CANADIAN **PARTNERSHIP** AGAINST **CANCER**

PARTENARIAT CANADIEN CONTRE LE **CANCER**

Colorectal Cancer Screening in Canada:

ENVIRONMENTAL SCAN

Data collected in 2018

Revised March 2019

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Executive Summary

Organized colorectal cancer screening programs are available in Canada to individuals who are asymptomatic (no signs or symptoms of colorectal cancer present) and at average risk for colorectal cancer. Currently, there are organized colorectal cancer screening programs in one territory and nine provinces (Table 1). Northwest Territories, Nunavut and Quebec do not currently have organized colorectal cancer screening programs; however, Nunavut is currently implementing a territory-wide program and plans are underway to develop provincial/territorial programs in Northwest Territories and Quebec. Where organized screening programs are not available, screening services may be provided opportunistically by a primary care provider.

All provinces and territories screen asymptomatic individuals at average risk of developing colorectal cancer between the ages of 50 and 74 or 75 every 12-30 months with a fecal occult blood test (FOBT), either the guaiac fecal test (FTg) or fecal immunochemical test (FIT). Two provinces offer FTg as an entry level test for their colorectal cancer screening program, and eight provinces and three territories offer FIT as an entry level test (Table 2).

Organized colorectal cancer screening programs administer recruitment, reminder and promotional strategies to invite eligible individuals to screen as per guidelines. Recruitment strategies and methods vary across the country and may include physician referral, self-referral or mailed invitation letters (Table 3). Reminders in the form of letters are sometimes sent to eligible individuals to help increase screening participation rates. (Table 4).

Individuals who have an abnormal fecal test are notified of their result and invited for follow-up with a diagnostic colonoscopy. Result letters are sent to participants, primary care providers, or both primary care providers and participants (Table 9).

For individuals at increased risk, most provinces and territories recommend screening starting at age 40 or 10 years earlier than the participant's youngest relative's age at diagnosis with colonoscopy every five or ten years (Table 12).

Seven provinces and one territory have implemented strategies to connect with First Nations, Inuit and Métis populations (Table 15). Strategies have also been implemented to help address participation in underserved populations (Table 16). These strategies aim to increase colorectal screening participation among individuals in rural communities, new immigrants and low-income individuals.

Background

The Canadian Partnership Against Cancer collects information annually on national, provincial and territorial colorectal cancer screening guidelines, strategies and activities.

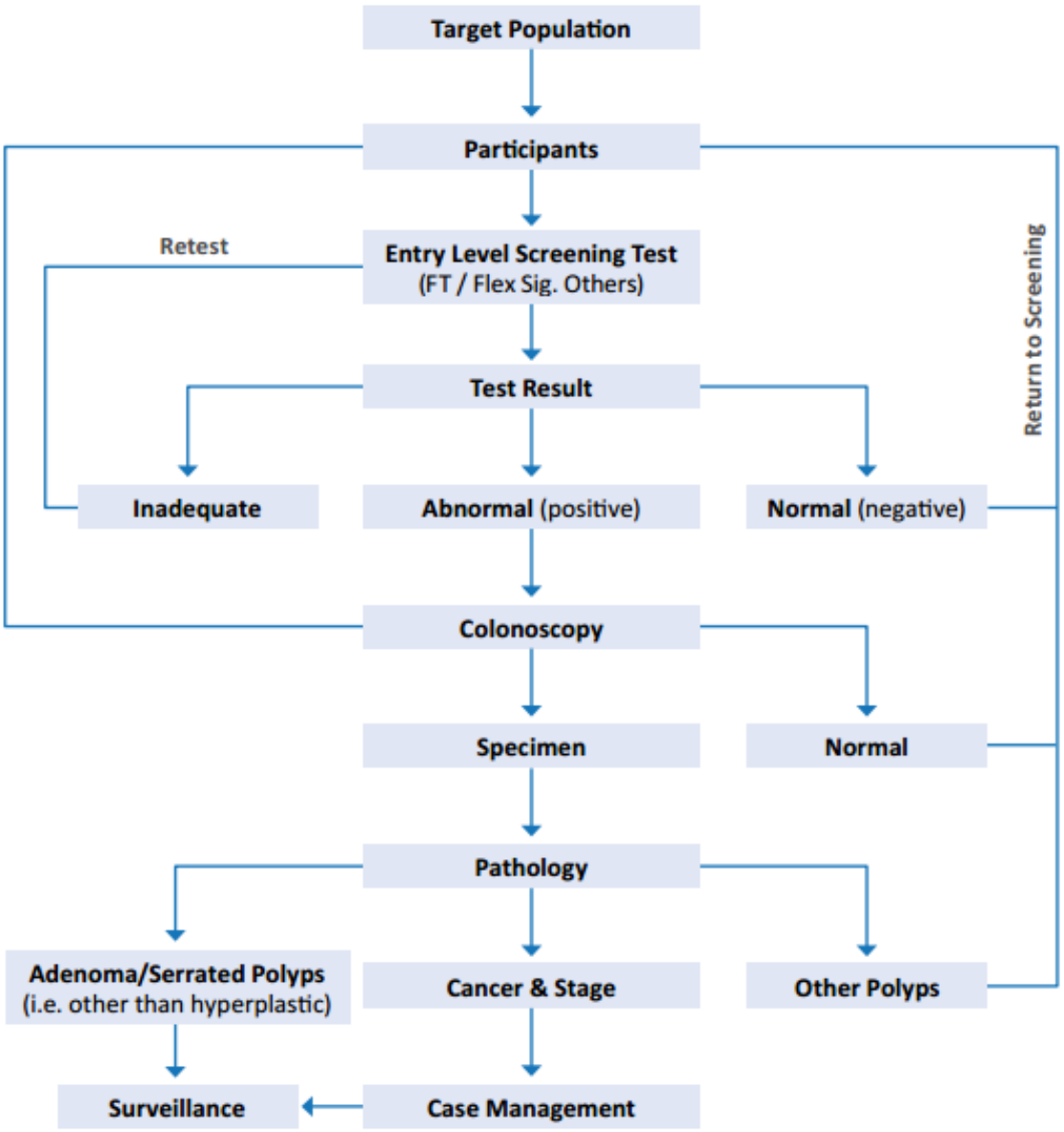
This environmental scan summarizes the data collected from provincial and territorial screening programs and is intended to provide information on policy and practice.

The information for this environmental scan was collected in June and July 2018. All provinces and territories responded to the environmental scan.

