West of Scotland Cancer Network

Breast Cancer
Managed Clinical Network

Audit Report

Breast Cancer Quality Performance Indicators

Clinical Audit Data:
01 January 2022 to 31 December 2022

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Breast Cancer Quality Performance Indicators

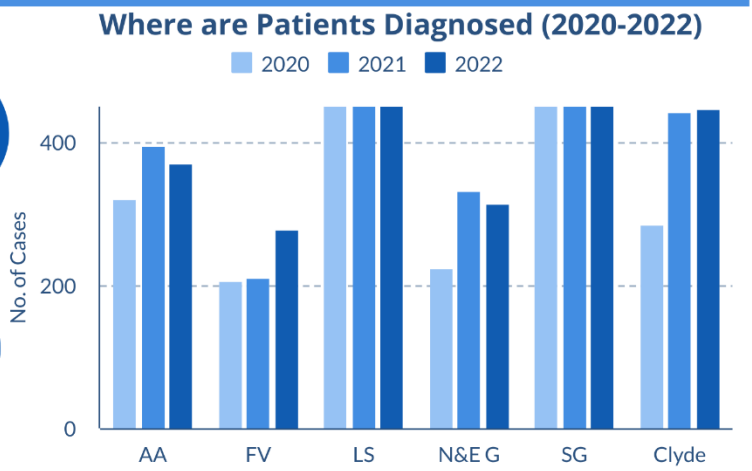
Patients Diagnosed: January 2022 - December 2022

Number of Patients Diagnosed in 2022

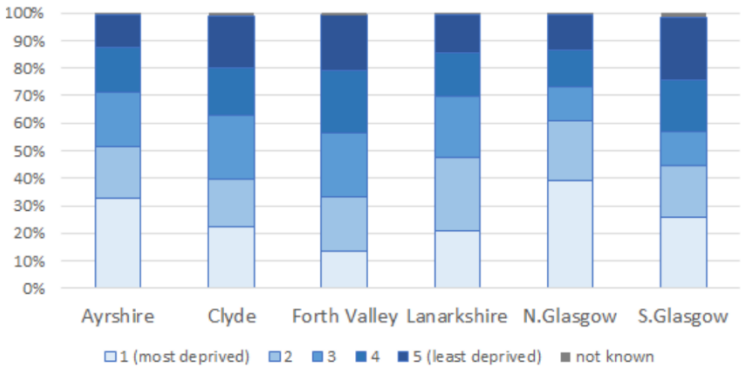
2549

Median Age at Diagnosis

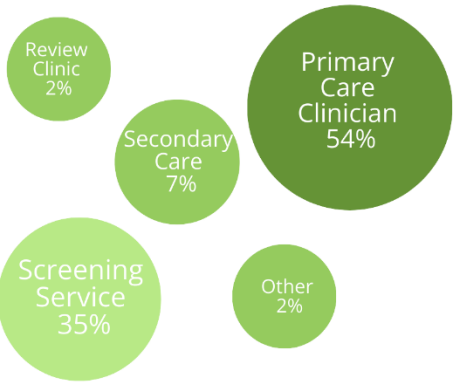
63



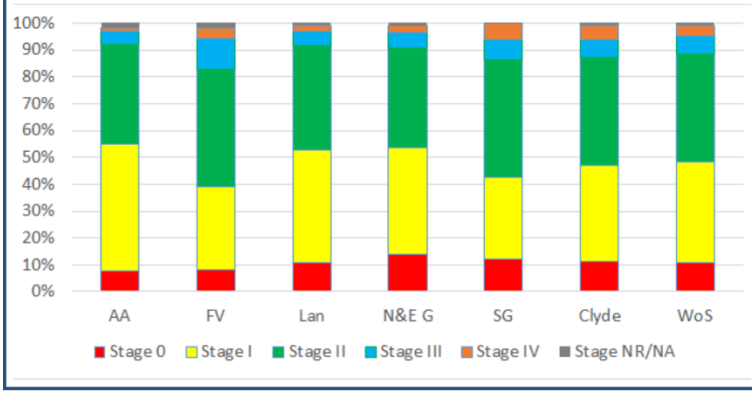
Deprivation Index of Patients



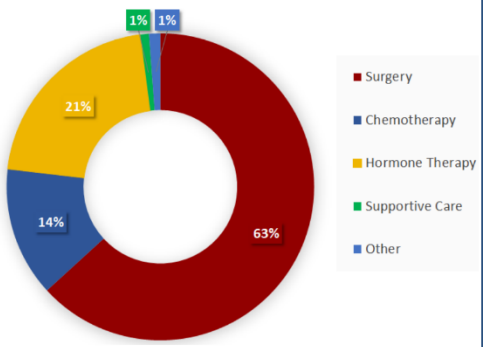
Source of Referral



Clinical TNM Stage



First Treatment



Executive Summary

Introduction

This report contains an assessment of the performance of West of Scotland (WoS) breast cancer services using clinical audit data relating to patients diagnosed with breast cancer between 01 January 2022 and 31 December 2022.

Cancer audit has underpinned much of the regional development and service improvement work of the MCN and the regular reporting of activity and performance have been fundamental in assuring the quality of care delivered across the region. With the development of QPIs, this has now become a national programme to drive continuous improvement and ensure equity of care for patients across Scotland.

Overall WoS results are reassuring and demonstrate the high standard of care provided for breast cancer patients across the West of Scotland. Targets were met at regional level for all but four of the QPIs reported. Encouragingly, improvements can be seen in a number of areas in the last year including immediate breast reconstruction (QPI 6i), adjuvant chemotherapy (QPI 11), genomic testing (QPI 17) and neoadjuvant chemotherapy (QPI 18i).

The 60% target for QPI 8 (ii) – Minimising hospital stay following mastectomy (without reconstruction), has been consistently met by all Boards over the past three years and therefore detailed graphs have not been included in the main report for this QPI.

