**SOUTH EAST SCOTLAND CANCER NETWORK (SCAN)
PROSPECTIVE CANCER AUDIT**

BREAST CANCER 2020

COMPARATIVE AUDIT REPORT

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Document History

Version	Circulation	Date	Comments
Version 1	SCAN Breast Sign-Off Group	01/11/2021	Draft 1 of report sent to sign-off group ahead of sign-off meeting on 04/11/2021
Version 2	Lead clinician	17/11/2021	For Lead clinician's commentary
Version 3	SCAN Breast Group	19/11/2021	Draft 3 of report sent to SCAN Breast Group for final checking and comments
Version 4	SCAN Group SCAN Governance Framework SCAN Action Plan Board Leads	17/12/2021	Comments updated for final circulation
Version 4W	Published to the SCAN website	28/04/2022	Patient-identifiable data removed

Introduction by Chair of the SCAN Breast Group

Welcome to the SCAN region audit report for 2020.

This report covers what has been a very difficult year, with restrictions on the capacity and ability of health services nationwide. However, teams are to be congratulated on continuing to deliver an excellent standard of care for breast cancer patients demonstrated by ongoing improvements in some areas, notably HER2 reporting, genomic testing and DIBH radiotherapy.

There will be an ongoing impact of changes due to the COVID pandemic. Breast screening and clinical trials were paused for several months, resulting in a drop in the number of cancer patients managed. It will take years to see the impact of this.

Recurrence numbers are again provided by two boards and are hopefully forthcoming from the other two. This will hopefully inform introduction of a QPI in this area at the next revision.

Thanks are due once again to audit teams for their hard work in preparation of these figures.

Matthew Barber
SCAN Breast Group Chair
November 2021

Action Points for 2020

QPI	Action required	Lead	Date for update
6i	None identified however it was noted during the sign-off meeting that this QPI requires revision at formal review.	Mathew Barber	Formal review
6ii	No action identified and Matthew Barber commented that his recommendation at the formal review will be for this QPI to stay in.	Mathew Barber	Formal review
8i	No action identified. It may be possible to archive this measure at the formal review.	Mathew Barber	Formal review
8ii	Borders and Lothian to keep focused on maximising early discharge.	Shareef Al –Sabounchi Matthew Barber	SCAN Group 9th March 2022
11i	No action identified but points noted for consideration during the formal review: lower the target to 70 or 75%; remove patients who have low-risk Oncotype scores from the denominator. The cohort covered by this QPI also represents those left over from QPI 18 deemed not to be appropriate for neoadjuvant chemotherapy so the QPI may require revision to address this.	Mathew Barber	Formal review
13	Better ways to assess margins in theatre would help reduce the need for re-excision. Continue efforts to highlight the issue among the surgical teams	Shareef Al –Sabounchi Christopher Cartlidge Matthew Barber	SCAN Group 9th March 2022
14	No action identified however, it was recommended that this QPI be archived at the formal review.	Mathew Barber	Formal review
19	Continue focus to increase the use of the use of DIBH technique in radiotherapy.	Clinical Oncologists	SCAN Group 9th March 2022

Action Points for 2019

QPI	Action required	Lead	Progress
QPI: 6 (i) Immediate reconstruction	Further data to be sought regarding the number of patients resident in Dumfries and Galloway having immediate reconstruction in Glasgow or Crosshouse Hospitals.	Jennifer Bruce	Completed. The data has been received and confirms that D&G patients have access to a reconstruction service. Symptomatic patients still have to travel a long distance to come to Lothian however this is unlikely to change.
QPI 6 (ii) Time to mastectomy and immediate reconstruction	Further audit required to establish types of immediate reconstruction being carried out. This will enable clinicians to assess the degree to which delays are attributable to Plastics capacity.	Christine Dodds	Completed. Christine sent the data to Matthew and it confirmed his suspicions that it is the patients requiring the involvement of a plastic surgeon (Diep flaps) who wait the longest.
QPI 8 (ii) Minimising hospital stay (mastectomy patients)	Ensure new surgical staff are aware of the intention to discharge these patients the day after their surgery, where possible.	Matthew Barber	Completed
QPI 11 (i) & (ii) Adjuvant chemotherapy	Oncologists to look into discrepancies in Predict scores and ensure Predict is being used accurately.	Peter Hall	Completed. A detailed audit has been carried out. Final summary statement has been provided by Peter Hall.
QPI 13 Re-excision rates	Encourage surgeons to maintain a focus on both the patient experience, as well as the limitations of the service.	Matthew Barber	Completed.
QPI 17 Genomic testing	Clinicians to remain mindful of the potential benefit of genomic testing.	Oncologists All	Ongoing
QPI 19 Use of DIBH technique in radiotherapy	Greater use of DIBH to be implemented to reduce cardiac morbidity.	Clinical oncologists All	Completed. SCAN protocol now updated to include using this technique for all patients with left sided breast cancer aged <60 years. Updated advice from Radiotherapy National body suggests that 90% of relevant cases should be offered this technique.

Breast Cancer QPI Attainment Summary 2020			Target %	Borders			D&G			Fife			Lothian			SCAN		
QPI 6 Immediate reconstruction	(i) Immediate reconstruction		20	N	2	8.3%	N	4	13.3%	N	10	14.9%	N	31	23.3%	N	47	18.5%
				D	24		D	30		D	67		D	133		D	254	
	(ii) Immediate reconstruction within 42 days		90	N	0	0.0%	N	1	100%	N	8	100%	N	19	82.6%	N	28	84.8%
				D	1		D	1		D	8		D	23		D	33	
QPI 8 Minimising Hospital Stay	(i) Day case surgery (conservation)	By HB of surgery	60	N	30	71.4%	N	39	72.2%	N	76	91.6%	N	499	82.8%	N	644	82.4%
				D	42		D	54		D	83		D	603		D	782	
		By HB of residence	60	N	41	87.2%	N	2	66.7%	N	131	84.0%	N	394	81.9%	N	468	82.4%
				D	47		D	3		D	156		D	481		D	568	
	(ii) Mastectomy without reconstruction	By HB of surgery	60	N	3	14.3%	N	19	67.9%	N	35	79.5%	N	50	37.0%	N	107	46.9%
				D	21		D	28		D	44		D	135		D	228	
		By HB of residence	60	N	5	20.0%	N	15	62.5%	N	62	83.8%	N	53	40.5%	N	135	53.1%
				D	25		D	24		D	74		D	131		D	254	
QPI 9 HER2 status for decision making			90	N	71	95.9%	N	60	66.7%	N	170	81.3%	N	643	92.5%	N	944	88.4%
				D	74		D	90		D	209		D	695		D	1068	
QPI 10 Radiotherapy for conservation in older adults			<40	N	0	N/A	N	0	0.0%	N	5	50.0%	N	15	51.7%	N	20	46.5%
				D	0		D	4		D	10		D	29		D	43	
QPI 11 Adjuvant chemotherapy	(i) Hormone receptor (ER plus/minus PR) positive, HER2 negative breast cancer		80	N	4	50.0%	N	9	75.0%	N	22	88.0%	N	35	71.4%	N	70	74.5%
				D	8		D	12		D	25		D	49		D	94	
	(ii) Triple negative or HER2 positive breast cancer		80	N	5	100%	N	5	83.3%	N	12	80.0%	N	24	58.5%	N	46	68.7%
				D	5		D	6		D	15		D	41		D	67	
QPI 13 Re-excision rates			<20	N	9	20.0%	N	10	16.7%	N	25	23.6%	N	122	22.0%	N	166	21.7%
				D	45		D	60		D	106		D	554		D	765	
QPI 14 Referral for genetics testing	(i) Patients under 30		90	N	1	100%	N	0	N/A	N	1	100%	N	5	100%	N	7	100%
				D	1		D	0		D	1		D	5		D	7	
	(ii) Patients under 50 (triple negative)		90	N	5	100%	N	5	100%	N	15	93.8%	N	13	92.9%	N	38	95.0%
				D	5		D	5		D	16		D	14		D	40	
QPI 15 30 day mortality following chemotherapy *Data to be reported using ChemoCare - National Standardised Reports not yet available*	Neoadjuvant		<1	N			N			N			N			N		
				D			D			D			D			D		
	Adjuvant		<1	N			N			N			N			N		
				D			D			D			D			D		
	Palliative		<5	N			N			N			N			N		
				D			D			D			D			D		

Breast Cancer QPI Attainment Summary 2020		Target %	Borders			D&G			Fife			Lothian			SCAN		
QPI 16 Clinical trials & Research Study access – patients consented to any trial (SCRN data)		15	N	18	24.7%	N	2	1.9%	N	5	2.4%	N	299	32.5%	N	324	24.7%
			D	73		D	108		D	209		D	921		D	1311	
QPI 17 Genomic testing		60	N	1	20.0%	N	3	50.0%	N	9	90.0%	N	15	75.0%	N	28	68.3%
			D	5		D	6		D	10		D	20		D	41	
QPI 18 Neoadjuvant chemotherapy (triple negative or HER2 positive, Stage II or III ductal breast cancer)	(i) Patients receiving neoadjuvant chemo	80	N	11	68.8%	N	9	81.8%	N	37	80.4%	N	69	83.1%	N	126	80.8%
			D	16		D	11		D	46		D	83		D	156	
	(ii) Patients with pathological complete response	30	N	4	33.3%	N	5	55.6%	N	15	40.5%	N	35	49.3%	N	59	45.7%
			D	12		D	9		D	37		D	71		D	129	
QPI 19 Deep Inspiratory Hold (DIBH) Radiotherapy		80	N	8	27.6%	N	16	51.6%	N	40	57.1%	N	101	46.3%	N	165	47.4%
			D	29		D	31		D	70		D	218		D	348	

Introduction and Methods

Cohort
This report covers patients newly diagnosed with breast cancer in SCAN between 01/01/2020 and 31/12/2020. The results contained within this report are presented by NHS board of Staging and first treatment.

Dataset and Definitions
This report presents the performance of NHS Boards within the South East Scotland Cancer Network (SCAN) against Quality Performance Indicators (QPIs) developed by the Scottish Government in collaboration with the three Regional Cancer Networks in Scotland, Information Services Division (ISD), and Healthcare Improvement Scotland.

The stated intention is that QPIs should be responsive to changes in clinical practice and emerging evidence, and, in keeping with the overarching aim of the cancer quality work programme, they should focus attention on areas most important in terms of improving survival and patient experience whilst reducing variance and ensuring safe, effective and person-centred cancer care.

Following a period of development, public engagement and finalisation, each set of QPIs is published by Healthcare Improvement Scotland.[1] Accompanying datasets and measurability criteria for QPIs are published on the ISD website.[2] NHS boards are required to report against QPIs as part of a mandatory, publicly reported programme at a national level.

The Breast Cancer QPIs were implemented from 01/01/2012, results were first reported in November 2012 and they have since undergone formal review in 2016 and 2019.

The standard QPI format is shown below:

QPI Title:	Short title of Quality Performance Indicator (for use in reports etc.)	
Description:	Full and clear description of the Quality Performance Indicator.	
Rationale and Evidence:	Description of the evidence base and rationale which underpins this indicator.	
Specifications:	Numerator:	Of all the patients included in the denominator those who meet the criteria set out in the indicator.
	Denominator:	All patients to be included in the measurement of this indicator.
	Exclusions:	Patients who should be excluded from measurement of this indicator.
	Not recorded for numerator:	Include in the denominator for measurement against the target. Present as not recorded only if the patient cannot otherwise be identified as having met/not met the target.
	Not recorded for exclusion:	Include in the denominator for measurement against the target unless there is other definitive evidence that the record should be excluded. Present as not recorded only where the record cannot otherwise be definitively identified as an inclusion/exclusion for this standard.
	Not recorded for denominator:	Exclude from the denominator for measurement against the target. Present as not recorded only where the patient cannot otherwise be definitively identified as an inclusion/exclusion for this standard.
Target:	Statement of the level of performance to be achieved.	

