (to show incremental implementation progress by jurisdictions)   1. No current lung cancer screening activities: No plans for lung cancer screening implementation (i.e. “Status quo” opportunistic lung cancer screening activities) 2. Planning for implementation: Conducting environmental scanning, gathering requirements to determine approach for implementation (i.e. preparing/submitting business cases, forming advisory committees) and/or planning for pilots/programs 3. Pilot or partially implemented: Pilot has been implemented or screening for high-risk individuals rolled out in certain sites or for certain populations across the jurisdiction 4. Jurisdiction-wide implementation: A fully implemented organized lung cancer screening program for people at high risk of lung cancer, which is available jurisdiction-wide and embeds a culturally safe approach to care. Note: An organized program would include elements such as eligibility criteria, quality assurance mechanisms, patient navigation, participant recall, diagnostic follow up, integration of smoking cessation etc. |
| **Data Source** | Provincial and territorial cancer agencies and programs |
| **Comments** | The Canadian Task Force on Preventive Health Care recommends that screening for lung cancer with low-dose CT should only be considered in settings that can deliver comprehensive care similar to or better than that offered in the National Lung Screening Trial (e.g., centres with qualified radiologists and radiologic technologists, with examinations and diagnostic follow-up guidelines aligned with the study protocol and with expertise in the early diagnosis and management of lung cancer) |

# Priority 3: Deliver high-quality care in a sustainable, world class system

## Action 1: Set best Practices and standards for care delivery and promote their adoption

### Percentage of patients who were referred to/discussed by a multi-disciplinary care team prior to treatment (rectal cancer and pediatric cancer)

Data Source: Provincial cancer agencies and programs

|  |  |  |
| --- | --- | --- |
| **Jurisdiction** | **Item** | **Description** |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Definition** | Proportion of surgeons performing rectal cancer surgery where more than two thirds of their patients are presented at a MDC |
| **Reporting Years** | Survey was sent out in May 2021 but surgeons were identified according to their 2019 and 2020 rectal cancer surgery volume. |
| **Definition of Multidisciplinary care team** | A high-quality multidisciplinary cancer conference (MCC) is comprised of: (1) MCC Coordinator (administrative support), (2) MCC Chair, (3) Team members in attendance (medical oncology, radiation oncology, surgery, pathology, radiology), (4) Regular scheduled meetings, (5) A system for recording and communicating MCC recommendations |
| **Denominator** | 27 surgeons who perform rectal surgery on cancer patients were sent the survey. 18 responses were obtained - this is therefore the denominator. Although the response rate was 67%, the responders constituted 90% of the rectal cancer surgery volume in 2019 and 2020 |
| **Numerator** | 15 of the responders specified >2/3 of their patients are presented at MCC, 10 respondents said all their patients were presented at MCC |
| **Stratifications** | None |
| **Comments** |  |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of **GI** cancer patients who were referred/discussed by a multidisciplinary care team prior to treatment |
| **Reporting Years** | January 1 to December 21 2019 |
| **Definition of Multidisciplinary care team** | The GI team consists of medical oncologists, radiation oncologists, oncological surgeons, hepatobiliary surgeons, pathologists, radiologists, nurses, psychosocial oncology counsellors, GI clinical trials unit nurses and the GI triage nurse. The team meets weekly to discuss GI patient cases that either require radiology/pathology review and/or a treatment/management plan and/or chemotherapy. |
| **Denominator** | The total number of GI cancer patients in Manitoba diagnosed during Jan-Dec 2019 who fall into these categories: Rectal cancers (stage II/III and neoadjuvant RT within 120 days before surgery), Colorectal cancers (stage IV and surgery within 1 year of diagnosis), Neuroendocrine tumours (stage III/IV), Pancreas cancer (all stages and surgery within 1 year of diagnosis) and gastric cancer (surgery within 1 year of diagnosis) |
| **Numerator** | The number of GI cancer patients across Manitoba who were discussed at a multidisciplinary care team during Jan-Dec 2019 |
| **Stratifications** | Sex (male, female), Regional Health Authority (Winnipeg, Interlake-Eastern, Southern, Prairie-Mountain, Northern RHA), age group (20-49, 50-59, 60-69, 70-79, 80+) |
| **Comments** | Re denominator: i) Duplicate patients (if a patient belongs in more than one of the listed categories) have been removed ii) Patients not seen at CCMB have been removed. |
| Ontario | **Jurisdictional target** | Yes – 80% |
| **Definition** | Percent of GI multidisciplinary care conferences (MCCs) that are standards concordant.  The denominator is not rectal patients, it's total GI MCC's.  A standards concordant MCC takes place at least every other week, with the appropriate administrative staff assigned and with the recommended clinical participation; this includes medical oncology, radiation oncology, surgery, radiology and pathology for gastrointestinal cancer patients. Each MCC is assigned a score based on the concordance with the standard. |
| **Reporting Years** | April 1, 2019 - March 31, 2020 |
| **Definition of Multidisciplinary care team** | In Ontario, MCCs are routinely held to review cases; a multidisciplinary care team attending an MCC can consist of any combination of a medical oncologist, a radiation oncologist, and/or a gynecologic oncologist, and attendance of any particular specialist type can depend on the disease site(s) of the cases being reviewed. |
| **Denominator** | Number of GI MCCs. |
| **Numerator** | Number of GI MCCs that were standards concordant. |
| **Stratifications** | None |
| **Comments** |  |
| New Brunswick | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of patients diagnosed with stage II or III rectal cancer who received pre-operative radiation therapy. |
| **Reporting Years** | 2017, 2018, 2019, 2020 |
| **Definition of Multidisciplinary care team** |  |
| **Denominator** | Stage II and III rectal cancer patients who had a rectal resection within 1 year of diagnosis. |
| **Numerator** | Stage II and II rectal cancer patients receiving pre-operative radiation therapy up to 120 days before resection. |
| **Stratifications** |  |
| **Comments** |  |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** |  |
| **Reporting Years** | Cases diagnosed in the period between Jan 1, 2019 and Dec 31, 2019 |
| **Definition of Multidisciplinary care team** | Of the denominator, the number of rectal cancer patients who were referred/discussed by a multi-disciplinary care team (PEI Tumour Board rounds) or had documented discussions with medical and/or radiation oncologist with surgeon prior to treatment |
| **Denominator** | Patients who were diagnosed with rectal cancer (C20.9) during the reporting year |
| **Numerator** | Patients discussed at multidisciplinary rounds or discussions |
| **Stratifications** |  |
| **Comments** | 1. The rectal cancers were all cases diagnosed in 2019 (discussions occurred within a few months into 2020).  2. All collected recto-sigmoid cancers (C19.9) were double checked with registrars to figure out if any of these changed to rectal cancers (20.9) as classification could change with more information.  3. Age divided into <50 to evaluate if young patients with CRC were discussed more often than older patients (50+).  4. A chart review template was developed for auditing multidisciplinary discussions between oncologists and surgeons and other specialists prior to treatment. If there was no documented discussions or rounds but only consults/referral letters, then the case was not included in a multidisciplinary discussion. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of rectal cancer patients who were referred/discussed by a multidisciplinary care team prior to treatment |
| **Reporting Years** | 2019, 2020 |
| **Definition of Multidisciplinary care team** | MDT is defined as GI tumour board committee |
| **Denominator** | Number of patients diagnosed with stages 1 to 3 rectal cancer in NL during the reporting year |
| **Numerator** | Number of patients diagnosed with stages 1 to 3 rectal cancer in 2019 that were discussed at least one time at Gastrointestinal (GI) tumour board committee |
| **Stratifications** |  |
| **Comments** | 1. Exclusion criteria: a). Patients under 18 years of age; b). non-invasive cancers; c). cases diagnosed outside NL; e) NL residents discussed at tumour board/MDT outside of province; f) missing or invalid HCNs. g) histological types: 9050-9055, 9140, 9590-9992  2. Can only capture cases treated at Dr. H. Bliss Murphy Cancer Centre, St. John's, as this is the only location that have tumour board committee.  3. ICD-O3 code for rectal cancer is 20.9. Algorithm: Patient healthcare numbers (HCNs) were parsed and extracted from GI tumour board committee notes (MS Word documents) between January 1, 2019 and Feb 1, 2020. HCNs were linked to a cohort of rectal cancer patients from the 2019 NL Cancer Registry to identify number of rectal cancer patients discussed at GI tumour board.  3. Tumour board files contained 18 missing or invalid HCNs (~ 2.6%); these patients could not be linked to Cancer Registry to determine cancer type, therefore excluded from analysis.  4. A patient may have been discussed multiple times at tumour board over the specified time period. This indicator does not capture frequency of discussions but rather if a patient were discussed at least one time.  5. Information from tumour board notes were captured up to February 2020, this was to account for rectal cancer patients diagnosed in late 2019 but not discussed at tumour board until sometime in the following year. 6. Patients may have been diagnosed with more than one GI cancer, without clinical chart audits there is no way to determine whether a patient being discussed at GI tumour board was for their rectal cancer diagnosis. 6. Clinical characteristics may play a factor in determining if a patient is discussed at tumour board and, therefore, may have confounding effects on results - please interpret results with caution. |
| **Pediatric Cancer** | | |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | None. |
| **Reporting Years** | Jan-Dec 2019 |
| **Definition of pediatric cancer patients** | Manitobans diagnosed with an invasive cancer that are 16 years old or younger |
| **Definition of Multidisciplinary care team** | Pediatric case conferences are attended by pediatric oncologists, surgeons, neurosurgeons, pathologists, hematopathologists, radiologists, physician assistants, geneticists, nursing staff, pharmacists, social workers and members of the data management office. |
| **Denominator** | Total number of Manitoban pediatric cancer patients diagnosed during the reporting year (excluding patients diagnosed at the end of 2019 who were discussed by a multidisciplinary team in 2020) |
| **Numerator** | Total number of Manitoban pediatric cancer patients diagnosed in 2019 and discussed by a multidisciplinary care team during the reporting year |
| **Stratifications** | Sex (male, female), age group (0-3, 4-6, 7-12, 13-16), Regional Health Authority (Winnipeg, Interlake-Eastern, Southern, Prairie-Mountain, Northern RHAs |
| **Comments** | Case conferences may be held prior and/or during the patient's treatment. |
| Ontario | **Jurisdictional target** | No target |
| **Definition** | Estimated percentage of pediatric patients with cancer who were discussed by a multidisciplinary care team **within 1 month of treatment initiation** and **at any point in time** (defined as at key points in the treatment when decisions are required) |
| **Reporting Years** | April 1, 2020 to March 31, 2021 |
| **Definition of pediatric cancer patients** | Any child or adolescent, aged 0–18 years, diagnosed with cancer or benign CNS tumour, treated in a specialized childhood cancer program in Ontario |
| **Definition of Multidisciplinary care team** | A high-level definition of multidisciplinary care team was used for the purposes of initial baseline estimation in Ontario, in order to understand the current status. For this report, a multidisciplinary care team was defined as discussion by at least two disciplines, in addition to a pediatric hematologist/oncologist. |
| **Denominator** | Average number of children and adolescents, diagnosed with cancer and treated in a specialized childhood cancer program in Ontario per year, 2016-2020 (Data Source: POGO's Networked Information System, POGONIS, April 2021 extract) |
| **Numerator** | Estimated number of children and adolescents with cancer who are discussed by a multidisciplinary care team within 1 month of treatment initiation and at any point in time |
| **Stratifications** | Treatment phase (within 1 month of treatment initiation, at any point in time, defined as key points in the treatment when decisions are required) |
| **Comments** | 1) This indicator is estimated based on:  a) the estimated percentage of children who are discussed in multidisciplinary tumour boards, provided to the Pediatric Oncology Group of Ontario (POGO) by Tumour Board Leads in each of the five specialized childhood cancer programs in Ontario through semi-structured interviews (May-June, 2021);  b) case numbers in the specialized childhood cancer programs in Ontario (from the POGO Networked Information System (POGONIS), April, 2021 extract); specifically, the average number of children and adolescents diagnosed with cancer and treated in a specialized childhood cancer program in Ontario per year, 2016–2020 (for newly diagnosed patients)  2) Estimated percentages were rounded up or down to the nearest multiple of five. |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of pediatric new oncology cases seen in Nova Scotia with documented multidisciplinary tumour board rounds prior to initiation of treatment in 2019-2020 |
| **Reporting Years** | 2019-2020 |
| **Definition of pediatric cancer patients** | For this chart audit pediatric cancer patients were defined as any patients diagnosed and treatment initiated at the IWK Health Centre. Any patients who were not diagnosed with leukemia or brain tumors were included, i.e., Sarcomas, lymphomas etc. |
| **Definition of Multidisciplinary care team** | Multi-disciplinary was defined as having 3 or more different professional designations (apart from the oncologist), most often included radiation oncologist, diagnostic imaging, pathology, surgery |
| **Denominator** | Solid Tumors: number of patients diagnosed with cancer that is not Brain or Leukemia (sarcomas, lymphomas, other) |
| **Numerator** | Number of patients with documented multi-disciplinary health care providers in attendance |
| **Stratifications** | None |
| **Comments** | The IWK Health Centre is the tertiary centre for pediatric cancers for all 3 of the Maritime Provinces: Prince Edward Island, New Brunswick, and Nova Scotia. There are 3 formal types of rounds for oncology patients: Solid Tumors, Brain Tumor and Leukemia Rounds. Leukemia rounds are held most often after the treatment has been initiated as there are very clear protocols/standards of care. Brain Tumor rounds are held often after surgery has been completed on the patient. Solid tumor board rounds are held most often prior to initiation of treatment. The definition of multi-disciplinary care is not well defined for this indicator and all rounds held at the IWK do not keep complete records of attendees. For Solid tumor rounds shared care partners (local pediatricians, allied health and patient navigators are often invited to attend). Often specialist physicians are documented as attending but allied health are not documented. For this indicator we will present data that is fairly easily to access, for Solid tumors. |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of pediatric cancer patients who were discussed at multidisciplinary discussions |
| **Reporting Years** | 2019, 2020 diagnosis year |
| **Definition of pediatric cancer patients** | Patients <18 years of age. |
| **Definition of Multidisciplinary care team** | Multidisciplinary care is divided into two types. Since PEI pediatric patients are treated in Halifax at the IWK, there is a possibility that they are discussed in their pediatric oncology rounds with multiple specialist physicians. In addition, almost all PEI pediatric patients were discussed at the pediatric oncology rounds in the pediatric department in Charlottetown. These rounds had a multidisciplinary team. They included pediatricians, pediatric nurses, pharmacists, OTs, PTs, Dieticians, Social Workers and others depending on the patient’s case. |
| **Denominator** | Number of pediatric patients not treated in the adult cancer treatment centre |
| **Numerator** | Number of pediatric patients not treated in the adult cancer treatment centre who were discussed at multidisciplinary discussions at IWK Pediatric Oncology Department in Halifax and/or the Pediatric clinic at QEH in Charlottetown |
| **Stratifications** |  |
| **Comments** | 1. A few patients were diagnosed at <18 years but are treated as adults depending on the cancer and the situation. These patients were not counted as pediatric cases.  2. Results included all pediatric patients who have been discussed in either Halifax Pediatric Oncology rounds and/or at QEH Pediatric Rounds. The two types of multidisciplinary discussions were calculated.  3. The patients discussed at QEH only were the more common types of pediatric cancers that were less complicated. Most of these cases were leukemia. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of pediatric cancer patients who were discussed by a multidisciplinary care team. |
| **Reporting Years** | Diagnosed in 2019 and discussed by the end of February 2020 (Updated data point for 2020-2021) |
| **Definition of pediatric cancer patients** | Patients aged 18 years or younger who were diagnosed with any invasive cancer in calendar year 2019 |
| **Definition of Multidisciplinary care team** | Patient discussed at tumour board meeting which had a minimum of 5 disciplines in attendance. |
| **Denominator** | Number of pediatric patients diagnosed with cancer in NL during the reporting year |
| **Numerator** | Number of patients from denominator discussed by multidisciplinary team. |
| **Stratifications** |  |
| **Comments** | 1. Exclusion criteria: a). patients 19 years or older; b). Cases diagnosed outside NL; c). Non-melanoma skin cancers; d). non-invasive cancers: e) NL residents discussed at tumour board/MDT outside of province.  2. Can only capture cases treated at Janeway Pediatric Hospital as this is the only location that have a pediatric tumour board committee.  3. Data were captured through manual chart review process conducted by pediatric team at Janeway Pediatric Hospital in St. John's, NL.  4. Stratification is unavailable due to small counts and privacy restrictions.  5. Patients discussed at tumour board in 2019 may have been diagnosed in previous years.  6. Denominator includes all invasive colorectal cancer diagnosis during the reporting year regardless of stage, histology, morphology and other clinical characteristics; potential confounding bias may be present for similar reasons as discussed in colorectal MDT.  7. A patient may have been discussed multiple times at tumour board over the specified time period. This indicator does not capture frequency of discussions but rather if a patient were discussed at least one time.  8. This indicator is a ratio (i.e. not percentage) since we cannot determine if a patient discussed at tumour board in 2019 was diagnosed during the reporting year.  9. Interpretation: 0.93 pediatric cancer cases were discussed at tumour board committee for everyone pediatric cancer case diagnosed during the reporting year.  NOTE: Will update indicator when new information is received. |

