

## Highlights

- Screening represents an effective secondary prevention strategy to reduce the burden of disease, such as cancer.
- Not having a Pap test is the greatest risk factor in the development of cervical cancer.
- Between 2013-2015, the Eastern Health region had a 63% Pap test participation rate.
- Breast cancer screening tests are able to identify between 85–90% of all breast cancers.
- In 2011/2012, 67.1% of the Eastern Health female population aged 50-69 years reported having a mammogram within the two-year recommended timeframe.
- Colorectal cancer typically develops with very few, if any, symptoms so screening tests for this type of cancer are key in the timely identification of early stages of the disease.
- In 2013/14, 12.4% of the Eastern Health population aged 50-74 years reported having a fecal blood test to screen for colorectal cancer.

## Introduction

Screening is part of routine health care and involves the use of relatively quick tests, examinations, and other procedures to identify presumptively unrecognized disease or defects<sup>1</sup>. Screening guidelines have evolved to reflect new technologies and evidence on the effectiveness and usefulness of screening methods<sup>2</sup>.

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<sup>1</sup> World Health Organization. (2015). *Cancer*. Retrieved from <http://www.who.int/cancer/detection/en/>

<sup>2</sup> Canadian Partnership Against Cancer. (January 2015). *Cancer Screening in Canada: An Overview of Screening Participation for Breast, Cervical and Colorectal Cancer*. Toronto: Canadian Partnership Against Cancer

Newfoundland and Labrador offers programmatic and opportunistic screening for select conditions, meaning that individuals can avail of screening through an organized program or through a referral from their health-care provider. These programs include the Breast Screening Program, the Cervical Screening Initiatives program, and the Colon Cancer Screening Program<sup>3</sup>. The goal of these programs is to reduce cancer mortality by detecting and treating pre-cancer or cancer cases early<sup>3</sup>.

Screening has been demonstrated to be a valuable preventive tool against different types of cancer. It is estimated that approximately two in five Canadians will develop cancer in their lifetime, and that one in four will die of this disease<sup>4</sup>. An estimated 3,500 new cases of cancer were diagnosed in 2015 within Newfoundland and Labrador (male = 1,950; female = 1,550)<sup>4</sup>. Approximately 27.2% of these cases were of the colon-rectum, cervix and breast<sup>4</sup>. In 2015, Newfoundland and Labrador had a higher incidence rate of colorectal cancer cases, for males and females, than Canada as a whole (Table 1). This has been consistent over time<sup>5</sup>. The incidence rate of cervical cancer was also higher for the province than Canada (Table 1). Provincially, approximately 1,500 deaths in 2015 were attributed to cancer, a mortality rate of 180.9 per 100,000, the highest across all provinces<sup>4</sup>.

*Table 1: Age-standardized incidence rate (per 100,000), select cancer types (colorectal, cervical, and breast), Newfoundland and Labrador and Canada, 2015*

	Incidence of Cancer per 100,000			
	Colorectal		Cervical (females only)	Breast (females only)
	Male	Female		
<b>NL</b>	85	53	10	86
<b>Canada</b>	60	40	7	100

Source: Canadian Cancer Statistics 2015, Canadian Cancer Society.

<sup>3</sup> Eastern Health. (2015). *Cancer care*. Retrieved from <http://www.easternhealth.ca/WebInWeb.aspx?d=2&id=1078&p=1075>

<sup>4</sup> Canadian Cancer Society. (2015). *Canadian cancer statistics 2015*. Retrieved from <http://www.cancer.ca/~media/cancer.ca/CW/cancer%20information/cancer%20101/Canadian%20cancer%20statistics/Canadian-Cancer-Statistics-2015-EN.pdf?la=en>

<sup>5</sup> Statistics Canada. CANSIM Table # 103-0553. *New cases and 1991 age-standardized rate for primary cancer, by cancer, type and sex, Canada, provinces and territories*. Retrieved from: <http://www5.statcan.gc.ca/cansim/a26>

An effective screening program results in decreased cancer-related mortality, improved quality of life through early diagnosis and treatment, and potentially reduced use of more harmful, secondary treatments<sup>6</sup>. Even with access to screening programs, lack of participation often represents an important barrier to program success.

## Cervical Screening

In 2003, the Cervical Screening Initiatives (CSI) program was launched province-wide by the Department of Health and Community Services<sup>7</sup>. The Papanicolaou test, or Pap test, involves the removal and examination of cells from the cervix and is designed to identify abnormal changes in these cells (precancerous or cancerous), before females show any signs or symptoms<sup>3</sup>.

