

# NOVA SCOTIA BREAST SCREENING PROGRAM

Table 1: Quality Indicators by Site, Zone and Province, Individuals ages 50-74, Screen Years 2019\_2020

Indicator	Target	AM	AN	BR	Central <sup>o</sup>	KE	NG	SY	TR	YA	Western Zone 1	Northern Zone 2	Eastern Zone 3	Central Zone 4	Nova Scotia <sup>§</sup>
Number of Exams	NA	2277	2580	3928	31683	5061	2953	742	4126	2912	11901	9356	3322	31683	66971
Number of 1st Screens	NA	170	111	203	1275	307	124	69	130	107	617	424	180	1275	2906
Number of Screen Detected Cancers	NA	14	10	20	211	23	18	small cell	23	15	58	55	10	211	377
<b>Coverage</b>															
<b>Participation Rate (Ages 50-74), 30 month*</b>	≥ 70%	40.1%	46.2%	40.9%	49.1%	37.9%	40.1%	19.0%	37.8%	38.4%	39.0%	39.0%	26.3%	49.1%	43.6%
<b>Retention Rate (Ages 50-72)*</b>															
<i>Initial</i>	≥ 75%	24.0%	9.1%	29.3%	26.2%	9.7%	19.3%	14.3%	30.7%	17.9%	18.5%	24.8%	11.3%	26.2%	21.8%
<i>Subsequent</i>	≥ 90%	49.6%	49.4%	47.1%	53.8%	39.1%	46.6%	41.7%	53.4%	47.5%	43.9%	50.3%	47.8%	53.8%	50.1%
<b>Participation Rate (Ages 50-69), 30 month*</b>	≥ 70%	40.9%	45.9%	42.2%	49.5%	39.1%	41.4%	16.5%	38.8%	38.9%	40.0%	40.1%	24.2%	49.5%	44.3%
<b>Retention Rate (Ages 50-67)*</b>															
<i>Initial</i>	≥ 75%	26.0%	10.6%	30.5%	25.9%	10.4%	20.3%	15.8%	27.8%	19.4%	19.4%	25.0%	12.9%	25.9%	22.0%
<i>Subsequent</i>	≥ 90%	50.7%	51.1%	49.3%	54.6%	40.5%	48.5%	41.9%	54.3%	48.4%	45.4%	51.6%	49.2%	54.6%	51.3%
<b>Follow-Up</b>															
<b>Abnormal Call Rate</b>															
<i>Initial</i>	< 10%	17.1%	24.3%	17.7%	12.6%	17.6%	21.8%	11.6%	23.1%	19.6%	18.0%	20.3%	19.4%	12.6%	15.6%
<i>Subsequent</i>	< 5%	7.2%	9.9%	5.9%	4.8%	6.5%	9.2%	3.6%	11.8%	7.9%	6.6%	9.9%	8.4%	4.8%	6.0%
<b>Diagnostic Interval</b>															
A) % notified within 2 weeks of screen	≥ 90%	97.5%	98.1%	96.2%	95.3%	97.4%	99.4%	64.3%	95.2%	72.7%	91.0%	97.1%	90.0%	95.3%	94.4%
B) Time from abnormal screen to definitive diagnosis															
– without tissue biopsy (% diagnosed within 5 weeks)	≥ 90%	92.6%	54.2%	57.6%	95.8%	77.6%	97.2%	72.0%	69.2%	22.1%	58.3%	82.2%	62.5%	95.8%	76.9%
– with tissue biopsy (% diagnosed within 7 weeks)	≥ 90%	80.6%	66.7%	64.4%	61.4%	69.4%	90.7%	88.0%	69.2%	20.7%	46.8%	76.7%	77.9%	61.4%	63.2%
<b>Quality of Screening</b>															
<b>Benign: Malignant Core Biopsy Ratio</b>															
<i>Initial</i>	None	small cell	small cell	undefined	2.7 : 1	small cell	small cell	small cell	1 : 1	undefined	small cell	2.44 : 1	small cell	2.70 : 1	2.85 : 1
<i>Subsequent</i>	None	1.9 : 1	3 : 1	1.32 : 1	1.74 : 1	0.92 : 1	2.16 : 1	small cell	3.84 : 1	3.29 : 1	1.69 : 1	2.89 : 1	2.83 : 1	1.74 : 1	1.89 : 1
<b>Benign: Malignant Open Surgical Biopsy Ratio</b>															
<i>Initial</i>	≤ 1 : 1	small cell	undefined	undefined	small cell	small cell	small cell	undefined	small cell	small cell	small cell	0 : 1	undefined	small cell	small cell
<i>Subsequent</i>	≤ 1 : 1	0 : 1	0 : 1	small cell	0.07 : 1	0 : 1	small cell	small cell	small cell	small cell	small cell	small cell	0 : 1	0.07 : 1	0.07 : 1
<b>PPV</b>															
<i>Initial</i>	≥ 5%	small cell	0.0%	0.0%	14.9%	small cell	small cell	0.0%	small cell	0.0%	small cell	9.3%	0.0%	14.9%	9.3%
<i>Subsequent</i>	≥ 6%	8.8%	4.6%	10.0%	14.6%	7.1%	6.7%	small cell	4.5%	7.4%	8.0%	5.9%	5.0%	14.6%	9.7%