NHS Boards have found some of the targets for these QPIs challenging to meet. Where QPI targets were not met, NHS Boards have provided detailed commentary. In the main these indicate valid clinical reasons or that, in some cases, patient choice or co-morbidities have influenced patient management. Additionally, NHS Boards have indicated where positive action has already been taken at a local level to address any issues highlighted through the QPI data analysis. It is anticipated that these positive changes will result in improved performance in subsequent reporting periods.

Amendments to the QPI definitions have now been agreed following the third Formal Review of Breast Cancer QPIs and these revised definitions will be reported from the next reporting period.

Actions identified within this report to improve provision of breast cancer services across the WoS are collated below.

Actions required:

QPI 6i: Immediate Reconstruction Rate

- NHS Forth Valley to further explore apparent variance in uptake of immediate breast reconstruction and feedback to the MCN on the outcome of local review.

QPI 11i: Adjuvant Chemotherapy

- Breast cancer clinical lead to review regional data to evaluate the overall use of chemotherapy across Boards irrespective of PREDICT influence.

A summary of actions has been included within the Action Plan Report accompanying this report and templates have been provided to Boards. **Completed Action Plans should be returned to WoSCAN in a timely manner to allow the plans to be reviewed at the Regional Cancer Oversight Group.**

As of January 2023, governance arrangements are overseen by the Regional Cancer Oversight Group (RCOG). The RCOG will identify and work with Boards to interrogate any persistent, significant deviation of performance from the regional and/or national mean.

Breast Cancer QPI Performance Summary Report

Key	
	Above Target Result
	Below Target Result
-	Denominator Below 5

QPI	Target	Year	AA	FV	Lan	NG	SG	Clyde	WoS
QPI 6(i): Proportion of patients who undergo immediate breast reconstruction at the time of mastectomy for breast cancer.	**20%**	2022	18% (18/102)	8.0% (6/73)	28% (30/107)	21% (10/47)	31% (39/126)	30% (23/78)	24% (126/533)
		2021	11% (14/128)	8% (4/51)	17% (19/110)	15% (10/67)	18% (23/128)	15% (9/60)	15% (79/544)
		2020	14%	6%	12%	13%	9%	4%	10%
QPI 6(ii): Proportion of patients who undergo immediate breast reconstruction at the time of mastectomy for breast cancer within 6 weeks of treatment decision.	**90%**	2022	69% (9/13)	80% (4/5)	79% (15/19)	43% (3/7)	47% (14/30)	39% (5/13)	58% (50/87)
		2021	70% (7/10)	-	81% (13/16)	78% (7/9)	94% (15/16)	83% (5/6)	80% (48/60)
		2020	100%	-	62%	-	75%	-	81%
QPI 8(ii): Proportion of patients with breast cancer undergoing mastectomy (without reconstruction) with a maximum hospital stay of 1 night following their procedure.	**60%**	2022	87% (47/54)	94% (60/64)	93% (71/76)	85% (61/72)	84% (85/101)	83% (58/70)	87% (382/437)
		2021	84% (59/70)	97% (28/29)	95% (69/73)	87% (45/52)	79% (110/139)	88% (45/51)	86% (356/414)
		2020	90%	89%	88%	75%	86%	81%	85 %
QPI 9: Proportion of patients with invasive breast cancer for whom the HER2 status, as defined by ImmunoHistoChemistry (IHC) and/or FISH, is reported within 2 weeks of core biopsy.	**90%**	2022	66% (217/329)	81% (199/247)	80% (396/494)	88% (234/267)	84% (408/485)	85% (333/393)	81% (1787/2215)
		2021	50% (161/321)	77% (149/194)	81% (356/441)	83% (249/300)	85% (410/484)	89% (352/397)	79% (1677/2137)
		2020	62%	78%	80%	87%	86 %	84 %	80%