In 2015, an estimated 1.9% of all new *female* cancer cases diagnosed in Newfoundland and Labrador were cervical, compared to 1.5% in Canada<sup>4</sup>. In addition, the age-standardized incidence rate for developing cervical cancer in the province was 10 per 100,000, compared to 7 per 100,000 nationally<sup>4</sup>. Cervical cancer is one of the most preventable types of cancer<sup>7</sup>. In fact, it is recognized that not having a regular Pap test represents the most important risk factor for developing cancer in the cervix<sup>3</sup>.

The CSI program recommends that females initially have a Pap test once a year for three consecutive years starting at age 21 years<sup>3</sup>. If results are normal, the Pap test should be performed once every three years<sup>3</sup>. Females with abnormal Pap test histories are encouraged to continue getting Pap tests on an annual basis or as recommended by their health-care provider<sup>3</sup>.

Pap test participation rates were determined by dividing the first Pap test per female in a 36 month period (repeat Pap tests removed) by the 2011 census female population per corresponding age group. Participation rates have declined slightly between 2010/2012 and

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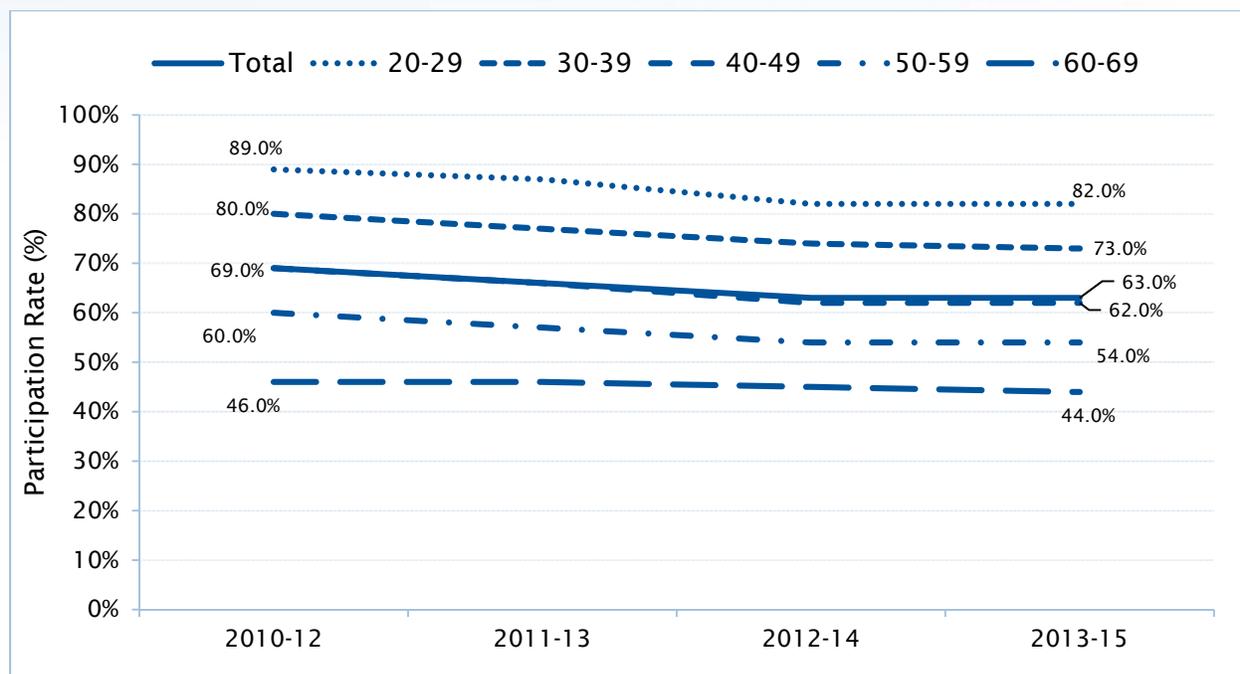
<sup>6</sup> Canadian Cancer Society. (2016). *Screening*. Retrieved from <http://www.cancer.ca/en/prevention-and-screening/early-detection-and-screening/screening/?region=on>

<sup>7</sup> Cervical Screening Initiatives Program. (2013). *Update on cervical screening in Newfoundland and Labrador 2013*. Retrieved from [http://westernhealth.nl.ca/uploads/CSI%20Media/Update\\_on\\_Cervical\\_Screening\\_Report\\_2013.pdf](http://westernhealth.nl.ca/uploads/CSI%20Media/Update_on_Cervical_Screening_Report_2013.pdf)

2013/2015, with overall participation rates declining from 69.0% to 63.0% during the six-year period (Figure 1). Routine screening recommendations changed in 2012 from annual to once every three years. The target participation rate is 80%.