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[1] QPI documents are available at www.healthcareimprovementscotland.org
[2] Datasets and measurability documents are available at www.isdscotland.org

Audit Process

Data was analysed by the audit facilitators in each NHS board according to the measurability document provided by ISD. SCAN data was collated by Christine Dodds, SCAN Senior Audit Facilitator for Breast Cancer, and Kit Gilchrist, Audit Facilitator.

Data capture is focused around the weekly multidisciplinary meetings ensuring that data covering patient referral, investigations and diagnosis is being picked up through routine process.

Oncology data is obtained largely from electronic systems including downloads from ARIA (within the radiotherapy department) and ChemoCare for chemotherapy data. However, processes vary between the 5 separate hospitals providing a breast service in SCAN. Recent years have seen less reliance on the need to access case notes for data collection. Lothian has now ceased routine use of case notes, however, the process remains dependent on audit staff for capture and entry of most of the data, and for quality checks.

Patients were identified through registration at weekly multidisciplinary team meetings, including patients referred from the Scottish Breast Screening Programme. Data capture was largely dependent on the review of various hospitals electronic records systems. All SCAN Health Boards recorded the audit data in a national cancer audit database: eCase.

It should be noted that Borders, Dumfries & Galloway and Fife Health Boards each have one hospital providing a specialist service for the diagnosis and treatment of Breast cancer, whereas in Lothian there are two: St John's (SJH) in Livingston, West Lothian, and the Western General Hospital (WGH) in Edinburgh.

Each of the five hospitals provides surgery and chemotherapy but radiotherapy is provided centrally in Edinburgh Cancer Centre. Patients living closer to either Carlisle or Dundee may opt to have oncology treatment out with the SCAN region. Collecting complete audit data for these patients remains a challenge.

Lead Clinicians and Audit Personnel

SCAN Region	Hospital	Lead Clinician	Audit Support
NHS Borders	Borders General Hospital	Mr Shareef Al-Sabounchi	Suzanne Tunmore
NHS Dumfries & Galloway	Dumfries & Galloway Royal Infirmary	Ms Maria Bews-Hair	Campbell Wallis Jennifer Bruce
NHS Fife	Queen Margaret Hospital	Mr Christopher Cartlidge	Julie Whyte
SCAN & NHS Lothian	St John's Hospital Western General Hospital	Mr Matthew Barber Mr Oliver Young	Christine Dodds Kit Gilchrist

Data Quality

Estimate of case ascertainment

An estimate of case ascertainment (the percentage of the population with Breast cancer recorded in the audit) is made by comparison with the Scottish Cancer Registry five-year average data: 2015 to 2019.

High levels of case ascertainment provide confidence in the completeness of the audit recording and contribute to the reliability of results presented. Levels greater than 100% may be attributable to an increase in incidence. Allowance should be made when reviewing results where numbers are small and variation may be due to chance.

Numbers recorded in audit: patients diagnosed 01/01/2020 to 31/12/2020

	Borders	D&G	Fife	Lothian	SCAN
Breast cancer	81	98	233	795	**1207**

Cancer Registry totals by institution of diagnosis - all breast cancer referrals (screen-detected* and symptomatic)

Patients diagnosed in SESBSP are counted under HB of first treatment

Year of diagnosis	Borders	D&G	Fife	Lothian	SCAN
2015	72	139	257	899	1367
2016	71	99	185	872	1227
2017	85	95	194	916	1290
2018	70	111	207	957	1346*
2019	68	96	203	960	1327
Total	366	540	1046	4604	6557
5-year average	73.2	108	209.2	920.8	1311.4
SCAN 2020	81	98	233	795	1207
SCAN 2020 (as % of 5-year average)	110.7%	90.7%	111.4%	86.3%	92.1%

*Includes 1 patient of unknown SCAN HB in 2018

Case ascertainment methodology

Data tables were provided by the Cancer Registry for the years 2015 – 2019 for all residents of the SCAN region with a diagnosis of a new primary breast cancer. The PHS analyst had removed duplicate records for patients with bilateral disease or multiple tumours, as well as patients treated privately, to ensure figures were comparable. These were entered into the table above, by year of diagnosis, and by the most probable HB of audit i.e. patients diagnosed through the South East Scotland Breast Screening Programme were counted according to where they commenced treatment.

A high proportion of new patients are diagnosed by Screening, with impalpable tumours requiring specialist equipment for investigations. These patients are frequently referred to the Edinburgh Breast Unit for staging rather than their local specialist unit.

These factors, and other instances of cross-border flows between Health Boards (sometimes as a result of patient preference) means that the overall estimate of case ascertainment for SCAN should be regarded as more reliable than the individual figure for each Board.

The overall number of women diagnosed through S. E. Scotland Breast Screening Programme was lower during the Covid-19 pandemic. This is the most likely reason for reduced case ascertainment during 2020. SCAN data indicates that the number of patients referred through non-Screening routes was slightly higher during this period.

Quality Assurance

All hospitals in the region participate in a Quality Assurance (QA) programme provided by the National Services Scotland Information Services Division (ISD). QA of the breast cancer data was carried out in 2019; the results are shown below:

	Borders	D&G	Fife	Lothian	Scotland
Accuracy of data recording	97.1%	100%	99.3%	95.3%	96.1%

NHS Lothian's score was affected by a number of missing adjuvant hormone therapy start dates.

Clinical Sign-off

This report compares data from reports prepared for individual hospitals and signed off as accurate following review by the lead clinicians from each service. The collated SCAN results are reviewed jointly by the lead clinicians, to assess variances and provide comments on results:

- Individual Health Board results were reviewed and signed-off locally.
- Collated results were presented and discussed by lead clinicians at Edinburgh Breast Unit on 04/11/2021
- The final draft of this SCAN regional comparative report was circulated to members of the SCAN Breast Group on 19/11/2021 for final comments.

Actions for improvement

After final sign-off, the process stipulates that this report should be sent to Clinical Governance groups with action plans for completion at Health Board level, if appropriate.

The report is uploaded to the SCAN website, together with action plans (where applicable), once it has been fully signed off and checked for any potentially disclosive material.

QPI Results

QPI 6 (i): Immediate Reconstruction Rate   Target = 20%

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 males.

Target = 20%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for this QPI	57	68	166	80	582	662	953
Numerator	2	4	10	1	30	31	47
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	24	30	67	20	113	133	254
Not Recorded for Exclusions	0	1	0	0	0	0	1
Not Recorded for Denominator	0	0	0	0	0	0	0
% Performance	**8.3%**	**13.3%**	**14.9%**	**5.0%**	**26.5%**	**23.3%**	**18.5%**

QPI 6 (i): Immediate Reconstruction Rate Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2018	21.1%	4.3%	19.2%	13.5%	35.9%	30.5%	23.2%
2019	5.6%	10.7%	11.1%	24.0%	45.7%	41.8%	28.0%
2020	8.3%	13.3%	14.9%	5.0%	26.5%	23.3%	18.5%
2018 Revised target	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%

Comments

The Covid 19 pandemic is a significant factor here, as it was considered important to reduce the length of hospital stays where possible.

Borders: Did not meet the target. 22 patients did not have immediate reconstruction at the time of mastectomy. In 12 cases this was down to patient choice. In 9 cases the Health Board was unable to offer immediate reconstruction due to COVID restrictions. 1 further patient opted to delay breast reconstruction until all cancer treatment, including radiotherapy, was completed.

Dumfries & Galloway: Did not meet the target. 26 patients did not have immediate reconstruction. 10 were >75 years of age at diagnosis. 1 had a comorbidity. 1 had inflammatory cancer. 1 progressed on neoadjuvant treatment. 4 were referred to Edinburgh, where 2 were not suitable for treatment due to smoking history or a need for radiotherapy, and 2 opted for delayed reconstruction. 7 declined referral and 2 patients were not referred as they were diagnosed during the first stage of the initial lockdown.

Residents of Dumfries and Galloway, who are diagnosed through the Breast Screening service in Glasgow, and thought suitable for mastectomy and immediate reconstruction, are referred for surgery to Ayrshire and Arran. They are subsequently registered in the Ayrshire and Arran audit, which inevitably impacts Dumfries and Galloway's attainment against this target.

Fife: Did not meet the target. 57 patients did not have immediate reconstruction. Based on the reasons found, 19% of patients (11/57) chose not to have an immediate reconstruction. A clinical recommendation was made for 30% (17/57) based on a variety of reasons - mainly the potential for post-mastectomy radiotherapy, co-morbidities/risk and smoking history. 9% (5/57) could not be offered an immediate reconstruction as a result of the coronavirus pandemic. 24 patients did not have a documented reason for not having an immediate reconstruction however 83% of them (20/24) went on to have adjuvant radiotherapy. It is noted that, despite the pandemic, Fife has shown an improvement in its overall rate of reconstruction compared to the previous year.

Lothian: Met the target. 83 patients at WGH did not have immediate reconstruction; it has not been possible to investigate each one. 19 patients at SJH did not have immediate reconstruction: 7 declined it; 8 were advised against it due to likely radiotherapy; 2 were not offered it due to COVID; and 2 had comorbidities.

Action: None identified however it was noted during the sign-off meeting that this QPI requires revision at formal review.
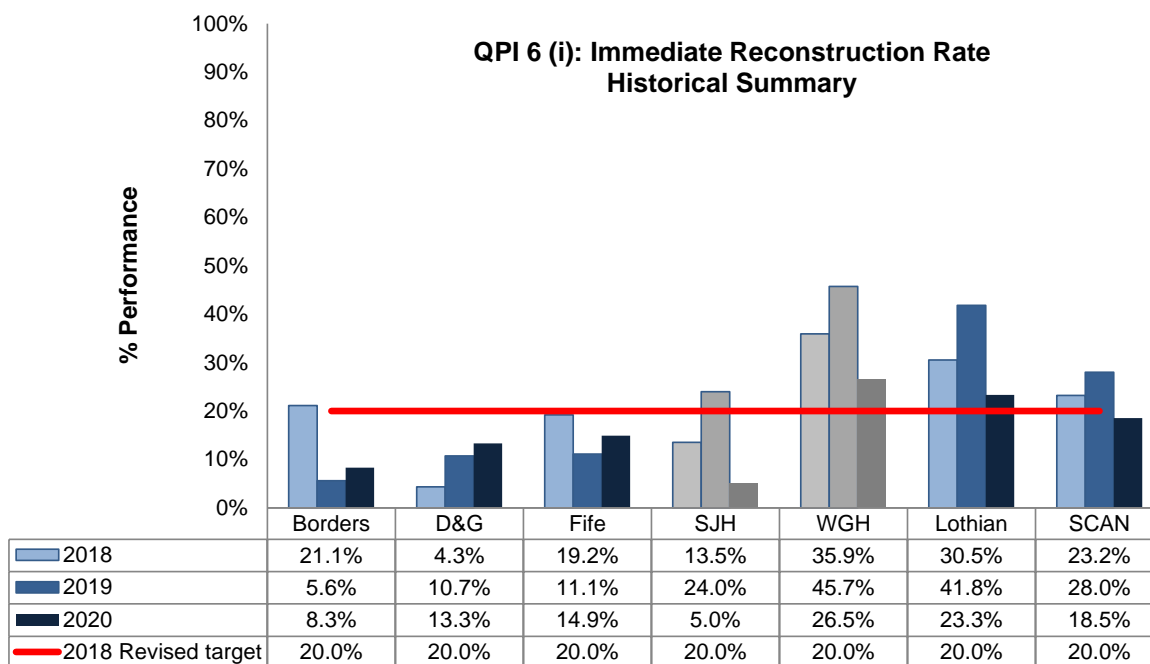

QPI 6 (ii): Immediate Reconstruction within 6 weeks   Target = 90%

Numerator = Number of patients with breast cancer undergoing immediate breast reconstruction at time of mastectomy & within 6 weeks (42 days) of treatment decision.

