NOVA SCOTIA **BREAST SCREENING PROGRAM**

Table 1: Quality Indicators by Site, Zone and Province, women aged 40-74, Screen Year 2023 (January 01 - December 31 2023)

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§
Number of Individuals Participated in Screening	NA	1893	1832	3007	27623	3234	2665	745	3709	2493	8734	8267	2577	27623	56757
Number of 1st Screens	NA	285	236	434	4002	464	378	137	441	304	1202	1104	373	4002	7855
Number of Screen Detected Breast Cancers	NA	11	11	16	170	14	13	small cell	16	11	41	40	11	170	306
Number of Breast Cancers Detected by Imaging	NA	15	17	28	221	26	22	22	30	19	73	67	39	221	438
Proportion of Screen-Detected Breast Cancers	NA	73.3%	64.7%	57.1%	76.9%	53.8%	59.1%	13.6%	53.3%	57.9%	56.2%	59.7%	35.9%	76.9%	69.9%
Coverage															
Participation Rate (Ages 40-74), 30 month*	≥ 70%				Data not available							Data not available			42.5%
Retention Rate (Ages 40-72)‡															
Initial	≥ 75%	43.4%	45.7%	43.8%	51.1%	37.6%	47.4%	37.8%	44.2%	40.5%	39.8%	45.0%	42.5%	51.1%	48.2%
Subsequent	≥ 90%	74.9%	71.6%	68.6%	72.4%	58.4%	74.1%	65.7%	71.2%	71.8%	65.2%	72.8%	69.8%	72.4%	71.5%
Follow-Up															
Abnormal Call Rate															
Initial	< 10%	9.5%	19.5%	16.6%	14.3%	11.6%	22.8%	9.5%	19.0%	15.5%	14.4%	17.8%	15.8%	14.3%	14.4%
Subsequent	< 5%	5.8%	7.5%	7.0%	5.7%	3.9%	8.3%	3.6%	7.2%	5.5%	5.4%	7.2%	6.4%	5.7%	5.6%
Diagnostic Interval															
A) % notified within 2 weeks of screen	≥ 90%	73.1%	96.4%	92.1%	40.9%	96.8%	99.2%	54.5%	95.6%	86.5%	92.2%	91.6%	84.3%	40.9%	92.1%
B) Time from abnormal screen to definitive diagnosis															
– *without tissue biopsy (% diagnosed within 5 weeks)*	≥ 90%	41.1%	36.5%	75.0%	14.5%	65.3%	41.8%	72.1%	39.3%	48.3%	64.3%	40.6%	54.2%	14.5%	35.4%
– *with tissue biopsy (% diagnosed within 7 weeks)*	≥ 90%	47.8%	41.7%	77.6%	10.5%	56.3%	39.1%	82.5%	32.7%	48.1%	61.8%	36.5%	65.6%	10.5%	26.3%
Quality of Screening															
Benign: Malignant Core Biopsy Ratio															
Initial	None	small cell	small cell	small cell	6.86 : 1	small cell	small cell	small cell	small cell	0 : 1	6.67 : 1	7.86 : 1	small cell	6.86 : 1	6.29 : 1
Subsequent	None	1.60 : 1	0.82 : 1	1.68 : 1	2.66 : 1	0.89 : 1	3.13 : 1	small cell	4.06 : 1	1.67 : 1	1.50 : 1	3.12 : 1	1.00 : 1	2.66 : 1	2.23 : 1
Benign: Malignant Open Surgical Biopsy Ratio															
Initial	≤ 1 : 1	small cell	0 : 0	small cell	0.42 : 1	small cell	small cell	small cell	small cell	0 : 0	small cell	small cell	small cell	0.42 : 1	0.43 : 1
Subsequent	≤ 1 : 1	0 : 1	0 : 1	small cell	0.19 : 1	0 : 1	small cell	small cell	small cell	small cell	small cell	small cell	0 : 1	0.19 : 1	0.13 : 1
PPV															
Initial	≥ 5%	0.0%	0.0%	small cell	4.7%	small cell	small cell	small cell	small cell	0.0%	2.3%	2.5%	3.4%	4.7%	3.5%
Subsequent	≥ 6%	11.8%	9.2%	7.7%	10.6%	11.1%	5.3%	small cell	5.9%	9.2%	9.0%	6.7%	8.5%	10.6%	9.6%