Indicator	Target	AM	AN	BR	Central <sup>△</sup>	KE	NG	SY	TR	YA	Western Zone 1	Northern Zone 2	Eastern Zone 3	Central Zone 4	Nova Scotia <sup>§</sup>
<b>Detection</b>															
<b>In-Situ Cancer Detection Rate<sup>†</sup></b>															
Initial	None	0.00	0.00	0.00	5.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.81	2.90
Subsequent	None	small cell	small cell	small cell	1.09	small cell	small cell	0.00	small cell	small cell	0.66	0.99	0.82	small cell	0.93
<b>Cancer Detection Rate</b>															
Initial	None	small cell	0.0	0.0	18.8	small cell	small cell	0.0	small cell	0.0	small cell	18.9	0.0	18.8	14.5
Subsequent	None	6.3	4.5	5.9	6.9	4.6	6.2	small cell	5.4	5.9	5.3	5.8	4.2	6.9	5.8
<b>Disease Extent at Diagnosis</b>															
<b>Screen Detected Invasive Tumour Size<sup>‡</sup></b>															
<= 10mm †	>25% †	small cell	small cell	60.0%	38.7%	small cell	41.7%	small cell	small cell	small cell	37.8%	28.2%	small cell	38.7%	35.2%
<= 15 mm	>50%	45.5%	small cell	66.7%	72.5%	57.1%	58.3%	small cell	43.8%	62.5%	62.2%	48.7%	small cell	72.5%	65.2%
<b>Proportion of Node Negative Screen Detected Invasive Cancer<sup>‡</sup></b>	>70%	90.9%	small cell	73.3%	84.5%	78.6%	75.0%	small cell	68.8%	62.5%	73.0%	76.9%	small cell	84.5%	71.4%

Small Cell: when cell size is between 1 and 4, it is suppressed to prevent potential identification of patients, especially in smaller communities/sites.

△ This includes three screening locations: Cobequid, Dartmouth and Halifax

The benign to malignant core biopsy ratio is undefined when the denominator is zero.

The benign to malignant open surgical biopsy ratio is undefined when the denominator is zero.

§ Nova Scotia totals include M4 (mobile van) data; M4 data not displayed in this table.