Denominator = All patients with breast cancer undergoing immediate reconstruction at time of mastectomy.

Exclusions = All patients with M1 disease, males, and patients undergoing neoadjuvant chemotherapy.

Target = 90%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for this QPI	80	97	225	99	673	772	1174
Numerator	0	1	8	1	18	19	28
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	1	1	8	1	22	23	33
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	0	0	0	0	0	0
% Performance	**0.0%**	**100.0%**	**100.0%**	**100.0%**	**81.8%**	**82.6%**	**84.8%**

QPI 6 (ii): Immediate Reconstruction within 6 Weeks of Treatment Decision Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2019		100.0%	71.4%	66.7%	81.0%	79.2%	79.3%
2020	0.0%	100.0%	100.0%	100.0%	81.8%	82.6%	84.8%
Target	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%
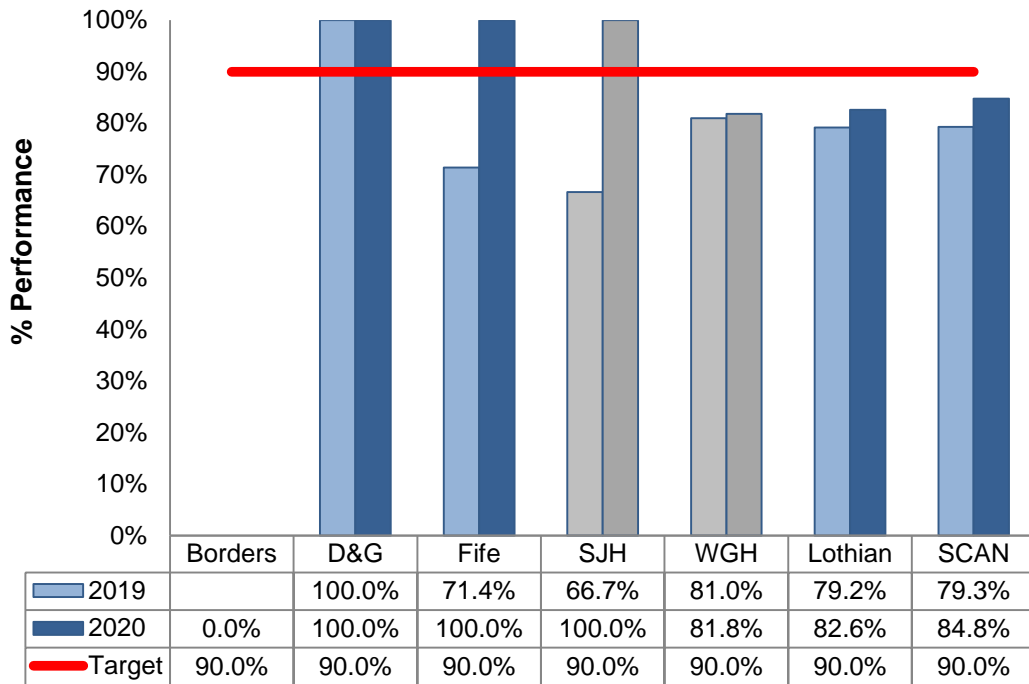
Comments

This is the second year of reporting and a degree of improvement is evident.

Discussions have taken place with plastic surgeons to help reduce any delays incurred when their participation is required in this complex area.

Borders: Did not meet the target. The single Borders patient undergoing immediate reconstruction opted to undergo the procedure (LD flap) in Lothian and this was postponed due to COVID restrictions.

Dumfries & Galloway: Met the target.

Fife: Met the target. N.B. Of the 8 immediate reconstructions, implants were used in 6 procedures, with 2 having DIEP flap reconstruction.

Lothian: Did not meet the target. The four patients who did not have immediate reconstruction within 6 weeks of the treatment decision were all being treated at WGH.

Action: No action identified and Matthew Barber commented that his recommendation at the formal review will be for this QPI to stay in.

QPI 8 (i): Minimising Hospital Stay   Target = 60%

(Based on SMR01 data and provided to Boards by ISD via the ACaDMe system).

Numerator = Number of patients with breast cancer undergoing wide excision and/or axillary sampling procedure (sentinel node biopsy or node sample (≥4 nodes), discharged on same day as their procedure.

Denominator = All patients with breast cancer undergoing wide excision and/or axillary sampling procedure (sentinel node biopsy or node sample (≥4 nodes).

Exclusions = All patients with breast cancer undergoing partial breast reconstruction.

By Health Board of Surgery:

Day surgery only - without overnight hospital stay	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
Numerator	30	39	76	57	442	499	644
Denominator	42	54	83	59	544	603	782
% Performance	**71.4%**	**72.2%**	**91.6%**	**96.6%**	**81.3%**	**82.8%**	**82.4%**

By Health Board of Residence:

Day surgery only - without overnight hospital stay	Borders	D&G	Fife	Lothian	SCAN
Numerator	41	2	131	394	568
Denominator	47	3	156	481	687
% Performance	**87.2%**	**66.7%**	**84.0%**	**81.9%**	**82.7%**

QPI 8 (i): Minimising Hospital Stay - Day Case Surgery Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2016	70.6%	75.4%	71.0%	94.8%	75.8%	77.4%	76.1%
2017	70.3%	71.9%	75.2%	90.7%	76.3%	77.3%	76.4%
2018	71.1%	86.6%	69.4%	98.0%	82.5%	83.5%	81.2%
2019	100.0%	87.0%	80.3%	90.2%	84.7%	85.0%	85.0%
2020	71.4%	72.2%	91.6%	96.6%	81.3%	82.8%	82.4%
Target	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
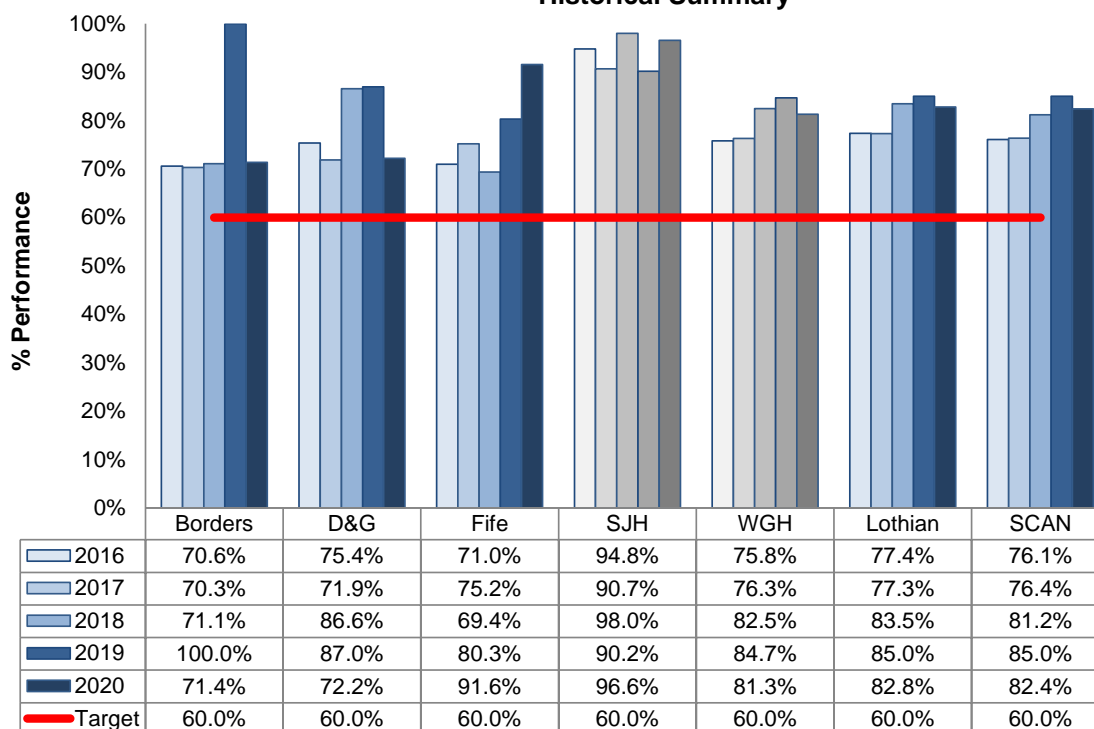
Comments

All boards met the target for this QPI and have done since the outset.

Action: No action identified. It may be possible to retire this measure at the next review.

QPI 8 (ii): Minimising Hospital Stay   Target = 60%

(Based on SMR01 data and provided to Boards by ISD via the ACaDMe system).

Numerator = Number of patients with breast cancer undergoing mastectomy (without reconstruction) with a maximum hospital stay of 1 night following the procedure.

Denominator = All patients with breast cancer undergoing mastectomy (without reconstruction).

Exclusions = All patients undergoing breast reconstruction.

By Health Board of Treatment:

Maximum 1 overnight stay for mastectomy (without reconstruction)	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
Numerator	3	19	35	17	33	50	**107**
Denominator	21	28	44	33	102	135	**228**
% Performance	14.3%	67.9%	79.5%	51.5%	32.4%	37.0%	**46.9%**

By Health Board of Residence:

Maximum 1 overnight stay for mastectomy (without reconstruction)	Borders	D&G	Fife	Lothian	SCAN
Numerator	5	15	62	53	**135**
Denominator	25	24	74	131	**254**
% Performance	20.0%	62.5%	83.8%	40.5%	**53.1%**
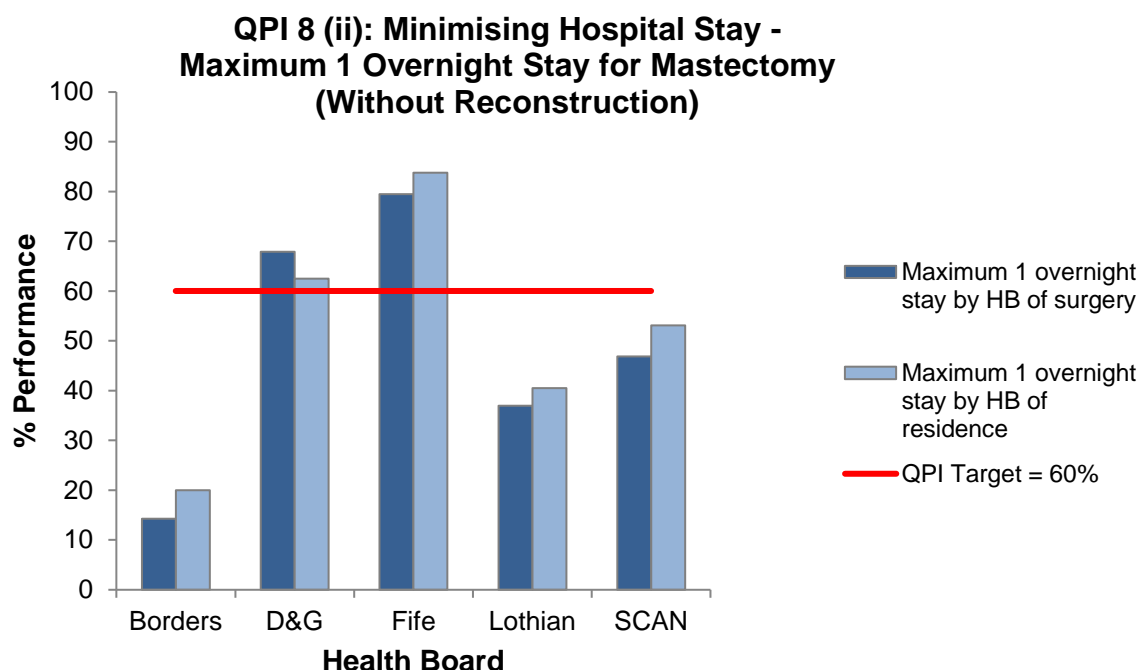
Comments

The SCAN Chair congratulated Dumfries & Galloway and Fife for their significant achievement.