Colorectal Cancer Screening Programs and Guidelines

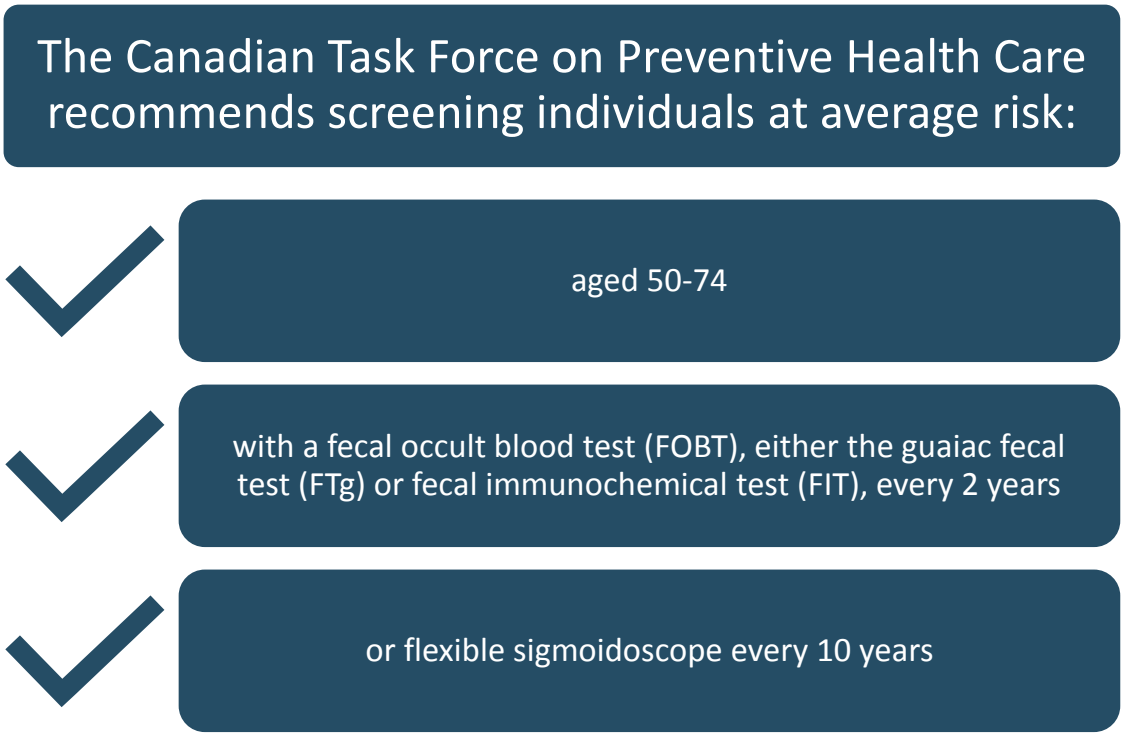
Colorectal Cancer Screening Pathway

Figure 1: Colorectal Cancer Screening Pathway[1]



Canadian Task Force on Preventive Health Care Guidelines (2016)

The Canadian Task Force on Preventive Health Care (CTFPHC) develops clinical practice guidelines that support primary care providers in delivering preventive health care.[2] In addition to supporting primary care providers, the CTFPHC's guidelines are also relevant to community and public health professionals, physician specialists, other health care and allied health professionals, program developers, policy makers, and the Canadian public.



Additionally, the Canadian Task Force on Preventive Health Care does not recommend the following:

- Screening individuals aged 75 and over for colorectal cancer
- Using colonoscopy as a screening test for colorectal cancer

Colorectal Cancer Screening Programs in Canada

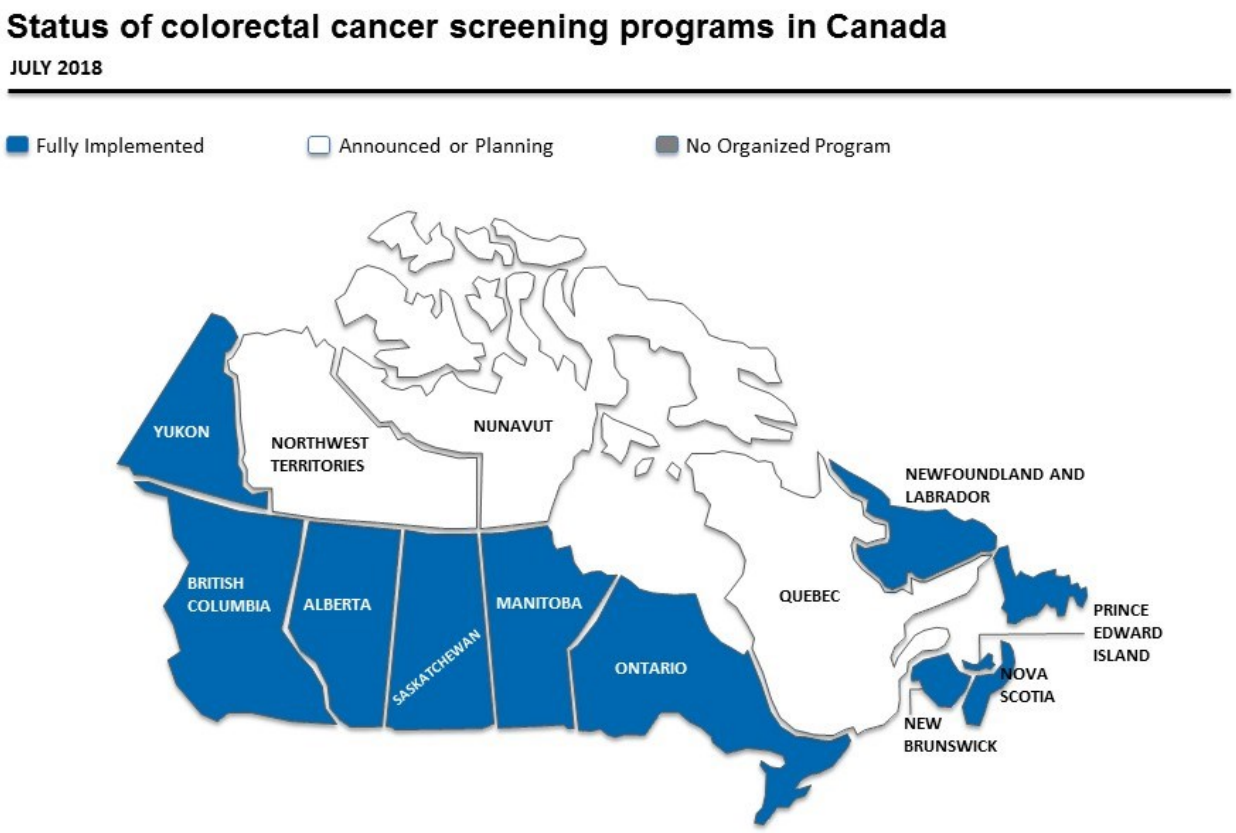
Organized colorectal cancer screening programs are available in Canada to individuals who are asymptomatic (no signs or symptoms of colorectal cancer present) and at average risk for colorectal cancer.

Currently, nine provinces and one territory have fully implemented organized colorectal cancer screening programs province or territory wide[a]. These programs started in 2007. Northwest Territories, Nunavut and Quebec do not currently have organized colorectal cancer screening programs; however, Nunavut is currently implementing a territory-wide program and plans are underway to develop provincial/territorial programs in Northwest Territories and Quebec. Where organized screening programs are not available, screening services may be provided opportunistically by a primary care provider.

Recent Highlight

Since 2016, Yukon has implemented an organized colorectal screening program, and Nunavut is in the process of implementing a program. All Canadian jurisdictions have now implemented, or are in the process of implementing, an organized colorectal cancer screening program.

Figure 2: Status of Colorectal Cancer Screening in Canada



[a] The colorectal cancer screening program in BC is offered province-wide with the exception of The Northern Health Authority, which does not participate in the program.

Table 1: Colorectal Cancer Screening Programs in Canada

	Program start date	Program status	Program name	Agency responsible for program administration
Nunavut (NU)ǂ	2018	In implementation	In process of being named	Department of Health
Northwest Territoriesǂ (NWT)	No organized screening program available, but plans are underway			
Yukon (YK)	2017	Full program, territory wide	ColonCheck Yukon	Government of Yukon Health and Social Services
British Columbia (BC)	2013	Partial program, the Northern Health Authority in BC does not participate in the program	Colon Screening Program	BC Cancer Agency
Alberta (AB)	2009	Full program, province wide	Alberta Colorectal Cancer Screening Program (ACRCSP)	Alberta Health Services
Saskatchewan (SK)	2009	Full program, province wide	Screening Program for Colorectal Cancer	Saskatchewan Cancer Agency
Manitoba (MB)	2007	Full program, province wide	ColonCheck	CancerCare Manitoba
Ontario (ON)	2008	Full program, province wide	ColonCancerCheck	Cancer Care Ontario
Québecǂ (QC)	N/A	In planning stages	Programme québécois de dépistage du cancer colorectal (PQDCCR)	Ministère de la Santé et des Services sociaux
New Brunswick (NB)	2014	Full program, province wide	New Brunswick Colon Cancer Screening Program	New Brunswick Cancer Network (NB Department of Health)
Nova Scotia (NS)	2009	Full program, province wide	Colon Cancer Prevention Program	Nova Scotia Health Authority, Nova Scotia Cancer Care Program
Prince Edward Island (PEI)	2011	Full program, province wide	Colorectal Cancer Screening Program	Health PEI
Newfoundland and Labrador (NL)	2012	Full program, province wide	Newfoundland and Labrador Colon Cancer Screening Program	Cancer Care Program, Eastern Health

ǂ Information in this publication refers to opportunistic colorectal cancer screening.