\* Participation Rate is presented for a 30 month period ending December 31 2020

† Retention Rate is presented for women screened in 2018, and who were re-screened within 30 months of their previous screen

‡ No longer monitored at the national level, but NSBSP continues to monitor

‡ Data is not available for ages 70-74; indicator is calculated for ages 50-69



# NOVA SCOTIA BREAST SCREENING PROGRAM

**Table 2: Quality Indicators by Age Group, Screen Years 2019\_2020**

Indicator	National Indicator Target Ages: 50-69	40 to 49	50 to 59	60 to 69	70-74	75+
Number of Exams	NA	21360	28172	30493	8306	4715
Number of 1st Screens	NA	5839	1809	946	151	50
Number of Screen Detected Cancers	NA	55	110	189	78	56
<b>Coverage</b>						
<b>Participation Rate, 30 month*</b>	≥ 70%	33.8%	40.6%	50.2%	39.1%	11.7%
<b>Retention Rate<sup>‡</sup></b>						
<i>Initial</i>	≥ 75%	43.7%	21.2%	22.9%	21.5%	22.5%
<i>Subsequent</i>	≥ 90%	74.6%	50.1%	50.3%	48.6%	44.8%
<b>Follow-Up</b>						
<b>Abnormal Call Rate</b>						
<i>Initial</i>	< 10%	13.1%	15.1%	16.4%	15.9%	22.0%
<i>Subsequent</i>	< 5%	8.0%	5.7%	6.1%	6.8%	6.8%
<b>Diagnostic Interval - Time from abnormal screen to definitive diagnosis</b>						
- without tissue biopsy (% diagnosed within 5 weeks)	≥ 90%	80.4%	78.8%	75.2%	74.3%	77.8%
- with tissue biopsy (% diagnosed within 7 weeks)	≥ 90%	59.7%	59.4%	63.8%	68.6%	63.2%
<b>Quality of Screening</b>						
<b>Benign: Malignant Core Biopsy Ratio</b>						
<i>Initial</i>	None	9.98 : 1	5.71 : 1	1.92 : 1	0.75 : 1	small cell
<i>Subsequent</i>	None	3.36 : 1	2.70 : 1	1.82 : 1	1.09 : 1	0.09 : 1
<b>Benign: Malignant Open Surgical Biopsy Ratio</b>						
<i>Initial</i>	≤ 1 : 1	small cell	small cell	small cell	small cell	small cell
<i>Subsequent</i>	≤ 1 : 1	0.19 : 1	0.16 : 1	small cell	small cell	0.00 : 1
<b>PPV</b>						
<i>Initial</i>	≥ 5%	1.7%	5.1%	15.5%	small cell	small cell
<i>Subsequent</i>	≥ 6%	4.1%	7.1%	10.3%	14.9%	19.4%

Indicator	National Indicator Target Ages: 50-69	40 to 49	50 to 59	60 to 69	70-74	75+
<b>Detection</b>						
<b>In-Situ Cancer Detection Rate</b>		40 to 49	50 to 59	60 to 69	70+	
Initial	None	small cell	small cell	5.29	0.00	
Subsequent	None	0.39	0.71	1.14	1.50	
<b>Cancer Detection Rate</b>		40 to 49	50 to 59	60 to 69	70 to 74	75+
Initial	None	2.2	7.7	25.4	small cell	small cell
Subsequent	None	3.3	4.0	6.3	10.2	13.2
<b>Disease Extent at Diagnosis</b>						
<b>Screen Detected Invasive Tumour Size</b>		40 to 49	50 to 59	60 to 69	70+	
<= 10mm †	>25% †	19.6%	38.9%	33.1%	42.2%	
<= 15 mm	>50%	45.7%	65.6%	64.9%	67.2%	
<b>Proportion of Node Negative Screen Detected Invasive Cancer</b>	>70%	69.6%	77.8%	81.8%	82.8%	

Small Cell: when cell size is between 1 and 4, it is suppressed to prevent potential identification of patients, especially in smaller communities/sites.

