

NOVA SCOTIA BREAST SCREENING PROGRAM

Table 1: Quality Indicators by Site, Zone and Province, women aged 40-74, Screen Year 2022 (January 01 - December 31 2022)

| Indicator | National Target | AM | AN | BR | Central ^o | KE | NG | SY | TR | YA | Western Zone 1 | Northern Zone 2 | Eastern Zone 3 | Central Zone 4 | Nova Scotia ^s |
|--|-----------------|--------------------|----------|----------|----------------------|----------|----------|-------|----------|----------|----------------|--------------------|----------------|----------------|--------------------------|
| Number of Individuals Participated in Screening | NA | 1638 | 1966 | 2846 | 24836 | 3736 | 2622 | 890 | 3586 | 2540 | 9122 | 7846 | 2856 | 24836 | 53780 |
| Number of 1st Screens | NA | 204 | 224 | 313 | 3517 | 523 | 327 | 191 | 433 | 294 | 1130 | 964 | 415 | 3517 | 7267 |
| Number of Screen Detected Cancers | NA | 13 | 17 | 15 | 162 | 19 | 17 | 5 | 22 | 19 | 53 | 52 | 22 | 162 | 338 |
| Coverage | | | | | | | | | | | | | | | |
| Participation Rate (Ages 40-74), 30 month* | ≥ 70% | Data not available | | | | | | | | | | Data not available | | | 39.5% |
| Retention Rate (Ages 40-72)[†] | | | | | | | | | | | | | | | |
| <i>Initial</i> | ≥ 75% | 37.4% | 38.4% | 29.4% | 48.1% | 37.3% | 34.3% | 34.8% | 41.4% | 30.1% | 33.6% | 38.4% | 37.7% | 48.1% | 43.9% |
| <i>Subsequent</i> | ≥ 90% | 69.6% | 76.1% | 60.9% | 73.8% | 67.7% | 67.8% | 64.9% | 73.8% | 75.4% | 68.0% | 71.1% | 75.1% | 73.8% | 73.0% |
| Follow-Up | | | | | | | | | | | | | | | |
| Abnormal Call Rate | | | | | | | | | | | | | | | |
| <i>Initial</i> | < 10% | 16.7% | 24.1% | 18.2% | 14.2% | 15.7% | 18.3% | 7.9% | 20.6% | 21.8% | 18.0% | 19.0% | 16.6% | 14.2% | 15.4% |
| <i>Subsequent</i> | < 5% | 6.1% | 10.2% | 5.8% | 5.4% | 4.8% | 8.1% | 3.4% | 8.3% | 6.5% | 5.6% | 7.8% | 8.3% | 5.4% | 5.8% |
| Diagnostic Interval | | | | | | | | | | | | | | | |
| A) % notified within 2 weeks of screen | ≥ 90% | 93.0% | 88.8% | 95.4% | 93.6% | 98.6% | 98.7% | 51.3% | 96.4% | 67.1% | 88.8% | 96.5% | 77.2% | 93.6% | 92.1% |
| B) Time from abnormal screen to definitive diagnosis | | | | | | | | | | | | | | | |
| – without tissue biopsy (% diagnosed within 5 weeks) | ≥ 90% | 70.5% | 20.2% | 52.2% | 93.2% | 87.6% | 81.9% | 83.8% | 82.1% | 35.7% | 60.4% | 80.4% | 48.4% | 93.2% | 75.0% |
| – with tissue biopsy (% diagnosed within 7 weeks) | ≥ 90% | 48.4% | 40.0% | 52.9% | 31.1% | 82.0% | 70.2% | 80.6% | 62.8% | 38.6% | 57.0% | 62.2% | 67.3% | 31.1% | 43.6% |
| Quality of Screening | | | | | | | | | | | | | | | |
| Benign: Malignant Core Biopsy Ratio | | | | | | | | | | | | | | | |
| <i>Initial</i> | None | NA | NA | NA | 5.07 : 1 | NA | NA | NA | NA | 3.0 : 1 | 3.80 : 1 | 6.43 : 1 | 1.80 : 1 | 5.07 : 1 | 4.93 : 1 |
| <i>Subsequent</i> | None | 1.50 : 1 | 0.80 : 1 | 1.64 : 1 | 2.54 : 1 | 1.20 : 1 | 1.75 : 1 | NA | 2.35 : 1 | 1.53 : 1 | 1.45 : 1 | 1.96 : 1 | 0.89 : 1 | 2.54 : 1 | 1.88 : 1 |
| Benign: Malignant Open Surgical Biopsy Ratio | | | | | | | | | | | | | | | |
| <i>Initial</i> | ≤ 1 : 1 | NA | NA | NA | 0.67 : 1 | NA | NA | NA | NA | 0 : 1 | NA | NA | NA | 0.67 : 1 | 0.38 : 1 |
| <i>Subsequent</i> | ≤ 1 : 1 | NA | NA | NA | 0.16 : 1 | NA | NA | NA | 0.31 : 1 | 0 : 1 | NA | 0.28 : 1 | NA | 0.16 : 1 | 0.14 : 1 |
| PPV | | | | | | | | | | | | | | | |
| <i>Initial</i> | ≥ 5% | NA | NA | NA | 4.2% | NA | NA | NA | NA | 7.8% | 5.4% | 5.5% | 4.3% | 4.2% | 4.6% |
| <i>Subsequent</i> | ≥ 6% | 10.3% | 8.4% | 8.8% | 12.2% | 9.8% | 7.6% | NA | 7.3% | 9.7% | 9.4% | 7.9% | 9.4% | 12.2% | 10.7% |