## Action 2: Eliminate low-benefit practices and adopt high-value practices

### Percentage of cancer patients who received systemic therapy in the last two weeks of life

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Definition** | The % of adult patients who received IV chemotherapy as an outpatient at a regional cancer centre within 14 days of death |
| **Reporting Years** | 2015, 2016, 2017, 2018, 2019 |
| **Definition of Systemic Therapy** | IV Chemo |
| **Denominator** | # of adult patients who died that had outpatient IV chemo in a regional cancer centre within 365 days of death. |
| **Numerator** | # of adult patients who died that had outpatient IV chemo in a regional cancer centre within 14 days of death. |
| **Stratifications** | Year (2015, 2016, 2017, 20182019) |
| **Comments** | Excludes inpatient systemic therapy; includes only BC Cancer regional cancer centre treatments. |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients who received systemic therapy in the last two weeks of life  Exclusion:  1. Exclude other non-solid tumors including hematologic cancers (C81-C96)  2. Exclude Non-melanoma skin cancer  Inclusions:  1. Diagnosis age ≥ 18  3. Invasive case only  4. Diagnosed in Alberta  5. Alberta Residents only |
| **Reporting Years** | 2019, 2020 year of cancer death |
| **Definition of Systemic Therapy** | 1. Chemo-Immuno Therapy  2. Intravenous chemo only |
| **Denominator** | Patients who died of cancer during the reporting year |
| **Numerator** | of the denominator, the number of cancer patients who received any systemic therapy in the last two weeks of life |
| **Stratifications** | Health zone (zones 1-5), age group (18-59, 60-69, 70-79, 80+) |
| **Comments** | 1.Few cases with zone unknown were excluded from Table  2.The definition of AHS zones: Health Zone 1 - SOUTH, Health Zone 2 - CALGARY, Health Zone 3 - CENTRAL, Health Zone 4 - EDMONTON, Health Zone 5 - NORTH |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients who received systemic therapy in the last two weeks of life  Non-melanoma skin cancer cases excluded. Indicator focused on intravenous, intrathecal, intra-arterial, intramuscular, and subcutaneous cancer treatment drugs. Oral drugs and hormone drugs excluded. Patients must be 18 years or older at time of death. |
| **Reporting Years** | Cancer Deaths; 2019, 2020 |
| **Definition of Systemic Therapy** | Systemic therapy drugs (intravenous, intrathecal, intra-arterial, intramuscular, and subcutaneous) used for the treatment of cancer; this includes cytotoxic chemotherapies, targeted and immunotherapies. |
| **Denominator** | Individuals diagnosed with cancer and died during the reporting year and seen at the cancer clinic (treatment or non-treatment appointment) 365 days prior to death. New patient appointments/consultations did not count as being seen in clinic. |
| **Numerator** | Cancer patients who died during the reporting year and received a systemic therapy treatment within 14 days of death. |
| **Stratifications** | Sex (male, female), age group (18-59, 60-69, 70-79, 80+), disease site (breast, colorectal, hematological, lung, all cancers), type of systematic therapy (chemotherapy only, targeted therapy only, immunotherapy only, chemo and targeted therapy) |
| **Comments** |  |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients who received systemic therapy in the last two weeks of life  Systemic therapy is defined as chemotherapy, targeted therapy, and immunotherapy; it excludes hormonal therapy which was included in the CPAC indicator definition.  Exclusion Criteria:  Denominator  • Patients with a missing or invalid health card number (HCN)  • Deaths due to suicide or medical assistance in dying (MAID)  • Patients who died outside Ontario  • Patients <18 years of age at time of death  • Patients who did not have a malignant cancer diagnosis in the Ontario Cancer Registry (OCR)  • Diagnosis of cancer based solely on the death certificate  • Patients who did not have a medical oncologist visit/consult in the last year of life  • Patients with acute leukemia (e.g. Acute Lymphocytic Leukemia, Acute Myeloid Leukemia. Acute Monocytic Leukemia, Other Acute Leukemia)  • Patients whose deaths occurred within 30 days of a major cancer-related operative procedure  Numerator  • Hormonal systemic therapy in the last 14 days of life |
| **Reporting Years** | Death dates for cohort range from Jan 1, 2019 – Dec 31, 2019 |
| **Definition of Systemic Therapy** | Chemotherapy, targeted therapy, and immunotherapy. |
| **Denominator** | Number of patients who died and had any systemic clinic OR treatment activity in their last year of life |
| **Numerator** | Number of patients receiving palliative antineoplastic systemic treatment in the last 14 days before death |
| **Stratifications** | None |
| **Comments** | Hormonal therapy was not included in the systemic treatment definition as it was considered appropriate to continue at the end of life for the palliation of symptoms.  Ontario Health (Cancer Care Ontario) is currently working to expand the methodology to capture all malignant haematology consults for the denominator of this indicator. |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients who received IV systemic therapy (Chemotherapy) in the last two weeks of life – restricted to patients who received at least one course of IV Chemotherapy in last year of life. |
| **Reporting Years** | 2016, 2017, 2018 cancer related deaths |
| **Definition of Systemic Therapy** | IV Chemotherapy |
| **Denominator** | Cancer patient deaths restricted to those who received Chemotherapy within 1 year of death.  Excluded: Non-Nova Scotia residents; under 18 years of age; Registry cases identified by Death Certificate only; and people who died in 2018 but did not receive IV- Chemotherapy 365 days prior to their death. |
| **Numerator** | Any IV chemo administration in last 14 days of life |
| **Stratifications** | None |
| **Comments** | The denominator may over-estimate the proportion of those receiving systemic therapy close to end of life as the denominator would not include individuals who chose not to receive IV Chemotherapy in the previous year or received a cancer diagnosis too close to end of life and did not have an opportunity to receive earlier courses of Chemotherapy. Small case counts did not permit stratifications.  Unable to report on Oral Chemotherapy. Mortality data drawn from the NS Cancer Registry; Chemotherapy therapy counts drawn from Nova Scotia Health Appointment databases (OPIS/PHS) |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients who received IV systemic cancer therapy in the last two weeks of life.  Oral systemic therapies were excluded. In addition, new treatments (treatments that the patient did not have in the previous 6 months) were considered as a stratifier. Moreover, lung cancer and blood cancers were considered as stratifiers as well. Originally blood cancers were deemed to be excluded because CPAC had excluded them in a past indicator. As there was no significant reason for this exclusion, blood cancer patients were included in this indicator. |
| **Reporting Years** | All deaths in 2019 of people who had been diagnosed with cancer, not just deaths from cancer. An updated death file that included 2019 deaths was used for this indicator. |
| **Definition of Systemic Therapy** | All IV systemic cancer therapy (chemotherapy, immunotherapy, targeted therapy) were included. |
| **Denominator** | PEI cancer patients who died in 2019 regardless of cause of death |
| **Numerator** | The number of cancer patients who received systemic therapy in the last two weeks of life (December 15, 2018-December 31, 2019) |
| **Stratifications** | Treatment in last two weeks of life in patients who died in 2019 (new treatment, continuing treatment, no treatment), type of cancer (lung cancer, all other), and age in years at death (<70, 70+) |
| **Comments** |  |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of patients diagnosed with invasive cancer who received chemotherapy in the last two weeks of life. Original definition included all systemic therapy |
| **Reporting Years** | 2018, 2019 |
| **Definition of Systemic Therapy** | Chemotherapy only |
| **Denominator** | Patients from NL diagnosed with invasive cancer who died in 2018 |
| **Numerator** | Patients from NL diagnosed with invasive cancer who died in 2018 and received chemotherapy within the last two weeks of life. |
| **Stratifications** | Sex (male, female) |
| **Comments** | 1. Denominator includes all individuals diagnosed with invasive cancer (ICD-O-3 Behaviour code = 3) who died in 2018.  2. Individuals who were administered any chemotherapy during the last two weeks of their life were flagged for the numerator.  3. An additional flag was added if the administered chemotherapy was a new treatment in two-week window.  4. There is currently no way to determine the cause of death, and there was therefore no way to exclude deaths unrelated to cancer from the denominator. |