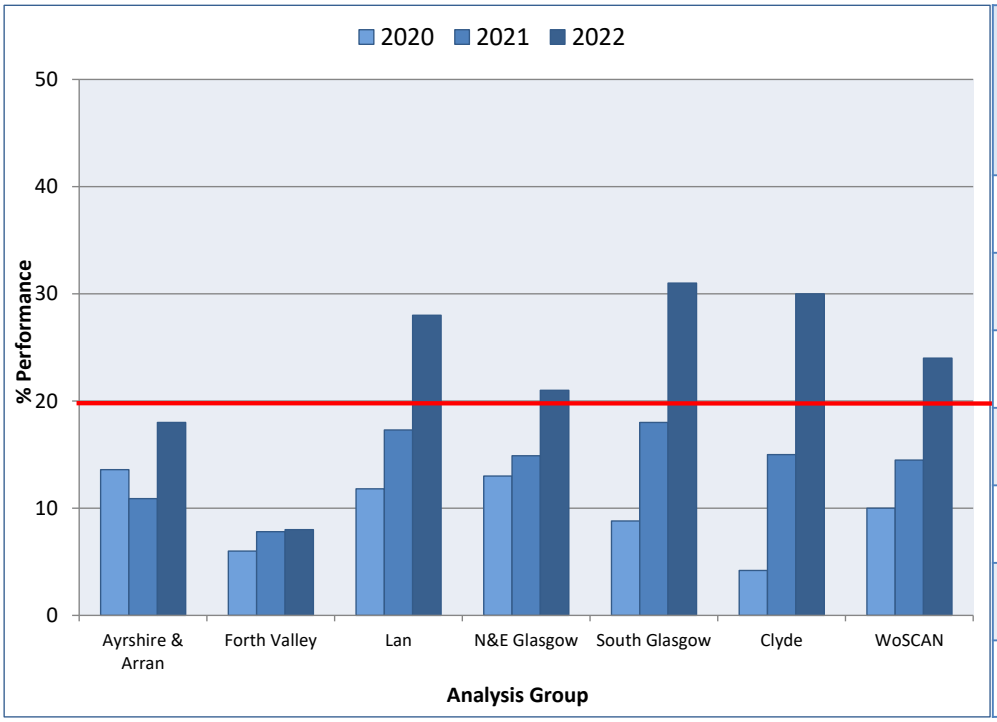
QPI	Target	Year	AA	FV	Lan	NG	SG	Clyde	WoS
QPI 11(i): Proportion of patients with hormone receptor positive, HER2 negative breast cancer who have a >5% overall survival benefit of chemotherapy treatment predicted at 10 years and/or high risk genomic assay score that undergo adjuvant chemotherapy	**80%**	2022	93% (37/40)	62% (18/29)	39% (20/52)	77% (20/26)	71% (36/51)	68% (19/28)	66% (150/226)
		2021	83% (15/18)	91% (20/22)	48% (31/64)	93% (25/27)	97% (29/30)	86% (24/28)	76% (144/189)
		2020	73%	81%	43%	89%	86%	94%	71%
QPI 11(ii): Proportion of patients with triple negative or HER2 positive breast cancer who have a >5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo adjuvant chemotherapy.	**80%**	2022	86% (12/14)	75% (12/16)	50% (11/22)	73% (8/11)	79% (22/28)	63% (12/19)	70% (77/110)
		2021	75% (6/8)	67% (12/18)	52% (16/31)	95% (35/37)	79% (22/28)	97% (29/30)	79% (120/152)
		2020	100%	96%	57%	91%	84%	86%	83%
QPI 13: Proportion of surgically treated patients with breast cancer (invasive or in-situ) who undergo re-excision or mastectomy following their initial breast surgery.	**<20%**	2022	25% (57/230)	17% (31/181)	20% (80/403)	11% (23/215)	13% (47/357)	12% (37/307)	16% (275/1693)
		2021	18% (43/238)	22% (29/130)	20% (68/341)	19% (40/210)	10% (35/344)	13% (44/329)	16% (259/1592)
		2020	12%	20%	24%	24%	16%	13%	18%
QPI 17: Proportion of patients with ER positive, HER2 negative, node negative breast cancer who have a 3-5% overall survival benefit of chemotherapy predicted at 10 years that undergo genomic testing.	**60%**	2022	91% (10/11)	50% (3/6)	43% (9/21)	55% (6/11/)	67% (20/30)	69% (9/13)	62% (57/92)
		2021	-	67% (8/12)	24% (9/38)	-	-	-	35% (21/60)
		2020	-	89%	15%	-	-	100%	54%
QPI 18(i) Proportion of patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy that undergo neo-adjuvant chemotherapy	**80%**	2022	61% (22/36)	89% (39/44)	97% (64/66)	74% (26/35)	91% (67/74)	91% (39/43)	86% (257/298)
		2021	54% (13/24)	100% (18/18)	80% (44/55)	61% (23/38)	89% (63/71)	80% (48/60)	79% (209/266)
		2020	31%	46%	78%	43%	63%	58%	57%
QPI 18(ii) Proportion of patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who undergo neo-adjuvant chemotherapy who achieve a pathological complete response.	**30%**	2022	41% (9/22)	39% (15/39)	45% (29/64)	39% (10/26)	39% (26/67)	38% (15/40)	40% (104/258)
		2021	23% (3/13)	44% (8/18)	34% (15/44)	22% (5/23)	44% (28/63)	42% (20/48)	38% (79/209)
		2020	38%	36%	26%	39%	38%	38%	34%

QPI	Target	Year	AA	FV	Lan	NG	SG	Clyde	WoS
QPI 19: Proportion of patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy treatment who use a DIBH radiotherapy technique.	**80%**	2022	84% (107/127)	82% (88/108)	80% (157/196)	74% (92/125)	80% (162/203)	87% (151/174)	81% (757/933)
		2021	78% (97/124)	80% (62/78)	80% (142/179)	83% (95/114)	82% (160/196)	79% (136/173)	80% (693/864)
		2020	73%	85%	77%	72%	81%	76%	78%

QPI 6: Immediate Reconstruction Rate

QPI Title:	Patients undergoing mastectomy for breast cancer should have access to timely immediate breast reconstruction.
Numerator:	Number of patients with breast cancer undergoing immediate breast reconstruction at the time of mastectomy.
Denominator:	All patients with breast cancer undergoing mastectomy.
Exclusions:	All patients with M1 disease and all male patients.
Target:	20% or above

Figure 1: The proportion of patients with breast cancer undergoing immediate breast reconstruction at the time of mastectomy.



2022	Performance (%)	Numerator	Denominator
AA	17.6%	18	102
FV	8.2%	6	73
Lan	28.0%	30	107
N&E	21.3%	10	47
SG	31.0%	39	126
Clyde	29.5%	23	78
WoS	23.6%	126	533

Performance against this QPI has improved in the last year in all Boards with the exception of NHS Forth Valley where performance was considerably lower than the 20% QPI target. NHS Forth Valley noted that, whilst the proportion of patients who undergo immediate breast reconstruction at the time of mastectomy for breast cancer did not meet the QPI target, all suitable patients were indeed offered reconstructive procedures. The apparent regional variation in uptake of immediate breast reconstruction has been flagged with the NHS Forth Valley team. The team will review this further, and noted that whilst they anticipate improvement going forward, this may not be apparent until the 2024 patient cohort due to audit reporting timelines.