| 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 | NA | 0.00 | NA | NA | NA | 0.00 | NA | 0.00 | NA | NA | NA | NA | 1.10 |
| Subsequent | None | 1.00 | NA | NA | 0.80 | NA | 0.00 | 0.00 | NA | NA | 1.00 | NA | NA | 0.80 | 0.67 |
| Invasive Cancer Detection Rate | | | | | | | | | | | | | | | |
| Initial | >5 per 1,000 screens | NA | NA | NA | 5.4 | NA | NA | NA | NA | 17.0 | 8.0 | 8.3 | NA | 5.4 | 5.9 |
| Subsequent | > 3 per 1,000 screens | 6.3 | 8.0 | 4.3 | 5.8 | 4.0 | 6.1 | NA | 5.1 | 4.5 | 4.3 | 5.7 | 7.4 | 5.8 | 5.5 |
| Disease Extent at Diagnosis | | | | | | | | | | | | | | | |
| Screen Detected Invasive Tumour Size | | | | | | | | | | | | | | | |
| <= 10mm † | >25% † | NA | 40.0% | NA | 0.0% | NA | NA | 0.0% | NA | NA | 25.6% | 25.5% | 30.0% | 0.0% | 28.2% |
| <= 15 mm | >50% | NA | 46.7% | 38.5% | 0.0% | 73.3% | 43.8% | NA | 61.1% | 53.3% | 55.8% | 46.8% | 40.0% | 0.0% | 54.5% |
| Proportion of Node Negative Screen Detected Invasive Cancer | >70% | NA | 66.7% | NA | 0.0% | 60.0% | NA | NA | NA | NA | 67.4% | 85.1% | 65.0% | 0.0% | 80.4% |

□ 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 2022

† Retention Rate is presented for individuals screened in 2020, and who were re-screened within 30 months of their previous screen

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

NA = Data is suppressed due to small numbers. This prevents the identification of individuals and misinterpretation of unstable rates.