Females in the 20-29 year age group consistently had the highest participation rates over time. The 60-69 year age group consistently had the lowest participation rates over time but also had the lowest decline in participation rates (-2.0%; Figure 1).

Figure 1: Pap test participation rates (percentage of females who had at least one Pap test in 36 months), Eastern Health region, 2010/2012-2013/2015.



Source: Provincial Cervical Cytology Registry; Data extracted July 2016

According to the Canadian Community Health Survey, in 2013/2014, the top reason for *not* having a Pap test within the recommended three-year period was the result of procrastination; 28.9%<sup>F</sup> of females in the Eastern Health region reported that they had “not gotten around to it” (Table 2). Approximately 21.7%<sup>F</sup> of respondents didn’t think getting a Pap test was necessary and 18.9%<sup>F</sup> said their doctors didn’t think it was necessary (Table 2). The fourth top reason for not having a Pap test was hysterectomy (17.9%<sup>F</sup>; Table 2).

Table 2: Top four reasons\* for not having a Pap test in the last three years, females aged 18 years and older, Eastern Health region, 2013/2014

Top Four Reasons	Eastern Health
Have not gotten around to it	28.9% <sup>E</sup>
Respondent didn't think it necessary	21.7% <sup>E</sup>
Doctor didn't think it necessary	18.9% <sup>E</sup>
Hysterectomy	17.9% <sup>E</sup>

Source: Canadian Community Health Survey, Share File, 2013, Newfoundland and Labrador Centre for Health Information.

E = Estimates have a high sampling variability and should be used with caution.

\*Respondents were asked to list all that apply.

Human Papilloma Virus (HPV) is a common family of viruses that affect the lining of the cervix and genital area, where it can slowly progress into warts or cancer<sup>8</sup>. Given the implementation of an HPV Vaccination Program in 2007 for females in Newfoundland and Labrador<sup>8</sup>, it is expected that cervical cancer rates will decline in the future and that Pap testing will also play a role in monitoring and evaluating the effectiveness of this vaccine<sup>1</sup>. Gardasil<sup>®</sup> protects against four types of HPV, which cause most cervical cancers and anogenital warts<sup>9</sup>. Gardasil<sup>®</sup> is approved for use in females aged 9–45 years and in males aged 9–26 years<sup>9</sup>. In Newfoundland and Labrador, HPV immunization is not publicly funded for males<sup>10</sup>.

## Breast Screening

Breast cancer is the most frequently diagnosed type of cancer in females at both the provincial and national level<sup>4</sup>. In 2015, Newfoundland and Labrador had an age-standardized breast cancer incidence rate of 86 per 100,000, lower than the Canadian rate of diagnosis of 100 per 100,000 (Table 1). Mammography is the test used to screen for breast cancer and is the most

<sup>8</sup> Government of Newfoundland and Labrador. (2007). *News releases: Government of Newfoundland and Labrador*. Retrieved from <http://www.releases.gov.nl.ca/releases/2007/health/0806n04.htm>

<sup>9</sup> Public Health Agency of Canada. (2011). *Human Papillomavirus (HPV) prevention and HPV vaccines: questions and answers*. Retrieved from <http://www.phac-aspc.gc.ca/std-mts/hpv-vph/hpv-vph-vaccine-eng.php>

<sup>10</sup> Department of Health and Community Services. (2016). *Immunization*. Retrieved from <http://www.health.gov.nl.ca/health/publichealth/cdc/immunizations.html>

effective screening method for breast cancer<sup>1</sup>. Mammograms can detect abnormalities in the breast before they can be felt and are capable of identifying 85–90% of all breast cancers<sup>11</sup>.

In Newfoundland and Labrador, the Breast Screening Program recommends females between the ages of 50-74 years to have mammograms every two years<sup>12</sup>. Women in the target age range can enroll in screening without a doctor's referral<sup>11</sup>. Prior to 2014, the age range for screening was 50-69, but was subsequently modified to reflect updated guidelines<sup>13</sup>.