### Screening outside of guidelines for breast and cervical cancer

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| **Breast Cancer – Based on Age Group** | | |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of BC Cancer Breast Screening Program screening mammograms for women aged 30-49, living in British Columbia |
| **Reporting Years** | January 1 – December 31, 2018 |
| **Types of screening tests included** | Bilateral mammograms |
| **Denominator** | Total number of BC Cancer Breast Screening Program screening mammograms from January 1 to December 31, 2018 |
| **Numerator** | Total number of BC Cancer Breast Screening Program screening mammograms completed for women, ages 30-49, from January 1 to December 31, 2018 |
| **Stratifications** | Age group (30-39, 40-49) |
| **Comments** | Breast: We currently do not have access to MSP bilateral mammography fee-for-service item 8611 data for women aged 30-49, therefore, the interim data being provided only includes bilateral mammography utilization within the BC Cancer Breast Screening Program. |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of Alberta women, 40-49 years old, who had completed at least one screening mammogram (Breast Cancer Screening Annual Uptake Rate) |
| **Reporting Years** | 2019 |
| **Types of screening tests included** | Screening mammography only |
| **Denominator** | Total number of Alberta women, 40-49 years old, in a one-year period. |
| **Numerator** | Total number of Alberta women, 40-49 years old, who have completed at least one screening mammogram in a given calendar year |
| **Stratifications** | Health zone (zones 1-5, unknown) |
| **Comments** | 1) In our provincial guidelines (and CTFPHC breast cancer screening guidelines), women aged 40-49 can have a breast cancer screening as long as they have discussions with their providers and prefer to be screened. Therefore, technically they are not screened out of the guidelines. Some of these women may be screened because of family history as per guidelines.  2) Data accessed on Nov 26th, 2020. |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of women who were aged < 50 years1 or >=70 years2, among all women screened for breast cancer |
| **Reporting Years** | 1 January - 31 December 2019/2019 calendar year (SPBC screens)  1 April 2019 - 31 March 2020/2019-2020 fiscal year (screens outside SPBC) |
| **Types of screening tests included** | Breast Cancer Screening: Mammograms |
| **Denominator** | All women screened for breast cancer during 2019 |
| **Numerator** | Of the denominator, the number who are aged <50, or ≥70 |
| **Stratifications** | Age group (<50, =>70, 70-74) and screen status (SPBC screen, screened outside SPBC) |
| **Comments** | Caveats to the above specifications:  1Women are typically invited to screen when they turn 50 years of age; however, the rotating mobile bus schedule allows for women < 50 to participate  2Women aged 70-74 who participated in the Screening Program for Breast Cancer prior to age 70 are allowed to continue screening; women aged 70-74 who have not participated in the screening program before age 70 are not invited. All letters stop at age 74 years.  Assumption: All external bilateral mammograms are considered to be screens and not for diagnostic testing.  • Screen counts for the Screening Program for Breast Cancer (SPBC) are based on the 2019 calendar year (Data Source: SPBC database). Bilateral mammogram counts done outside the SPBC are based on the 2019-2020 fiscal year (Data Source: Saskatchewan Ministry of Health, Medical Services Branch database).  • Data based on the number of women is not available for screens done outside the SPBC. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | % women who were screened outside of guidelines for breast cancer, by age |
| **Reporting Years** | Women aged 40-49 or >74 (as of June 1, 2019) |
| **Types of screening tests included** | Mammogram |
| **Denominator** | # of women aged 40-49 or >74 (as of June 1, 2019) |
| **Numerator** | # of women aged 40-49 or >74 that received a BreastCheck mammogram between January 1, 2017 and December 31, 2018 |
| **Stratifications** | Regional health authority (Winnipeg, Interlake-Eastern, Southern, Prairie-Mountain, Northern RHA) |
| **Comments** | Women aged 40-49 are outside of guidelines for routine breast cancer screening unless they are  at increased risk due to family or personal history of Lobular carcinoma in situ (LCIS),  Atypical Lobular or Ductal Hyperplasia (ALH or ADH) or BRCA 1/2. Additionally, BreastCheck provides screening mammograms for women in low access areas in an effort to increase access to diagnostic imaging (ex: via mobile clinics in remote communities). Thus, women aged 40-49 in low access areas would not be considered outside of guidelines.  Routine breast cancer screening is not recommended for women >74 but is permitted (women > 74 can self-refer and attend screening at BreastCheck as long as there are no physical/cognitive limitations that would prevent test completion).  June 1 2019: This is the midpoint date in the year which Manitoba Population Health uses to calculate age |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of women screened with mammography in the 40-49 age group |
| **Reporting Years** | This indicator is presented by calendar year (January 1 - December 31) for 2016, 2017, 2018 and 2019. Please refer to the denominator and numerator descriptions below, for other relevant timeframes. |
| **Types of screening tests included** | The indicator includes mammograms reported in the Ontario Breast Screening Program (OBSP) and Ontario Health Insurance Plan (OHIP) |
| **Denominator** | Derived from the Primary Care Population Dataset (PCPOP), the denominator(s) include all women in Ontario who were 40-49 years of age on index date, corresponding to January 1st of 2016, 2017, 2018, and 2019. Women were further excluded if they had:  (1) an invalid ICES key number (IKN),  (2) missing date of birth,  (3) missing postal code,  (4) missing sex,  (5) ineligible for OHIP,  (6) no contact with the health care system for an extended period of time,  (7) < 40 or > 49 years of age on index date,  (8) any previous history of breast cancer in the Ontario Cancer Registry (OCR),  (9) any previous history of mastectomy in the Discharge Abstract Database (DAD) or Same Day Surgery Database (SDS), or  (10) an OHIP fee code indicating mammogram exclusion within 2-years of the index date. |
| **Numerator** | Women 40-49 years of age with at least one record of mammography in OBSP or OHIP, between January 1 and December 31 of each year |
| **Stratifications** |  |
| **Comments** | Data Sources:  CONTACT  Discharge Abstract Database  Ontario Breast Screening Program  Ontario Cancer Registry  Ontario Health Insurance Plan  Postal Code Conversion File  Primary Care Population Dataset  PCPOP is a population level dataset that includes all people in Ontario who are deemed alive and eligible as of a reference date. From 2008 and onwards, PCPOP is created bi-annually; such cohorts capture people who are alive and eligible for OHIP as of a reference date, have had some form of recent contact with the healthcare system (see below), and excludes non-Ontario residents.  Registered Persons Database (RPDB)  We use the date of last contact to adjust RPDB population counts to approximate population (total) estimates reported by Statistics Canada. The last contact threshold is 11 years for 2016/17 to 2018/19, and 10 years for 2019/20, indexed to March 31 of the respective year.  Same Day Surgery Database  Each woman was counted once regardless of the number of mammogram tests performed in the year |
| New Brunswick | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of women aged 40+ who received breast cancer screening |
| **Reporting Years** | January 1, 2018-June 30, 2020 |
| **Types of screening tests included** | Screening episodes occurred including multiple screens |
| **Denominator** | Statistics Canada Population Estimators |
| **Numerator** | Screening episodes occurred including multiple screens |
| **Stratifications** | Age group (40-49, 50-74, 75+) |
| **Comments** | For breast cancer screening, screening data is incomplete & may be affected by COVID pandemic i.e., delays in data submission. |
| Prince Edward Island | **Jurisdictional target** | No target. There was no target for the proportion of screens in 40-49 year-olds. Women in that age group were invited to screen by self-referral. All women were given information on the reasons for being screened or not screened to make sure they understood the advantages and disadvantages of screening. |
| **Definition** | Percentage of women screened with mammography in the 40-49 age group out of all women in PEI age 40-49 in 2019 |
| **Reporting Years** | All mammography screens done in 2019 |
| **Types of screening tests included** | Mammography |
| **Denominator** | All women in PEI age 40-49 in 2019( |
| **Numerator** | Number of women aged 40-49 screened by mammography in 2019 |
| **Stratifications** | Age group (40-49, 40-44, 45-49) |
| **Comments** | Breast cancer screening data came directly from the Diagnostic Imaging Department. Population of PEI women aged 40-49 came from Statistics Canada. If a woman had two screens in 2019, she was only counted once. Annual breast cancer screening was calculated as women 11-18 months after their previous screen to allow for scheduling issues.  Women with previous breast cancer were excluded from the denominator. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of women who received at least one bilateral mammogram in the 40-49 age group |
| **Reporting Years** | 2019 calendar year |
| **Types of screening tests included** | Mammography |
| **Denominator** | Number of women who received at least one bilateral mammogram in 2019 |
| **Numerator** | Number of women aged 40-49 who had at least one bilateral mammogram in 2019 |
| **Stratifications** | None |
| **Comments** |  |
| **Breast Cancer – Based on Frequency** | | |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | Annual Return to Screen Rate |
| **Reporting Years** | 2019 |
| **Types of screening tests included** | Screening mammography only |
| **Denominator** | Number of breast screening mammography performed for women aged 50-74 in target measurement timeframe with normal results (BI-RADS 1&2). |
| **Numerator** | Number of breast screening mammography performed with one-year return to screen recommendation from radiologist for women aged 50-74 in target measurement timeframe with normal results (BI-RADS 1&2). |
| **Stratifications** | Health zone (zones 1-5, unknown), age group (50-55, 56-60, 61-65, 66-70, 71-74) |
| **Comments** | See comments above for breast cancer – based on age group. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | % women who were screened outside of guidelines for breast cancer, by interval |
| **Reporting Years** | Women aged 50-72 (between Jan 1, 2017-Dec 31, 2018) |
| **Types of screening tests included** | Mammogram |
| **Denominator** | # of women aged 50-72 (between January 1, 2017-December 31, 2018) who completed a screening mammogram and received a normal screening result with a recommendation to complete an index mammogram in 24 months |
| **Numerator** | A subset of the population in the denominator who completed two or more screening mammograms within 24 months of the index mammogram date selected in the denominator |
| **Stratifications** | Regional health authority (Winnipeg, Non-Winnipeg) |
| **Comments** | Numerator and denominator exclude women who become ineligible for screening between the time period in the denominator and the end of 24-month follow-up in the numerator |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of Ontario Breast Screening Program (OBSP) participants ages 50-72, with a biennial screening recall recommendation who had a subsequent OBSP screening mammogram within 18 months of the previous mammogram |
| **Reporting Years** | Year of OBSP screening mammogram with a biennial screening recall recommendation - 2018 |
| **Types of screening tests included** | The indicator includes screening mammograms reported in the OBSP |
| **Denominator** | Number of OBSP participants ages 50-72, with a biennial screening recall recommendation  • Index date was defined as the date of the OBSP screening mammogram with a biennial screening recall recommendation.  • Age is based on the index date.  Exclusions:  • OBSP participants with a missing or invalid health information number (HIN) and/or date of birth.  • OBSP participants who died, had a breast cancer diagnosis or a mastectomy within 18 months of the index date and were not re-screened. |
| **Numerator** | Number of OBSP participants aged 50-72, with a biennial screening recall recommendation who had a subsequent OBSP screening mammogram within 18 months of a previous OBSP mammogram |
| **Stratifications** | Age group (50-59. 60-69, 70-72) |
| **Comments** | From March to May 2020, OBSP screening mammograms were deferred to be consistent with the Ministry of Health’s Directive 2 that all non-essential healthcare services be ceased/reduced in light of the COVID-19 pandemic. Since May 2020, some OBSP sites have provided OBSP screening mammography at reduced capacity. The decrease in screening likely impacted the screening behaviour of people screened in 2018 who were due for their biennial screen in 2020. As such, the percentage of women who were screened outside of guidelines based on frequency ("Overuse") may have a lower value than it used to be.  Data Sources   * Integrated Client Management System (ICMS): OBSP screening mammogram data for 2018-2020 * Ontario Cancer Registry (OCR): Breast cancer data for 2018-2020 * Ontario Health Insurance Plan Claims History Database (OHIP CHDB): Mastectomy claims in 2018-2020 * Registered Persons Database (RPDB): Death data for 2018-2020   Additional Notes   * This indicator has a two-year data lag to allow for 18 months of follow-up after the index screening date |
| Prince Edward Island | **Jurisdictional target** | No target. |
| **Definition** | Percentage of women screened with mammography on an annual basis |
| **Reporting Years** | January 1, 2018-June 30, 2020 (18 months due to scheduling issues) |
| **Types of screening tests included** | Mammography |
| **Denominator** | Number of women screened in the breast cancer screening program in 2018 |
| **Numerator** | Number of women who had a second screen between 11 and 18 months after their first screen of the year 2018. |
| **Stratifications** | Age group (50-74, 50-59, 60-69, 70-74) |
| **Comments** | Same comments above for breast cancer – based on age group. |
| **Cervical Cancer** | | |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of Pap tests completed in British Columbia for women between the ages of 18-24 |
| **Reporting Years** | 2018: women (aged 18-24 as of screen date) who were screened between Jan 01, 2018 and Dec 31, 2018 |
| **Types of screening tests included** | Pap tests |
| **Denominator** | Total number of Pap tests completed in British Columbia in 2018 |
| **Numerator** | The total number of Pap tests completed for women aged 1824 between January 1 and December 31, 2018 |
| **Stratifications** | Age group (18-20, 21-24) |
| **Comments** |  |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of Alberta women, aged 18-24 years old, who had completed at least one Pap test (or colposcopy exam). This is also known as the Cervical Cancer Screening Annual Uptake Rate. |
| **Reporting Years** | 2019 |
| **Types of screening tests included** | Pap tests; Colposcopy exams |
| **Denominator** | Total number of Alberta women, aged 18-24 years old, in a target year  Inclusions:  • Alberta women aged 18-24 at the index date. Index date is defined as July 1st in the target year, e.g., calendar year: July 1st, 2019 for year 2019 |
| **Numerator** | Total number of Alberta screen-eligible women, 18-24 years old, who have completed at least one Pap test (or colposcopy exam) in a given calendar year, e.g., January 1st, 2019 – December 31st, 2019 for year 2019 |
| **Stratifications** | Age group (18-20, 21-24), Health zone (zones 1-5, unknown) |
| **Comments** | 1) For cervical cancer screening, AB was the first province in the country to move to age 25-69, but we still consider screening at age 21-24 optional (we agree that cervical cancer screening for women aged 18-20 is out of the guidelines and is inappropriate.  2) Data accessed on Nov 26th, 2020. |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of women screened outside of guidelines for cervical cancer |
| **Reporting Years** | 1 January – 31 December 2019 |
| **Types of screening tests included** | Pap tests only |
| **Denominator** | Number of women who were screening in the past calendar year (January 1, 2019 - December 31, 2019), 18 years of age and older. |
| **Numerator** | Number of women screened in the past calendar year (Jan 1 2019 - December 31, 2019) who were 18-20 years of age  Number of women screened in the same timeframe who were 21-24 years of age. |
| **Stratifications** | Age group (18-20, 21-24, 18-24) |
| **Comments** | Exclusion Criteria Includes: women with a missing or invalid Health Services Number, date of birth, or postal code. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | % of women who were screened outside of guidelines for cervical cancer, by age  % of women who were screened outside of guidelines for cervical cancer, by interval |
| **Reporting Years** | Based on age group: Women aged 18-20 or >69 (as of June 1 2019)  Based on interval: Women aged 21-69 (between Jan 1 2014-Dec 31 2016) |
| **Types of screening tests included** | Pap |
| **Denominator** | Based on age group: # of women aged 18-20 or >69 (as of June 1 2019)  Based on interval: # of women aged 21-69 (between Jan 1 2014-Dec 31 2016) who completed an index Pap test and had a normal result |
| **Numerator** | Based on age group: # of women aged 18-20 or >69 that received an Index Pap test between Jan 1, 2014 and Dec 31, 2016  Based on interval: A subset of the population in the denominator who had two or more screening Pap tests completed within 36 months of the index Pap test selected in denominator |
| **Stratifications** | None |
| **Comments** | Based on age group:  Women aged 18-20 are outside of guidelines for routine cervical cancer screening. Women aged >69 are outside of guidelines for routine cervical cancer screening unless they have not routinely screened negative (at least 3 negative Paps) in the past 10 years  June 1 2019: This is the midpoint date in the year which Manitoba Population Health uses to calculate age  Based on interval:  Two or more screening Pap tests is not outside guidelines for individuals who are at increased risk due to personal history (immunocompromised, HIV positive, previous high-grade biopsy, previous cervical cancer) or had an abnormal or unsatisfactory Pap result).  Numerator includes women whose second Pap test in the 36-month time period had a normal result, but the third Pap test in the 36-month time period could have any result. Also, numerator and denominator exclude women whose provincial health coverage lapsed between the time period in the denominator and the end of 36-month follow-up in the numerator. |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of women who received a Pap test in the 18 - < 20.5 and 20.5-24 age groups |
| **Reporting Years** | This indicator is presented by calendar year (January 1 - December 31) for 2016, 2017, 2018 and 2019. Please refer to the denominator and numerator descriptions below, for other relevant timeframes. |
| **Types of screening tests included** | The indicator includes Pap tests reported in Ontario Health Insurance Plan (OHIP) |
| **Denominator** | Derived from the Primary Care Population Dataset (PCPOP), the denominator(s) include all women in Ontario who were 18-24 years of age on index date, corresponding to January 1st of 2016, 2017, 2018, and 2019. Women were further excluded if they had: (1) an invalid ICES key number (IKN), (2) missing date of birth, (3) missing postal code, (4) ineligible for OHIP, (5) no contact with the health care system for an extended period of time, (6) < 18 or > 24 years of age on index date, (7) any previous history of cervical cancer in the Ontario Cancer Registry (OCR), or (8) a previous history of hysterectomy or cervicectomy in OHIP, with a lookback from index date to 2010. |
| **Numerator** | Women aged 18-24 with at least one record of Pap test in OHIP between January 1 and December 31 of each year |
| **Stratifications** | Age group (18-20.5, 20.5-24, 18-24) |
| **Comments** | Data Sources:  CONTACT  Ontario Cancer Registry  Ontario Health Insurance Plan  Postal Code Conversion File  Primary Care Population Dataset (PCPOP)  PCPOP is a population level dataset that includes all people in Ontario who are deemed alive and eligible as of a reference date. From 2008 and onwards, PCPOP is created bi-annually; such cohorts capture people who are alive and eligible for OHIP as of a reference date, have had some form of recent contact with the healthcare system (see below), and excludes non-Ontario residents.  We use the date of last contact to adjust RPDB population counts to approximate population (total) estimates reported by Statistics Canada. The last contact threshold is 11 years for 2016/17 to 2018/19, and 10 years for 2019/20, indexed to March 31 of the respective year.  Each woman was counted once regardless of the number of Pap tests performed in the year  Registered Persons Database |
| New Brunswick | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of women aged 18+ who received cervical cancer screening |
| **Reporting Years** | January 1, 2019-June 30, 2020 |
| **Types of screening tests included** | Pap tests |
| **Denominator** | Statistics Canada Population Estimators |
| **Numerator** | Number of Pap tests |
| **Stratifications** | Age group (18-20, 21-24, 25-69, 69+) |
| **Comments** | For cervical cancer screening, Miramichi lab stopped processing pap tests August 2019 - all subsequent paps are being sent to Moncton lab. |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of women under 25 years old who received a PAP test |
| **Reporting Years** | 2016, 2017, 2018 |
| **Types of screening tests included** | Only PAP tests are included |
| **Denominator** | Denominators are from intercensal population estimates for Women under 25 years old in Nova Scotia, 2017 population year (Stats Canada) |
| **Numerator** | Women under 25 years with at least one record of PAP test screen From CCASPER (provincial cervical screening database) for the reporting year |
| **Stratifications** | Age group (<18, 18-20, 21-24) |
| **Comments** | Numerator is everyone with a PAP test under the age of 25 (i.e., Maximum age is 24). The denominator is the population under the age of 25 from 2017 census data. Denominator has not been hysterectomy cleared. |
| Prince Edward Island | **Jurisdictional target** | Current PEI cervical screening guidelines recommend women who have been sexually active start screening at age 25. No target is provided for this indicator. |
| **Definition** | Percentage of women screened with PAP test in the in the 18-20 & 21-24 age group. |
| **Reporting Years** | All cervical screens performed in Jan 1, 2017 though Dec 31, 2019 (36 month period). |
| **Types of screening tests included** | Pap tests for all women regardless of symptomatic or asymptomatic. |
| **Denominator** | All women in PEI age 18-20 and 21-24 in 2018 which is the middle of the time period (2017-2019). |
| **Numerator** | Number of women aged 18-20 and 21-24 screened using pap smear test during the timeframe. |
| **Stratifications** | Age group (18-24, 18-20, 21-24) |
| **Comments** | Cervical screening data included all women who had had a Pap test regardless of symptomatic (diagnostic) or asymptomatic (screening). Therefore, the target could not be met. In addition, the age for screening started at 21 years old until 2020. In 2020, the age to start screening was increased to 25. Women with cervical cancer or hysterectomies were not excluded. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of women who had a pap smear who were under 21 or over 69 years of age |
| **Reporting Years** | 2019 Calendar year |
| **Types of screening tests included** | Pap smear |
| **Denominator** | Number of women who had a pap smear |
| **Numerator** | Number of women under 21 or over 69 years of age who had a pap smear in 2019 |
| **Stratifications** | Age group (<21, 21-24, 25-69, >69) |
| **Comments** | Cervical Screening:  1. Women with a previous diagnosis of invasive or in situ cervical cancer were excluded.  2. ICD-O3 codes for cervical cancers include: C53.0-C53.9.  3. NL cervical screening age guidelines (21-69) were used instead of Canadian guidelines (25-69). Stratification allows for the consideration of the number of individuals screened outside of the Canadian guidelines but within NL guidelines (i.e. within the 21-24 age range). |