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Table 2: Quality Indicators by Age Group, Screen Year 2022, January 01 2022 - December 31 2022

| Indicator | National Target | 40 to 49 | 50 to 59 | 60 to 69 | 70-74 | 75+ |
|--|-----------------|----------|----------|----------|----------|----------|
| Number of Individuals Participated in Screening | NA | 12835 | 16102 | 18485 | 6356 | 3172 |
| Number of 1st Screens | NA | 4707 | 1577 | 847 | 136 | 50 |
| Number of Screen Detected Cancers | NA | 56 | 88 | 134 | 60 | 37 |
| Coverage | | | | | | |
| Participation Rate, 30 month* | ≥ 70% | 34.3% | 43.1% | 45.0% | 37.7% | 11.0% |
| Retention Rate[‡] | | | | | | |
| <i>Initial</i> | ≥ 75% | 50.5% | 26.6% | 38.0% | 22.0% | NA |
| <i>Subsequent</i> | ≥ 90% | 78.4% | 68.8% | 73.1% | 71.9% | 65.8% |
| Follow-Up | | | | | | |
| Abnormal Call Rate | | | | | | |
| <i>Initial</i> | < 10% | 15.6% | 16.0% | 14.2% | 9.6% | 12.0% |
| <i>Subsequent</i> | < 5% | 7.0% | 5.6% | 5.4% | 5.7% | 5.6% |
| Diagnostic Interval - Time from abnormal screen to definitive diagnosis | | | | | | |
| - without tissue biopsy (% diagnosed within 5 weeks) | ≥ 90% | 78.8% | 74.0% | 71.3% | 75.0% | 77.4% |
| - with tissue biopsy (% diagnosed within 7 weeks) | ≥ 90% | 38.1% | 43.8% | 49.0% | 44.4% | 51.4% |
| Quality of Screening | | | | | | |
| Benign: Malignant Core Biopsy Ratio | | | | | | |
| <i>Initial</i> | None | 4.94 : 1 | 8.78 : 1 | 1.79 : 1 | NA | NA |
| <i>Subsequent</i> | None | 3.87 : 1 | 2.45 : 1 | 1.35 : 1 | 1.38 : 1 | 1.05 : 1 |
| Benign: Malignant Open Surgical Biopsy Ratio | | | | | | |
| <i>Initial</i> | ≤ 1 : 1 | 0.48 : 1 | NA | NA | NA | NA |
| <i>Subsequent</i> | ≤ 1 : 1 | 0.21 : 1 | 0.22 : 1 | 0.08 : 1 | 0.13 : 1 | 0.00 : 1 |
| PPV | | | | | | |
| <i>Initial</i> | ≥ 5% | 2.7% | 3.1% | 8.3% | NA | NA |
| <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 | 1.27 | 0.00 | NA | 0.00 | 0.00 |
| Subsequent | None | NA | 0.48 | 0.62 | 1.45 | NA |
| Invasive Cancer Detection Rate | | | | | | |
| Initial | >5 per 1,000 screens | 4.5 | 6.3 | 13.0 | NA | NA |
| Subsequent | > 3 per 1,000 screens | 3.1 | 4.9 | 6.2 | 8.0 | 10.2 |
| Disease Extent at Diagnosis | | | | | | |
| Screen Detected Invasive Tumour Size | | | | | | |
| <= 10mm † | >25% † | NA | 35.8% | 37.2% | 33.3% | 36.4% |
| <= 15 mm | >50% | 43.5% | 55.6% | 59.5% | 54.9% | 57.6% |
| Proportion of Node Negative Screen Detected Invasive Cancer | | | | | | |
| | >70% | 67.4% | 77.8% | 78.5% | 88.2% | NA |

* Participation Rate is presented for a 30 month period ending December 31 2022

‡Retention Rate is presented for an individual who had a screen in 2020, and who was re-screened within 30 months of their previous screen

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

NA = Data is suppressed due to small numbers. This prevents the identification of individuals and misinterpretation of unstable rates.