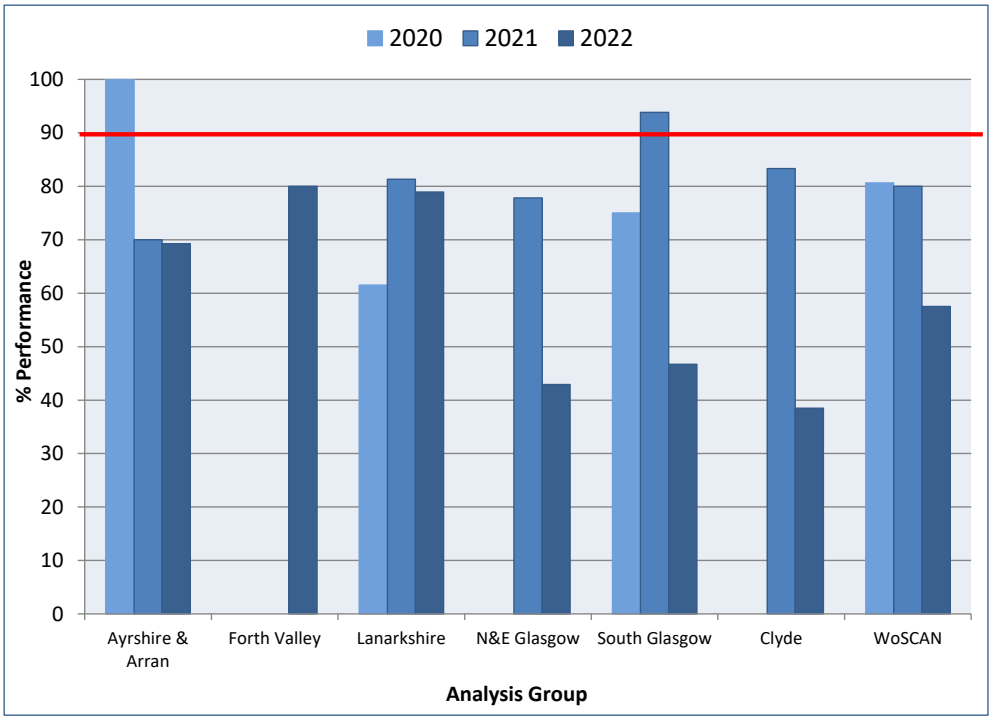
Action Required:

- NHS Forth Valley to further explore apparent variance in uptake of immediate breast reconstruction and feedback to the MCN on the outcome of local review.

QPI 6(ii) Immediate Reconstruction Rate

The second part of the specification looks at the proportion of patients with breast cancer undergoing immediate breast reconstruction at the time of mastectomy and within 6 weeks of treatment decision.

Figure 2: The proportion of patients with breast cancer undergoing immediate breast reconstruction at the time of mastectomy and within 6 weeks of treatment decision.



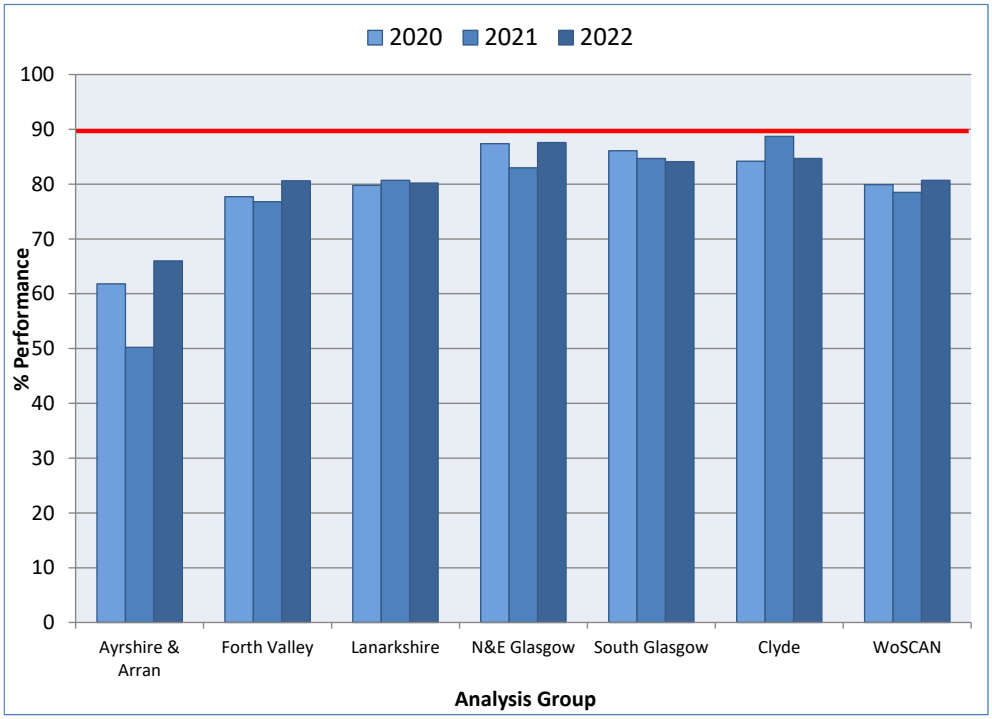
2022	Performance (%)	Numerator	Denominator
AA	69.2%	9	13
FV	80.0%	4	5
Lan	78.9%	15	19
N&E	42.9%	3	7
SG	46.7%	14	30
Clyde	38.5%	5	13
WoS	57.5%	50	87

The target was not met in any Board and performance was lower in the majority of Boards than the previous year. The majority of cases failing to achieve the QPI narrowly missed the 6 week target by a few days. NHSGGC added that there had been a significant increase in immediate reconstructions from the previous year and that access to theatre time within the regional plastic surgery service remains an issue.

QPI 9: HER2 Status for Decision Making

QPI Title:	HER2 status should be available to inform treatment decision making.
Numerator:	Number of patients with invasive breast cancer for whom the HER2 status (as defined by IHC and/or FISH analysis) is reported within 2 weeks of core biopsy.
Denominator:	All patients with invasive breast cancer.
Exclusions:	No exclusions.
Target:	90% or above

Figure 3: The proportion of patients with invasive breast cancer for whom the HER2 status is reported within 2 weeks of core biopsy.