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	0.00	0.00	2.25	2.16	2.65	0.00	2.27	0.00	0.83	1.81	0.00	2.25	1.53
Subsequent	*None*	1.00	0.63	0.39	1.23	0.36	0.44	1.64	0.61	0.46	0.40	0.56	0.91	1.23	0.98
Invasive Cancer Detection Rate															
Initial	>5 per 1,000 screens	0.0	0.0	small cell	4.5	small cell	small cell	small cell	small cell	0.0	2.5	2.7	5.4	4.5	3.6
Subsequent	> 3 per 1,000 screens	6.2	6.3	5.1	4.8	4.0	3.9	0.0	3.7	4.6	4.5	4.3	4.5	4.8	4.5
Disease Extent at Diagnosis															
Screen Detected Invasive Tumour Size															
<= 10mm †	>25% †	small cell	50.0%	53.3%	37.9%	small cell	small cell	small cell	small cell	small cell	32.4%	23.5%	50.0%	37.9%	33.7%
<= 15 mm	>50%	60.0%	60.0%	80.0%	57.6%	41.7%	45.5%	small cell	61.5%	small cell	56.8%	55.9%	58.3%	57.6%	57.7%
Proportion of Node Negative Screen Detected Invasive Cancer	>70%	90.0%	60.0%	86.7%	72.7%	58.3%	63.6%	small cell	84.6%	70.0%	73.0%	79.4%	66.7%	72.7%	75.2%

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

§ *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 2023*

‡*Retention Rate is presented for individuals screened in 2021, 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 2023, January 01 2023 - December 31 2023

Indicator	National Target	40 to 49	50 to 59	60 to 69	70-74	75+
Number of Individuals Participated in Screening	NA	13987	16395	19547	6828	3795
Number of 1st Screens	NA	4979	1795	934	147	77
Number of Screen Detected Cancers	NA	28	77	142	59	44
Number of Breast Cancers Detected by Imaging	NA	65	110	189	75	80
Proportion of Screen Detected Breast Cancers	NA	43.1%	70.0%	75.1%	78.7%	55.0%

Coverage						
Participation Rate, 30 month*	≥ 70%	36.9%	47.2%	48.1%	42.4%	12.2%
Retention Rate‡						
Initial	≥ 75%	54.8%	35.4%	37.5%	31.9%	20.5%
Subsequent	≥ 90%	80.6%	68.2%	70.4%	65.2%	57.5%
Follow-Up						
Abnormal Call Rate						
Initial	< 10%	14.2%	15.4%	13.4%	14.3%	13.0%
Subsequent	< 5%	6.2%	5.7%	5.4%	5.5%	5.5%
Diagnostic Interval - Time from abnormal screen to definitive diagnosis						
- without tissue biopsy (% diagnosed within 5 weeks)	≥ 90%	34.1%	35.5%	36.3%	37.7%	33.1%
- with tissue biopsy (% diagnosed within 7 weeks)	≥ 90%	16.2%	25.3%	32.8%	35.5%	34.1%
Quality of Screening						
Benign: Malignant Core Biopsy Ratio						
Initial	*None*	9.50 : 1	4.19 : 1	3.73 : 1	small cell	small cell
Subsequent	*None*	6.47 : 1	3.23 : 1	1.55 : 1	1.44 : 1	1.00 : 1
Benign: Malignant Open Surgical Biopsy Ratio						
Initial	≤ 1 : 1	0.83 : 1	small cell	small cell	small cell	small cell
Subsequent	≤ 1 : 1	0.50 : 1	0.17 : 1	0.09 : 1	0.09 : 1	small cell
PPV						
Initial	≥ 5%	1.8%	6.2%	6.3%	small cell	small cell
Subsequent	≥ 6%	2.7%	7.2%	13.3%	15.6%	20.1%

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	2.79	small cell	small cell	0.00
Subsequent	None	0.56	0.82	1.13	1.50	small cell
Invasive Cancer Detection Rate						
Initial	>5 per 1,000 screens	2.0	6.7	5.3	small cell	small cell
Subsequent	> 3 per 1,000 screens	1.1	3.3	6.1	7.0	10.2
Disease Extent at Diagnosis						
Screen Detected Invasive Tumour Size						
<= 10mm †	>25% †	35.0%	35.0%	32.2%	35.4%	39.0%
<= 15 mm	>50%	50.0%	55.0%	58.5%	62.5%	75.6%
Proportion of Node Negative Screen Detected Invasive Cancer	>70%	65.0%	66.7%	77.1%	85.4%	87.8%