Provincial and Territorial Screening Guidelines

All provinces and territories screen asymptomatic individuals at average risk of developing colorectal cancer between the ages of 50 and 74 or 75 every 12-30 months with a fecal occult blood test (FOBT), either the guaiac fecal test (FTg) or fecal immunochemical test (FIT). Most jurisdictions have a screening interval of two years, with the exception of Northwest Territories and Alberta who have an interval of one to two years, and Yukon which has an interval of 30 months.

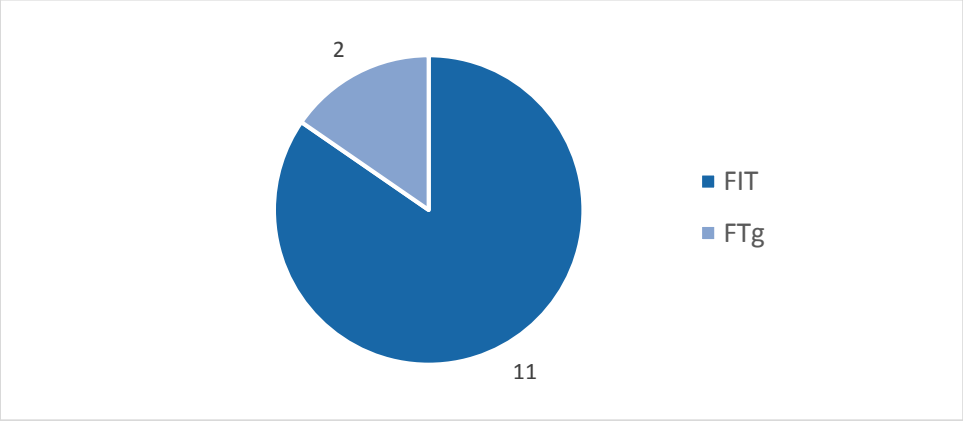
Table 2: Provincial and Territorial Screening Programs

	Start age	Interval	Stop age	Primary screening test
NU	50	2 years	74	FIT
NWT	50	1-2 years	75	FIT
YK	50	2 years	75	FIT
BC	50	2 years	75	FIT
AB	50	1-2 years	75	FIT
SK	50	2 years	75	FIT
MB	50	2 years	75	FTg
ONǂ	50	2 years	74	FTg
QC	50	2 years	74	FIT
NB	50	2 years	74	FIT
NS	50	2 years	74‡	FIT
PEI	50	2 years	75	FIT
NL	50	2 years	74	FIT

ǂ In Ontario, people ages 50 to 74 with no symptoms or family history of colorectal cancer may choose to get screened with flexible sigmoidoscopy instead of FOBT. It is recommended that eligible people who get screened with flexible sigmoidoscopy repeat the test every 10 years.

‡ The last FIT kit is mailed shortly after the participant's 74th birthday. Participants can request a new kit (if lost or expired) up until their 76th birthday.

Figure 3: Primary Colorectal Cancer Screening Tests for Canadian Jurisdictions



Recruitment and Retention Strategies

Organized colorectal cancer screening programs administer recruitment, reminder and promotional strategies to invite eligible individuals to screen as per guidelines. Recruitment strategies and methods vary across the country and may include physician referral, self-referral or mailed invitation letters. Reminders in the form of letters are sometimes sent to eligible individuals to help increase screening participation rates.

Many jurisdictions require a referral from a physician prior to distribution of a screening kit, while others distribute kits to eligible individuals with a mailed invitation letter or after an invitation letter has been sent. Participants can also access a screening kit by contacting some screening programs directly.

Examples of promotional strategies for colorectal cancer screening delivered by provinces and territories include: program related correspondence, public awareness campaigns (Colorectal Cancer Awareness Month), social media, education for healthcare providers and more.

Table 3: Colorectal Cancer Screening Promotional and Recruitment Strategies in Canada

	Promotional strategies	Recruitment methods
NU	• Public awareness campaign	• Physician referral • Self-referral in person • Referral through other screening programs
NWT	N/A	N/A
YK	• Awareness campaign for Colorectal Cancer Awareness Month (March) (web, social media, posters, radio, community outreach) • Recall letters are sent to primary care providers and patients	• Physician referral • Self-referral in person • FIT kits are distributed at public events
BC	• Recall letters are sent to primary care providers and patients • Annual quality reports are sent to providers	• Physician referral
AB	• Social media campaign (Facebook, Instagram, Twitter) • Booths at conferences	• Physician referral
SK	• Program website • Promotional and educational resources for health care providers and public • Radio and print advertisement	• Physician referral • Self-referral by phone • Mailed invitation letter
MB	• Mailed letters • Public advertising and public events • Social media campaign and web • Education and events for health care providers	• Physician referral • Self-referral by phone, email, online or in person • Mailed invitation letter

	• Combined screening promotion (GetChecked Manitoba)	• Referral through other screening program (walk-ins from breast screening appointments)
ON	• Mailed invitation, recall and reminder letters • Physician-linked correspondence program • Online screening activity report (SAR) which allows physicians in patient enrollment model practices to see the complete screening status of each of their enrolled age-eligible patients, including those who are overdue or due for screening, and those who require follow-up • Public awareness campaigns (social media)	• Physician referral • Self-referral by phone, and through pharmacy • Self-referral through mobile screening (in certain areas) • Mailed invitation letter
QC	N/A	N/A
NB	• Promotional and educational campaigns for health care providers, professionals and public	• Mailed invitation letter
NS	• Mailed invitation letter and kit sent automatically 2 weeks later	• Mailed invitation letter and kit
PEI	• Awareness campaign for Colorectal Cancer Awareness Month (March) with public advertising (web, print ads, TV, radio)	• Physician referral • Self-referral by phone, email, online or in person • Mailed invitation letter
NL	• Education and posters for health care providers • Social media campaign (Facebook, Twitter) • Presentations at health symposiums and community events	• Physician referral • Self-referral by phone, email or in person (rare) • Referral through other screening program

Of the six jurisdictions that send mailed invitation letters, four provinces send reminders if screening is not initiated.

Table 4: Colorectal Cancer Screening Reminder Notification in Canada

	Reminder letter
SK	Reminder letter sent 9 weeks after initial invitation
MB	Reminder letter sent 56 days after initial invitation
ON	Reminder letter sent 4 months after initial invitation
NB	Reminder letter sent 12 weeks after initial invitation

Many provincial and territorial colorectal cancer screening programs send a recall letter two years after a client receives a normal result.

Table 5: Colorectal Cancer Screening Recall After a Normal Result

	Recall after normal result
NU	Phone call to primary care provider
NWT	N/A
YK	Recall letter to primary care provider and participant
BC	Recall letter to primary care provider and participant
AB	Not in place at this time
SK	Recall letter with FIT kit to participant
MB	Recall letter to participants
ON	Recall letter to participants
QC	N/A
NB	Recall letter to participants
NS	FIT kit to participants after next even birthday
PEI	Recall letter to participants
NL	Screening kits to participants

Colorectal Cancer Screening Fecal Testing Information

Fecal testing is commonly used as an entry level screening test for colorectal cancer. In Canada, a number of screening program features may differ, including the type of fecal test offered (guaiac or immunochemical testing) and sampling details for the particular fecal test.

Guaiac Fecal Test (FTg)

Two provinces (MB, ON) offer FTg as an entry level test for their colorectal cancer screening program. FTg is offered to eligible individuals every two years. One lab is used to process the results in Manitoba and six labs are used to process the results in Ontario.

Table 6: FTg tests used in Canada

	Brand name	Number of samples/number of stools	Number of labs processing test results
MB	Hemoccult II SENSA	2/3	1
ON	Hema-screen	2/3	6

Fecal Immunochemical Test (FIT)

Eight provinces and three territories offer FIT as an entry level test for their colorectal cancer screening program. FIT is offered to eligible individuals every one or two years or every 30 months. Most provinces and territories require one sample collection for the FIT, with the exception of Prince Edward Island and Newfoundland and Labrador which requires two samples. FIT cut-off values also vary across the country from ≥ 50 ng/ml to ≥ 175 ng/ml. In Canada, the number of labs used to process FIT test results range from one lab to four.