Borders: Did not meet the target although performance is improving. The geographical distances which affect many patients being discharged following surgery can be very significant, making it less appropriate for them to be discharged with drains still in situ. Borders are conducting a more detailed audit of this area, with widespread discussions taking place.

Dumfries & Galloway: Met the target.

Fife: Met the target.

Lothian: Improving but did not meet the target. However, process changes at St. Johns have substantially improved performance. The Western General Hospital is believed to be performing better this year, with an increase in the number of patients being discharged with drains in situ. The data will be available in due course.

Action: Borders and Lothian to keep focused on maximising early discharge

QPI 9: HER2 Status for Decision Making   Target = 90%

Numerator = Number of patients with invasive breast cancer for whom the HER2 status (as defined by IHC) is available within 14 days of the core biopsy.

Denominator = All patients with invasive breast cancer.

Exclusions = Patients for whom no invasion is present in the core biopsy.

Target = 90%	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	7	8	24	10	87	97	136
Numerator	71	60	170	84	559	643	944
Not Recorded for Numerator	0	0	0	0	3	3	3
Denominator	74	90	209	90	605	695	1068
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	0	0	0	0	0	0
% Performance	**95.9%**	**66.7%**	**81.3%**	**93.3%**	**92.4%**	**92.5%**	**88.4%**

QPI 9: HER2 Status Availability Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2018	89.6%	44.8%	65.4%	81.8%	82.1%	82.0%	76.1%
2019	81.0%	66.0%	66.7%	88.7%	88.0%	88.1%	82.4%
2020	95.9%	66.7%	81.3%	93.3%	92.4%	92.5%	88.4%
2018 Revised target	90%	90%	90%	90%	90%	90%	90%
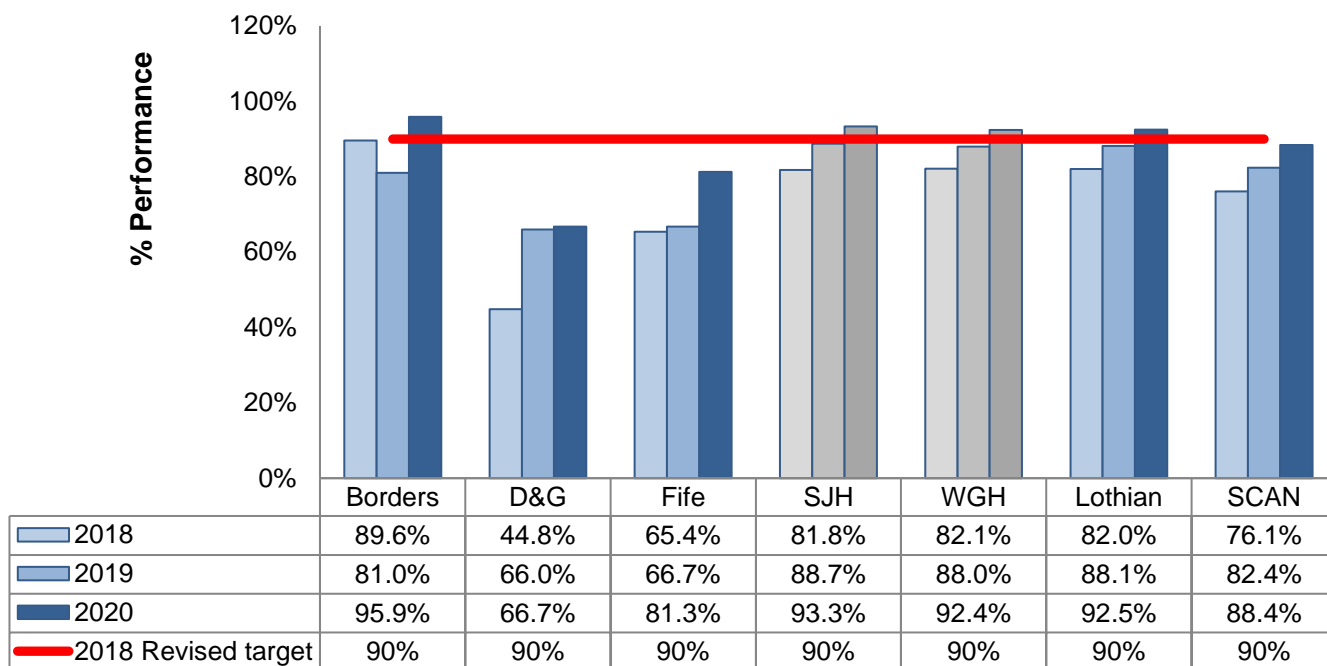
Comments

More work is ongoing, giving us hope that results will improve for Borders and Fife, however significant staffing issues in pathology may affect overall performance.

Borders: Met the target. 3 outliers. In one of these cases, the 17-day wait for the HER2 status coincided with the festive period, as the core biopsy was taken on Christmas Eve; this may have contributed to the slight delay. In the other two cases the HER2 statuses were reported 15 days and 19 days after the respective core biopsies; no reasons are given.

Dumfries & Galloway: Did not meet the target. There were 30 patients out with the timescale, with HER2 status available 15 to 30 days following the core biopsy. 26 of the 30 were available within 21 days.

Fife: Did not meet the target. 39 patients did not have their HER2 status reported within 2 weeks/14 days of biopsy. Of these, 51% (20/39) were delayed due to the need for further FISH testing. For the remaining 49% (19/39), the time taken for the specimens to be received by Lothian meant the overall timeframe exceeded the 2 weeks. However, when comparing the 'Sample Received' date on Lothian's report with the 'Processed into Store' date, all 19 would otherwise have met the target. Following summer 2020, a new

process was introduced in Fife to attempt to resolve the delay issues whereby Fife labs began to order HER2 without waiting for the final microscopic report to be authorised. The new process has helped improve this year's results and it is anticipated that the 2021 results will show further progress towards reaching the QPI target.

Lothian: Met the target. 49 outliers. The Pathology department is reviewing the outliers.

Action: No action identified.

QPI 10: Radiotherapy for Breast Conservation in Older Adults Target <40%

Numerator = Number of patients ≥70 years of age with T1 N0, ER positive, Her2 negative, LVI negative, G1 to G2 breast cancer, undergoing conservation surgery (completely excised with margins ≥1mm) with hormone therapy, who receive radiotherapy.

Denominator = All patients ≥70 years of age with T1 N0, ER positive, Her2 negative, LVI negative, G1 to G2 breast cancer, undergoing conservation surgery (completely excised with margins ≥1mm) with hormone therapy.

Exclusions = All patients with breast cancer taking part in clinical trials of radiotherapy treatment.

Target <40%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for this QPI	81	94	223	97	669	766	1164
Numerator	0	0	5	2	13	15	20
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	0	4	10	3	26	29	43
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	1	0	0	0	0	1
% Performance	**N/A**	**0.0%**	**50.0%**	**66.7%**	**50.0%**	**51.7%**	**46.5%**

QPI 10: Radiotherapy for Breast Conservation in Older Adults Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2018	40.0%	0.0%	45.5%	100.0%	68.6%	69.8%	59.5%
2019		0.0%	50.0%	33.3%	60.7%	58.1%	52.6%
2020		0.0%	50.0%	66.7%	50.0%	51.7%	46.5%
Target <40%	40%	40%	40%	40%	40%	40%	40%
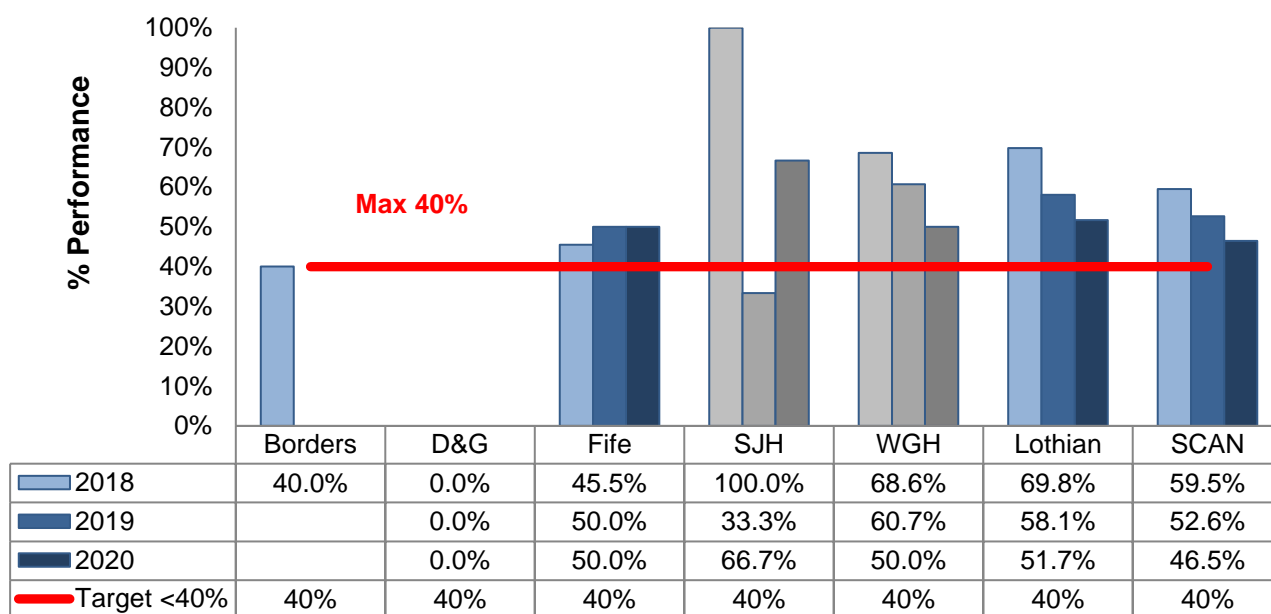
Comments

Stepwise improvement is noted across the region. SCAN clinical oncologists have expressed a preference to include a discussion of this question with the patient, taking account of their point of view, rather than making the decision entirely based on the criteria above.

Borders: No NHS Borders patients met the inclusion criteria.

Dumfries & Galloway: Met the target.

Fife: Did not meet the target. Of the 5 patients who did receive radiotherapy, 3 opted to proceed with radiotherapy despite having been informed that their cancers were low risk. 1 patient's anterior margin could not be confirmed as uninvolved so radiotherapy was recommended. No record of the radiotherapy discussion for the final patient could be found.

Lothian: Did not meet the target. 15 of the 29 patients who fell under the purview of this QPI received radiotherapy. Frances Yuille commented, 'QPI 10 for SJH - very small numbers - 3 as the denominator.'

Action: No action required.

QPI 11 (i): Adjuvant Chemotherapy   Target = 80%

Numerator = Number of patients with hormone receptor (ER plus/minus PR) 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 = All patients with hormone receptor (ER plus/minus PR) 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 trials of chemotherapy treatment; all patients with breast cancer who have had neo-adjuvant chemotherapy; and all patients with M1 disease.