2022	Performance (%)	Numerator	Denominator
AA	66.0%	217	329
FV	80.6%	199	247
LAN	80.2%	396	494
N&E	87.6%	234	267
SG	84.1%	408	485
Clyde	84.7%	333	393
WoS	80.7%	1787	2215

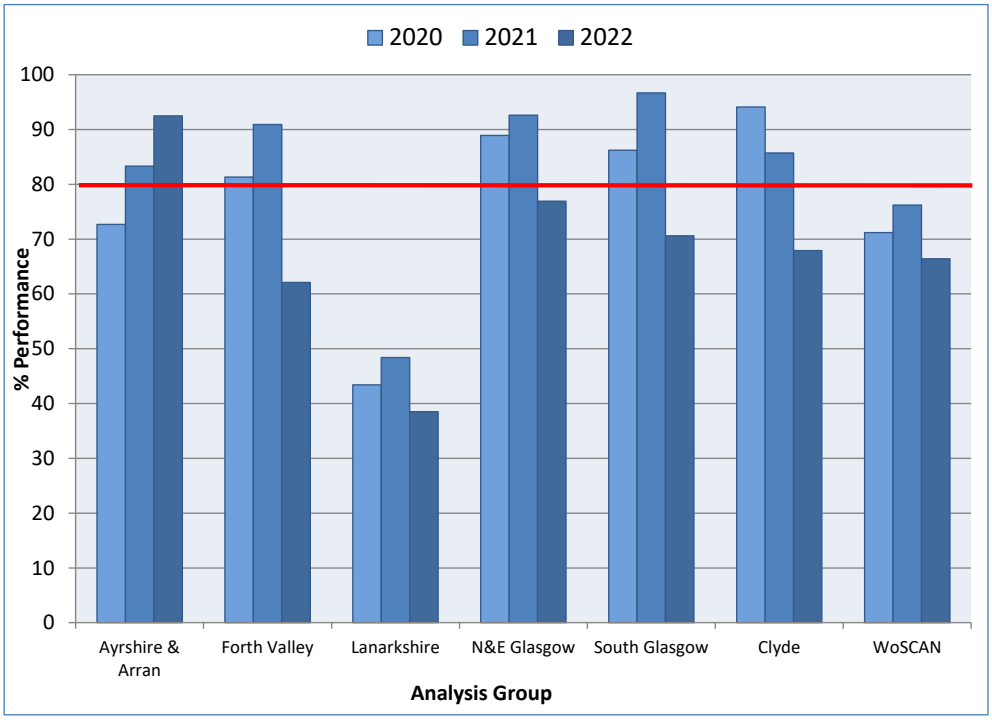
The target was not met in any Board. As with previous years the majority of cases not meeting the QPI criteria required FISH testing to establish HER2 status. The FISH service is centrally funded and the current standard for Molecular Pathologists is to report FISH results within 14 days of receipt, which is not aligned with the requirements of this QPI.

The breast cancer clinical lead is in the process of reviewing regional data around the potential for adopting a clinical prioritisation approach for FISH. This would stratify patients who need the result prior to first treatment. This may not improve QPI results as resource is still an issue. However, this will be of benefit to the relevant patient cohort.

QPI 11: Adjuvant Chemotherapy

QPI Title:	(i) Patients with breast cancer should receive chemotherapy post operatively where it will provide a survival benefit for patients.
Numerator:	Number of patients with hormone receptor positive HER2 negative breast cancer who have a >=5% overall survival benefit of chemotherapy treatment predicted at 10 years and/or high risk genomic assay score that undergo adjuvant chemotherapy.
Denominator:	Number of patients with hormone receptor positive HER2 negative breast cancer who have a >=5% overall survival benefit of chemotherapy treatment predicted at 10 years and/or high risk genomic assay score.
Exclusions:	All patients with breast cancer taking part in clinical trials of chemotherapy treatment, all patients who have had neo-adjuvant chemotherapy and all patients with M1 disease.
Target:	80%

Figure 4: Number of patients with hormone receptor positive HER2 negative breast cancer who have a >=5% overall survival benefit of chemotherapy treatment predicted at 10 years and/or high risk genomic assay score that undergo adjuvant chemotherapy.



2022	Performance (%)	Numerator	Denominator
AA	92.5%	37	40
FV	62.1%	18	29
LAN	38.5%	20	52
N&E	76.9%	20	26
SG	70.6%	36	51
Clyde	67.9%	19	28
WoS	**66.4%**	150	226

The specification of this QPI has been updated at formal review to exclude patients with a low risk genomic assay score and this will be reflected in 2023 results. NHS Ayrshire & Arran were the only Board to achieve the target and show improvement on 2021 data. The majority of cases not meeting the target were noted as patients declining treatment/oncotype testing, patients who were not suitable for chemotherapy due to comorbidities and patients that had an oncotype test done, but the score was low and therefore chemotherapy was not recommended.

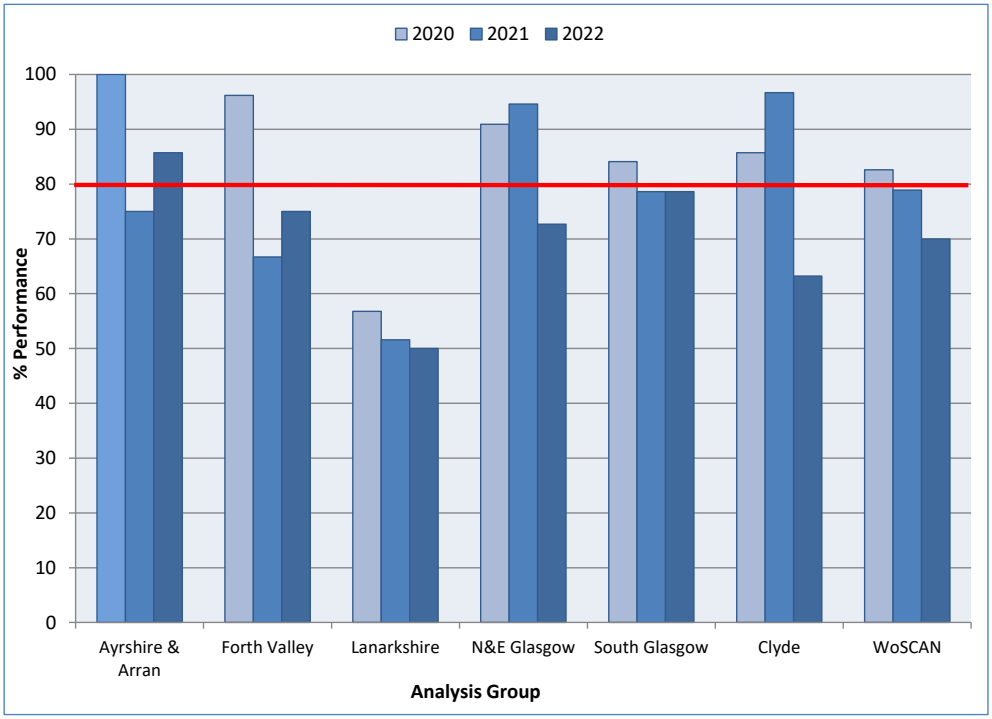
Following last years audit report, work was undertaken to encourage Boards to clearly record the estimated benefit of adjuvant chemotherapy using the NHS PREDICT online tool to ensure all relevant cases were identified. Data for 2022 indicates an improvement in the number of patients included within the denominator which suggests an increase in the use of the PREDICT tool at Board level. Data will be further interrogated for comparison of overall chemotherapy use in units with similar sized populations.