## Action 3: Design and implement new models of care

### Model of Care (Each jurisdiction to identify a new model of care and measure its progress)

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | Percent of new to institution first consults in which CCA’s Patient Reported Outcomes tool is completed  Inclusions:  1. Patient age ≥ 18  2. Alberta residents only |
| **Reporting Years** | 2019, 2020 calendar based years |
| **Cancer site(s) included** | 1. Exclude non-melanoma of skin cancer (NMSC)  2. Invasive cases only |
| **Denominator** | Total number of new to institution patients attending a 1st consult during the reporting year |
| **Numerator** | Total number of new to institution patients attending a 1st consult during the reporting year, and completed the patient reported outcomes tools at time of 1st consult |
| **Stratifications** | Health zone (zones 1-5), age group (18-59, 60-69, 70-79, 80+), cancer site |
| **Comments** | 1. Table 1 includes top 4 cancer sites only.  2. Few cases with zone unknown were excluded from Table 2.  3. One facility in health zone 4 switched to electronic format from paper charts in September 2019. For this facility, we only included data for September onward, both in the denominator as well as the numerator. 4. The definition of AHS zones: Heath Zone 1 - SOUTH, Heath Zone 2 - CALGARY, Heath Zone 3 - CENTRAL, Heath Zone 4 - EDMONTON, Heath Zone 5 - NORTH |
| Saskatchewan | Jurisdictional target | No target/not provided |
| Definition | The percentage of appropriate patients seen at SCA who were seen in a disease site specific clinic. |
| Reporting Years | 2021 |
| Cancer site(s) included | All cancer sites broken down by disease site groups (GI, Lung, Breast and GU) |
| Denominator | Number of patients seen with cancer in a disease site for which there is a disease site specific clinic. |
| Numerator | Number of patients seen within their respective disease site specific clinic. |
| Stratifications |  |
| Comments | Numerators and denominators are the number of patients seen since the start of the GI disease site specific clinics on September 12, 2021 and end of reporting period on December 31, 2021.  Denominators are the number of patients with cancer in a disease site for which there are or will be a disease site specific clinic.  Disease site specific clinics have not begun for Lung, Breast, and GU disease site groups within this reporting period.  Appropriate patients are defined as all patients with cancer in a disease site for which there is a disease site-specific clinic. |
| New Brunswick | **Jurisdictional target** | No target/not provided |
| **Definition** | NB separated this indicator to two separate indicators:  1) Percentage of patients who died of cancer by location of death: hospital, private home, nursing home, other health care facility and others.  2) Number of cancer patients who were admitted and died in ICU - The percentage of patients with cancer diagnosis who were admitted and died in ICU.  3) The percentage of patients admitted twice or more in the last 30 days of their life to acute care hospitals with cancer diagnosis for palliative care or for whom palliative care was initiated any time during the admission. |
| **Reporting Years** | 1) Jan 1, 2019 – Dec 31, 2019  2) Jan 1, 2019 – Dec 31, 2019  3) Jan 1, 2019 – Dec 31, 2019 |
| **Cancer site(s) included** |  |
| **Denominator** | 1) Number of all cause deaths  2) Total number of patients who died of cancer.  3) Total number of patients who were admitted in last 30 days and who died of cancer in an acute care hospital. |
| **Numerator** | 1) Number of cancer deaths  2) Number of patients with cancer diagnosis who were admitted to and died in ICU.  3) Number of patients with cancer diagnosis who were admitted twice or more in the last 30 days of life and died in an acute care hospital for palliative care. |
| **Stratifications** | 1) Location of death (hospital, nursing home, private home, other healthcare facility, others), health region (regions 1-7)  2) None  3) Health region (regions 1-7) |
| **Comments** |  |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of current or recent tobacco users who participated in a tobacco cessation service after receiving a referral to a tobacco cessation service. Exclusions: 1. Tobacco users who opted out of the tobacco cessation program. 2. Patients who were hospitalized. |
| **Reporting Years** | Patients who entered therapy at the Cancer Treatment Centre during Mar 3, 2021- June 14,2022 (This is all the available data) |
| **Cancer site(s) included** | All sites |
| **Denominator** | Total number of current or recent tobacco users who were offered a referral to the tobacco cessation program (Offered Referral) at a PEI ambulatory cancer treatment centre. |
| **Numerator** | Total number of current or recent tobacco users who did not refuse the tobacco cessation program (Accepted Referral) |
| **Stratifications** | Age group (<65, 65+), sex (female, male), and cancer type (lung cancer, other cancer) |
| **Comments** | Data sources included: 1. The program that was administered by both Cancer Treatment Centre nurses and radiation therapists. Some data was available on ARIA (radiation database) and in a Microsoft Access database by the Cancer Treatment Centre Tobacco Cessation Coordinator. 2. PEI Cancer Registry.  PEI has started a new smoking tobacco cessation program for all patients who attend cancer treatment at our ambulatory cancer care treatment centres. All patients filled out a tobacco history form, and if patient reported being a current or recent tobacco user, they were asked to complete a consult form with a tobacco counselor. Next, they started the cessation program with free cessation products. This program is an opt out service and all patients were screened. 1. The timeframe has been delayed because the start of the new smoking cessation program has been postponed because of COVID-19. 2. This indicator was based on one provided by CPAC |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | This is a jurisdiction-defined indicator which assesses the percentage of new cancer patients who smoke who were referred to smoking cessation program. A priority of the program is to educate health care providers on its existence, so assessing the percentage of referrals provides some indication of health care provider awareness of the program. |
| **Reporting Years** | 2020, 2021 |
| **Cancer site(s) included** | All cancers |
| **Denominator** | New cancer patients who were current smokers |
| **Numerator** | New cancer patients who were current smokers and received a referral to the smoking cessation program |
| **Stratifications** | Sex (male, female) |
| **Comments** | The Smoking Cessation Program runs one morning per week and provides patients with a combination of behavioural therapy and prescription and non-prescription medications. In the past, this been an in-person program, which was only offered in the province's cancer clinics. Since the COVID-19 pandemic, the program has become telephone-based only and has seen an increase in compliance.  1. Any patients who were newly diagnosed in 2020 and were identified as current smokers were included in the denominator.  2. Data came from provincial ARIA Oncology Information System.  3. Patients were included in the numerator if there is record of a physician referral to the smoking cessation program. |

# Priority 4: Eliminate barriers to people getting the care they need

## Action 1: Provide better services and care adapted to the specific needs of underserviced groups

### Percentage of cancer patients that reported that the care they received was respectful of their values, culture, language preference, and gender identity