Target = 80%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2019 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	73	86	208	85	661	746	1113
Numerator	4	9	22	10	25	35	70
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	8	12	25	15	34	49	94
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	1	0	0	2	0	1
% Performance	**50.0%**	**75.0%**	**88.0%**	**66.7%**	**73.5%**	**71.4%**	**74.5%**

QPI 11 (i): Adjuvant Chemotherapy Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2018	57.9%	66.7%	65.4%	29.2%	46.0%	41.4%	49.3%
2019	33.3%	66.7%	85.0%	55.6%	73.8%	70.6%	69.6%
2020	50.0%	75.0%	88.0%	66.7%	73.5%	71.4%	74.5%
Target	80%	80%	80%	80%	80%	80%	80%
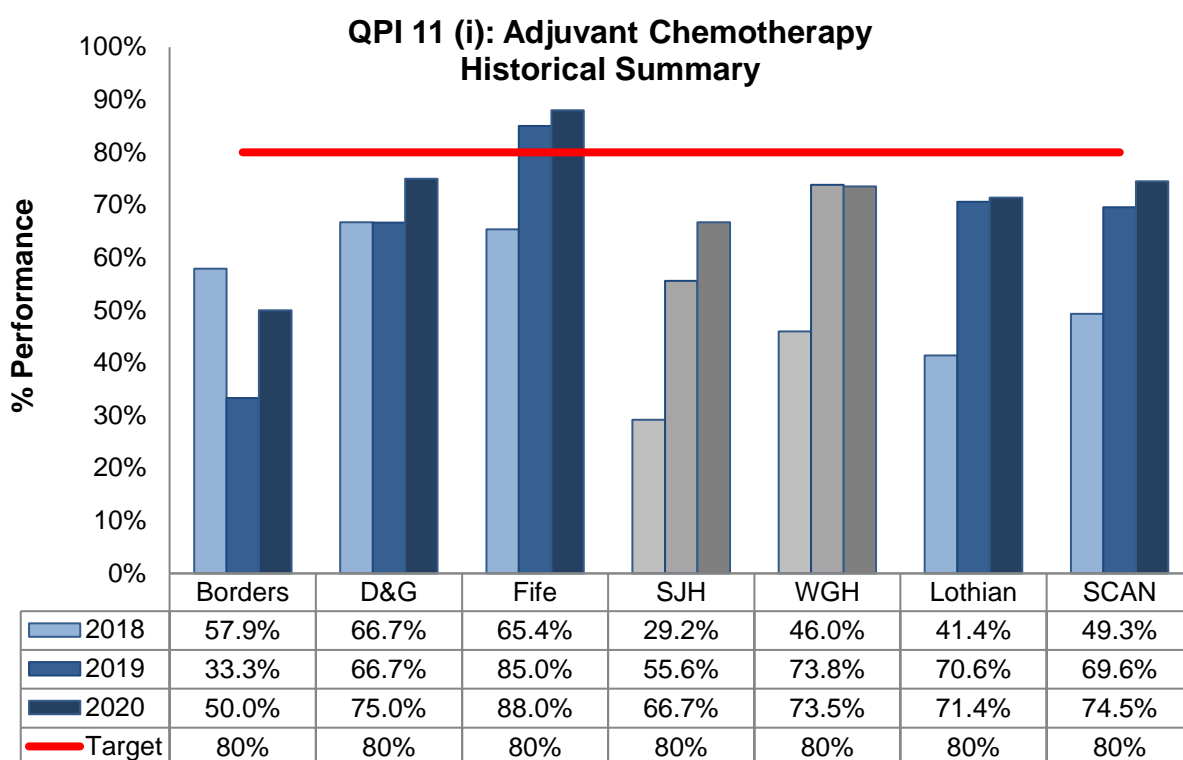
Comments

Decisions around referral for adjuvant chemotherapy during 2020 were influenced by the Covid 19 pandemic. The comments below indicate legitimate reasons for not offering adjuvant chemotherapy.

Borders: Did not meet the target. 4 patients did not undergo adjuvant chemotherapy; 3 declined it and another was deemed not fit enough.

Dumfries & Galloway: Did not meet the target. 3 patients did not undergo adjuvant chemotherapy; 2 declined it and 1 had no chemotherapy due to co-existing comorbidities.

Fife: Met the target.

Lothian: Did not meet the target. 14 patients did not undergo adjuvant chemotherapy. 2 had comorbidities that prevented them from receiving chemo. In the case of another patient, it was concluded that they would be better served by hormone treatment. In 2 cases, Oncotype tests were performed and the resulting scores indicated a low risk of recurrence, therefore chemo was not recommended. 1 patient had only a borderline benefit from chemotherapy and chose not to proceed. 1 patient did not undergo chemo due to the risks imposed by COVID-19. In 1 case, the medical oncologists entered different variables into nhs.predict than those recorded during audit – for a number of possible reasons – and the resulting score indicated that chemotherapy was not recommended. In 6 further cases, the reasons for the patient not undergoing chemotherapy are not documented.

Action: No action identified however a few things were suggested for consideration during the formal review: firstly, lowering the target to 70 or 75%; and secondly, removing from the Denominator those patients who have low-risk Oncotype scores.

The group covered by this QPI also represents those left over from QPI 18 deemed not to be appropriate for neoadjuvant chemotherapy so the QPI may require revision to address this.

QPI 11 (ii): Adjuvant Chemotherapy   Target = 80%

Numerator = Number of patients with triple negative or Her2 positive breast cancer with a >5% overall survival benefit of chemotherapy treatment predicted at 10 years, who undergo adjuvant chemotherapy.

Denominator = All 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 trials of chemotherapy treatment, all patients with breast cancer who have had neo-adjuvant chemotherapy, and all patients with M1 disease.

Target = 80%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	76	2	218	97	657	754	1050
Numerator	5	5	12	2	22	24	46
Not Recorded for Numerator	0	0	0	0	1	1	1
Denominator	5	6	15	3	38	41	67
Not Recorded for Exclusions	0	1	0	0	1	1	2
Not Recorded for Denominator	0	0	0	0	0	0	0
% Performance	**100.0%**	**83.3%**	**80.0%**	**66.7%**	**57.9%**	**58.5%**	**68.7%**

QPI 11 (ii): Adjuvant Chemotherapy
Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2018	75.0%	100.0%	75.0%	75.0%	62.3%	64.4%	68.0%
2019	40.0%	100.0%	82.4%	50.0%	80.8%	76.7%	76.4%
2020	100.0%	83.3%	80.0%	66.7%	57.9%	58.5%	68.7%
Target	80%	80%	80%	80%	80%	80%	80%
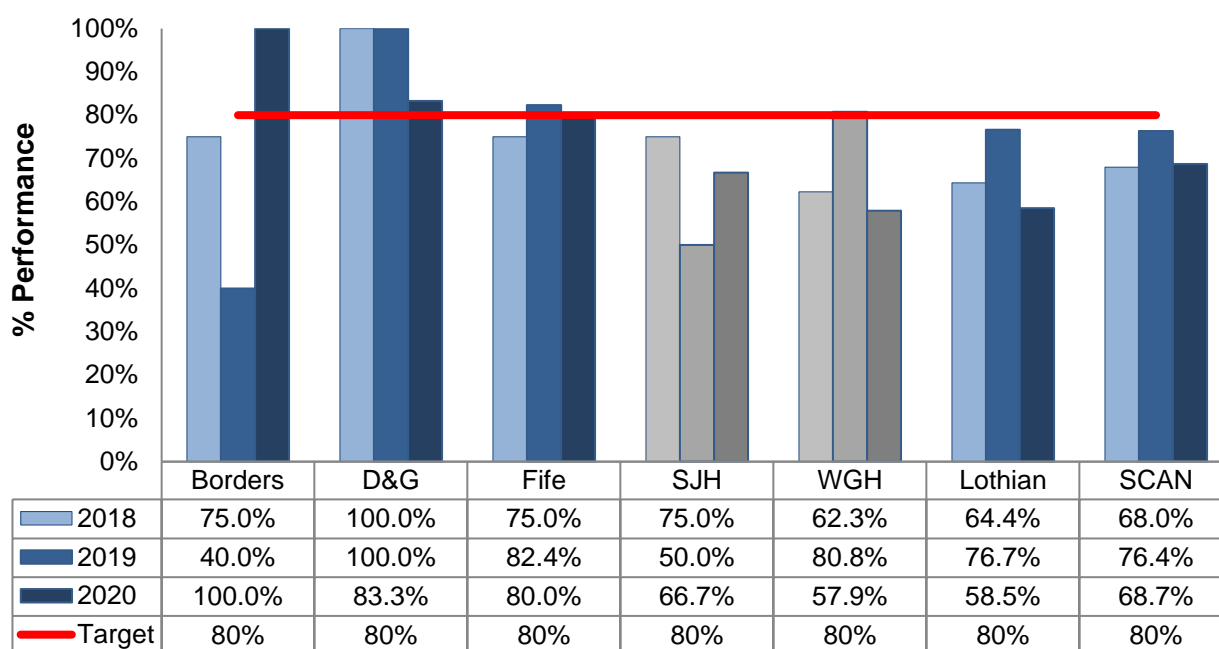
Comments

Matthew Barber commented that there, 'seem to be reasonable justifications for outliers.'

Borders: Met the target, with all 5 patients covered by the QPI undergoing adjuvant chemotherapy.

Dumfries & Galloway: Met the target, with only 1 out of the 6 patients covered by the QPI not undergoing adjuvant chemotherapy.

Fife: Met the target, with only 3 out of the 15 patients covered by the QPI not undergoing adjuvant chemotherapy.

Lothian: Did not meet the target. 15 patients did not undergo chemotherapy. 5 had comorbidities, 7 declined treatment. In the case of 2 patients, it was concluded that chemo was not required. 1 other patient had a number of complex reasons for not having adjuvant chemotherapy.

1 patient transferred to Spire, and her subsequent treatment is not recorded.

Action: No action identified.

QPI 13: Re-excision Rates   Target <20%

Numerator = Number of patients with breast cancer (invasive or in situ) having breast conservation surgery who undergo re-excision or mastectomy following initial breast surgery.
(N.B. where the initial surgery is an excision biopsy, a WLE as a second procedure is not counted as a re-excision).

Denominator = All patients with breast cancer (invasive or in situ) having conservation surgery as their initial or only breast surgery.

Exclusions = LCIS only.