* Participation Rate is presented for a 30 month period ending December 31 2023

‡Retention Rate is presented for an individual who had a screen in 2021, 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 by Screen Year, 2019-2023[Δ]

Indicator	Target	2019	2020	2021	2022[Δ]	2023[Δ]
Number of Individuals Participated in Screening	NA	45391	21558	39547	53780	56763
Number of 1st Screens	NA	1991	915	2121	7267	7855
Number of Screen Detected Breast Cancers	NA	257	120	241	338	306
Number of Breast Cancers Detected by Imaging	NA	343	207	335	463	438
Proportion of Screen-Detected Breast Cancers	NA	74.9%	58.0%	71.9%	73.0%	69.9%

Coverage						
Participation Rate, 30 month*	≥ 70%	51.4%	43.6%	37.1%	39.5%	42.5%
Retention Rate[‡]						
Initial	≥ 75%	*35.6%*	*21.8%*	*20.4%*	*43.9%*	*48.2%*
Subsequent	≥ 90%	*73.5%*	*50.1%*	*57.0%*	*73.0%*	*71.5%*
Follow-Up						
Abnormal Call Rate						
Initial	< 10%	*15.2%*	*16.4%*	*15.3%*	*15.4%*	*14.4%*
Subsequent	< 5%	*5.3%*	*5.5%*	*6.1%*	*5.8%*	*5.6%*
Diagnostic Interval - Time from abnormal screen to definitive diagnosis						
– without tissue biopsy (% diagnosed within 5 weeks)	≥ 90%	*74.5%*	*81.6%*	*71.9%*	*75.0%*	*35.4%*
– with tissue biopsy (% diagnosed within 7 weeks)	≥ 90%	*61.2%*	*67.2%*	*55.1%*	*43.6%*	*14.5%*
Quality of Screening						
Benign: Malignant Core Biopsy Ratio						
Initial	*None*	*4.48 : 1*	*2.64 : 1*	*3.55 : 1*	*4.78 : 1*	*6.29 : 1*
Subsequent	*None*	*2.10 : 1*	*1.85 : 1*	*1.98 : 1*	*1.95 : 1*	*2.23 : 1*
Benign: Malignant Open Surgical Biopsy Ratio						
Initial	≤ 1 : 1	*0.14 : 1*	*0.06 : 1*	*0.00 : 1*	*0.50 : 1*	*0.43 : 1*
Subsequent	≤ 1 : 1	*0.07 : 1*	*0.06 : 1*	*0.08 : 1*	*0.07 : 1*	*0.13 : 1*
PPV						
Initial	≥ 5%	*10.6%*	*6.7%*	*5.2%*	*4.6%*	*3.5%*
Subsequent	≥ 6%	*9.7%*	*9.6%*	*9.9%*	*10.7%*	*9.6%*

Indicator	Target	2019	2020	2021	2022$^\Delta$	2023$^\Delta$
Detection						
In-Situ Cancer Detection Rate						
Initial	None	2.51	1.09	0.47	1.10	3.56
Subsequent	None	0.97	0.87	1.07	0.67	4.46
Invasive Cancer Detection Rate						
Initial	>5 per 1,000 screens	13.6	10.9	7.5	5.9	3.6
Subsequent	> 3 per 1,000 screens	4.3	4.8	4.9	5.5	4.5
Disease Extent at Diagnosis						
Screen Detected Invasive Tumour Size						
<= 10mm †	>25% †	35.8%	36.4%	34.0%	28.2%	33.7%
<= 15 mm	>50%	63.7%	63.6%	59.5%	54.5%	57.7%
Proportion of Node Negative Screen Detected Invasive Cancer	>70%	80.9%	81.8%	83.0%	76.3%	75.2%

Δ Indicators are calculated for ages 50-74 for screen years 2019-2021, ages 40-74 for screen year 2022-2023.

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

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

‡Retention Rate is presented for women ages 40-72 who had a screen in 2020 & 2021, and were re-screened within 30 months of their previous screen

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