

NOVA SCOTIA BREAST SCREENING PROGRAM

Table 1: Quality Indicators by Site, Zone and Province, Individuals ages 50-74, Screen Year 2021

Indicator	National Target	AM	AN	BR	Central ^Q	KE	NG	SY	TR	YA	Western Zone 1	Northern Zone 2	Eastern Zone 3	Central Zone 4	Nova Scotia [§]
Number of Individuals Participated in Screening	NA	1117	1210	1960	17984	3092	1569	546	2682	2210	7262	5368	1756	17984	39547
Number of 1st Screens	NA	91	54	107	860	204	68	36	111	121	432	270	90	860	2121
Number of Screen Detected Cancers	NA	9	9	9	100	15	16	small cell	23	10	34	48	9	100	241
Coverage															
Participation Rate (Ages 50-74), 30 month*	≥ 70%	Data Not Available									Data Not Available				37.1%
Retention Rate (Ages 50-72)*															
<i>Initial</i>	≥ 75%	9.3%	20.6%	23.3%	22.7%	17.8%	21.3%	12.3%	16.5%	21.5%	20.4%	15.1%	16.8%	22.7%	20.4%
<i>Subsequent</i>	≥ 90%	51.1%	53.9%	52.6%	60.6%	49.3%	52.7%	48.1%	57.0%	59.4%	52.8%	54.2%	52.4%	60.6%	57.0%
Follow-Up															
Abnormal Call Rate															
<i>Initial</i>	< 10%	12.1%	31.5%	15.9%	14.7%	13.2%	14.7%	16.7%	15.3%	18.2%	15.3%	14.1%	25.6%	14.7%	15.3%
<i>Subsequent</i>	< 5%	5.9%	11.3%	6.6%	5.7%	4.7%	8.9%	3.1%	9.0%	6.8%	5.9%	8.4%	8.8%	5.7%	6.1%
Diagnostic Interval															
A) % notified within 2 weeks of screen	≥ 90%	97.2%	94.7%	98.3%	98.2%	98.8%	99.7%	90.3%	96.4%	82.8%	93.8%	97.5%	93.3%	98.2%	96.9%
B) Time from abnormal screen to definitive diagnosis															
– without tissue biopsy (% diagnosed within 5 weeks)	≥ 90%	85.7%	37.4%	39.4%	93.2%	71.1%	85.8%	80.7%	51.0%	28.7%	49.3%	66.3%	58.4%	93.2%	71.9%
– with tissue biopsy (% diagnosed within 7 weeks)	≥ 90%	86.7%	46.7%	42.9%	52.2%	64.1%	66.7%	89.8%	61.2%	27.6%	42.4%	67.0%	73.4%	52.2%	55.1%
Quality of Screening															
Benign: Malignant Core Biopsy Ratio															
<i>Initial</i>	None	small cell	small cell	small cell	6.14 : 1	small cell	undefined	small cell	small cell	undefined	small cell	small cell	small cell	6.14 : 1	4.78 : 1
<i>Subsequent</i>	None	1 : 1	1.57 : 1	2.57 : 1	2.84 : 1	1.14 : 1	1.75 : 1	small cell	1.17 : 1	3.73 : 1	2.34 : 1	1.33 : 1	1.27 : 1	2.84 : 1	1.95 : 1
Benign: Malignant Open Surgical Biopsy Ratio															
<i>Initial</i>	≤ 1 : 1	small cell	small cell	small cell	small cell	small cell	undefined	undefined	small cell	small cell	small cell	small cell	small cell	small cell	0.5 : 1
<i>Subsequent</i>	≤ 1 : 1	0 : 1	small cell	small cell	0.21 : 1	0 : 1	small cell	small cell	small cell	small cell	0.17 : 1	0.16 : 1	small cell	0.21 : 1	0.17 : 1
PPV															
<i>Initial</i>	≥ 5%	small cell	small cell	small cell	4.8%	small cell	0.0%	0.0%	small cell	0.0%	small cell	small cell	small cell	4.8%	5.2%
<i>Subsequent</i>	≥ 6%	9.8%	4.6%	6.6%	9.7%	9.5%	11.9%	small cell	9.5%	7.0%	7.7%	10.3%	6.8%	9.7%	9.9%