Table 7: FIT tests used in Canada

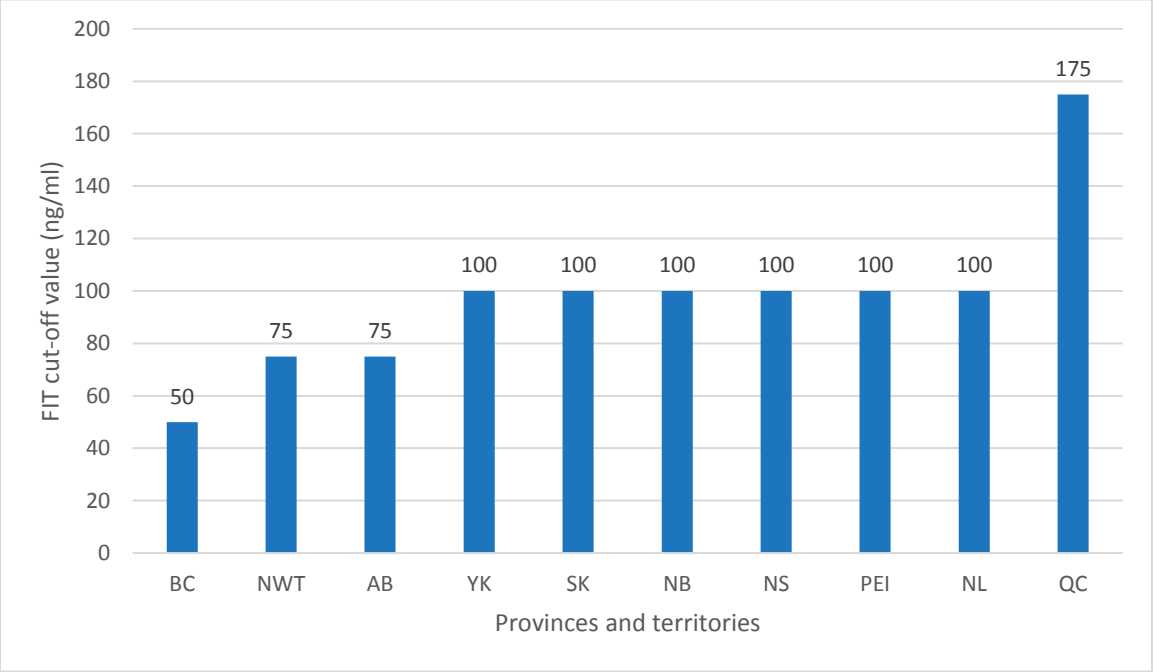
	Brand name	Number of samples/number of stools	FIT cut-off value	FIT cut-off value (in mcg of Hbg/g)	Number of labs processing test results
NU	-	-	-	-	3
NWT	Polymedco	1/1	75 ng/ml	-	1
YK	Alere N/S Prime	1/1	≥ 100 ng/ml	-	1
BC	Alfresa	1/1	≥ 50 ng/ml	10 mcg of Hbg/g	4
AB	Somagen	1/1	≥ 75 ng/ml	-	2
SK	Polymedco	1/1	≥ 100 ng/ml	20 mcg of Hbg/g	1
QC	Somagen	1/1	≥ 175 ng/ml	-	1
NB	Polymedco	1/1	> 100 ng/ml	20 mcg of Hbg/g	1

NS	Alfresa Pharma	1/1	100 ng/ml	20 mcg of Hbg/g	1
PEI	Alere	1/2ǂ	≥ 100 ng/ml	20 mcg of Hbg/g	1
NL	Alere	2/2ǂ	≥ 100 ng/ml	-	1

ǂ If 1 of 2 samples is over cut-off value, overall result is positive.

- No information was provided at the time the data was collected.

Figure 4: FIT Cut-Off Value for Colorectal Cancer Screening Programs in Canada



Two provinces and one territory limit the use of non-stool based methods for screening individuals at average risk and Ontario is planning to do the same. It is also being considered in Nova Scotia.

Table 8: Plans to Limit Non-Stool Based Methods for Screening Individuals at Average Risk

	Plans to limit non-stool based methods for screening individuals at average risk
NU	Access is already limited
NWT	-
YT	No current plans
BC	Access is already limited
AB	No current plans, but strongly recommend the use of FIT for average risk
SK	Current guidelines indicate that average risk individuals should be screened by FIT test but guidelines are not enforced

MB	-
ON	In planning stages
QC	Access is already limited
NB	No current plans
NS	Under consideration
PEI	-
NL	No current plans

- No information was provided at the time the data was collected.

Diagnostic Follow-Up for Colorectal Cancer Screening

Individuals who have an abnormal fecal test are notified of their result and invited for follow-up with a diagnostic colonoscopy. Timely follow-up after an abnormal fecal test is optimized with an efficient referral process, which can be facilitated by a navigation system or screening program. It is important to monitor colonoscopy quality to maximize the benefits of screening.

Follow-Up After Abnormal Fecal Test

Colorectal cancer screening programs will follow-up with an individual after they receive an abnormal (positive) fecal test result. Most provinces and territories send result letters to both primary care providers (PCP) and participants or just to the participant. Other methods used are lab results and phone calls.

Processes for communicating the abnormal result back to the individual and primary care provider differs across the country. Some jurisdictions have coordinated systems where a program administrator, nurse navigator or patient coordinator contacts the participants and primary care providers to schedule a colonoscopy. Other jurisdictions communicate directly with participants and with primary care providers through centralized databases or referral processes which allows them to book follow-up colonoscopies.

Table 9: Follow-Up After Abnormal Fecal Tests by Provincial and Territorial Screening Programs

	Notification method	Who is notified?	Description
NU	Lab result	PCP	Abnormal result reviewed by health care workers. Referral to colonoscopy in electronic medical records. Requires out of community transportation with exception of Iqaluit.
NWT	Lab	N/A	N/A
YK	Primary care provider	PCP	Health care providers receive FIT results directly from Whitehorse General Hospital (WGH) lab through Plexia and Fax. ColonCheck receives monthly FIT results from WGH lab, results are reviewed, positive results are tasked to follow-up with letter to primary care provider if the program does not receive a copy of the colonoscopy referral within 3 months of positive result.
BC	Letter Phone call	PCP and participant	Primary care provider receives the abnormal lab result report, the patient is sent a letter indicating that follow-up is required. The patient is referred to their health authority. The patient is contacted by their health authority to complete pre-colonoscopy assessment and book the patient for colonoscopy, or advise the primary care provider that the patient is not proceeding.