Action Required:

- Breast cancer clinical lead to review regional data to evaluate the overall use of chemotherapy across Boards irrespective of PREDICT influence.

QPI Title:	(ii) Patients with breast cancer should receive chemotherapy post operatively where it will provide a survival benefit for patients.
Numerator:	Number of patients with triple negative or HER2 positive breast cancer who have a >=5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo adjuvant chemotherapy.
Denominator:	Number of patients with triple negative or HER2 positive breast cancer who have a >=5% overall survival benefit of chemotherapy treatment predicted at 10 years.
Exclusions:	All patients with breast cancer taking part in clinical trials of chemotherapy treatment, all patients who have had neo-adjuvant chemotherapy and all patients with M1 disease.
Target:	80%

Figure 5: The proportion of patients with triple negative or HER2 positive breast cancer who have a >=5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo adjuvant chemotherapy.



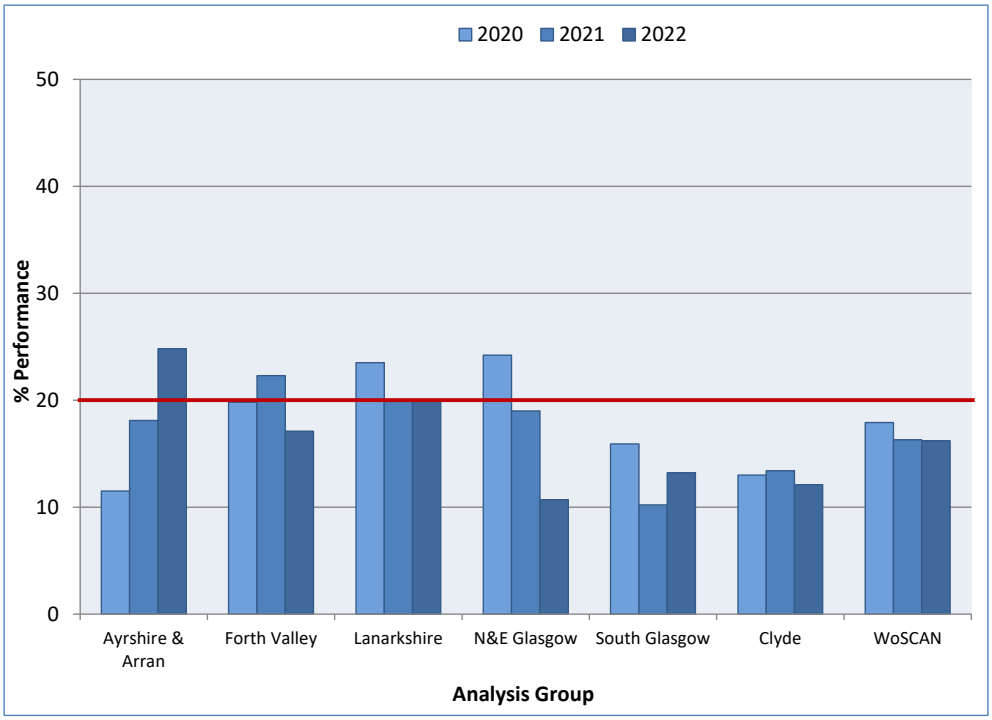
2022	Performance (%)	Numerator	Denominator
AA	85.7%	12	14
FV	75.0%	12	16
LAN	50.0%	11	22
N&E	72.7%	8	11
SG	78.6%	22	28
Clyde	63.2%	12	19
WoS	*70.0%*	77	110

The target was only achieved by NHS Ayrshire & Arran and overall WoS performance was lower than the previous year. Review of patients not meeting this QPI indicated that all patients were considered for adjuvant chemotherapy by the MDT, however the majority of patients declined chemotherapy treatment or had significant pre-existing co-morbidities precluding use of chemotherapy.

QPI 13: Re-excision Rates

QPI Title:	Patients undergoing surgery for breast cancer should only undergo one definitive operation where possible.
Numerator:	Number of patients with breast cancer (invasive or in-situ) having breast conversation surgery who undergo re-excision or mastectomy following initial breast surgery.
Denominator:	All patients with breast cancer (invasive or in-situ) having breast conversation surgery as their initial or only breast surgery.
Exclusions:	All patients with lobular carcinoma in situ (LCIS).
Target:	<20%

Figure 6: The proportion of patients with breast cancer (invasive or in-situ) having breast conversation surgery who undergo re-excision or mastectomy following initial breast surgery.