Indicator	National 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	small cell	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	small cell	0.00	small cell
Subsequent	None	0.00	0.00	small cell	1.28	small cell	small cell	0.00	small cell	small cell	0.88	1.18	0.00	1.28	1.07
Invasive Cancer Detection Rate															
Initial	>5 per 1,000 screens	small cell	small cell	small cell	7.0	small cell	0.0	0.0	small cell	0.0	small cell	small cell	small cell	7.0	7.5
Subsequent	> 3 per 1,000 screens	5.8	5.2	3.8	4.2	3.8	9.3	small cell	7.0	3.4	3.7	7.5	6.0	4.2	4.9
Disease Extent at Diagnosis															
Screen Detected Invasive Tumour Size															
<= 10mm †	>25% †	0.0%	small cell	small cell	34.6%	46.2%	small cell	small cell	31.6%	small cell	46.4%	19.0%	small cell	34.6%	34.0%
<= 15 mm	>50%	small cell	small cell	75.0%	64.1%	76.9%	35.7%	small cell	47.4%	small cell	71.4%	35.7%	50.0%	64.1%	59.5%
Proportion of Node Negative Screen Detected Invasive Cancer	>70%	66.7%	87.5%	75.0%	83.3%	76.9%	64.3%	small cell	84.2%	100.0%	82.1%	73.8%	91.7%	83.3%	83.0%

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.

§ 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 2021

‡ Retention Rate is presented for individuals screened in 2019, and who were re-screened within 30 months of their previous screen

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



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Table 2: Quality Indicators by Age Group, Screen Year 2021

Indicator	National Target	40 to 49	50 to 59	60 to 69	70-74	75+
Number of Individuals Participated in Screening	NA	11126	15622	18116	5809	2957
Number of 1st Screens	NA	3757	1302	700	119	39
Number of Screen Detected Cancers	NA	35	68	110	63	38
Coverage						
Participation Rate, 30 month*	≥ 70%	31.1%	35.9%	45.9%	41.6%	11.5%
Retention Rate[†]						
<i>Initial</i>	≥ 75%	40.1%	20.8%	20.2%	16.8%	16.7%
<i>Subsequent</i>	≥ 90%	69.1%	55.4%	57.9%	55.8%	46.6%
Follow-Up						
Abnormal Call Rate						
<i>Initial</i>	< 10%	15.7%	15.1%	15.4%	17.6%	17.9%
<i>Subsequent</i>	< 5%	8.3%	6.2%	5.8%	6.6%	6.6%
Diagnostic Interval - Time from abnormal screen to definitive diagnosis						
- without tissue biopsy (% diagnosed within 5 weeks)	≥ 90%	76.4%	74.7%	69.4%	70.8%	64.3%
- with tissue biopsy (% diagnosed within 7 weeks)	≥ 90%	45.8%	54.8%	52.1%	62.4%	71.8%
Quality of Screening						
Benign: Malignant Core Biopsy Ratio						
<i>Initial</i>	None	8 : 1	9.33 : 1	2.5 : 1	small cell	small cell ✓
<i>Subsequent</i>	None	5.68 : 1	2.97 : 1	1.87 : 1	1.09 : 1	0.95 : 1 ✓
Benign: Malignant Open Surgical Biopsy Ratio						
<i>Initial</i>	≤ 1 : 1	small cell	0.83 : 1	small cell	small cell	small cell ✓
<i>Subsequent</i>	≤ 1 : 1	0.47 : 1	0.25 : 1	0.2 : 1	small cell	small cell ✓
PPV						
<i>Initial</i>	≥ 5%	2.7%	3.1%	8.3%	small cell	small cell
<i>Subsequent</i>	≥ 6%	3.1%	7.0%	10.1%	16.2%	18.0%