Mammograms are recommended on an annual basis for females at an elevated risk of developing breast cancer<sup>12</sup>. These risk factors include having atypical cell biopsies in the past, as well as family history, high mammographic breast density, and certain benign breast conditions<sup>12</sup>.

In 2011/2012, 67.1% of females in the Eastern Health region aged 50-69 years reported having a mammogram within the past two years (Table 3). The participation rate was slightly higher for the province (70.2%). The target participation rate for mammography is 70%. According to the 2011/12 Canadian Community Health Survey, the reasons for not getting a mammogram in the past two years included not getting around to it (37.8%<sup>E</sup>) and thinking it unnecessary (36.8%<sup>E</sup>; Table 3). This was similar to the province.

*Table 3: Percentage of the female population aged 50-69 years who reported having a mammogram within the past two years (<2 years) and top two reasons for not having a mammogram within the recommended timeframe, Eastern Health region and Newfoundland and Labrador, 2011/12*

	Percentage of females who self-reported having a mammogram <2 years ago	Reason for not having a mammogram <2 years ago	
		Have not gotten around to it	Didn't think it was necessary
<b>Eastern Health</b>	67.1%	37.8% <sup>E</sup>	36.8% <sup>E</sup>
<b>NL</b>	70.2%	36.6% <sup>E</sup>	33.7% <sup>E</sup>

Source: Statistics Canada, Canadian Community Health Survey, Share File, 2011/12.

E = Estimates have a high sampling variability and should be used with caution.

\*Respondents were asked to list all that apply.

<sup>11</sup> Breast Screening Program. (n.d.). *Screening mammogram for females 50-69*. Retrieved from <http://www.easternhealth.ca/WebInWeb.aspx?d=3&id=1091&p=1078>

<sup>12</sup> Ms. Elaine Ledwell, Health Education Coordinator – Breast Screening Program, personal communication, May 27, 2016.

<sup>13</sup> Canadian Task Force on Preventive Health Care. (2011). *Breast cancer screening recommendations 2011*. Retrieved from <http://canadiantaskforce.ca/ctfphc-guidelines/2011-breast-cancer/guideline-presentation/>

## Colorectal Screening

Colorectal cancer, also known as colon or bowel cancer, involves the abnormal growth of cells in the rectum<sup>3</sup> or in the wall of the colon, also known as large intestine or large bowel.

Colorectal cancer is the second most common type of cancer in males and females in Newfoundland and Labrador<sup>3,4</sup>. Incidence rates of colorectal cancer for both sexes in the province are the highest in Canada<sup>4</sup> and is the second leading cause of death from cancer in Newfoundland and Labrador as well as Canada<sup>2,3</sup>.

In 2015, the estimated incidence rate of colorectal cancer in Newfoundland and Labrador was 85 per 100,000 for males and 53 per 100,000 for females<sup>4</sup>. In Canada, rates were lower for both males (60 per 100,000) and females (40 per 100,000) in the same year<sup>4</sup>.

Population-based screening for colorectal cancer is recommended for people between the ages of 50-74 years since more than 90% of colorectal cancer cases affect those over 50 years of age<sup>3</sup>. Colorectal cancer typically develops with very few, if any, symptoms<sup>3</sup>; therefore, routine screening for this type of cancer is recommended for early detection. A fecal test is used for screening and is able to detect blood in stool that cannot be seen with the naked eye<sup>14</sup>. A fecal test not only screens for cancer, but can also indicate the presence of other conditions such as ulcers, hemorrhoids, diverticulosis and inflammatory bowel disease or colitis<sup>14</sup>. The target screening rate is set at 60%.

### NL Colon Cancer Screening Program

The Colon Cancer Screening Program is a provincial program available in all regions of the province. The program is targeted at individuals aged 50-74 years at average risk of developing colorectal cancer<sup>14</sup>. Eligibility criteria for the colon cancer screening program includes people who do not have personal or family history of colorectal cancer, those who have not had a colonoscopy in the last five years and are not scheduled for one, and those with no personal

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<sup>14</sup> Colorectal Cancer Association of Canada. (n.d.). Screening & diagnostics: a guide to FOBT and FIT tests. Retrieved from <http://www.colorectal-cancer.ca/en/screening/fobt-and-fit/>

history of inflammatory colitis or Crohn's disease<sup>3</sup>. Eligible individuals can participate in the program through self-referral, or can be referred by their physician or nurse practitioner. The screening program was launched in Newfoundland and Labrador in the Western Health region in July 2012. The program was phased in throughout the province over three years (Central Health, 2013; Labrador-Grenfell Health, 2014; Eastern Health, 2015).