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Table 3: Quality Indicators by Screen Year, 2018-2022

| Indicator | Target | 2018 | 2019 | 2020 | 2021 | 2022 |
|--|---------|----------|----------|----------|----------|----------|
| Number of Individuals Participated in Screening | NA | 46950 | 45391 | 21558 | 39547 | 53780 |
| Number of 1st Screens | NA | 1950 | 1991 | 915 | 2121 | 7267 |
| Number of Screen Detected Cancers | NA | 267 | 257 | 120 | 241 | 338 |
| Coverage | | | | | | |
| Participation Rate, 30 month* | ≥ 70% | 51.4% | 51.4% | 43.6% | 37.1% | 39.5% |
| Retention Rate[‡] | | | | | | |
| <i>Initial</i> | ≥ 75% | 39.2% | 35.6% | 21.8% | 20.4% | 43.9% |
| <i>Subsequent</i> | ≥ 90% | 73.9% | 73.5% | 50.1% | 57.0% | 73.0% |
| Follow-Up | | | | | | |
| Abnormal Call Rate | | | | | | |
| <i>Initial</i> | < 10% | 16.5% | 15.2% | 16.4% | 15.3% | 15.4% |
| <i>Subsequent</i> | < 5% | 5.7% | 5.3% | 5.5% | 6.1% | 5.8% |
| 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% | 75.0% |
| – with tissue biopsy (% diagnosed within 7 weeks) | ≥ 90% | 56.7% | 61.2% | 67.2% | 55.1% | 43.6% |
| Quality of Screening | | | | | | |
| Benign: Malignant Core Biopsy Ratio | | | | | | |
| <i>Initial</i> | None | 4.48 : 1 | 2.64 : 1 | 3.55 : 1 | 4.78 : 1 | 4.93 : 1 |
| <i>Subsequent</i> | None | 2.10 : 1 | 1.85 : 1 | 1.98 : 1 | 1.95 : 1 | 1.88 : 1 |
| Benign: Malignant Open Surgical Biopsy Ratio | | | | | | |
| <i>Initial</i> | ≤ 1 : 1 | 0.14 : 1 | 0.06 : 1 | 0.00 : 1 | 0.50 : 1 | 0.38 : 1 |
| <i>Subsequent</i> | ≤ 1 : 1 | 0.07 : 1 | 0.06 : 1 | 0.08 : 1 | 0.07 : 1 | 0.14 : 1 |
| PPV | | | | | | |
| <i>Initial</i> | ≥ 5% | 6.9% | 10.6% | 6.7% | 5.2% | 4.6% |
| <i>Subsequent</i> | ≥ 6% | 9.6% | 9.7% | 9.6% | 9.9% | 10.7% |

| Indicator | Target | 2018 | 2019 | 2020 | 2021 | 2022 |
|--|-----------------------|-------|-------|-------|-------|-------|
| Detection | | | | | | |
| In-Situ Cancer Detection Rate | | | | | | |
| Initial | None | 2.05 | 2.51 | 1.09 | 0.47 | 1.10 |
| Subsequent | None | 0.82 | 0.97 | 0.87 | 1.07 | 0.67 |
| Invasive Cancer Detection Rate | | | | | | |
| Initial | >5 per 1,000 screens | 10.3 | 13.6 | 10.9 | 7.5 | 5.9 |
| Subsequent | > 3 per 1,000 screens | 4.7 | 4.3 | 4.8 | 4.9 | 5.5 |
| Disease Extent at Diagnosis | | | | | | |
| Screen Detected Invasive Tumour Size | | | | | | |
| <= 10mm † | >25% † | 37.1% | 35.8% | 36.4% | 34.0% | 28.2% |
| <= 15 mm | >50% | 64.2% | 63.7% | 63.6% | 59.5% | 54.5% |
| Proportion of Node Negative Screen Detected Invasive Cancer | | | | | | |
| | >70% | 78.0% | 80.9% | 81.8% | 83.0% | 76.3% |

Δ Indicators are calculated for ages 50-74 for screen years 2018-2021, ages 40-74 for screen year 2022.

* 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 2016, 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, and who were re-screened within 30 months of their previous screen

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