Indicator	National Target	40 to 49	50 to 59	60 to 69	70-74	75+
Detection						
In-Situ Cancer Detection Rate						
Initial	None	small cell	0.00	small cell	0.00	0.00
Subsequent	None	small cell	1.12	0.80	1.76	1.71
Invasive Cancer Detection Rate						
Initial	>5 per 1,000 screens	3.2	4.6	11.4	small cell	small cell
Subsequent	> 3 per 1,000 screens	2.0	3.2	5.0	9.0	10.3
Disease Extent at Diagnosis						
Screen Detected Invasive Tumour Size						
<= 10mm †	>25% †	37.0%	38.5%	30.5%	35.8%	36.4%
<= 15 mm	>50%	66.7%	59.6%	55.8%	66.0%	51.5%
Proportion of Node Negative Screen Detected Invasive Cancer						
	>70%	74.1%	78.8%	83.2%	86.8%	87.9%

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 2021

‡ Retention Rate is presented for an individual who had a screen in 2019, and who was re-screened within 30 months of their previous screen

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



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Table 3: Quality Indicators Time Trend, 2018-2021

Indicator	Target	2018	2019	2020	2021
Number of Individuals Participated in Screening	NA	46950	45391	21558	39547
Number of 1st Screens	NA	1950	1991	915	2121
Number of Screen Detected Cancers	NA	267	257	120	241
Coverage					
Participation Rate, 30 month*	≥ 70%	51.4%	51.4%	43.6%	37.1%
Retention Rate[†]					
<i>Initial</i>	≥ 75%	39.2%	35.6%	21.8%	20.4%
<i>Subsequent</i>	≥ 90%	73.9%	73.5%	50.1%	57.0%
Follow-Up					
Abnormal Call Rate					
<i>Initial</i>	< 10%	16.5%	15.2%	16.4%	15.3%
<i>Subsequent</i>	< 5%	5.7%	5.3%	5.5%	6.1%
Diagnostic Interval - Time from abnormal screen to definitive diagnosis					
– without tissue biopsy (% diagnosed within 5 weeks)	≥ 90%	73.9%	74.5%	81.6%	71.9%
– with tissue biopsy (% diagnosed within 7 weeks)	≥ 90%	56.7%	61.2%	67.2%	55.1%
Quality of Screening					
Benign: Malignant Core Biopsy Ratio					
<i>Initial</i>	None	4.48 : 1	2.64 : 1	3.55 : 1	4.78 : 1 ✓
<i>Subsequent</i>	None	2.1 : 1	1.85 : 1	1.98 : 1	1.95 : 1 ✓
Benign: Malignant Open Surgical Biopsy Ratio					
<i>Initial</i>	≤ 1 : 1	small cell	small cell	0 : 1	0.5 : 1 ✓
<i>Subsequent</i>	≤ 1 : 1	0.07 : 1	0.06 : 1	0.08 : 1	0.07 : 1 ✓
PPV					
<i>Initial</i>	≥ 5%	6.9%	10.6%	6.7%	5.2%
<i>Subsequent</i>	≥ 6%	9.6%	9.7%	9.6%	9.9%

Indicator	Target	2018	2019	2020	2021
Detection					
In-Situ Cancer Detection Rate					
Initial	None	2.05	2.51	small cell	small cell
Subsequent	None	0.82	0.97	0.87	1.07
Invasive Cancer Detection Rate					
Initial	>5 per 1,000 screens	10.3	13.6	10.9	7.5
Subsequent	> 3 per 1,000 screens	4.7	4.3	4.8	4.9
Disease Extent at Diagnosis					
Screen Detected Invasive Tumour Size					
<= 10mm †	>25% †	37.1%	35.8%	36.4%	34.0%
<= 15 mm	>50%	64.2%	63.7%	63.6%	59.5%
Proportion of Node Negative Screen Detected Invasive Cancer					
	>70%	78.0%	80.9%	81.8%	83.0%

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. For example, the 2020 Participation Rate is calculated for the 30 month time period of July 1 2018 - December 31 2020

‡ Retention Rate is presented for women ages 50-72 who had a screen in 2016, 2017, 2018, 2019, and who were re-screened within 30 months of their previous screen

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