In Newfoundland and Labrador, the Colon Cancer Screening Program uses a type of home screening fecal test called the Fecal Immunochemical Test (FIT) kit to search for hidden blood in the stool. This automated test is very sensitive and has no dietary or medication restrictions, which helps in participant compliance<sup>3</sup>. Eligible individuals can request a kit and complete it at home.

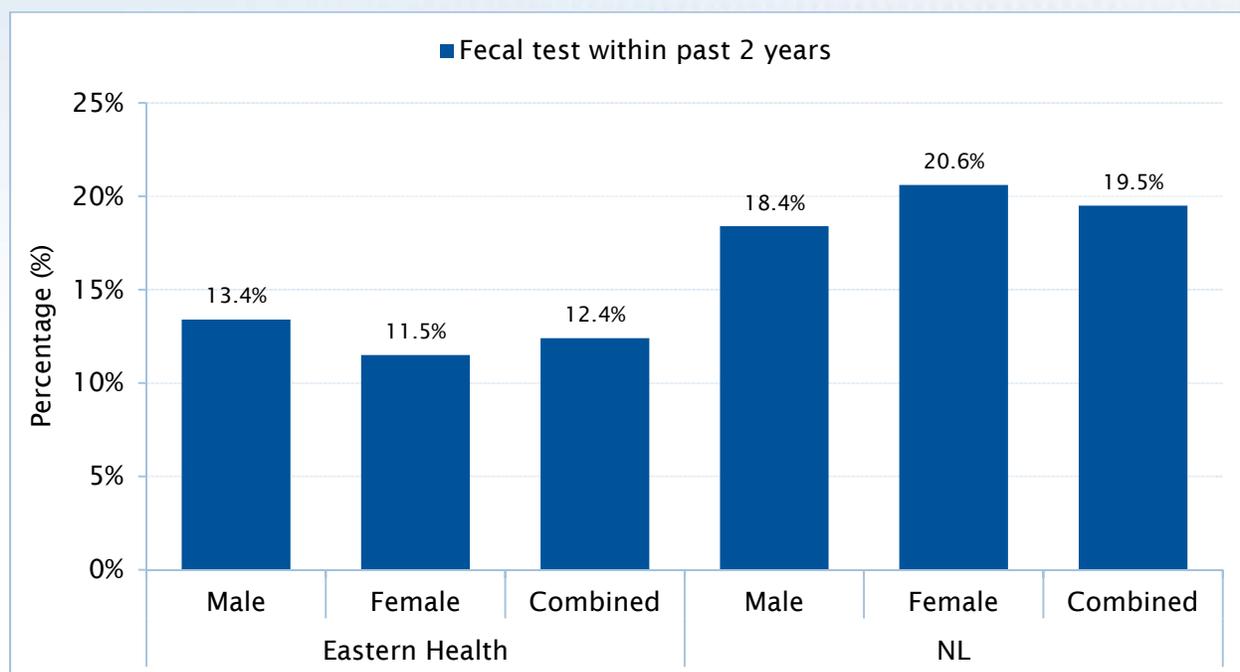
If the FIT result is 'negative' (no blood found), the individual will receive another FIT kit in two years<sup>3</sup>. If the result is 'positive, the screening program will coordinate follow-up care, which may include diagnostic testing such as a colonoscopy<sup>3</sup>. A colonoscopy is the visual examination of the internal surface of the bowel using a camera-bearing device<sup>3</sup>. This test is used in order to confirm the presence of colorectal cancer and other gastrointestinal conditions. If the colonoscopy is negative, a FIT kit test will be provided in five years. If the colonoscopy suggests the presence of one or more adenomas (polyps) or cancer, the health-care provider will discuss the appropriate follow-up treatment<sup>3</sup>.

## Colorectal Screening Rates

According to the 2013/14 Canadian Community Health Survey, 12.4% of residents of the Eastern Health region between 50-74 years of age reported having had a fecal test within the past two years (Figure 2). It was slightly higher for the province (19.5%). In the Eastern Health region, males had a marginally higher fecal test screening rate than females. The opposite was seen within the province as a whole (Figure 2).