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of individuals who reported that their providers treated them with dignity and respect. |
| **Reporting Years** | 2021 |
| **Definition of Respect for Person** | Individuals who felt treated with dignity and respect by healthcare providers |
| **Denominator** | Individuals who responded to the survey |
| **Numerator** | Those who answered 'Yes, completely' or 'Yes, somewhat' |
| **Stratifications** | Age group, sex |
| **Comments** |  |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Definition** | Proportion of respondents who indicated agreed or strongly agreed in response to the 5-point Likert scale questions in the Nova Scotia Health Cancer Care Program patient satisfaction survey in 2020. |
| **Reporting Years** | 2020 |
| **Definition of Respect for Person** | Proportion of survey respondents who agreed/strongly agreed that their Cancer Care team respected their values, culture, language preferences, Gender Identity, Ethnicity, and Abilities (Physical or mental) |
| **Denominator** | All treatment and follow-up patients who responded to the survey |
| **Numerator** | Number of respondents who indicated agreed or strongly agreed in response to the 5-point Likert scale questions. |
| **Stratifications** |  |
| **Comments** | Please note the survey was provided in English only therefore people whose primary language is not English may be underrepresented in the survey which may impact the results in several of the survey questions.  Data obtained from the Nova Scotia Health Cancer Care Program 2020 Patient Satisfaction Survey  Survey Sampling:  The Nova Scotia Health Cancer Care Program 2020 Patient Satisfaction Survey sample was identified through appointments in the Nova Scotia Health appointment scheduling systems between 09 May 2020 and 31 Aug 2020. Only appointment types and appointments where the patient attended the appointment were retained. A stratified random sample of 1,935 patients were selected from the appointment data to receive the survey. The number of patients were evenly divided among the four Health Management Zones to ensure that zone to zone comparisons could be made. A total of 701 patients responded to the survey. This includes n=442 Active Treatment patients and n=259 patients in follow-up care. |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | In general, how often does staff treat you with courtesy and respect? |
| **Reporting Years** | 2020 |
| **Definition of Respect for Person** | Individuals who felt treated with dignity and respect by healthcare providers |
| **Denominator** | All cancer patients at the Cancer Treatment Centre and at Prince County Hospital who were available at the time of the survey |
| **Numerator** | Out of the denominator, the number of cancer patients who responded to the question by "Always” or “Usually" |
| **Stratifications** | Location of cancer patients, type of cancer treatment |
| **Comments** |  |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of individuals who reported that their providers treated them with dignity and respect. |
| **Reporting Years** | 2021 |
| **Definition of Respect for Person** | Individuals who felt treated with dignity and respect by healthcare providers |
| **Denominator** | The number of individuals who selected: "Yes completely", Yes somewhat" or "No" (1, 2 or 3) to the AOPSS 2021 question: Did your care providers treat you with dignity and respect? |
| **Numerator** | The number of individuals who responded with a positive response the AOPSS 2021 question: Did your care providers treat you with dignity and respect? |
| **Stratifications** | Sex, RHA, Age |
| **Comments** |  |
|  | | |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of patients who reported that they were treated with respect and compassion. |
| **Reporting Years** | Questionnaires were administered during three time periods: (i) January 18-26, 2021; (ii) February 1-12, 2021; (iii) April 1-30, 2021. |
| **Definition of Applicable Survey Question** | 1. Did our healthcare providers treat you with respect? 2. Did our healthcare providers treat you with compassion? 3. (Optional) Did our healthcare providers explain your treatment and care in a way that you could understand? |
| **Denominator** | Number of respondents for each question |
| **Numerator** | Number who chose Yes to each question |
| **Stratifications** |  |
| **Comments** | 1. Information sheets containing the questionnaire link and QR code were given to patients presenting to the cancer care program over three time periods: (i) January 18-26, 2021; (ii) February 1-12, 2021; (iii) April 1-30, 2021.  2. Spreadsheet answer columns were modified to match answer options given in questionnaire.  3. For the purposes of reporting here, answers of "I don't know" and "does not apply" were combined into one column.  4. Question 3 might be more relevant to the indicator concerning information, but it followed the same answer choices as the questions mentioned here, and it was included in case it might be of interest.  5. Responses are taken from the "Experience of Care Questionnaire for Cancer Care Program", which was administered as part of the recent accreditation process. |

### Percentage of cancer patients in underserviced groups who have access to patient navigator services or other programs/services that address their needs

Data Source: Provincial cancer agencies and programs

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| --- | --- | --- |
| **Jurisdiction** | **Item** | **Description** |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients living in rural/remote area in Alberta who utilized nurse navigator services that address their needs |
| **Reporting Years** | 2019 year of appointment/visit |
| **Definition of underserviced group** | Patients who live in rural/remote area defined by Alberta Health Services postal code file |
| **Navigator Services** | Nurse Navigators provide support during times of transition, care continuity & coordination, patient and family education, patient referral and triage, as well as local community liaison |
| **Denominator** | Number of cancer patients who lived in rural/remote areas in Alberta and had at least one appointment/visit at any cancer centres in 2019 |
| **Numerator** | Number of cancer patients who lived in rural/remote areas in Alberta and utilized nurse navigator service in 2019 |
| **Stratifications** | Health zone (1-5), Age group (18-54, 55-64, 65-74, 75-84, 85+) |
| **Comments** | Alberta adult residents who lived in rural/remote areas and had at least one appointment with Cancer Care Alberta clinics in 2019 were included. Among those, patients who had at least one appointment with Nurse Navigators were counted as numerator. Urban/rural status for Local Geography Boundaries was created by examining population densities and travel times to a variety of health services. There is no rural/remote area in Zone 4. |
| Saskatchewan | **Jurisdictional target** | Yes – 90% |
| **Definition** | Percentage of new cancer patients who were referred to new patient navigator services |
| **Reporting Years** | 1 January – 31 December, 2019 |
| **Definition of underserviced group** | Indicator was stratified by location and income quintile (urban residents only):  \* Rural residents, especially Northern Saskatchewan residents, are considered underserviced  \* Urban residents with the lowest income quintile are considered underserviced |
| **Navigator Services** |  |
| **Denominator** | Number of cancer patients who had a new patient consult in 2019 |
| **Numerator** | Of the denominator, those who were referred to patient navigator services |
| **Stratifications** | Location (Urban, Urban – Regina, Urban – Saskatoon, Rural, Rural – Northern Saskatchewan), Income (Quintile 1, Quintile 2, Quintile 3, Quintile 4, Quintile 5) |
| **Comments** | Exclusion criteria:  \* Patients born after 2001 / <18 years of age  \* Patients seen at SCA within the previous 2 years  Stratification:  \* Age was calculated based on year of birth. Anyone born in 2000 would be considered 19 in 2019.  \* Location is stratified as urban or rural.  -> Urban is defined as ≤100km of Regina or Saskatoon  -> Urban – Regina is defined as ≤100km of Regina  -> Urban – Saskatoon is defined as ≤100km of Saskatoon  -> Rural is defined as >100m from Regina and Saskatoon  -> Rural - Northern Saskatchewan is a subcategory of rural and corresponds the following three health regions: Athabasca, Keewatin Yatthé and Mamawetan Churchill River  \* Income quintiles are defined as Neighbourhood income quintile before tax (as defined by PCCF+ [QNBTIPPE] based on the 2016 census)  -> Income quintiles were only calculated for individuals living in Regina and Saskatoon  -> Q1: <=$39,547, Q2: $39,569-48,906, Q3: $48,974-$57,995, Q4: $58,018-$69,331; Q5 >=$69,409 |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | Since all cancer patients in Manitoba have access to patient Navigator Services, indicator wording has been modified to reflect access to Navigation services: Ratio of rural/remote cancer patients who have accessed Navigation Services in 2019 |
| **Reporting Years** | Jan to Dec 2019 |
| **Definition of underserviced group** | "Underserviced" populations have been narrowed in scope to patients from rural/remote areas of Manitoba. Regional health authorities (RHAs) are used as a proxy for rural/remote locations. Rural locations are represented by three RHAs: Prairie Mountain, Southern and Interlake-Eastern, while remote is represented by the Northern RHA. The Winnipeg RHA is considered an urban center and is not included |
| **Navigator Services** | Cancer Navigation Services (part of CancerCare Manitoba) is a free resource to all Manitoban cancer patients and their family members. Each regional cancer program includes a Navigation team (nurse navigator, psychosocial oncology clinicians and community engagement liaisons) which offer patient-specific support and/or information. Patients and their family members can either get in touch with Navigation Services directly or be referred by a health professional (https://www.cancercare.mb.ca/Patient-Family/support-services/cancer-navigation-services). |
| **Denominator** | Total number of Manitoba adults diagnosed with any invasive cancer in 2019 |
| **Numerator** | Number of newly diagnosed cancer patients in 2019, who also had a referral to Navigation services in the same year |
| **Stratifications** | Sex (male, female), regional health authority (Interlake-Eastern, Southern, Prairie-Mountain, Northern), age group (<30, 31-40, 41-50, 51-60, 61-70, 71-80, 81-90, 91-100) |
| **Comments** | Churchill is counted as part of the Winnipeg RHA and therefore not included in the calculation of this indicator (During Jan-Dec 2019, there were < 10 Churchill residents who accessed Navigation Services). |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Definition** | Percent of patients who had at least one visit with a cancer patient navigator within 365 days of their referral to a cancer centre specialist. |
| **Reporting Years** | 2019, 2020, 2021 |
| **Definition of underserviced group** | People living in rural communities as defined by Stats Can PCCF+ 7D based on patient’s residential postal code associated with their referral |
| **Navigator Services** | Navigation is available to newly diagnosed patients, as well as those already in the cancer system, undergoing treatment and in follow-up. Navigators work with individuals and families along the cancer care continuum. For the purpose of this indicator - Navigation services are restricted to services provided by Cancar Patient Navigators  Navigation services:  • provide a range of supportive care needs including physical, social, emotional, informational, financial, and practical needs • facilitate continuity of care and navigating the system • communication, education, liaison, and advocacy  • assist patients and families with access to supportive and rehabilitative care, palliative care, volunteer, and other supports in home communities; |
| **Denominator** | Distinct patients in Western, Eastern and Northern Health Zones referred to a cancer centre specialist during the reporting year  Exclusions:  • The Central Health Zone is excluded from this analysis as Central Health Zone does not have any Cancer Navigators. Navigation services in Central zone are carried out by other providers but we have no way to determine patient encounters that were for navigation purposes in our current administrative data. • Excluded if did not have a valid NS HCN or a valid NS postal code • Patients with hematology oncology referrals in Halifax |
| **Numerator** | Distinct patients in Western, Eastern and Northern Health Zones with at least one visit with a Cancer patient Navigator within +/- 365 days of their cancer centre specialist referral during the reporting year |
| **Stratifications** | Community Type (rural, urban) |
| **Comments** | Data represents only a portion of Navigation activity in Nova Scotia.  1) Navigation type activities do occur with other providers in Central Zone but is not possible to capture navigation type activities in Central zone with current data holdings. 2) Indicator was restricted to denominator of patients referred to Cancer Specialist referrals. However, patients can be referred to Navigators by other providers in the province.  Referral appointments were drawn from Nova Scotia Health appointment scheduling systems between 01 Jan 2019 and 31 Dec 2019. Referrals were limited to cancer center specialists. Navigation data was drawn from administrative data for appointments with provider type = Cancer Navigator between 01 Jan 2018 and 31 Dec 2020. |