Target <20%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	36	38	127	39	202	241	442
Numerator	9	10	25	6	116	122	166
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	45	60	106	61	493	554	765
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	0	0	0	0	0	0
% Performance	**20.0%**	**16.7%**	**23.6%**	**9.8%**	**23.5%**	**22.0%**	**21.7%**

QPI 13: Re-excision Rates Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2016	14.3%	10.1%	21.2%	20.3%	18.6%	18.8%	18.2%
2017	5.2%	15.3%	21.5%	19.6%	20.3%	20.2%	19.0%
2018	14.6%	22.8%	25.2%	34.7%	21.0%	22.0%	22.1%
2019	10.3%	15.4%	26.4%	16.7%	24.2%	23.6%	22.8%
2020	20.0%	16.7%	23.6%	9.8%	23.5%	22.0%	21.7%
Target <20%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
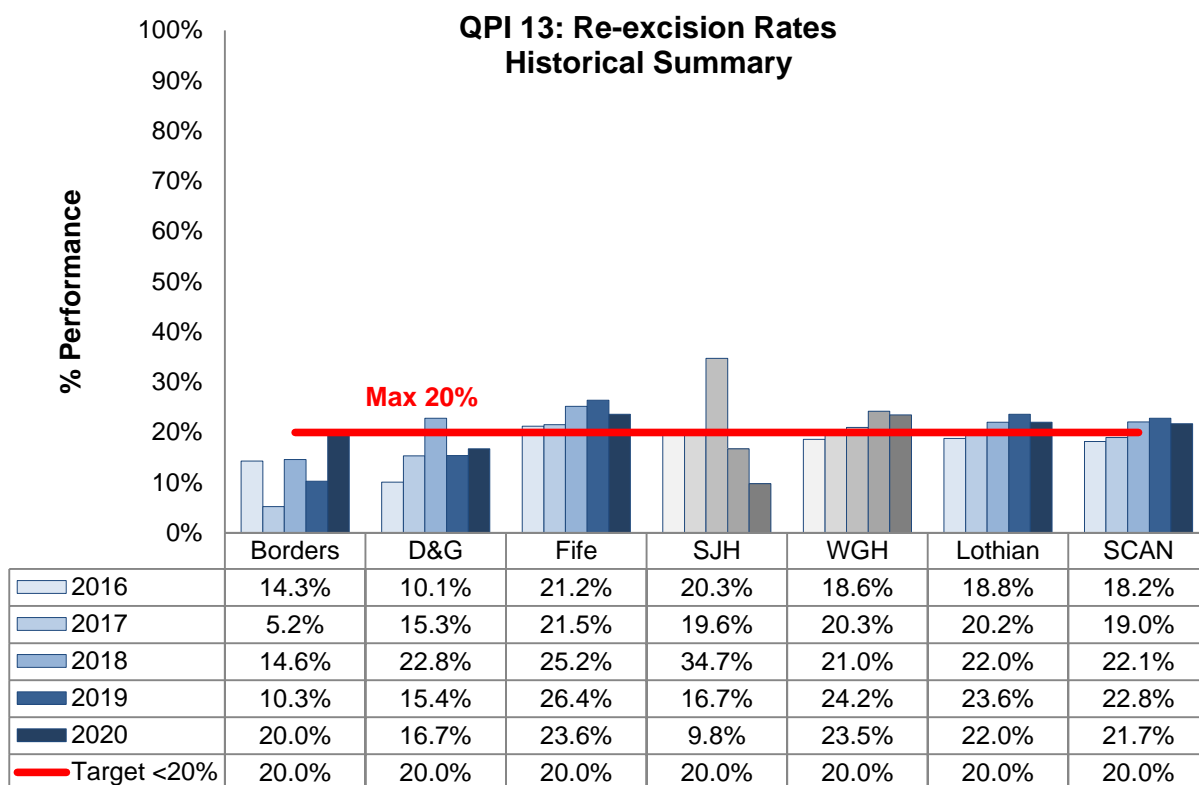
Comments

The rates of re-excision have remained fairly consistent for the last several years and continue to be monitored with the intention of reducing them further, although there is an important balance to be achieved between theatre time and cosmesis. Where excessive tissue is removed, cosmesis may be compromised.

Better ways to assess margins in theatre would help reduce the need for re-excision.

Borders: Just missed the target. 9 patients out of 45 in total underwent re-excision or mastectomy following initial breast surgery.

Dumfries & Galloway: Met the target. 10/60 patients underwent re-excision or mastectomy following initial breast surgery.

Fife: Did not meet the target. Of the patients who underwent further surgery, 96% (24/25) needed it due to positive margins. The other patient's ribbon marker had not been excised at the initial procedure.

Lothian: Did not meet the target. 116 of 493 patients underwent further breast surgery.

Action: Continue efforts to highlight the issue among the surgical team.

QPI 14 (i): Referral for Genetics Testing   Target = 90%

Numerator = Number of patients with breast cancer who are aged under 30 years at diagnosis referred to a specialist clinic for genetics testing.

Denominator = Number of patients with breast cancer who are aged under 30 years at diagnosis.

Exclusions = None.

Target = 90%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	80	98	232	100	690	790	1200
Numerator	1	0	1	0	5	5	7
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	1	0	1	0	5	5	7
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	0	0	0	0	0	0
% Performance	**100.0%**	**N/A**	**100.0%**	**N/A**	**100.0%**	**100.0%**	**100.0%**

QPI 14 (i): % Patients <30 referred for genetics testing
Historical Summary
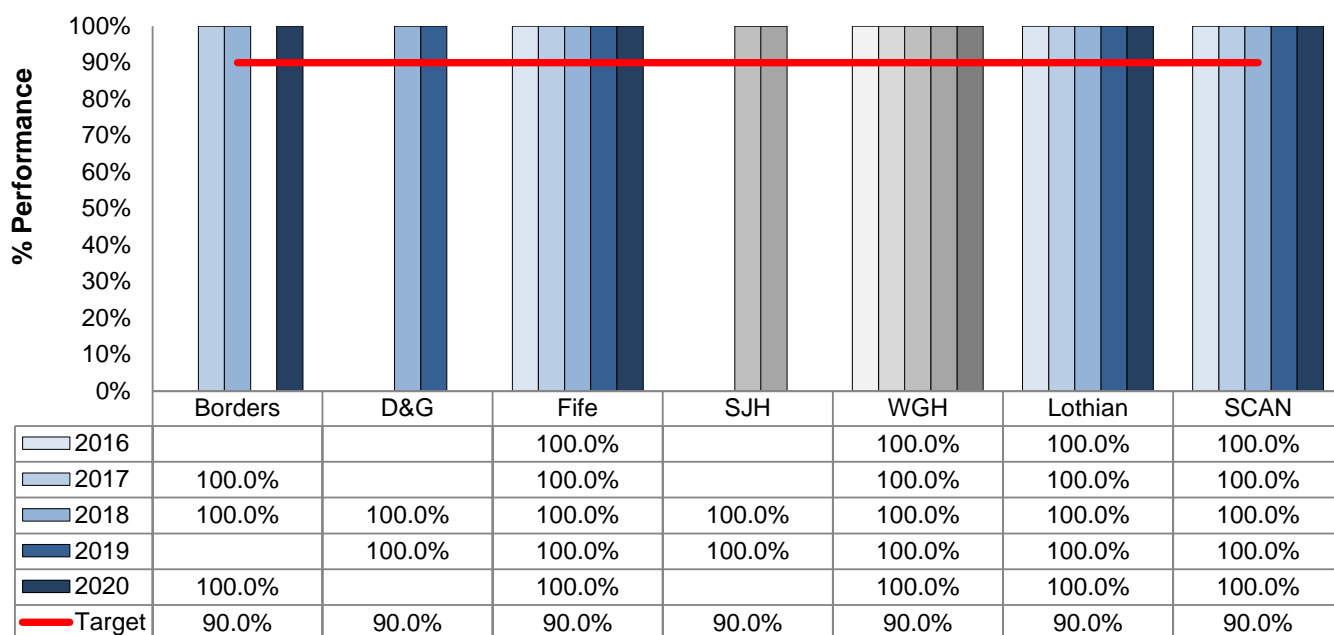
	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2016			100.0%		100.0%	100.0%	100.0%
2017	100.0%		100.0%		100.0%	100.0%	100.0%
2018	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2019		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2020	100.0%		100.0%		100.0%	100.0%	100.0%
Target	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%

(Blank cells in the chart indicate the Health Board had no patients in this category)

Comments

All Health Boards in SCAN with breast cancer patients aged under 30 years at diagnosis consistently referred them for genetics testing.

Action: No action identified however it was recommended that this QPI be archived at the next formal review.

QPI 14 (ii): Referral for Genetics Testing   Target = 90%

Numerator = Number of patients with triple negative breast cancer who are aged under 50 years at diagnosis referred to a specialist clinic for genetics testing.

Denominator = Number of patients with triple negative breast cancer who are aged under 50 years at diagnosis.

Exclusions = None.

Target = 90%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	76	93	217	99	682	781	1167
Numerator	5	5	15	1	12	13	38
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	5	5	16	1	13	14	40
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	0	0	0	0	0	0
% Performance	**100.0%**	**100.0%**	**93.8%**	**100.0%**	**92.3%**	**92.9%**	**95.0%**

QPI 14 (ii): % Triple negative patients <50 referred for genetics testing Historical Summary
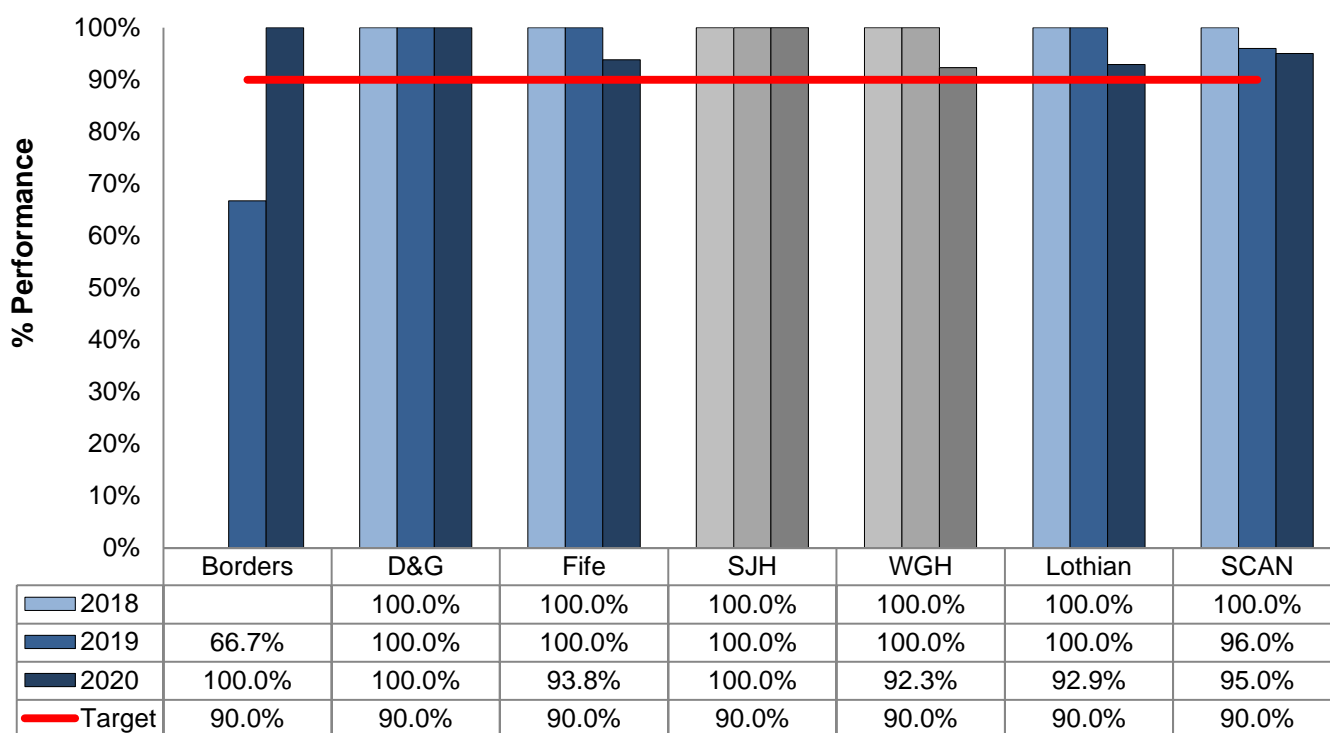
	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2018		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2019	66.7%	100.0%	100.0%	100.0%	100.0%	100.0%	96.0%
2020	100.0%	100.0%	93.8%	100.0%	92.3%	92.9%	95.0%
Target	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%

(Blank cells in the chart indicate the Health Board had no patients in this category)

Comments

All Health Boards met the target.

Action: No action identified however, as with QPI 14 (i), it was recommended that this QPI be archived at the next formal review.

QPI 15: 30 Day Mortality following Chemotherapy

This QPI has been replaced with a standardised 30 day SACT Mortality QPI across all the tumour types covered by the QPI program.