\* Participation Rate is presented for a 30 month period ending December 31 2020

‡ Retention Rate is presented for women who had a screen in 2018, and who were re-screened within 30 months of their previous screen

† No longer monitored at the national level, but NSBSP continues to monitor



# NOVA SCOTIA BREAST SCREENING PROGRAM

**Table 3: Quality Indicators Time Trend, 2016 to 2020**

Indicator	Target	2016	2017	2018	2019	2020
Number of Exams	NA	43544	39966	46971	45397	21574
Number of 1st Screens	NA	2028	1665	1950	1991	915
Number of Screen Detected Cancers	NA	222	227	267	257	120
<b>Coverage</b>						
<b>Participation Rate, 30 month*</b>	≥ 70%	54.4%	53.8%	51.4%	51.4%	43.6%
<b>Retention Rate<sup>‡</sup></b>						
<i>Initial</i>	≥ 75%	44.4%	36.0%	39.2%	35.6%	21.8%
<i>Subsequent</i>	≥ 90%	81.1%	78.9%	73.9%	73.5%	50.1%
<b>Follow-Up</b>						
<b>Abnormal Call Rate</b>						
<i>Initial</i>	< 10%	13.7%	15.3%	16.5%	15.2%	16.4%
<i>Subsequent</i>	< 5%	5.3%	5.8%	5.7%	5.3%	5.5%
<b>Diagnostic Interval - Time from abnormal screen to definitive diagnosis</b>						
– <i>without tissue biopsy (% diagnosed within 5 weeks)</i>	≥ 90%	83.9%	72.9%	73.9%	74.5%	81.6%
– <i>with tissue biopsy (% diagnosed within 7 weeks)</i>	≥ 90%	75.9%	65.8%	56.7%	61.2%	67.2%
<b>Quality of Screening</b>						
<b>Benign: Malignant Core Biopsy Ratio</b>						
<i>Initial</i>	None	4.15 : 1	4.50 : 1	4.48 : 1	2.64 : 1	3.55 : 1
<i>Subsequent</i>	None	2.03 : 1	1.71 : 1	2.10 : 1	1.85 : 1	1.98 : 1
<b>Benign: Malignant Open Surgical Biopsy Ratio</b>						
<i>Initial</i>	≤ 1 : 1	0.2 : 1	<i>small cell</i>	<i>small cell</i>	<i>small cell</i>	0.00 : 1
<i>Subsequent</i>	≤ 1 : 1	0.1 : 1	0.06 : 1	0.07 : 1	0.06 : 1	0.08 : 1
<b>PPV</b>						
<i>Initial</i>	≥ 5%	6.8%	4.3%	6.9%	10.6%	6.7%
<i>Subsequent</i>	≥ 6%	9.1%	9.7%	9.6%	9.7%	9.6%

Indicator	Target	2016	2017	2018	2019	2020
<b>Detection</b>						
<b>In-Situ Cancer Detection Rate †</b>						
Initial	None	0.00	small cell	small cell	3.70	small cell
Subsequent	None	0.75	1.02	0.73	0.92	0.68
<b>Cancer Detection Rate</b>						
Initial	None	9.4	7.2	11.3	16.1	10.9
Subsequent	None	4.9	5.7	5.4	5.2	5.3
<b>Disease Extent at Diagnosis</b>						
<b>Screen Detected Invasive Tumour Size †</b>						
<= 10mm †	>25% †	37.3%	41.9%	38.5%	37.1%	30.4%
<= 15 mm	>50%	60.4%	67.2%	66.1%	66.3%	62.3%
<b>Proportion of Node Negative Screen Detected Invasive Cancer †</b>						
	>70%	77.8%	80.6%	76.0%	80.0%	81.2%

For screen years 2016 to 2017, quality indicators were calculated for ages 50-69 (old target age group).

For screen years 2018 to 2020, quality indicators were calculated for ages 50-74 (new target age group).

Small Cell: when cell size is between 1 and 4, it is suppressed to prevent potential identification of patients, especially in smaller communities/sites.

\* Participation Rate is presented for a 30 month period ending December 31 2018

‡ Retention Rate is presented for women ages 50-67 who had a screen in 2015, and who were re-screened within 30 months of their previous screen

‡ Retention Rate is presented for women ages 50-72 who had a screen in 2016, and who were re-screened within 30 months of their previous screen

† No longer monitored at the national level, but NSBSP continues to monitor

† Data is not available for ages 70-74; indicator is calculated for ages 50-69