## Action 2: Ensure rural and remote communities have the resources required to better serve their people

### Percentage of cancer patients from rural/remote communities using virtual health appointment

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| British Columbia | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients from rural/remote communities using virtual health appointment |
| **Reporting Years** | FY 2020/2021, FY 2021/2022 |
| **Definition of Rural/Remote** | Patients who are deemed to live at least 1 hour away from a BC Cancer facility |
| **Which appointment type(s) were considered as virtual appointment?** | Phone, telehealth, virtual desk |
| **Denominator** | Number of appointments seen at a BC Cancer site over the measurement timeframe where the patients are deemed to live at least 1 hour from a BC Cancer facility |
| **Numerator** | Number of appointments in the denominator that were classified as 'virtual' |
| **Stratifications** | Treatment modality (radiation, systemic, other), travel time to nearest centre (1-2hrs, 2-4 hrs, =>4 hrs) |
| **Comments** |  |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients from rural/remote communities using virtual health appointment  The appointment type restricted to physician led appointments |
| **Reporting Years** | 2019, 2020 |
| **Definition of Rural/Remote** | >100km from Regina and Saskatoon |
| **Which appointment type(s) were considered as virtual appointment?** | Appointments were considered virtual if there were held over telephone or telehealth |
| **Denominator** | All patients seen at SCA who had at least one physician-led appointment during the reporting year |
| **Numerator** | Of the denominator, those who had at least one virtual appointment |
| **Stratifications** | Location (Rural, Urban)  Appointment type (Telephone, Telehealth) |
| **Comments** | Stratification:  Stratification by location is mutually exclusive. Patients either live in urban or rural locations.  Stratification by appointment type is not mutually exclusive. Patients could have had both telephone and telehealth appointments. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients from rural/remote communities using virtual health appointment |
| **Reporting Years** | 2019, 2020 |
| **Definition of Rural/Remote** | All RHAs excluding Winnipeg: Interlake-Eastern, Northern, Prairie-Mountain, Southern Health |
| **Which appointment type(s) were considered as virtual appointment?** | All appointments that were conducted using Telehealth, Phone or Video |
| **Denominator** | Patient-level: Number of cancer patients living outside of Winnipeg diagnosed during the reporting period who attended at least one in-person/virtual appointment  Appointment-level: Number of in-person/virtual appointments living outside of Winnipeg during the reporting period for cancer patients diagnosed during the same timeframe |
| **Numerator** | Patient-level: Number of cancer patients living outside of Winnipeg diagnosed during the reporting period who attended at least one virtual appointment during the same timeframe  Appointment-level: Number of virtual appointments living outside of Winnipeg during the reporting period for cancer patients diagnosed during the same timeframe |
| **Stratifications** | Patient-level: RHA (Interlake Eastern, Northern, Prairie Mountain, Southern), Age Group (<20, 21-30, 31-40, 41-50, 51-60, 61-70, 71-80, 81+), Appointment-level: RHA (Interlake Eastern, Northern, Prairie Mountain, Southern) |
| **Comments** |  |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients from rural/remote communities using virtual health appointment |
| **Reporting Years** | 2019, 2020, 2021 |
| **Definition of Rural/Remote** | To identify the remote/rural areas, the Postal Code Conversion File Plus (PCCF+) Version 7C was used. The patients’ postal codes of residence were linked to PCCF+, and the remote/rural areas were identified using the Community Size and Metropolitan Influence Zones (CSizeMIZ) variable in PCCF+. Values included were 5, 6 and 7. |
| **Which appointment type(s) were considered as virtual appointment?** | Systemic - any systemic consult before, during, or following treatment.  Radiation - any radiation consult, before, during, or following treatment.  PSO - psychosocial oncology services (i.e., consultation with the following 7 PSO disciplines at Regional Cancer Centres: psychiatrist, psychologist, social worker, occupational therapist, physiotherapist, registered dietitian, and speech language pathologist).  Virtual services include telephone visits and video conference visits. |
| **Denominator** | Patient-level: Number of patients living in rural/remote areas using the specified service type, during the time period of interest  Appointment-level: Number of visits of the specified service type for patients living in rural/remote areas, during the time period of interest |
| **Numerator** | Patient-level: Number of patients living in rural/remote areas with ≥ 1 virtual visit of the specified service type, during the time period of interest.  Appointment-level: Number of virtual visits of the specified service type for patients living in rural/remote areas, during the time period of interest |
| **Stratifications** | Service Type (systemic, radiation, psychosocial oncology) |
| **Comments** | 1 - Individuals with missing health card number and/or missing postal codes were excluded from the analysis.  2 - Psychosocial oncology services are captured only for services provided at Regional Cancer Centres. |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients using virtual health appointments |
| **Reporting Years** | Appointments occurring during the reporting year; 2019, 2020, 2021, 2022 |
| **Definition of Rural/Remote** | People living in rural communities generated by PCCF+ 7D based on patient’s postal code as listed in the administrative appointment database at the time of the appointment |
| **Which appointment type(s) were considered as virtual appointment?** | Phone, telehealth, zoom appointments from oncology clinic appointments captured in denominator. New consult appointments and follow-up appointments are included. Appointments with Oncologist/Nurse Practitioner/General Practitioner in Oncology are included |
| **Denominator** | Patient-level: Discrete patients who had an Oncology clinic appointment /consult  Appointment-level: All oncology clinic appointments/consults  Excluded: chart check appointment types, other practitioner types (i.e. allied health); and patients who did not have a valid NS HCN or a valid NS postal code |
| **Numerator** | Patient-level: Discrete patients who had a at least one Oncology clinic appt/consult virtually  Appointment-level: All Oncology clinic appointments/consult conducted virtually |
| **Stratifications** | Rural/urban, Appointment type (New consult, Return Appt) |
| **Comments** | In 2019 telehealth was the only virtual option for patients. Attendance at a telehealth appointment required the patient to travel to a local hospital to attend telehealth appointments with oncologists/NP/GPO at other sites.  Appointments were drawn from Nova Scotia Health appointment scheduling systems. Records were limited to Oncologists, Nurse Practitioners, and General Practice Physicians Oncology Clinic Appointments. Chart Check appointment types were excluded.  Definitions:  New Consult Appt: Patient visit with practitioner for first time.  Return Appointment: Follow up appointment with a practitioner they have seen before.  Provider types included: Oncologists, Nurse Practitioners, General Practice Physicians in Oncology; Oncologist includes: RadOnc, SurgOnc, HemeOnc, & MedOnc; |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients from rural/remote communities using virtual health appointment  Non-Melanoma skin cancer patients were excluded. |
| **Reporting Years** | All cancer patients who had virtual appointments during the year; 2019, 2020 |
| **Definition of Rural/Remote** | Cancer patients who needed a consultation/treatment/ follow-up with a specialty physician, which was not available in Prince Edward Island. All areas in PEI were considered rural areas. |
| **Which appointment type(s) were considered as virtual appointment?** | Appointments were for cancer related consultation/follow up. Some cancer virtual appointments [(12/85), 14.1%] were not matching with the anatomical site of the cancer, which might be appointments for comorbidities among these cancer patients. There are only two locations to do virtual appointments in PEI, which are the Prince County Hospital in Summerside and Queen Elizabeth Hospital in Charlottetown. |
| **Denominator** | Patient-level: All cancer registry patients who were alive during the reporting year Appointment-level: The number of all virtual appointments for cancer patients during the reporting year |
| **Numerator** | Patient-level: Number of cancer patients from PEI who had virtual appointments during 2019  Appointment-level: Average number of virtual appointments for patients who had virtual appointments during the reporting year |
| **Stratifications** | Residency (in Charlottetown, outside Charlottetown, undefined location, outside of PEI), age group (<18, 18-49, 50-59, 60-69, 70-79, 80+), and sex (male, female) |
| **Comments** | The cancer patients included those cancers that were in situ and borderline (behavior 1 and 2, respectively). Also, patients who used virtual appointments were stratified according to their residency if they were living in Charlottetown (Capital of PEI) or outside it. The denominator for this stratification was the number of cancer patients who were residing in Charlottetown or outside it in PEI. This was done based on the postal code forward sortation area of Charlottetown (C1A, C1B, C1C, C1E). Age and sex stratifications were added to the virtual appointments to have more in depth description of the demography of these appointments. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients from rural/remote communities using appointments that can be offered in-person or virtually. |
| **Reporting Years** | FY 2020, 2020/21 |
| **Definition of Rural/Remote** | Rural/remote defined as living more than a one-hour drive from the nearest cancer centre. |
| **Which appointment type(s) were considered as virtual appointment?** | Any follow-up appointment, chemotherapy follow-up, radiation review or new patient appointments flagged as being telephone-based, video-based or home-based. |
| **Denominator** | Patient-level: Number of rural/remote patients who had one of the included appointment types within the timeframe.  Appointment-level: Total appointments of included types within timeframe for cancer patients living in rural/remote areas. |
| **Numerator** | Patient-level: Number of rural/remote patients who had one of the included appointment types where at least one was deemed virtual within the timeframe.  Appointment-level: Total number of virtual oncology appointments during timeframe for cancer patients living in rural/remote areas. |
| **Stratifications** | Regional Health Authority (Eastern Health, Central Health, Western Health, Labrador-Grenfell Health) |
| **Comments** | 1. Only appointments that can be delivered virtually or in-person were included. These include follow-up appointments, chemotherapy follow-ups, radiation reviews and new patient appointments. Those that were flagged as home-based, telephone-based or video-based were deemed virtual.  2. Using fiscal year as timeframe allowed us to report one year of appointments prior to the onset of the COVID-19 pandemic.  3. Patient RHA was determined using Postal Code OM Conversion File Plus.  4. Driving time was determined using Google maps data to calculate driving time between patient postal code and cancer centre postal code. |

### Availability of supportive care services (including psychosocial and/or palliative care) in rural/remote areas

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Definition** | Proportion of patients seen at the SCA accessing supportive care services |
| **Reporting Years** | 2019, 2020 |
| **Definition of supportive services** | Supportive Services include the following types of appointments:  - Dietitian, Psychosocial and SMPCOC appointments  SMPCOC – Symptom Management and Palliative Outpatient Clinic |
| **Definition of rural/remote areas** | Rural is defined as >100km from Regina and Saskatoon  Urban is defined as ≤100km of Regina and Saskatoon |
| **Denominator** | Patients who had at least one consult, follow-up, or treatment at SCA |
| **Numerator** | Patients who had at least one supportive care appointment |
| **Stratifications** | Appointment Type (Dietary, Psychosocial, SMPCOC)  Appointment Location (In-Person, Virtual, Phone, Telehealth)  Diagnosis (Breast, CNS, Colorectal, Lung, Prostate, Gynecological, Hematology, Skin, Other)  Age (19-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+)  Location (Rural, Urban) |
| **Comments** | Exclusion Criteria:  \* Patients born after 2000/ <19 years of age  Stratification:  Age was calculated based on year of birth. Anyone born in 2000 would be considered 19 during the reporting year.  Stratification by age and location (rural/urban) are mutually exclusive. Patients are one age group and either live in urban or rural locations.  Stratification by appointment type, appointment location and diagnosis are not mutually exclusive. Patients could have both a dietary and SMPCOC appointment, have been seen both in-person and virtually and have multiple diagnoses. Additionally, further stratifications of virtual appointments are not mutually exclusive as patients could have had both phone and telehealth appointments. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | % of rural/remote cancer patients who accessed psychosocial services in the same fiscal year they got diagnosed |
| **Reporting Years** | April 2020 – March 2021 (FY 2020/21) |
| **Definition of supportive services** | This indicator reflects Psychosocial Services |
| **Definition of rural/remote areas** | Regional health authorities (RHAs) are used as a proxy for rural/remote locations. Rural locations are represented by three RHAs: Prairie Mountain, Southern and Interlake-Eastern, while remote is represented by the Northern RHA. The Winnipeg RHA is considered an urban center and is therefore not included |
| **Denominator** | All cancer patients diagnosed in FY 2020/21 |
| **Numerator** | Cancer patients diagnosed in FY 2020/21 who had 1 or more psychosocial oncology (PSO) appointment during the same timeframe |
| **Stratifications** | Sex (male, female), Age (<30, 31-40, 41-50,51-60,61-70,71-80,91-90,91-100), Regional health authority (Interlake-Eastern, Southern, Prairie-Mountain, Northern) |
| **Comments** | The report used to inform this indicator was implemented in 2020 (i.e. earlier timeframes are not available) |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | \*\*\*Note that ON separated out this indicator into two:  [1] Percentage of cancer patients from rural/remote areas who received psychosocial oncology services  [2] Percentage of cancer patients from rural/remote areas who received palliative care services. |
| **Reporting Years** | [1] Service delivery date: January 1, 2019 – December 31, 2019  Diagnosis date: January 1, 2010 – December 31, 2019  [2] Service delivery date: January 1, 2019 – December 31, 2019  Diagnosis date: January 1, 2010 – December 31, 2019 |
| **Definition of supportive services** | [1] psychosocial oncology services (i.e., consult visits with the following 8 PSO disciplines at Regional Cancer Centres: psychiatrist, psychologist, social worker, spiritual care provider, occupational therapist, physiotherapist, registered dietitian, and speech language pathologist)  [2] palliative care services |
| **Definition of rural/remote areas** | [1] & [2] To identify the remote/rural areas, the Postal Code Conversion File Plus (PCCF+) Version 7C was used. The patients’ postal codes of residence were linked to PCCF+ macro, and the remote/rural areas were identified using the Community Size and Metropolitan Influence Zones (CSizeMIZ) variable in PCCF+. |
| **Denominator** | [1] & [2] Number of patients diagnosed with cancer, alive during reporting time period and living in rural/remote areas |
| **Numerator** | [1] Number of cancer patients in rural/remote areas who received psychosocial oncology services after cancer diagnosis and within the service delivery period (see Measurement Timeframe).  [2] Number of cancer patients in rural/remote areas who received palliative care services after cancer diagnosis and within the service delivery period (see Measurement Timeframe) |
| **Stratifications** | * Diagnosis year * Rural/remote and urban areas |
| **Comments** | [1] Percentage of patients who received psychosocial oncology (PSO) services in 2019 stratified by year of cancer diagnosis and area of residence (remote/rural vs urban) is provided in Table 2. The results show that patients from urban areas had a slightly higher access to PSO services compared to those in rural/remote areas. Further statistical testing showed that the difference between urban and rural/remote areas were statistically significant (at 5% level of significance) for all diagnosis year categories. Also, the diagnosis year breakdown shows that patients who were most recently diagnosed had different access to supportive care than those who were diagnosed a few years earlier. This may be due to the reason that patients who were diagnosed in 2018-2019 were receiving PSO support while seeking treatment at Regional Cancer Centres (RCC) whereas patients who were diagnosed in 2010-2014 were no longer on active treatment at the RCC.  Notes:   * Individuals with missing health card number and/or missing postal codes were excluded from the analysis. * Individuals who were alive for calendar year 2019 were included in the analysis. * Psychosocial services are captured only for services provided at Regional Cancer Centres.   [2] Percentage of patients who received palliative care services in 2019 stratified by year of cancer diagnosis and area of residence (remote/rural vs urban) is provided in Table 2. The results show that patients who were diagnosed between 2010 and 2017 from both remote/rural and urban areas had very similar access to palliative care services. However, palliative care access for patients who were diagnosed recently (i.e., 2018-2019) is slightly higher for patients live in rural area compared to those in urban areas. Further statistical testing showed that there was no evidence of statistically difference in palliative care use for patients who were diagnosed between 2010 and 2017 from remote/rural vs urban areas (at 5% level of significance). However, palliative care access for patients who were diagnosed recently (i.e., 2018-2019) is significantly higher for patients live in rural area compared to those in urban areas (at 5% level of significance). Also, the diagnosis year breakdown shows that patients who were most recently diagnosed had different access to palliative care than those who were diagnosed a few years earlier. This may be due to the reason that patients who were diagnosed in 2018-2019 were receiving palliative care support while seeking treatment whereas patients who were diagnosed in 2010-2014 were no longer on active treatment.  Notes:   * Individuals with missing health card number and/or missing postal codes were excluded from the analysis. * Individuals who were alive for calendar year 2019 were included in the analysis. * Palliative care services include physician claims, hospital admissions, emergency room visits, home care services, continuing care services, and Regional Cancer Centres (RCC) clinic visits. |
| Nova Scotia (Supportive Care Services) | **Jurisdictional target** | No target/not provided |
| **Definition** | Proportion of respondents who indicated they received the help they needed |
| **Reporting Years** | 2020 |
| **Definition of survey question** | Variety of services across the health authority. Specific services were not defined in the survey question. Survey respondents answered a statement “I am receiving as much help as I need in coping with…  • Social and family issues related to cancer  • Emotional issues  • Spiritual Issues  • Practical  • Physical  Response options:  • Yes, I got the help I needed  • No, I did not get as much help as I needed  • I did not need help |
| **Definition of rural/remote areas** | N/A |
| **Denominator** | Respondents who indicated they needed help in questions relating to "I am receiving as much help as I need coping with…”  Excluded: Respondents who indicated ”I did not need help” |
| **Numerator** | Number of respondents who indicated "Yes" they got the help they needed coping by question |
| **Stratifications** | Rural/urban |
| **Comments** | Data from the Nova Scotia Health Cancer Care Program 2020 Patient Satisfaction Survey  Survey Sampling  The Nova Scotia Health Cancer Care Program 2020 Patient Satisfaction Survey sample was identified through appointments in the Nova Scotia Health appointment scheduling systems between 09 May 2020 and 31 Aug 2020. Only appointment types and appointments where the patient attended the appointment were retained. A stratified random sample of 1,935 patients were selected from the appointment data to receive the survey. The number of patients were evenly divided among the four Health Management Zones to ensure that zone to zone comparisons could be made. A total of 701 patients responded to the survey. This includes n=442 Active Treatment patients and n=259 patients in follow-up care. |
| Nova Scotia (Specialist Palliative Care Services) | **Jurisdictional target** | No target/not provided |
| **Definition** | Proportion of Nova Scotians referred to specialist palliative care services |
| **Reporting Years** | 2019, 2020 |
| **Definition of Specialist Palliative Care Services** | In Nova Scotia, specialist palliative care services are interdisciplinary teams that provide an additional layer of support to enhance the care of patients with life limiting illness with unmet needs that require specialist level care. These teams include palliative care physicians, nurses and social workers who provide support in any setting of care. |
| **Definition of rural/remote areas** | People living in rural communities as defined StatsCan PCCF+ 7D.  Determined by the patient’s residential postal code at time of death |
| **Denominator** | Nova Scotia decedents with cancer cause of death during the reporting year as per NS vital stats records |
| **Numerator** | Nova Scotians who died during the reporting year had at least one referral to specialist palliative care services |
| **Stratifications** | 1. Rural/Urban Community 2. Status of Referral:  * Referred 14 days or more prior to death * Referred Less than 14 days before death * Not referred |
| **Comments** | Excluded cases with incomplete/no HCN, incomplete/no Postal Code, non-Nova Scotia Postal Code, and deaths in individuals under 18 years of age |