Approximately 68.4%<sup>E</sup> of individuals aged 50-74 years living in the Eastern Health region who had a fecal test within the past two years did it as part of a regular check-up and 26.1%<sup>E</sup> had it for follow-up of a problem<sup>15</sup>.

Figure 2: Percentage of the population aged 50-74 years who self-reported having a fecal test within the past two years, by sex, Eastern Health region and Newfoundland and Labrador, 2013/14.



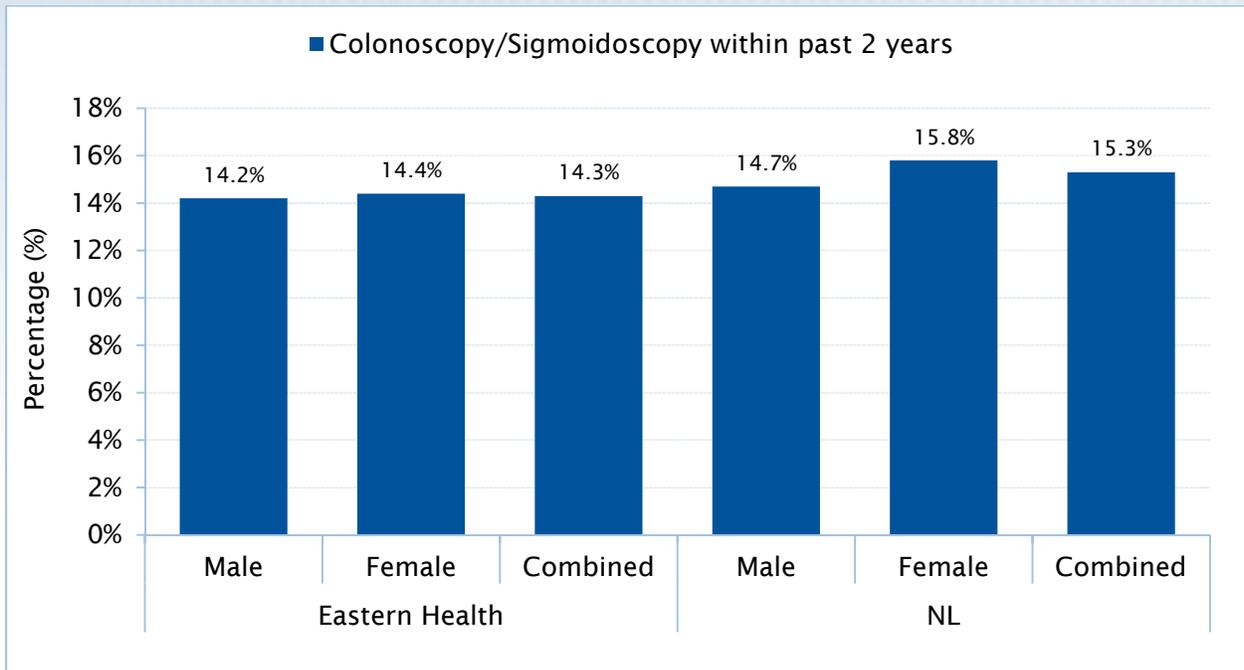
Source: Statistics Canada, Canadian Community Health Survey, Share File, 2013/14.

In 2013/14, approximately 14.3% of individuals in the Eastern Health region aged 50-74 years reported having had a colonoscopy or sigmoidoscopy in the past two years which was similar to the province (Figure 3). Males and females had similar screening rates in the Eastern Health region and the province (Figure 3). Sigmoidoscopy is a procedure similar to colonoscopy and is used to examine the sigmoid portion of the colon (the area of the large intestine nearest to the rectum)<sup>16</sup>. Sigmoidoscopies are not used in screening of colorectal cancer in this province.

<sup>15</sup> Statistics Canada, Canadian Community Health Survey, Share File, 2013/14, Newfoundland and Labrador Centre for Health Information.

<sup>16</sup> United States National Library of Medicine. (2016). *Sigmoidoscopy*. Retrieved from: <https://www.nlm.nih.gov/medlineplus/ency/article/003885.htm>

Figure 3: Percentage of the population aged 50-74 years who self-reported having a colonoscopy or sigmoidoscopy within the past two years, by sex, Eastern Health region and Newfoundland and Labrador, 2013/14.



Source: Statistics Canada, Canadian Community Health Survey, Share File, 2013/14.

Please note: The most recently available data as of August 2016 was included in this report.