Measurement is being revised to use data from Chemocare (electronic chemotherapy prescribing system) for reporting in order to utilise existing data and provide an accurate picture of all patients with breast cancer undergoing chemotherapy, rather than the subset of all diagnosed in the audit year cohort only.

A further target of <15% been added for patients undergoing palliative treatment.

The development of a National reporting tool is currently underway through a collaboration with Public Health Scotland and the 3 Cancer Networks; NCA, SCAN and WoSCAN. This is to ensure that reporting in consistent throughout Scotland.

Progress has been complicated by the differences in the 5 instances of Chemocare across Scotland and a date for initial reporting is yet to be confirmed at the time of writing this report.

It should be noted that SCAN oncologists regularly review relevant cases at departmental Morbidity and Mortality meetings, with fully documented outcomes.

Comments

It remains disappointing that figures for this QPI remain unavailable.

QPI 16: Clinical Trials and Research Study Access   Target = 15%

Numerator = Number of patients diagnosed with breast cancer who consented to a clinical trial / research study. Data is provided by SCRN (Scottish Cancer Research Network).

Denominator = All patients diagnosed with breast cancer. The denominator for this QPI is identified by using the five-year average of Scottish Cancer Registry data.

Exclusions = None.

Target = 15%	Borders	D&G	Fife	Lothian	SCAN
Numerator	18	2	5	299	324
Denominator	73	108	209	921	1311
% Performance	24.7%	1.9%	2.4%	32.5%	24.7%

QPI 16: Patients consenting to clinical trials Historical Summary

	Borders	D&G	Fife	Lothian	SCAN
2017	59.5%	8.7%	13.1%	36.3%	31.4%
2018	28.6%	17.7%	10.1%	21.4%	19.7%
2019	17.4%	8.8%	8.2%	21.4%	18.0%
2020	24.7%	1.9%	2.4%	32.5%	24.7%
Target	15%	15%	15%	15%	15%
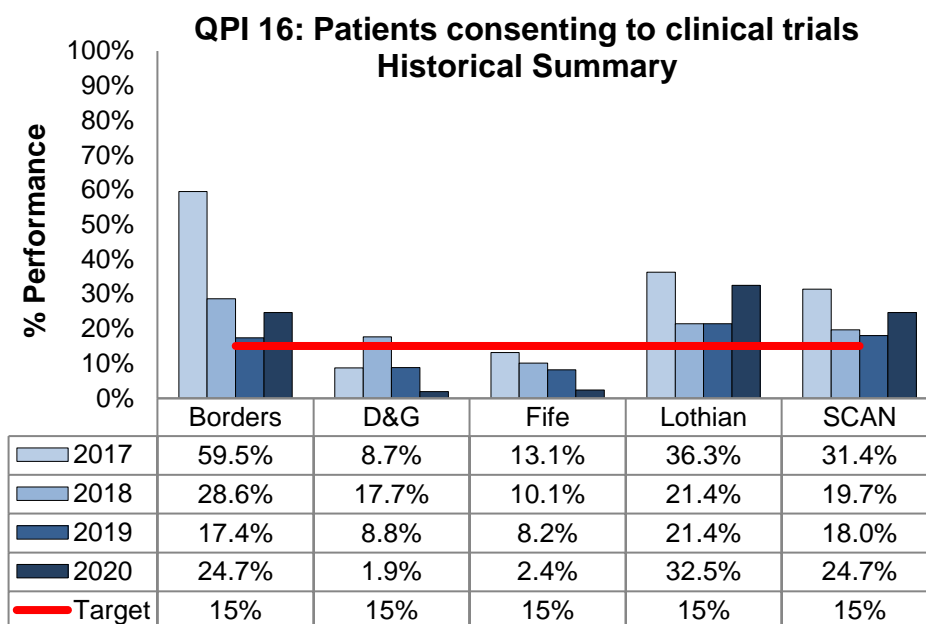
Comments

The availability of clinical trials represents a considerable resource in terms of staffing and logistics and as such smaller Health Boards find it a greater challenge. The additional input required from Radiology can prove too great for some areas.

The figures presented here will have been impacted by the suspension of trials for several months owing to COVID-19.

Borders does well with trials recruitment, which is more challenging for smaller units.

Dumfries & Galloway has issues with infrastructure to support clinical trials.

Fife has a significant lack of research nurse capacity to open studies. There are only two trained nurses, who are asked to cover all oncology tumour-type studies including breast surgery. There are available studies, willing patients and trained medical staff, but these cannot be opened without sufficient R&D support for trial co-ordination, nursing and data management.

Lothian does particularly well with patient participation in clinical trials. However, the largest group consenting donated a tissue sample for future research rather than accepting changes to their treatment.

See below for list of trials recruiting patients during 2020

Open Trials 2020	Borders	D&G	Fife	Lothian	SCAN
A Phase I trial of LY3143921 hydrate in solid tumours	0	0	0	1	1
A study of NUC-7738 for the treatment of solid cancers or lymphoma	0	0	0	1	1
Add-Aspirin	6	0	0	12	18
AURORA Aiming to Understand the Molecular Aberrations in Metastatic Breast Cancer	0	0	0	8	8
Biobank SR1418	0	0	2	181	183
BYLieve:alpelisib + fulvestrant or letrozole in advanced breast cancer	0	0	0	1	1
CAPItello-290	0	0	1	1	2
Cardiac CARE	0	0	0	16	16
Cell Free DNA	0	0	0	1	1
Correlation of archival ovarian tumour genetics with patient outcome	0	0	0	1	1
DS8201-A-U301, Phase 3, HER2-Positive Breast cancer	0	0	0	2	2
DS8201-A-U302, Phase 3, HER2-Positive breast cancer	0	0	0	2	2
DS8201-A-U303, HER 2 - Low Breast Cancer	1	0	0	3	4
Evaluation of the prognostic role of ctDNA in metastatic breast cancer patients.	0	0	0	30	30
MEDICI	7	0	0	0	7
Mint5	0	0	0	6	6
MO39193 - Atezolizumab + Chemotherapy in early relapsing TNBC	0	0	1	0	1
OPTIMA	0	0	0	3	3
plasmaMATCH	0	0	0	1	1
POSNOC	0	0	0	1	1
PRIMETIME	4	2	1	7	14
ROSCO	0	0	0	2	2
The NEO Study	0	0	0	14	14
UNIRAD	0	0	0	3	3
VIOLETTE	0		0	2	2
Totals	18	2	5	299	324

QPI 17: Genomic Testing   Target = 60%

Numerator = Patients with 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.

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 10 years.

Exclusions = Patients with breast cancer taking part in clinical trials of chemotherapy treatment and patients who undergo neoadjuvant therapy.

Target = 60%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	76	92	223	93	682	775	1166
Numerator	1	3	9	6	9	15	28
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	5	6	10	7	13	20	41
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	1	0	0	0	0	1
% Performance	**20.0%**	**50.0%**	**90.0%**	**85.7%**	**69.2%**	**75.0%**	**68.3%**

The R Studio version of nhs.predict was used to calculate the predicted benefit of adjuvant chemotherapy.

QPI 17: Genomic Testing
Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2018		66.7%	14.3%	16.7%	15.8%	16.0%	20.0%
2019	0.0%	62.5%	37.5%	0.0%	52.9%	42.9%	43.6%
2020	20.0%	50.0%	90.0%	85.7%	69.2%	75.0%	68.3%
Target	60%	60%	60%	60%	60%	60%	60%
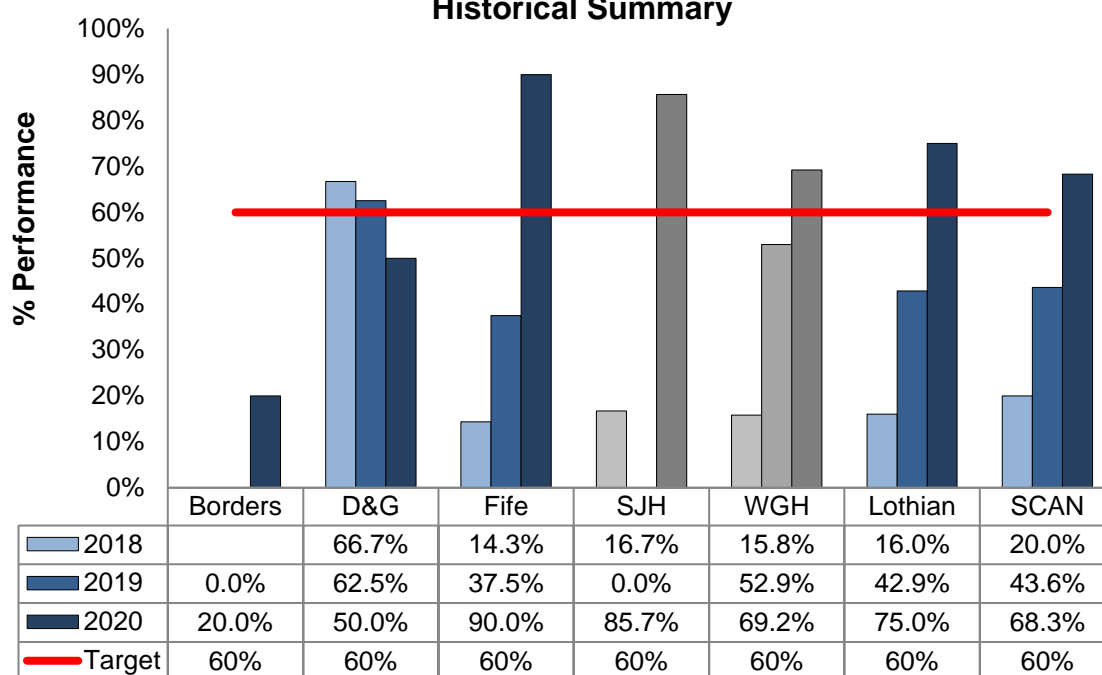
Comments

Small numbers in the denominator are a factor with this QPI. Stepwise improvement is noted.

Borders: Did not meet the target. Of the 4 patients who did not undergo genomic testing, 3 declined and 1 was not fit for adjuvant chemotherapy, therefore testing was not required.

Dumfries & Galloway: The target for the QPI was not met in 3 cases. 1 patient declined chemotherapy so no test was performed. In 2 cases the MDT decided not to put the patient forward for an Oncotype test, in 1 case because it concluded chemotherapy was not required and in the other case because of COVID restrictions around chemotherapy.

Fife: Met the target.

Lothian: Met the target.

Action: No action identified.

QPI 18 (i): Neoadjuvant Chemotherapy   Target = 80%

Numerator = Patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who undergo neo-adjuvant chemotherapy.

Denominator = All patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy.

Exclusions = Patients who undergo palliative chemotherapy.