AB	Letter	Participant	Letter to patient from provincial program advising to see MD / MD refers to zone-based screening program or directly to Endoscopist. MD has access to FIT test results on Netcare system (lab reporting system).
SK	Letter Phone call (participant only)	PCP and participant	Primary care provider and participant notified of abnormal result by direct correspondence. Primary care providers sign medical directives which authorizes client navigators to refer client for a colonoscopy. Client navigator phones participant to discuss test results, refer participant to colonoscopy and complete a standardized assessment. Not all units have consented to client navigation. Approximately 50% of participants are assessed and booked by client navigators.
MB	Letter Phone call	PCP and participant	ColonCheck's navigator contacts the primary care provider and client by direct/mail correspondence regarding the abnormal result and follow up referral process – a colonoscopy brochure is included in the mail out to the client. Process for follow-up colonoscopy referral is dependent on agreements with each of the 5 Regional Health Authorities, and on permissions granted from primary care provider (ColonCheck has received permission from a majority of PCP to directly refer clients). A pre-colonoscopy assessment is completed by ColonCheck's nurse practitioner for all patients receiving healthcare services in Winnipeg. Procedure is scheduled at one of two facilities.
ON	Letter	PCP and participant	There are two processes for receiving follow up within the ColonCancerCheck program: 1) Attached patients (i.e., patients with a primary care providers): Primary care providers are responsible for communicating the FOBT result to their patient, and referring their patients with abnormal results for timely follow up with colonoscopy. As a failsafe, Cancer Care Ontario also sends patients a mailed correspondence letter with their test result. 2) Unattached patients (i.e., those who do not have a primary care provider or received their FOBT kit through a pharmacy or Telehealth Ontario): Cancer Care Ontario couriers abnormal result letters to the patient which tells the patient to call Cancer Care Ontario's Contact Centre for assistance with abnormal follow up. If the patient has not responded in 5 business days, personnel from the Contact Centre will call the patient up to 3 times. Once the patient confirms they do not have a primary care provider, Cancer Care Ontario obtains consent for provider attachment, and Contact Centre personnel will find a physician and schedule an appointment for follow up within 10 business days. If the Contact Centre cannot find a physician to take on the patient, the case is escalated and Cancer Care Ontario's provincial and regional leads support the attachment process.
QC	N/A	N/A	N/A
NB	Letter (PCP and participants) Phone call (participants)	PCP and participant	The lab sends a letter to primary care providers as notification of abnormal results. Program nurse calls the participant to discuss results and follow-up procedures. A letter is sent if unable to reach the participant by phone.

NS	Letter (participant and PCP) Phone call (participant)	PCP and participant	Screening nurse will contact the participant with an abnormal result to conduct a pre-colonoscopy assessment. After the assessment is completed, the individual is booked for colonoscopy with a physician credentialed by the screening program.
PEI	Letter (participants) Lab (PCP)	PCP and participant	Colorectal Cancer Screening Program (CCSP) sends letter of abnormal results to clients instructing them to follow-up with a primary care provider. The primary care provider determines follow-up. A standardized colonoscopy referral form is available. Follow-up activity/referral (e.g. colonoscopy) is monitored. Primary care provider is contacted if there is no activity/referral in the client's chart.
NL	Letter (PCP and participant) Phone call (participant)	PCP and participant	Once an abnormal test result is sent to the screening program, nurse coordinators contact the patient and inform them of the test result. The nurse will conduct a telephone health assessment and proceed to refer the patient to the endoscopy unit closest to their home for a colonoscopy. The nurse coordinators will send a package of materials to the patient and also provide information on bowel prep.

Colonoscopy

Colonoscopy services are offered in hospitals in ten jurisdictions, private colonoscopy clinics in three jurisdictions and public colonoscopy clinics in two jurisdictions.

Recall recommendation after an individual receives an abnormal fecal test but a negative colonoscopy varies across Canadian jurisdictions. Individuals are recalled for FIT or FTg in two, five, or ten years.

Table 10: Screening Recall After an Abnormal Fecal Test and a Negative Colonoscopy

	How are individuals recalled after an abnormal fecal test and negative colonoscopy result?
NU	Recalled for FIT screening in 10 years
NWT	N/A
YK	Recalled for FIT screening in 10 years
BC	Recalled for FIT screening in 10 years
AB	Recalled for FIT screening in 10 years
SK	Recalled for FIT screening in 5 years
MB	Recalled for FTg screening in 5 years
ON	Recalled for FTg screening in 10 years
QC	Recalled for FIT screening in 10 years
NB	Recalled for FIT screening in 10 years
NS	Recalled for FIT screening in 2 years
PEI	Recalled for FIT screening in 5 years
NL	Recalled for FIT screening in 5 years

Colorectal Cancer Screening for Individuals at Increased Risk

Individuals at increased risk have certain risk factors which put them as a greater risk of developing colorectal cancer or developing more aggressive colorectal cancers at an earlier age. Individuals at increased risk may be screened differently than individuals at average risk.

Increased Risk Definition

Many provinces and territories have specific factors they consider when placing an individual at increased risk for colorectal cancer. The most common risk factor documented by screening programs which places individuals at increased risk is having a 1st degree relative that was diagnosed with colorectal cancer. Some provinces and territories specify that the 1st degree relative needs to be aged < 60 or ≤ 60, whereas in other jurisdictions the 1st degree relative can be of any age.

Other common risk factors used to define individuals at high risk of developing colorectal cancer is having more than two 1st degree relatives diagnosed with colorectal cancer, having a personal history of colorectal cancer, and adenomatous polyps.

In addition, some jurisdictions include having more than two 1st degree relatives with adenomatous polyps, two 2nd degree relatives diagnosed with colorectal cancer and adenomatous polyps in their definition of high risk.

Table 11: Provincial and Territorial Definitions of Increased Risk for Colorectal Cancer

	One 1st degree relative diagnosed with:		Two or more 1st degree relatives diagnosed with:		Two 2nd degree relatives diagnosed with:		Personal history of:	
	Colorectal cancer	Adenomatous polyps	Colorectal cancer	Adenomatous polyps	Colorectal cancer	Adenomatous polyps	Colorectal cancer	Adenomatous polyps
NU	✓ age <60		✓	✓			✓	✓
NWT	✓ age <60		✓					
YK	✓ age <60	✓ age <60	✓	✓			✓	✓
BC	✓ age <60		✓					✓
AB	✓	✓	✓	✓	✓	✓	✓	✓
SK	✓ age ≤60	✓ age ≤60	✓	✓			✓	✓
MB	✓	✓	✓	✓	✓	✓	✓	✓

ON	✓		✓					
QCŧ	✓	✓	✓	✓	✓	✓	✓	✓
NB	✓	✓	✓	✓	✓	✓	✓	✓
NS‡	✓ age <60	✓ age <60	✓	✓			✓	✓
PEI	✓	✓	✓	✓	✓	✓	✓	✓
NL	✓ age <60		✓		✓		✓	✓

ŧ In Quebec, one 2nd or 3rd degree relative diagnosed with colorectal cancer or adenomatous polyps, one 1st degree relative and one 2nd degree relative from the same side of the family diagnosed with colorectal cancer at any age are considered. Also, slight or moderate increased risk is considered.

‡ Criteria for definition of increased risk of developing colorectal cancer is currently under review in Nova Scotia.

Increased Risk Recommendations

Colorectal cancer screening programs manage individuals at increased risk by implementing specific screening protocols and follow-up measures. The Canadian Association of Gastroenterologists (CAG) has issued guidelines for screening individuals at increased risk.[3]

Most provinces and territories screen individuals at increased risk starting at age 40 or 10 years earlier than the participant's youngest relative's age at diagnosis with colonoscopy every five or ten years. In some cases, individuals at increased risk are screening similarly to those of average risk, however they begin screening at age 40. Other provinces follow the recommendations outlined in the CAG guidelines for screening individuals at increased risk.

Table 12: Provincial and Territorial Screening Recommendations for Individuals at Increased Risk of Colorectal Cancer

	Screening recommendation for increased risk population	Follow-up recommendations after normal colonoscopy
NU	• Screening through colonoscopy, depending on result	• Varies based on polyp type
NWT	• Screening through colonoscopy at age 40 or 10 years earlier than the youngest relative's diagnosis	• Colonoscopy in 5-10 years
YK	• Screening through colonoscopy • 1st degree relative diagnosed with colorectal cancer or adenomatous polyps at age ≤ 60 years or 2 or more 1st degree relatives diagnosed at any age with colorectal cancer or adenomatous polyps. Refer at age 40 years, or 10 years prior to index case, whichever comes first. FIT is not recommended. • 1st degree relative diagnosed with colorectal cancer age >60 years screen with FIT every 2 years starting at age 50	• Colonoscopy in 5 years or as directed by specialist