## Action 3: Ensure care can be delivered between provinces, territories and federal jurisdictions when needed

### Average wait time for cancer patients who require cancer treatment outside of their home jurisdiction

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | Number of Ontario patients who received funding approval under the Ontario Health Insurance Plan for cancer treatment outside of Canada in the most recent fiscal year. |
| **Reporting Years** | Fiscal year 2019/20  Fiscal year 2020/21  Fiscal year 2021/22 |
| **Definition of wait time** | N/A |
| **Definition of patients outside of home jurisdiction** | N/A |
| **Methodological approach for when patients had multiple referrals** | N/A |
| **Stratifications** | None |
| **Comments** | The Out-of-Country Prior Approval Program provides an important safety net for Ontario’s health care system to ensure access to funding for medically necessary health services. Regulation 552, under Ontario’s Health Insurance Act, sets out the requirements that must be met for an Ontario resident to qualify for funding of Out-of-Country medical services under the Ontario Health Insurance Plan.  These regulatory requirements require that the services are generally accepted in Ontario as appropriate for a person in the same medical circumstances as the insured person, either the services are not performed in Ontario by an identical or equivalent procedure, or they are performed in Ontario but the insured person must receive the services outside Canada to avoid a delay that would result in death or medically significant irreversible tissue damage. Additionally, the services cannot be considered in Ontario to be experimental or for the purpose of research and must be performed at a hospital or licensed health facility as defined in the regulation.  In fiscal year 2019/20, 69 Ontario patients received funding approval under the Ontario Health Insurance Plan for cancer treatment outside of Canada. The majority of approved services was for chimeric antigen receptor (CAR) T-cell therapy which only became available in Ontario in late 2019. In fiscal year 2020/21, 27 Ontario patients received funding approval under the Ontario Health Insurance Plan for cancer treatment outside of Canada. This decrease can be attributed to the COVID-19 pandemic and increased capacity to deliver CAR T-cell therapy in Ontario. |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Definition** | Average, median, 90th percentile wait time for cancer patients from approval for out of province treatment to start of OOP treatment |
| **Reporting Years** | 2019, 2020 |
| **Definition of wait time** | Time from approval for out of province treatment to start of out of province treatment  Measured in days |
| **Definition of patients outside of home jurisdiction** | Treatment outside of Saskatchewan |
| **Methodological approach for when patients had multiple referrals** | One referral for a series of treatment - one wait time  Multiple referrals for unique treatments - multiple wait times |
| **Measures** | The mean, median and 90th percentile wait time from approval for treatment to start of treatment for patients who received out of province treatment |
| **Stratifications** | None |
| **Comments** | Exclusion Criteria:  1. Patient died prior to treatment  2. Patient opted out of treatment  3. Appointment was follow-up or other, not treatment  If the patient was approved for multiple treatments, the wait time was based on approval to first treatment.  If date of first treatment is not available, the scheduled date of treatment was used. |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Prince Edward Island provided mean, median, minimum, and maximum of wait time for out of province cancer treatment appointments. |
| **Reporting Years** | The wait time for cancer patients who required cancer treatment appointments outside Prince Edward Island; 2019, 2019-2020. |
| **Definition of wait time** | The number of days that a cancer patient waited from referral request date until the patient had a treatment appointment. The referrals during 2018 and 2019 were considered. Referrals made in late 2018, may have received their treatment appointments during 2019. Any wait time more than 365 days was excluded as these appointments were more likely delayed for reasons beyond a waiting period. All referral appointments were considered after the diagnosis date without any exclusions. |
| **Definition of patients outside of home jurisdiction** | Cancer patients who went off Island to receive cancer treatment that was not available in their home jurisdiction (PEI) |
| **Methodological approach for when patients had multiple referrals** | An appointment for each unique referral and its earliest treatment appointment was calculated. Some cancer patients had multiple different referrals with multiple different appointments. For cancer patients who had two appointments for a single referral, the earliest appointment was selected for calculating the wait time assuming other appointments were scheduled according to the treatment plan of the physician. For example, if a patient had two surgeries at two different appointments but only had one referral, the first appointment was selected for calculating the wait time. |
| **Measures** | Mean, median, and range |
| **Stratifications** | Sex (male, female), age group (<18, 18-49, 50-59, 60-69, 70-79, 80+), and cancer site |
| **Comments** | Some cancer patients had more than one referral for treatment for cancer. For each referral date, the earliest cancer treatment appointment was considered for the analysis. All cancer referral dates included were after the cancer diagnostic date; if the referral came before the date of diagnosis, then it was assumed to be for diagnosis not treatment and was excluded. The cancer site that included at least five cases was considered a stratifier, if less than five cases it was presented as “others”. The “others” cancer category included, for example, female reproductive organs, hematological cancers, and head and neck cancers. |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Average wait time for cancer patients who require cancer treatment outside of their home jurisdiction |
| **Reporting Years** | Include patients from NL diagnosed with cancer who received ASCT ; 2019, 2020 |
| **Definition of wait time** | Time (in days) from referral for ASCT to the first day of ASCT. |
| **Definition of patients outside of home jurisdiction** | Outside of jurisdiction defined as outside of province. |
| **Methodological approach for when patients had multiple referrals** |  |
| **Measures** | Mean (SD), median |
| **Stratifications** | None |
| **Comments** | 1. All patients from NL must leave the province for Allogeneic Stem Cell Transplantation.  2. Chemotherapy is required to prepare for allogeneic stem cell transplantation. As such, patients must spend about one week receiving chemotherapy before transplantation, making the minimum possible wait time the time for chemotherapy + travel.  1. Exclusion criteria:  i) patients <18 years of age; ii) non-invasive cancers; iii) cancers diagnosed outside of NL; iv) non-melanoma skin cancers.  2. Small sample size limits analysis and does not allow for any stratification.  3. Wait time was determined by calculating time (in days) between referral for allogeneic stem cell transplantation and the day the patient started the treatment.  4. We must exercise caution when making generalizations about the jurisdiction based on such a small sample size. |

### Percentage of cancer patients with access to transportation programs and other supports to facilitate access to treatment outside of one’s home jurisdiction

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| Prince Edward Island | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients with access to transportation programs and other supports to facilitate access to any cancer appointments outside of one’s home jurisdiction (for services not available in their home jurisdiction). This change from the original transportation indicator for cancer treatment took place because it was unclear and very difficult to distinguish if the cancer patient was going for treatment/diagnostic/ consultation or any other type of appointment. |
| **Reporting Years** | All travel for out of province; 2019, 2020 during the reporting year |
| **Description of transportation program(s) available** | The Maritime bus program is funded completely by the PEI government and tickets are awarded to people under a certain income. Hope Air is partly charity, partly provincial government supported, which pay for Ferry and Bridge passes to leave the Island and for plane tickets for those traveling outside of NS and NB. This program is also based on patient’s income level. |
| **Description of other support program(s) available, if applicable** |  |
| **Denominator** | Number of all cancer patients who had cancer treatment/appointments outside PEI during the year |
| **Numerator** | Of the denominator, number of cancer patients who were awarded transportation support in bus tickets, bridge or ferry passes, and plane tickets. |
| **Stratifications** | Transportation program (Hope Air, Maritime bus) |
| **Comments** | The total number of bridge passes and tickets were provided to cancer patients and their escorts who traveled with them for support (in the stratification section). The denominator included all patients in the cancer registry with an out of province appointment. The exact reason each patient went to this appointment could not be verified, so they were included assuming the appointment was for cancer treatment. |

# Priority 5: Deliver information and supports for people living with cancer, families, and caregivers

## Action 1: Integrate the full spectrum of information and support services to ensure people are fully supported throughout the cancer journey

### Improving availability of information and support

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| Alberta | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients who reported that they were given enough information about their cancer, its treatments, and supportive services |
| **Reporting Years** | 2021 |
| **Definition of survey question** | Survey questions include:   * Did you get enough information about possible changes in your physical appearance? * Did you get enough information about possible changes in your emotions? * Did you get enough information about possible changes in your energy/fatigue level? Were you given enough information about therapies for treating cancer? * When you were first told of your illness, were you referred to a care provider who could help you with anxieties and fears? |
| **Denominator** | All Respondents who provided a ‘yes’ or ‘no’ response to each question |
| **Numerator** | Number of individuals who answered “yes, completely” or “yes, somewhat” |
| **Stratifications** | None |
| **Comments** | For "When you were first told of your illness, were you referred to a care provider who could help you with anxieties and fears?", 656 in the 'does not apply' indicated 'no fear', while 92 were not available. |
| Nova Scotia | **Jurisdictional target** | No target/not provided |
| **Definition** | Proportion of individuals who indicated "Yes” to survey questions asking if they received all the information they needed to understand their cancer, treatment, and outcome |
| **Timeframe** | 2020 |
| **Definition of survey question** | Active Treatment only patients responded to question: I have all the information I need to understand   * My Cancer (what type, where it is) * My treatment Plan * The probable outcome for my cancer * Whether the treatment is working   Response options:  • Yes/ No |
| **Denominator** | All Respondents who provided a ‘yes’ or ‘no’ response to each question |
| **Numerator** | Number of individuals who indicated "Yes” to each question |
| **Stratifications** | None |
| **Comments** | Data from the Nova Scotia Health Cancer Care Program 2020 Patient Satisfaction Survey.  Survey Sampling:  The Nova Scotia Health Cancer Care Program 2020 Patient Satisfaction Survey sample was identified through appointments in the Nova Scotia Health appointment scheduling systems between 09 May 2020 and 31 Aug 2020. Only appointment types and appointments where the patient attended the appointment were retained. A stratified random sample of 1,935 patients were selected from the appointment data to receive the survey. The number of patients were evenly divided among the four Health Management Zones to ensure that zone to zone comparisons could be made. This includes n=442 Active Treatment patients and n=259 patients in follow-up care. Only Active Treatment patients were invited to respond to Information needs questions n=442. |
| Prince Edward Island | Jurisdictional target | No target/not provided |
| Definition | Percentage of cancer patients who reported that they were given enough information about their cancer, its treatments and supportive services |
| Reporting Years | 2020 |
| Definition of survey question | Not available |
| Denominator | All cancer patients at the Cancer Treatment Centre and at Prince County Hospital who were available at the time of the survey |
| Numerator | Out of the denominator, the number of cancer patients who responded to the question by "Yes" |
| Stratifications | Location of cancer patients, type of cancer treatment |
| Comments | Stratification according to sex and age could not be done because the patient satisfaction survey was anonymously conducted to protect patients' privacy and provide them the freedom to answer without any restrictions |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients who reported that they were given enough information about their cancer, its treatments and supportive services. |
| **Reporting Years** | Questionnaires were administered during three time periods: (i) January 18-26, 2021; (ii) February 1-12, 2021; (iii) April 1-30, 2021. |
| **Definition of survey question** | 1. When you left the clinic, were you given instructions on how to care for yourself? 2. When you left the clinic, were you told who to contact if you had questions or concerns about your health? 3. Still thinking about your visits, did you receive information on how to access spiritual/religious support? 4. Still thinking about your visits, did you receive information on how to access emotional or mental health support? |
| **Denominator** | Number of respondents for each question |
| **Numerator** | Number who chose Yes to each question |
| **Stratifications** |  |
| **Comments** | 1. Information sheets containing the questionnaire link and QR code were given to patients presenting to the cancer care program over three time periods: (i) January 18-26, 2021; (ii) February 1-12, 2021; (iii) April 1-30, 2021.  2. For the purposes of reporting within the limitations of the spreadsheet, the number of individuals who answered "I don't know" were not reported above.  3. Responses are taken from the "Experience of Care Questionnaire for Cancer Care Program", which was administered as part of the recent accreditation process. |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of cancer patients who reported that they were given enough information about their cancer, its treatments and supportive services |
| **Reporting Years** | 2021 |
| **Definition of survey question** | Survey questions include:  Did you get enough information about:   * Possible changes in your physical appearance? * Possible changes in your emotions? * Possible changes in your energy/fatigue level? * Were you given enough information about therapies for treating cancer? * When you were first told of your illness, were you referred to a care provider who could help you with anxieties and fears? |
| **Denominator** | The number of individuals who selected: "Yes completely", Yes somewhat" or "No" (1, 2 or 3) to the 5 AOPSS questions requested |
| **Numerator** | The number of individuals who responded with a positive response each of the 5 AOPSS questions requested: |
| **Stratifications** | Sex |
| **Comments** |  |