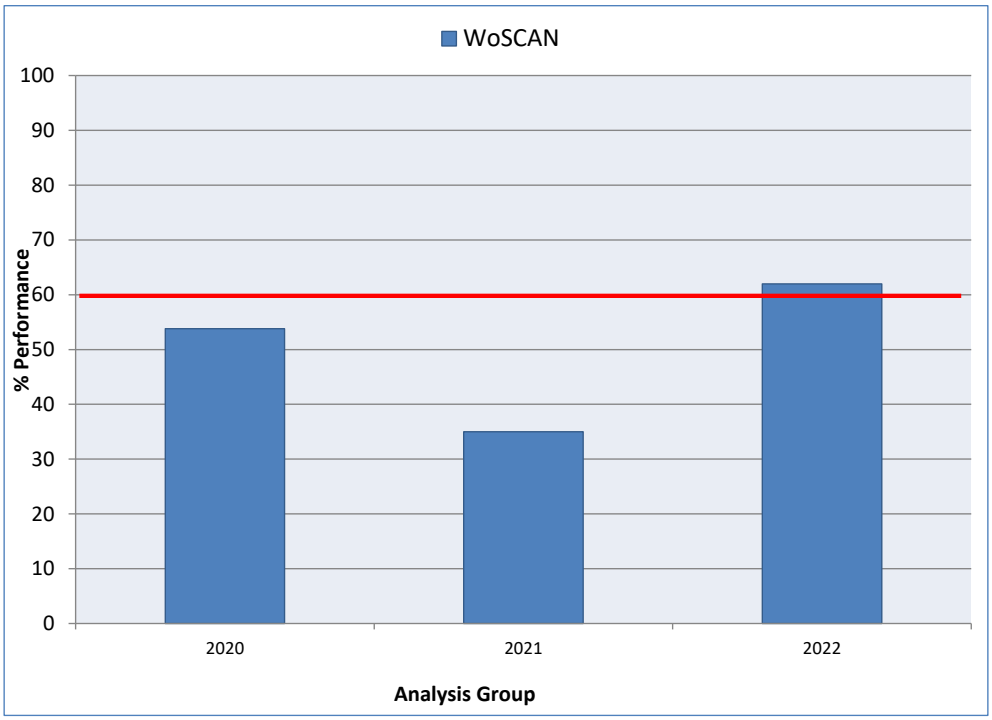
2022	Performance (%)	Numerator	Denominator
AA	24.8%	57	230
FV	17.1%	31	181
LAN	19.9%	80	403
N&E	10.7%	23	215
SG	13.2%	47	357
Clyde	12.1%	37	307
WoS	**16.2%**	275	1693

NHS Ayrshire & Arran exceeded the <20% target with 25% of patients having breast conservation surgery undergoing re-excision or mastectomy following initial breast surgery. NHS Ayrshire & Arran commented that this was the first year for some time that they were over 20%. There has been no change of staff, or change in radiological, pathological or surgical practice to explain this so may be natural variation. QPI results will be monitored by the MCN in subsequent reporting periods for the identification of any trends or unwarranted variation.

QPI 17: Genomic Testing

QPI Title:	Patients with breast cancer should undergo genomic testing where appropriate.
Numerator:	Number of patients with ER positive, HER2 negative, node negative breast cancer who have a 3-5% overall survival benefit of chemotherapy treatment predicted at 10years that undergo genomic testing.
Denominator:	All patients with ER positive, HER2 negative, node negative breast cancer who have a 3-5% overall survival benefit of chemotherapy treatment predicted at 10years.
Exclusions:	All patients with breast cancer taking part in clinical trials of chemotherapy treatment and patients who have had neo-adjuvant therapy.
Target:	60%

Figure 7: Proportion of patients ER positive, HER2 negative, node negative breast cancer who have a 3-5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo genomic testing.



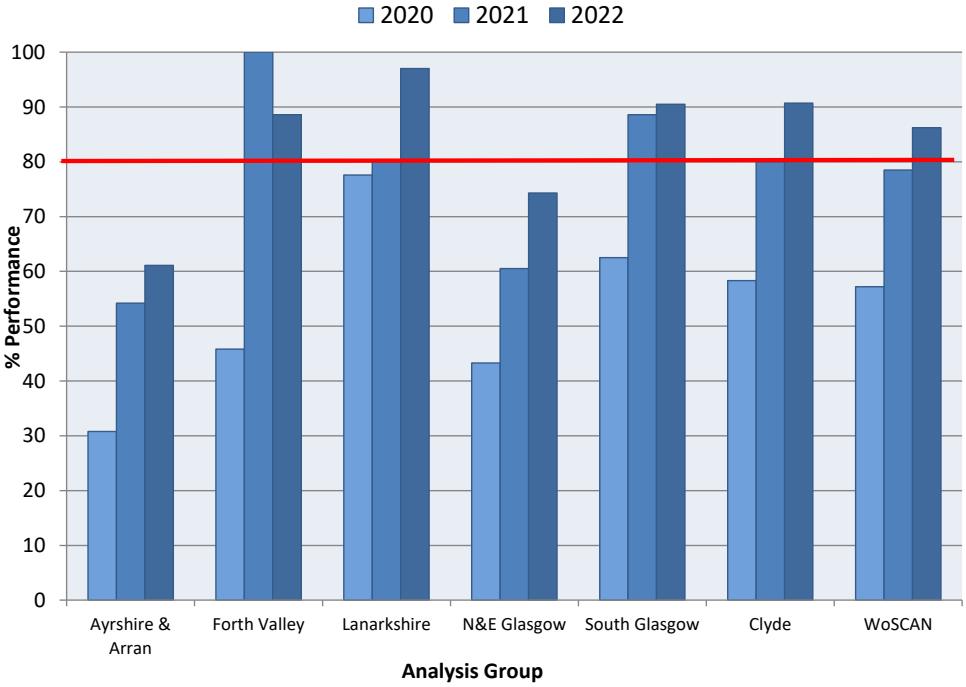
	Performance (%)	Numerator	Denominator
2020	53.8%	21	39
2021	35.0%	21	60
2022	62.0%	57	92

Due to the small numbers meeting the denominator criteria for QPI 17 individual unit results cannot be presented. WoS performance against this measure has improved considerably at a regional level. Unit level performance was lower in NHS Forth Valley and NHS Lanarkshire however, numbers of patients included within the QPI were small. Review of patients not meeting the QPI indicated valid clinical reasons for patients not undergoing genomic testing which included; patients that were discussed at MDT where the decision was made for the patient not to be offered chemotherapy, therefore genomic testing was not done, patients who declined chemotherapy, patients who were not fit for chemotherapy and patient choice.