BC	• Strong family history of colorectal cancer or personal history of low risk adenoma: Screening through colonoscopy every 5 years • Personal history of high risk adenoma on last colonoscopy: Screening through colonoscopy in 3 years	• Colonoscopy in 5 years
AB	• Screening through colonoscopy	• Follow-up in 5-10 years • If history of colorectal cancer, surveillance 1 year post surgery. Has to have 3 normal colonoscopies to return to 5 year interval.
SK	• 1st degree relative diagnosed at age <60: Screening through colonoscopy beginning at age 40 or 10 years earlier than the youngest relative's diagnosis • 1st degree relatives diagnosed at age ≥60: Screening through FIT starting at age 40	• Recommendations at the discretion of the endoscopist and participant, monitored by PCP (based on CAG guidelines)
MB	• Screening begins at age 40, or 10 years earlier than the youngest relative's diagnosis • Referrals for increased risk populations are coordinated by primary care providers, not ColonCheck	• 1st degree relative diagnosed at age <60, or two or more 1st degree relatives diagnosed at any age: colonoscopy every 5 years • 1st degree relatives diagnosed at age ≥60, or two or more 2nd degree relatives diagnosed at any age: colonoscopy every 10 years
ON	• Screening through colonoscopy starting at age 50 or 10 years earlier than the youngest relative's diagnosis	• 1st degree relative diagnosed at age <60, or two or more 1st degree relatives diagnosed at any age: colonoscopy every 5 years • 1st degree relatives diagnosed at age ≥60, or two or more 2nd degree relatives diagnosed at any age: colonoscopy every 10 years
QC	• Slightly increased risk: Screening through FIT test starting at age 40 • Moderately increased risk: Screening through colonoscopy ever 5 years starting at age 40 or 10 years earlier than the youngest relative's diagnosis	• Slightly increased risk: FIT test in 10 years • Moderately increased risk: colonoscopy every 5 years
NB	1. 1st degree relative with colorectal cancer or adenomatous polyps diagnosed at age <60 or two or more 2nd degree relatives with colorectal cancer or adenomatous polyps diagnosed at age <60: Screening through colonoscopy at age 40 or 10 years earlier than the youngest relative's diagnosis 2. 1st degree relative with colorectal cancer or adenomatous polyps diagnosed at age >60 or two or	1. Colonoscopy every 5 years 2. FIT test every 2 years

	more 2nd degree relatives with colorectal cancer or adenomatous polyps diagnosed at age >60: Screening through FIT test or colonoscopy starting at age 40	
NS	• Currently including all in the FIT screening program • 1st degree relative with colorectal cancer or adenomatous polyps diagnosed at age <60 or two or more 2nd degree relatives with colorectal cancer or adenomatous polyps diagnosed at age <60: Screening through colonoscopy at age 40 or 10 years earlier than the youngest relative's diagnosis • 1st degree relative with colorectal cancer or adenoma diagnosed in 60s and 70s or two or more 2nd degree relatives with colorectal cancer or adenoma diagnosed in 60s and 70s: Screening through FOBT every 2 years beginning at age 40 or colonoscopy every 10 years beginning at age 40	• Follow-up with FIT in 2 years (if between ages 50-74)
PEI	• Depends on age, degree and number of relative(s) affected • Follow CAG guidelines • Recommendation is at discretion of the primary care provider (referral is not coordinated by the Program)	• Recommendations at the discretion of the endoscopist, follow CAG guidelines
NL	• Screening through colonoscopy	• Follow-up with colonoscopy

Lynch syndrome is an inherited condition which increases an individual's risk of colorectal cancer. Increased colorectal cancer screening, including colonoscopies, are often recommended for those diagnosed with Lynch syndrome.[4]

In Canada, most provinces and territories do not include individuals diagnosed with Lynch syndrome in their organized screening program. These individuals are often referred to specialists instead.

Table 13: Provincial and Territorial Screening Recommendations for Individuals with Lynch Syndrome

	Screening recommendations for individuals with Lynch syndrome
NU	Excluded from population-based screening program, refer to specialist
NWT	N/A
YK	Excluded from population-based screening program, refer to specialist
BC	Excluded from population-based screening program, refer to specialist
AB	None
SK	None
MB	Excluded from population-based screening program, refer to specialist
ON	None
QC	None

NB	As per NB Colon Cancer Screening Clinical Practice Guidelines algorithm, Colonoscopy every 1 to 2 years beginning at age 20 or 10 years younger than the earliest case in the family; whichever comes first, is recommended for Hereditary Nonpolyposis Colorectal Cancer (HNPCC) or Lynch Syndrome
NS	For family history of hereditary non-polyposis colorectal cancer - colonoscopy every 2-3 years beginning at age 20, or 10 years younger than the earliest case in the family. Genetic counseling is recommended.
PEI	None
NL	Excluded from population-based screening program, refer to specialist

Plans to implement stool-based screening rather than colonoscopy for individuals with a family history of colorectal cancer are under consideration in Alberta and Nova Scotia. Currently, no other provinces or territories are considering this change.

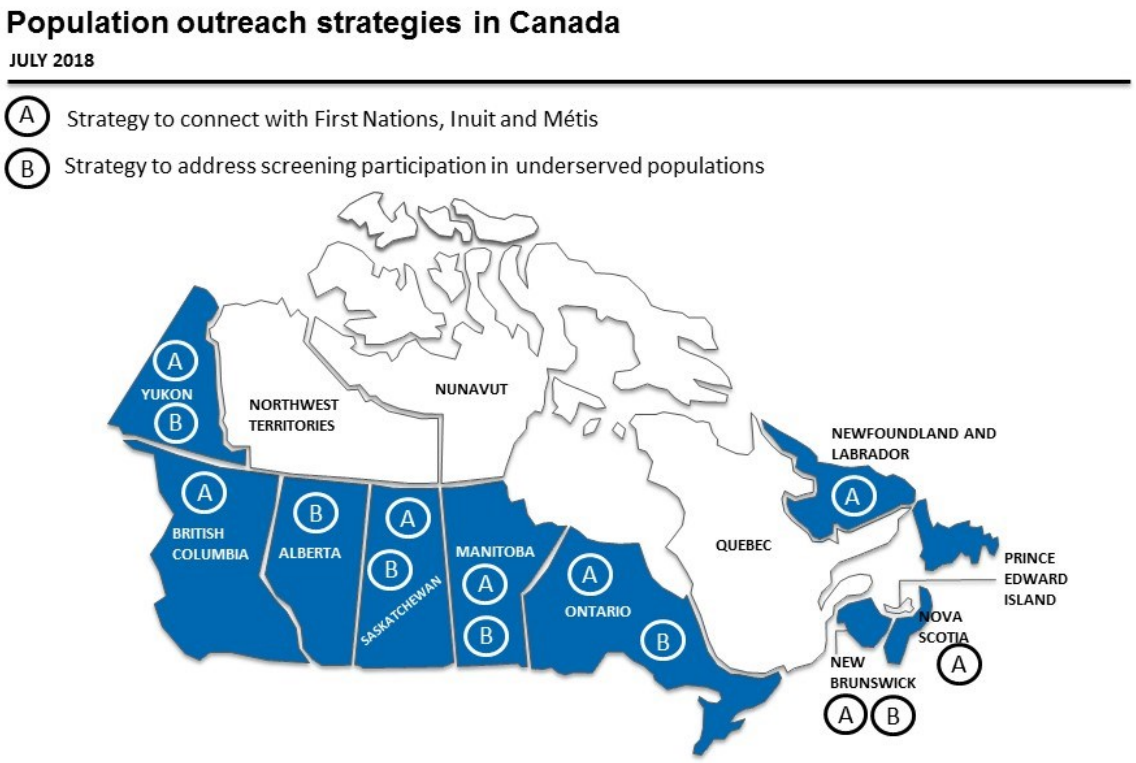
Table 14: Plans to Implement Stool Based Screening Rather Than Colonoscopy for Individuals with Family History of Colorectal Cancer

	Plans to implement stool-based screening rather than colonoscopy for individuals with family history
NU	No current plans
NWT	N/A
YK	No current plans
BC	Individuals with one 1st degree relative with colorectal cancer who were diagnosed over the age of 60 are offered FIT No current plans to consider FIT for those with stronger family history
AB	Under consideration, new CAG and AB guidelines pending
SK	The Saskatchewan Screening Guidelines indicate the family history should be followed with colonoscopy but the Saskatchewan screening program invites all clients age 50-74 by mailing a FIT test to the home of all covered population. Therefore, a family history client will receive FIT unless client self-reports the family history and opts out of program or the colonoscopist recommends to the screening program that the client will remain on surveillance colonoscopy
MB	N/A
ON	No current plans
QC	No current plans
NB	No current plans
NS	Under consideration
PEI	No current plans
NL	No current plans

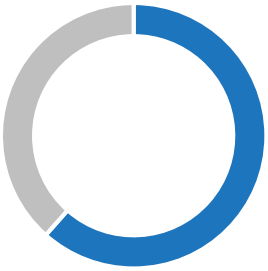
Population Outreach

In general, screening participation rates are low among First Nations, Inuit and Métis[5]. This is also the case for low-income individuals, new immigrants, individuals living in rural communities, and other underserved populations[6]. A variety of strategies have been implemented across Canada to help address screening participation in underscreened populations.