### Percent of health care professionals with direct access to cancer patient information

Data Source: Provincial cancer agencies and programs

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| **Jurisdiction** | **Item** | **Description** |
| Saskatchewan | **Jurisdictional target** | No target/not provided |
| **Definition** | Percent of health care professionals with direct access to cancer patient information |
| **Reporting Years** | 2019, 2020 |
| **Definition of health care professionals** | Physicians, nurses, pharmacists |
| **Definition of direct access** | Accessed eHealth Viewer during the reporting year, which contains cancer patient information |
| **Capture access to cancer patient information?** |  |
| **Denominator** | The total number of physicians, nurses and pharmacists during the reporting year |
| **Numerator** | Those who accessed eHealth Viewer during the reporting year |
| **Stratifications** | Health care professional (physician, nurse practitioner, registered nurse, licensed practical nurse, pharmacist) |
| **Comments** | The total number of health care professionals were collected from the following reports:  \* Physicians - https://adobeindd.com/view/publications/f8bd5ae9-d924-473d-ba8c-de9b6b6b5b63/1b4r/publication-web-resources/pdf/Annual\_Report\_2020.pdf  \* NPs/RNs - https://www.srna.org/wp-content/uploads/2020/04/2019-SRNA-Annual-Report-Digital.pdf  \* LPNs - https://salpn.com/wp-content/uploads/2019-Annual-Report-Final.pdf  \* Pharmacists - https://adobeindd.com/view/publications/c8947a6d-fcab-4428-88eb-2b65a182e17e/d31d/publication-web-resources/pdf/Annual\_Report\_2020.pdf |
| Manitoba | **Jurisdictional target** | No target/not provided |
| **Definition** | Percent of family/general practitioners with an active status in ARIA compared to family/general practitioners with access to ARIA. |
| **Reporting Years** | Jan-Dec 2019 |
| **Definition of health care professionals** | This indicator limits "health care professional" to family/general practitioners. More specifically, seven physician classifications are included: Family Practitioner, Physician, Palliative Care Physician, Emergency Medicine Physician, Family Physician in Oncology and Community Cancer Program Network (CCP) Physician (The CCP enables patients living outside of Winnipeg to receive cancer care closer to home). |
| **Definition of direct access** | Access to ARIA is defined as: Physician has an ARIA account (this includes both active and inactive users)  Active ARIA users are those who have logged into ARIA at least once in the last 120 days |
| **Capture access to cancer patient information?** | Not directly. This indicator reports on the proportion of family/general practitioners who have made recent use (<120 days) of the electronic cancer record (ARIA) out of all family/general practitioners who have access to ARIA |
| **Denominator** | Total number of Manitoba family/general practitioners with access to ARIA (includes active and inactive ARIA users) |
| **Numerator** | Number of Manitoba family/general practitioners with an active status in ARIA |
| **Stratifications** | None |
| **Comments** | The electronic cancer record for Manitoba (ARIA) underwent a major cleanup in 2019 that is still ongoing. As a result, the number of users inactivated in 2019 is higher which inflates the above statistic by about 10%. It should also be noted that physicians (especially those working at CCP sites) often have more than one "user group definition"; i.e. an emergency medicine physician may also be a family practitioner. The accuracy of user group definitions (physician types) and active/inactive user counts should improve by next reporting period (in 2022).  Stratifying this indicator by RHA is not possible, given that Manitoba physicians (especially those working at CCP sites) may regularly work at more than one location/RHA. |
| Ontario | **Jurisdictional target** | No target/not provided |
| **Definition** | Percentage of clinicians with access to clinical viewer in Ontario with treatment data consolidated (including cancer)  Scope changed from 'information only on cancer patients' to 'information available through the provincial electronic health record about all patients (including cancer)' |
| **Reporting Years** | 2020, 2021 |
| **Definition of health care professionals** | An eligible user who has been issued credentials by Ontario Health (Digital Services) |
| **Definition of direct access** | Authorized user who can access provincial data assets |
| **Capture access to cancer patient information?** | Includes cancer patients but is not exclusively for this patient population |
| **Denominator** | Authorized users on Sept 30,2020 |
| **Numerator** | Active users on Sept 30, 2020 |
| **Stratifications** | None |
| **Comments** | Due to limitations on data collection at end of Q2 in 2021, province is using Q3 data |
| Newfoundland | **Jurisdictional target** | No target/not provided |
| **Definition** | Percent of health care professionals with direct access to cancer patient information  1. Expanded number of times accessing EHR from at least 20 per year to at least 50 per year. 2. Removed part of the definition which referred to number of times accessed per quarter as it was determined to be redundant. 3. Expanded scope by stratifying by health region. |
| **Reporting Years** | 2019, 2020 |
| **Definition of health care professionals** | Primary health care (i.e., family) physician. |
| **Definition of direct access** | Access to NL patients’ electronic medical records via EHR system (i.e., HealtheNL viewer) |
| **Capture access to cancer patient information?** | Not specific to cancer patients only. Cancer patient information is available but cannot be separated from other non-cancer patient information at this time. |
| **Denominator** | Number of family physicians that have access to electronic health records, i.e., HealtheNL viewer. |
| **Numerator** | Number of family physicians who have logged into HealtheNL viewer at least 50 times per year |
| **Stratifications** | Regional health authority (Eastern, Central, Western, Labrador-Grenfell) |
| **Comments** | 1. This is a proxy indicator and does not measure access to electronic (EHR) cancer care information directly. Rather, it measures access to general EMRs, where cancer information is a subset. We will not be able to quantify how accurately it measures access to patient cancer information.  2. Multiple access to HealtheNL viewer per day is defined as one log in. Multiple access per day are typically due to healthcare providers being disconnected from HealtheNL viewer due to inactivity and then having to log in again throughout the day.  3. There are 1228 Medical Doctors using HealtheNL for which the specialty is unknown and 416 people accessing HealtheNL who we don’t know their role at all (e.g., RN, NP, Doctor, etc.).  4. Data includes all logins by family physicians to HEALTHe NL in the 2019 calendar year. 5. If a physician logged in to HEALTHe NL multiple times in one day, or from different sources, it was counted as one login overall.  6. HEALTHe NL is Newfoundland and Labrador’s Electronic Health Record (EHR) which facilitates sharing of patient data province wide across the continuum of care, across health care delivery organizations, and across geographical areas. The EHR links clinics, hospitals, community pharmacies and other points of care.  7. The Regional Health Authority (RHA) of the physicians is the RHA of their practice.  8. 55 physicians could not be allocated to an RHA. |

## Action 2: Address the limited and unequal access to palliative and end-of-life care across Canada

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| **Jurisdiction** | **Item** | **Description** |
| All provinces and territories (excluding ON,BC,NS) | **Definition** | Cumulative length of stay (LOS) measured in 50th and 90th percentile days, for cancer patients who were in or admitted to an acute care hospital 30 days prior to death |
| **Reporting Years** | For Provinces (excluding Quebec):  • FY2015-16  • FY2017-18  • FY2019-20  For Territories, timeframe is based on a consolidation of 2 Fiscal Years:  • FY2014-15 & FY2015-16  • FY2016-17 & FY2017-18  • FY2018-19 & FY2019-20 |
| **Cohort** | Adults who died with a cancer diagnosis in hospital as per the following specifications:   * Includes only acute care facilities * Excludes patients younger than 18 years old   **Diagnosis-specific criteria (diagnostic codes and types):**  Includes only patients who died in hospital (discharge disposition=’07’) AND  Had the following ICD-10-CA cancer codes:   * C00-C97 as MRDx (most responsible diagnosis); * C00-C97 as diagnoses Type 1 (pre-admission comorbidity), or W, or X, or Y (service transfer diagnosis codes); * D37-D48 as MRDx or diagnoses Type 1, or W, or X, or Y; * C00-C97 as diagnosis Type 3 (secondary diagnosis) and Z51.5 as MRDx (palliative care as most responsible diagnosis) |
| **Data Source** | Discharge Abstract Database (DAD) |
| **Measure** | 25th percentile, median (50th percentile), 75th percentile, 90th percentile |
| **Stratifications** | Location (Remote/Rural, Urban) |
| **Comments** | The cumulative length of stay in an acute care hospital in the last 30 days of life was defined as the date of the first admission to the date of death.  If the date of first admission is not available, length of stay was calculated based on the date of final admission to the date of death.  Patients could have a cumulative LOS of over 30 days if they were still hospitalized within 30 days of their date of death. For example, a patient could have been admitted 70 days prior to his death, discharged 10 days prior to death and re-admitted 5 days prior to death and stayed in the hospital until his passing.  The cumulative LOS for this patient is over 30 days. |
| Nova Scotia | **Jurisdictional target** | Not available |
| **Definition** | Place of death for Nova Scotians dying of cancer for a particular timeframe |
| **Reporting Years** | 2019, 2020 |
| **Denominator** | Nova Scotia decedents (over 18 years old ) with cancer cause of death in year of interest as per NS vital stats records |
| **Numerator** | Same data with location of death |
| **Stratification** | Place of death |
| **Comments** |  |

Improving access to quality end-of-life care

### Improving access to culturally safe palliative care

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| **Jurisdiction** | **Item** | **Description** |
| British Columbia and Prince Edward Island | **Definition** | Percent of patients identified for palliative care that have advanced care planning/goals of care discussions initiated |
| **Reporting Years** | April 1, 2020 – March 31, 2021 |
| **Data Source(s)** | PRO partners (BC, PE) |
| **Denominator** | Number of patients identified for palliative care |
| **Numerator** | Number of patients with documented Advance Care Plans and/or Goals of Care |
| **Stratifications** | None |
| **Comments** | PE: Data were collected from Provincial Integrated Palliative Care Program. |

## Action 3: Support children, adolescents, and young adults at key transition points in their unique cancer journeys

### Improving care for adolescents and young adults with cancer

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| **Jurisdiction** | **Item** | **Description** |
| All provinces and territories  (excluding Saskatchewan and British Columbia) | **Definition** | Percentage of adolescents and young adults (AYA) with cancer who had a specialized care plan pathway |
| **Reporting Years** | October 2021 |
| **Cohort** | Individuals aged between 15-39 |
| **Data Source** | Young Adult Cancer Canada (YACC) Survey |
| **Denominator** | Individuals with cancer who answered the YACC survey question: did you have a care plan? |
| **Numerator** | Of the denominator, individuals who answered “Yes” |
| **Stratifications** | Province   * Age (15-29, 30-39) * Gender (Female, Male, Other) * Location (Remote, Rural, Urban) |
| **Comments** | YACC nurtures a community of 5,000 young adults and stays connected to them through various channels. Recruitment for this survey was done through posts and engagement of leaders in YACC private social media groups (Facebook, Instagram, and Twitter). Approximately 3,000 of the young adults connect to access support, YACC programs, and community resources. The young adults also participate in research studies.  Recruitment for this survey did not target specific groups within the YACC’s community (e.g., gender, location), but went at large to the full community and all its diversity. YACC's community does have a higher percentage of people identifying as female and living in an urban area. This means the proportion of respondents with different characteristics may not be evenly distributed. |

### Improving transitions for adolescents and young adults with cancer

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| **Jurisdiction** | **Item** | **Description** |
| All provinces and territories (excluding Saskatchewan, British Columbia and Newfoundland) | **Definition** | Percentage of adolescents and young adults (AYA) with cancer who had a positive experience of transition in care along their cancer journey |
| **Reporting Years** | October 2021 |
| **Cohort** | Individuals aged between 15-39 |
| **Data Source** | Young Adult Cancer Canada (YACC) Survey |
| **Denominator** | Individuals with cancer who answered the YACC survey question: how would you rate your transition experience(s) using one of the following responses?   * Very positive * Positive * Neutral * Negative * Very negative |
| **Numerator** | Of the denominator, individuals who answered with “Very positive” or “Positive” |
| **Stratifications** | Province   * Age (15-29, 30-39) * Gender (Female, Male, Other) * Location (Remote, Rural, Urban) |
| **Comments** | YACC nurtures a community of 5,000 young adults and stays connected to them through various channels. Recruitment for this survey was done through posts and engagement of leaders in YACC private social media groups (Facebook, Instagram, and Twitter). Approximately 3,000 of the young adults connect to access support, YACC programs, and community resources. The young adults also participate in research studies.  Recruitment for this survey did not target specific groups within the YACC’s community (e.g., gender, location), but went at large to the full community and all its diversity. YACC's community does have a higher percentage of people identifying as female and living in an urban area. This means the proportion of respondents with different characteristics may not be evenly distributed. |