QPI 18: Neo-adjuvant Chemotherapy (NACT)

QPI Title:	(i) Patients with breast cancer who receive chemotherapy should be offered neo-adjuvant chemotherapy with the aim of achieving pathological complete response where appropriate.
Numerator:	Number of patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy that undergo neo-adjuvant chemotherapy.
Denominator:	All patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy.
Exclusions:	All patients that undergo palliative chemotherapy.
Target:	80%

Figure 8: The proportion of patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy that undergo neo-adjuvant chemotherapy



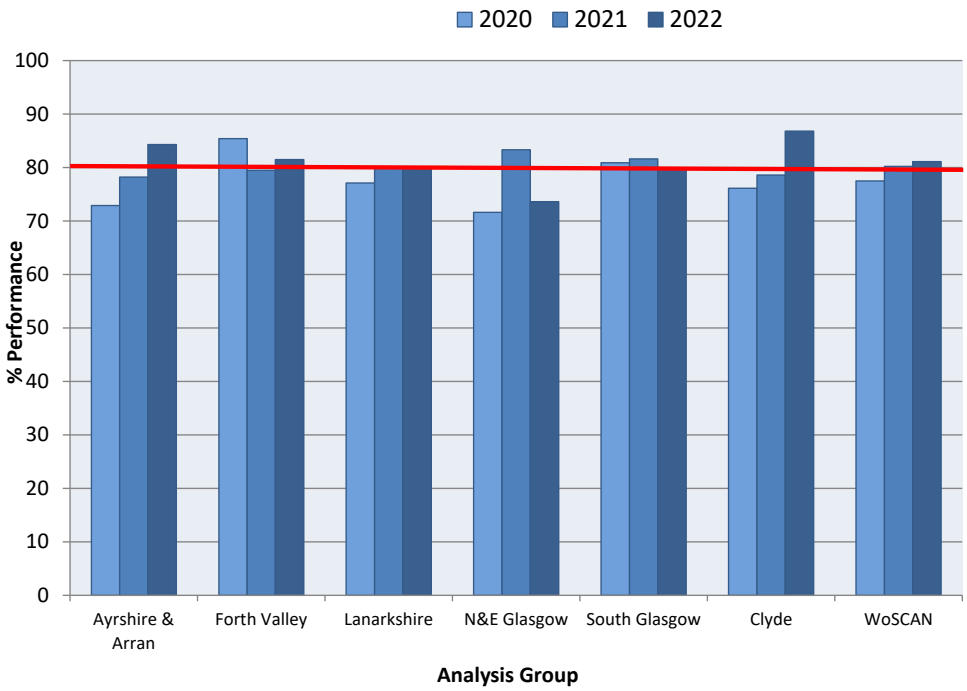
2022	Performance (%)	Numerator	Denominator
AA	61.1%	22	36
FV	88.6%	39	44
LAN	97.0%	64	66
N&E	74.3%	26	35
SG	90.5%	67	74
Clyde	90.7%	39	43
WoS	**86.2%**	257	298

Overall WoS performance against this QPI has improved over the last two years and the QPI target has been achieved in the region. Cases in NHS Ayrshire and Arran and NHSGGC North East sector were reviewed and reasons for not meeting the target included patients who had primary surgery following a clinical decision that they were not fit enough for NACT, not suitable for NACT due to co-morbidities and patients who declined NACT.

QPI 19: Deep Inspiratory Breath Hold (DIBH) Radiotherapy

QPI Title:	Proportion of patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy treatment who use a DIBH radiotherapy technique.
Numerator:	Number of patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy treatment who use a DIBH radiotherapy technique.
Denominator:	All patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy treatment.
Exclusions:	No exclusions
Target:	80%

Figure 9: The proportion of patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy treatment who use a DIBH radiotherapy technique.



	Performance (%)	Numerator	Denominator
AA	84.3%	107	127
FV	81.5%	88	108
LAN	80.1%	157	196
N&E	73.6%	92	125
SG	79.8%	162	203
Clyde	86.8%	151	174
WoS	**81.1%**	757	933

Overall WoS performance was noted as 81% which meets the QPI target. Only NHSGGC North East sector was slightly below the target. NHSGGC review concluded that all suitable patients were offered DIBH however a significant number were unable to hold breath for long enough mainly due to pre-existing respiratory disease.

Appendix 1: Meta Data

<table>
<tr><td>Report Title</td><td>Cancer Audit Report: Breast Cancer Quality Performance Indicators</td></tr>
<tr><td>Time Period</td><td>Patients diagnosed between 01 January 2022 and 31 December 2022</td></tr>
<tr><td>Data Source</td><td>Cancer Audit Support Environment (eCASE). A secure centralised web-based database which holds cancer audit information in Scotland.</td></tr>
<tr><td>Data extraction date</td><td>2200 hrs on 4th October 2023</td></tr>
<tr><td>Data Quality</td><td>Breast Cancer

<table>
<tr><th>Health Board of diagnosis</th><th>(01/01/2022-31/12/2022) Audit</th><th>Cancer Reg 2017-21*</th><th>Case Ascertainment</th></tr>
<tr><td>Ayrshire & Arran</td><td>371</td><td>424</td><td>87.5%</td></tr>
<tr><td>Forth Valley</td><td>280</td><td>210</td><td>133.3%</td></tr>
<tr><td>GGC</td><td>1327</td><td>1485</td><td>89.4%</td></tr>
<tr><td>Lanarkshire</td><td>571</td><td>350</td><td>163.1%</td></tr>
<tr><td>WoS Total</td><td>2549</td><td>2469</td><td>103.2%</td></tr>
</table>

Patients who are diagnosed at Glasgow Screening Centre may be being attributed to Greater Glasgow and Clyde cancer registration figures. This may make NHSGGC case ascertainment figures lower than expected and Non NHSGGC figures higher than expected.</td></tr>
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