Figure 5: Population Outreach Strategies in Canada



First Nations, Inuit and Métis



8 Canadian jurisdictions have implemented strategies to connect with First Nations, Inuit and Métis

In general, participation rates for colorectal cancer screening are lower among First Nations, Inuit and Métis than non-Indigenous people in Canada. Colorectal cancer screening shows the lowest participation rates compared to cervical and breast cancer screening. There is considerable variation in screening participation across geographic location.[5]

The colorectal cancer screening program in Yukon collects Indigenous and/or people-specific data (e.g. First Nations, Inuit, and/or Métis identifiers) through participant self-identification. Also, in Nova Scotia, participants in FIT screening are asked to indicate membership in diverse communities (Acadian, African Canadian, Asian, First Nation, Inuit, Métis and Middle Eastern). Currently, this data is not being used for specific analysis purposes. No other Canadian jurisdictions collect this type of data.

Seven provinces and one territory have implemented strategies to connect with First Nations, Inuit and Métis. Strategies identified addressed engaging with First Nations, Inuit and Métis in decision-making and informing approaches to culturally appropriate screening, reaching First Nations, Inuit and Métis through program resources, and engaging with healthcare providers working directly with First Nations, Inuit and Métis communities. Specifically, some programs engage with First Nations, Inuit and Métis in the development of cancer plans and through working groups. Dedicated mobile visits have also been implemented into several screening programs in order to reach First Nations, Inuit and Métis communities, along with other programs resources such as culturally appropriate material, presentations and social media campaigns. In addition, some strategies were put in place to help educate health care providers working directly with First Nations, Inuit and Métis communities.

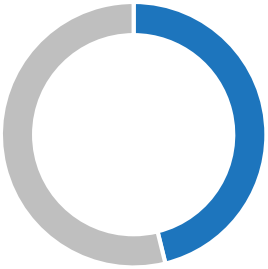
Table 15: Strategies to Connect with First Nations, Inuit and Métis Communities in Canada

	Strategies to connect with First Nations, Inuit and Métis
YK	• Frequent outreach activities to communities for awareness, education and recruitment. • The program is involved in supporting First Nations in developing a Cancer strategy. Proposal for funding to CPAC to help with this project. • First Nations members helped to create the program's poster for initial awareness campaign.

BC	• Social media campaign is underway in partnership with the First Nations Health Authority.
SK	• North Mobile Health Unit that travels the northern part of our province providing information to First Nation groups about the importance of getting cervical, colorectal and breast screening. Awareness is the primary strategy at this time. • The Coordinators are invited to attend events held in First Nations communities. • Developed video in Cree and Dene language that describes the importance of FIT screening for colorectal cancer and how to collect the test. Intentionally ensure that all posters/brochures include photos that represent First Nations.
MB	• Work with healthcare providers in First Nations communities to help promote colorectal cancer screening. • Have provided registered nurse orientations, participated in monthly teleconferences, and attended numerous health fairs in the communities.
ON	• Implemented a provider reporting pilot, the screening activity report (SAR), to support colorectal screening with physicians serving a First Nation community. Following the pilot, Cancer Care Ontario implemented automated SARs to support breast, cervical and colorectal screening with relevant physicians and Department of Indigenous Services Canada (DISC) nurses serving 27 First Nation communities. • Improving Cancer Screening among First Nations and Métis Communities research project – collaboration between Cancer Care Ontario's Aboriginal Cancer Control Unit and Sunnybrook Research Institute (SRI); funded by CIHR and Cancer Care Ontario. The project includes an analysis of cancer screening health policy, two community-based cancer screening research projects, and an evaluation of Cancer Care Ontario's Under/Never Screened initiatives. These projects have supported the development of a Knowledge Translation and Exchange (KTE) action plan that aims to improve cancer screening participation among First Nation, Inuit and Métis populations in Ontario. The KTE action plan includes several recommendations to Cancer Care Ontario, Regional Cancer Programs and other stakeholders, as well as several Knowledge Products (e.g. cancer screening pathways to help community members navigate the screening process). • Building regional capacity to address First Nations, Inuit, and Métis cancer screening through the development Regional Aboriginal Cancer Plans. The plans were developed through direct engagement and feedback from First Nations, Inuit and Métis communities, the Regional Cancer Programs and Cancer Care Ontario. An example of an initiative from a plan includes opportunities to address access to screening using existing Mobile coaches and clinics to reach remote and underserved First Nations, Inuit and Métis communities. • Developed and continue to support First Nations, Inuit and Métis communities and healthcare providers in educational initiatives through the use of fact sheets and Cancer Screening Toolkit (including videos and workshops). • Culturally appropriate screening handout materials and other resources have been developed and are available for First Nations, Inuit, and Métis populations in Ontario. Colorectal cancer screening handouts can be found here. • Developed a recommendation report to build organizational capacity and plan to develop First Nations, Inuit and Métis identifiers to inform and support cancer screening. • Supported and informed the 4 Under/Never Screened regional pilots to address screening rates with First Nations, Inuit and Métis communities.

	• Developed and signed formalized agreements (Relationship Protocols, Memorandums of Understanding) with PTOs, Independent First Nations, Inuit Service Providers, and the Métis Nation of Ontario which outline approach to working together. • Supported a cancer screening pilot program at Wequedong Lodge (WL) of Thunder Bay that facilitated access to cancer screening for First Nation community members from remote communities throughout Northwestern Ontario while in Thunder Bay for other medical services. The WL cancer screening pilot program provided pap tests onsite, distributed FOBT kits, and made appointments for First Nations women to access mammograms while in Thunder Bay.
NB	• First Nations, Inuit and Métis representatives sit on Advisory and Education, Promotion and Awareness committees. Presentations were made to First Nations health directors and key Elders prior to the launch of the Program.
NS	• Ongoing collaboration with First Nation Client Registry Working Group.
NL	• Developed programmatic instructions and posters in Innu and Inuit languages. • Have options to work with health clinics in First Nations, Inuit and Métis communities for abnormal FIT follow-up.

Underserved Populations



6 Canadian jurisdictions have implemented strategies to help address participation in underserved populations

Screening participation rates are low among low-income individuals, new immigrants and those living in rural and remote communities when compared to the general Canadian population.[6]

Five provinces and one territory have implemented strategies to help address participation in underserved populations. These strategies focus primarily on individuals in rural communities, new immigrants and low-income individuals. Some of the strategies identified reach underserved populations through social media campaigns, presentations, and program material, which focus on increasing awareness and education on colorectal cancer screening. In some jurisdictions, test kits are also distributed by mobile coaches or door-to-door to reach individuals in remote communities. Other strategies are geared towards healthcare providers, who in turn work directly with underserved populations.

