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⌂	KE	NG	SY	TR	YA	Western Zone 1	Northern Zone 2	Eastern Zone 3	Central Zone 4	Nova Scotia§
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
Coverage															
Participation Rate (Ages 50-74), 30 month*	≥ 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%
Retention Rate (Ages 50-72)‡															
Initial	≥ 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%
Subsequent	≥ 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%
Participation Rate (Ages 50-69), 30 month*	≥ 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%
Retention Rate (Ages 50-67)‡															
Initial	≥ 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%
Subsequent	≥ 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%
Follow-Up															
Abnormal Call Rate															
Initial	< 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%
Subsequent	< 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%
Diagnostic Interval															
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%
Quality of Screening															
Benign: Malignant Core Biopsy Ratio															
Initial	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
Subsequent	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
Benign: Malignant Open Surgical Biopsy Ratio															
Initial	≤ 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
Subsequent	≤ 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
PPV															
Initial	≥ 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%
Subsequent	≥ 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⌂	KE	NG	SY	TR	YA	Western Zone 1	Northern Zone 2	Eastern Zone 3	Central Zone 4	Nova Scotia§
Detection															
In-Situ Cancer Detection Rate✦															
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*
Cancer Detection Rate															
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*
Disease Extent at Diagnosis															
Screen Detected Invasive Tumour Size✦															
<= 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%*
Proportion of Node Negative Screen Detected Invasive Cancer✦	>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%	80.3%

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 availale 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
Coverage						
Participation Rate, 30 month*	≥ 70%	33.8%	40.6%	50.2%	39.1%	11.7%
Retention Rate‡						
Initial	≥ 75%	*43.7%*	*21.2%*	*22.9%*	*21.5%*	*22.5%*
Subsequent	≥ 90%	*74.6%*	*50.1%*	*50.3%*	*48.6%*	*44.8%*
Follow-Up						
Abnormal Call Rate						
Initial	< 10%	*13.1%*	*15.1%*	*16.4%*	*15.9%*	*22.0%*
Subsequent	< 5%	*8.0%*	*5.7%*	*6.1%*	*6.8%*	*6.8%*
Diagnostic Interval - Time from abnormal screen to definitive diagnosis						
- 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%
Quality of Screening						
Benign: Malignant Core Biopsy Ratio						
Initial	*None*	*9.98 : 1*	*5.71 : 1*	*1.92 : 1*	*0.75 : 1*	*small cell*
Subsequent	*None*	*3.36 : 1*	*2.70 : 1*	*1.82 : 1*	*1.09 : 1*	*0.09 : 1*
Benign: Malignant Open Surgical Biopsy Ratio						
Initial	*≤ 1 : 1*	*small cell*	*small cell*	*small cell*	*small cell*	*small cell*
Subsequent	*≤ 1 : 1*	*0.19 : 1*	*0.16 : 1*	*small cell*	*small cell*	*0.00 : 1*
PPV						
Initial	*≥ 5%*	*1.7%*	*5.1%*	*15.5%*	*small cell*	*small cell*
Subsequent	*≥ 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+
Detection						
In-Situ Cancer Detection Rate		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	
Cancer Detection Rate		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
Disease Extent at Diagnosis						
Screen Detected Invasive Tumour Size		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%	
Proportion of Node Negative Screen Detected Invasive Cancer	>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
Coverage						
Participation Rate, 30 month*	≥ 70%	54.4%	53.8%	51.4%	51.4%	43.6%
Retention Rate‡						
Initial	≥ 75%	44.4%	36.0%	39.2%	35.6%	21.8%
Subsequent	≥ 90%	81.1%	78.9%	73.9%	73.5%	50.1%
Follow-Up						
Abnormal Call Rate						
Initial	< 10%	13.7%	15.3%	16.5%	15.2%	16.4%
Subsequent	< 5%	5.3%	5.8%	5.7%	5.3%	5.5%
Diagnostic Interval - Time from abnormal screen to definitive diagnosis						
– without tissue biopsy (% diagnosed within 5 weeks)	≥ 90%	83.9%	72.9%	73.9%	74.5%	81.6%
– with tissue biopsy (% diagnosed within 7 weeks)	≥ 90%	75.9%	65.8%	56.7%	61.2%	67.2%
Quality of Screening						
Benign: Malignant Core Biopsy Ratio						
Initial	None	4.15 : 1	4.50 : 1	4.48 : 1	2.64 : 1	3.55 : 1
Subsequent	None	2.03 : 1	1.71 : 1	2.10 : 1	1.85 : 1	1.98 : 1
Benign: Malignant Open Surgical Biopsy Ratio						
Initial	≤ 1 : 1	0.2 : 1	small cell	small cell	small cell	0.00 : 1
Subsequent	≤ 1 : 1	0.1 : 1	0.06 : 1	0.07 : 1	0.06 : 1	0.08 : 1
PPV						
Initial	≥ 5%	6.8%	4.3%	6.9%	10.6%	6.7%
Subsequent	≥ 6%	9.1%	9.7%	9.6%	9.7%	9.6%

Indicator	Target	2016	2017	2018	2019	2020
Detection						
In-Situ Cancer Detection Rate✦						
Initial	*None*	*0.00*	*small cell*	*small cell*	*3.70*	*small cell*
Subsequent	*None*	*0.75*	*1.02*	*0.73*	*0.92*	*0.68*
Cancer Detection Rate						
Initial	*None*	*9.4*	*7.2*	*11.3*	*16.1*	*10.9*
Subsequent	*None*	*4.9*	*5.7*	*5.4*	*5.2*	*5.3*
Disease Extent at Diagnosis						
Screen Detected Invasive Tumour Size✦						
<= 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%*
Proportion of Node Negative Screen Detected Invasive Cancer ✦	>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 availale for ages 70-74; indicator is calculated for ages 50-69