Table 16: Strategies to Address Colorectal Cancer Screening Participation in Underserved Populations in Canada

	Populations of interest	Strategy to address participation
YK	• Low-income individuals • Individuals in rural communities	• Rural communities' health centres display ColonCheck posters and invite community members to screen. • Give out FIT kits to eligible population with outreach van in Whitehorse, attend public events to improve access.
AB	• Individuals in rural communities	• Initiation of a Creating Health Equity in Cancer Screening initiative. The goal of the Creating Health Equity in Cancer Screening (CHECS) project is to develop a method to assess the impact of the social determinants of health on cancer screening rates, use a systematic approach to identify under/never screened areas, and to collaborate with the relevant stakeholders in developing a strategy to increase breast, cervical, and colorectal cancer screening. This project will assist policy development, healthcare providers, and community agencies to better support populations that are under/never screened. CHECS will begin in metro Calgary, and will be expanded to other regions of the province, as applicable.
SK	• New immigrants • Low-income individuals • Individuals in rural communities	• The Coordinators for breast, cervical and colorectal screening regularly present at various events where the underserved populations attend. Some examples are: ○ The Open Door Society (ODS) is a non-profit organization that provides settlement and integration services to refugees and immigrants. There is one located in Regina and Saskatoon. ODS is committed to meeting the needs of newcomers by offering programs and services that enable them to achieve their goals and participate fully in the larger community. The Coordinators provide education to immigrants on screening. Interpreters may attend these sessions to assist immigrants with translation. PowerPoint slides include several pictures to help immigrants understand the content. ○ Global Gathering Place (GGP), a non-profit drop-in centre that provides services for immigrants and refugees in Saskatoon. Global Gathering Place helps newcomers adapt to life in Canada by offering support and skill development, acceptance, and a welcoming environment. ○ Saskatchewan has implemented a North Mobile Health Unit that travels the northern part of the province providing information to groups about the importance of getting cervical, colorectal and breast screening.

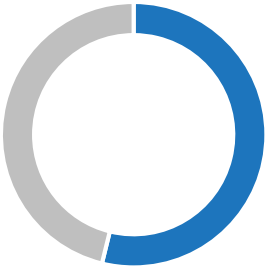
		Awareness is our primary strategy at this time. These groups can include First Nations, new immigrants, low-income individual and individuals in rural communities. • Saskatchewan International Physician Practice Assessment (SIPPA) is a 'practice readiness' competency assessment program in Saskatchewan. SIPPA was implemented in 2011 to ensure that internationally trained physicians who wish to practice medicine in Saskatchewan possess the appropriate clinical skills and knowledge to provide quality patient care. The Coordinators discuss the Screening programs to this group of physicians. The physicians will encounter underserved populations in their practice. • Healthcare Provider Conferences. The Coordinators are invited to conferences to host a booth or provide an education session. The healthcare providers in turn work with underserved populations in their practices.
MB	• New immigrants • Individuals in rural communities	• Collaborate with clinics that work with vulnerable/hard to reach groups by providing sample kits, presentations for community groups, participation in flu clinics. • Created tailored activities for specific populations including modifying test instructions, patient outreach, door to door FOBT delivery, and engaging a university summer student who followed up with candidates who did not complete their test. • Actively offer interpreter services and have translated a majority of resources in 18 languages. • Partner with CancerCare Manitoba's Underserved Populations Program (UPP) who's mandate is to support people who due to geography, language, culture or other barriers have trouble being screened for cancer or receiving treatment. They support patients who face additional challenges, build relationships in underserved communities, educate and support health care providers with health equity issues, and address system issues that cause barriers or delays. • The province has funded Community Liaisons to help promote awareness of screening and prevention in rural and remote communities. ColonCheck is currently partnering with Community Liaisons in northern Manitoba to develop initiatives to distribute kits in a more effective manner, and to promote awareness in hard to access communities.
ON	• Low income individuals • Individuals in rural communities	• Ontario has two mobile coaches that offer cancer screening services, one in the North West region, and the other in the Hamilton Niagara Haldimand Brant region. The coaches offer FOBT kits to screen eligible Ontarians. • Cancer Care Ontario has completed pilot projects to improve colorectal cancer screening participation and continues to

		support research in underserved populations, in particular, First Nations communities.
NB	• New immigrants • Low-income individuals • Individuals in rural communities	• Underserved populations are invited by mail and they have access to a toll-free number if they have questions. The Tele-Care attendants have access to a multilingual resource when answering individuals who cannot speak either English or French.

LGBTQ2+ Communities

Ontario's ColonCancerCheck program's promotional materials are inclusive for LGBTQ2+ communities, which are disseminated through the Regional Cancer Programs across a variety of platforms (e.g., Facebook, Twitter, posters, etc.).

Improving Screening Program Participants' Experience



7 Canadian jurisdictions have implemented strategies to help improve participants' experience

Some provinces have implemented strategies to help improve screening participants' experience. Some of these strategies include the use of nurse navigators, satisfaction surveys, the development of resources and more.

Tables 17: Strategies to Improve Colorectal Cancer Screening Participants' Experience in Canada

	Strategies to improve participants' experience
BC	• Strategies have been implemented.
SK	• Approximately 50% of our participants are assessed and booked to colonoscopy by client navigators. In 2017, Saskatchewan merged 13 health regions to one health region, planning to expand navigation to all clients in 2020.
MB	• Screening program has a nurse practitioner and abnormal referral clerk on staff. • In 2017, incorporated a Satisfaction Survey sent to all abnormal participants to measure their satisfaction with the program, referral for follow up, and the follow up experience.
ON	• Some regions have implemented Diagnostic Assessment Programs (DAPs) in select hospitals to support abnormal follow up. DAPs are multi-disciplinary healthcare teams which include a patient navigator who provides supportive and diagnostic services in a patient-focused environment. DAPs aim to improve coordination of patient care from referral to definitive diagnosis or when cancer is

	ruled out. The structure and organization of a DAP was informed by evidence from a systematic review; however, implementation of each DAP varies (e.g., in their entry criteria) due to factors such as regional resources and geography. • Registered Nurse Flexible Sigmoidoscopy (RNFS) sites in Ontario conducted regular patient experience surveys for about 10 years and used the results to improve patient experience. • ColonCancerCheck has implemented a suite of correspondence letters, including invitation, reminder, and result letters. The program has conducted pilot projects as well as qualitative research studies on the letters to appropriately tailor messages to patients and improve screening participation. The tailored messaging informs participants about the importance of screening and provides a clear call to action. • In 2017, Cancer Care Ontario held a Participation Gap Summit with experts in cancer screening, researchers, and administrators to develop recommendations to help improve cancer screening in under/never screened individuals. Please refer to a summary of the Participation Gap Summit for more information here. • Cancer Care Ontario is also working to replace the guaiac-based FOBT with the fecal immunochemical test (FIT). Through the design of the ColonCancerCheck program, we have taken a patient-centered approach to ensure patients can successfully complete their FIT. For example, we have created word-light FIT instructions (mostly depicted as visual images) in order to support comprehension and learning across different languages, as well as benefit those with low health literacy skills. We are also developing unsatisfactory result letters which provide detailed information to patients on why their test was rejected or invalid and what patients can do to successfully complete their FIT when repeating the test. • In preparation for FIT implementation in Ontario, Cancer Care Ontario has established an expert clinical working group is to provide guidance to regional cancer programs and/or facilities interested in forming polyp adjudication committees to ensure optimal management of patients with complex polyps and reduce the number of unnecessary surgical resections. • The colonoscopy Quality Management Partnership is in the process of developing a bowel preparation patient information sheet (i.e., a decision guide which visually depicts the logic of bowel preparation regimens). The information sheet will also support referring physicians in communicating bowel preparation information to their patient. • The colonoscopy Quality Management Partnership is also developing a patient discharge template which supports endoscopists in providing standardized, written post-discharge instructions to patients who have undergone colonoscopy.
NB	• Colon Cancer Screening Program Nurse(s) call participants with positive FIT result to complete Pre-Colonoscopy Assessments and to coordinate referrals directly to Program Endoscopists and for Colonoscopy bookings.
NS	• All participants with an abnormal FIT result are personally contacted by one of the program's specially trained screening nurses. Screening nurse conducts a pre-colonoscopy assessment and informs participants of how to prepare and what to expect from a colonoscopy.
NL	• Program has nurse follow up coordinators who work with FIT positive individuals to navigate these individuals to follow up colonoscopy.

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