Target = 80%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	65	87	186	90	622	712	1050
Numerator	11	9	37	8	61	69	126
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	16	11	46	10	73	83	156
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	4	1	0	2	0	5
% Performance	**68.8%**	**81.8%**	**80.4%**	**80.0%**	**83.6%**	**83.1%**	**80.8%**

QPI 18 (i): Neoadjuvant Chemotherapy
Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2018	100.0%	52.6%	66.7%	61.1%	69.6%	68.0%	66.2%
2019	90.9%	77.8%	75.0%	81.8%	81.0%	81.1%	80.0%
2020	68.8%	81.8%	80.4%	80.0%	83.6%	83.1%	80.8%
Target	80%	80%	80%	80%	80%	80%	80%
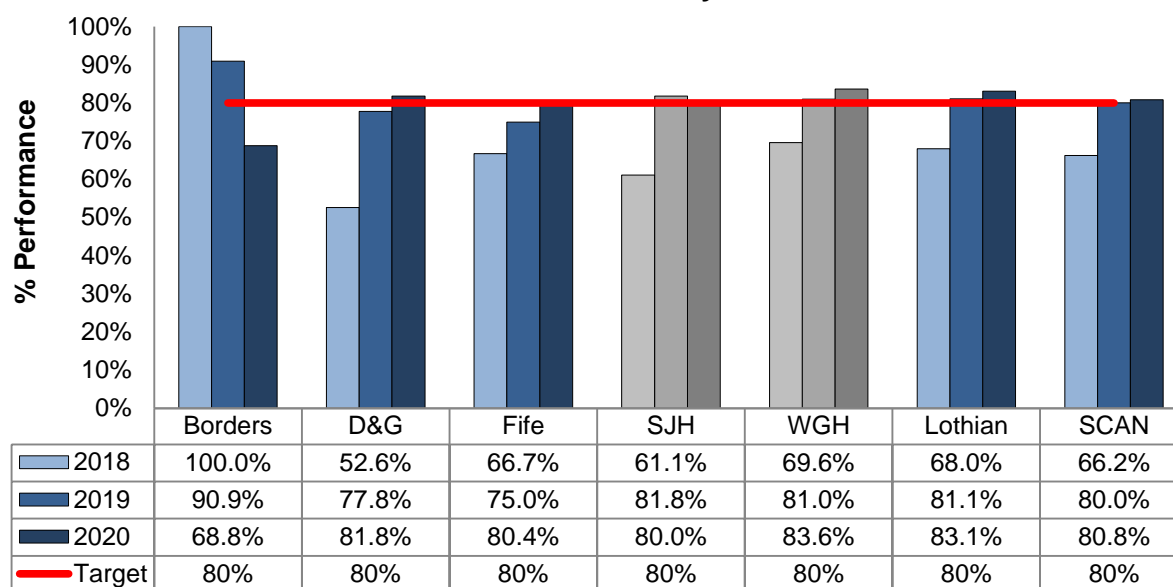
Comments

Borders: Did not meet the target. 5 patients did not undergo neoadjuvant chemo. 2 declined it. 3 had their neoadjuvant chemotherapy cancelled due to COVID and proceeded straight to mastectomy.

Dumfries & Galloway: Met the target. 2 of 11 patients did not have neoadjuvant chemo.

Fife: Met the target. It is noted that during the initial phase of the pandemic, the advice was to not give chemotherapy where surgery was an option.

Lothian: Met the target.

Action: No action identified.

QPI 18 (ii): Neoadjuvant Chemotherapy   Target = 30%

Numerator = Number 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.

Denominator = All patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who undergo neo-adjuvant chemotherapy.

Exclusions = None.

Target = 30%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	69	89	195	92	632	724	1077
Numerator	4	5	15	3	32	35	59
Not Recorded for Numerator	0	0	0	0	0	0	0
Denominator	12	9	37	8	63	71	129
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	2	1	0	2	0	3
% Performance	**33.3%**	**55.6%**	**40.5%**	**37.5%**	**50.8%**	**49.3%**	**45.7%**

QPI 18(ii): Complete Response to Neoadjuvant Chemotherapy Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2018		10.0%	50.0%	36.4%	44.0%	42.6%	40.0%
2019	30.0%	42.9%	48.1%	55.6%	43.1%	45.0%	44.2%
2020	33.3%	55.6%	40.5%	37.5%	50.8%	49.3%	45.7%
Target	30%	30%	30%	30%	30%	30%	30%
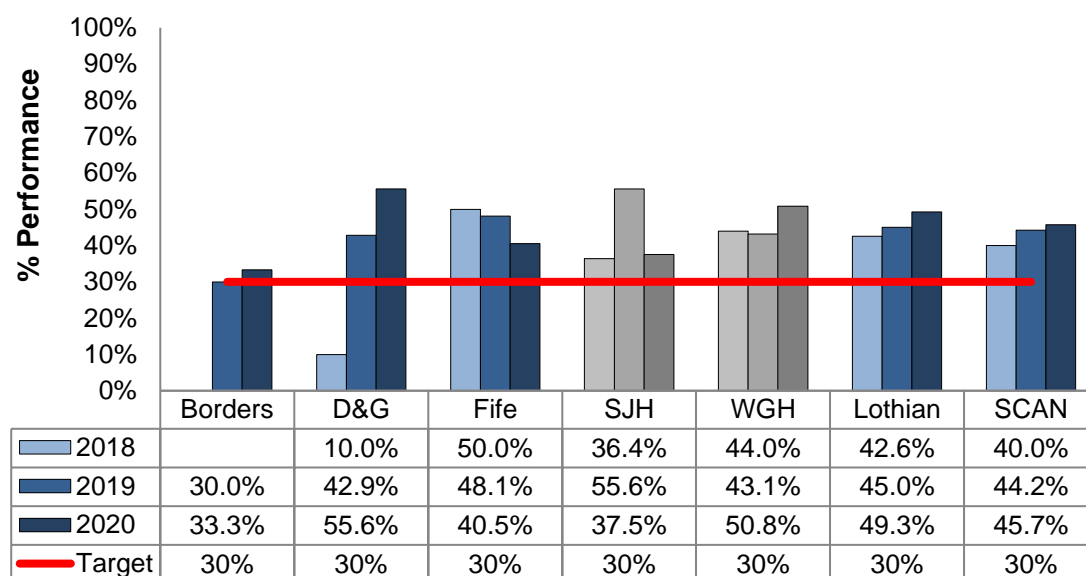
Comments

All Health Boards met the target. It should be noted that, of the patients who did not have a complete response to neoadjuvant chemotherapy, a number saw partial responses, including near-complete eradication of disease.

Caroline Michie remarked that, 50% pCR rates to NACT are excellent and should be celebrated.

Action: No action identified.

QPI 19: Deep Inspiratory Breath Hold (DIBH) Radiotherapy   Target = 80%

Numerator = Patients with left sided breast cancer or DCIS, treated with radiotherapy, including the use of a DIBH technique.

Denominator = All patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy.

Exclusions = None.

Target = 80%	Borders	D&G	Fife	*SJH*	*WGH*	Lothian	SCAN
2020 cohort	81	98	233	100	695	795	1207
Ineligible for QPI	52	67	163	73	504	577	859
Numerator	8	16	40	15	86	101	165
Not Recorded for Numerator	0	1	9	0	0	0	10
Denominator	29	31	70	27	191	218	348
Not Recorded for Exclusions	0	0	0	0	0	0	0
Not Recorded for Denominator	0	0	0	0	0	0	0
% Performance	**27.6%**	**51.6%**	**57.1%**	**55.6%**	**45.0%**	**46.3%**	**47.4%**

QPI 19: DIBH Radiotherapy Historical Summary

	Borders	D&G	Fife	SJH	WGH	Lothian	SCAN
2019	20.0%	34.8%	40.4%	40.0%	29.2%	30.3%	31.4%
2020	27.6%	51.6%	57.1%	55.6%	45.0%	46.3%	47.4%
Target	80%	80%	80%	80%	80%	80%	80%
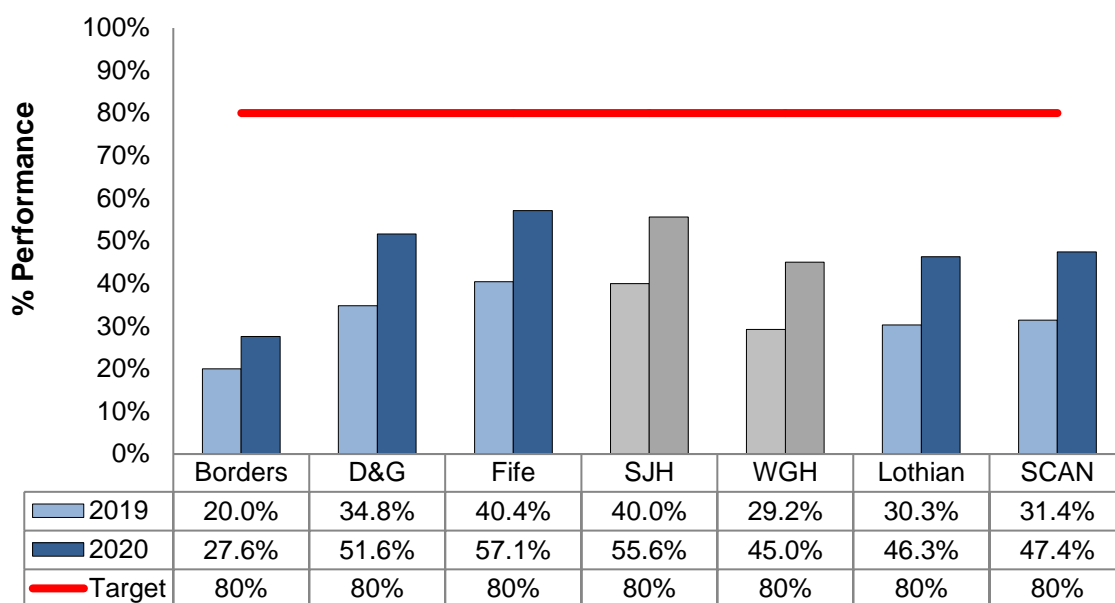
Comments

Borders, Fife and Lothian residents typically come to WGH for radiotherapy, although Ninewells is often used by patients living in North Fife as it's more accessible for them. Dumfries & Galloway residents receive radiotherapy in Dumfries and sometimes Carlisle.

The radiotherapy unit at WGH has a policy of aiming to scan all left-sided breast cancer patients aged under 60 as well as all breast cancer patients of any age with pre-existing cardiac issues and all chest wall patients of any age.

Borders: Did not meet the target. 21 of 29 patients did not use the DIBH technique however this was not a clinical decision; rather, the patients were not offered DIBH as they did not meet the criteria of being under 60 years of age that was set by the WGH radiotherapy unit due to capacity issues.

Dumfries & Galloway: Did not meet the target. All 14 patients who did not receive DIBH were aged 60 or over therefore were not offered it due to lack of capacity.

Fife: Did not meet the target. 21 outliers. All radiotherapy for this cohort of patients has taken place within Lothian. However, it is noted that the number of Fife patients using a DIBH technique has increased compared to the previous year. Note 9 patients are included in the Denominator but not recorded for the Numerator. At the time of analysis/reporting, confirmation of DIBH technique was only available for patients who had received their radiotherapy treatment up to June 2021.

Lothian: Did not meet the target. 117 outliers. Matthew Barber commented, 'slow improvement.'

Frances Yuille commented, 'Improving on the previous year - we started offering DIBH to those under 60 during 2020 but not all left sided cancers are offered DIBH currently due to limited resource at the ECC.'

Aisling Hennessy commented that the Lothian DIBH QPI result was due to 'lack of capacity.'

Marjory Maclennan commented, 'We are all very keen to be delivering these treatments and despite some fantastic and ongoing efforts from the RT team (IMRT and PBI in place, new machine on the horizon) we can't offer DIBH to all patients that would benefit (yet). I am sure we aren't alone in Scotland. PRIME 2 results and PBI availability might also impact on the >70 RT QPI. I am sure we can take this forward and discuss at the next meeting".'

Action: Continue focus to increase the use of the technique.

Draft QPI: Recurrence

The SCAN Chair, Matthew Barber has proposed this draft QPI to measure local recurrence rates and distant relapse. The purpose is to demonstrate what can be achieved once processes are in place, using the data fields available in eCase.

The cohort for analysis = Patients diagnosed during 2014.

Exclusions = Patients with metastatic disease at diagnosis (M1), patients who have not had surgery, and male patients.

At the time of reporting, data is available from Dumfries and Galloway and Fife. It is hoped that Borders and Lothian will be in a position to undertake this audit once their workload allows.

Invasive disease	Health Board - Fife Invasive disease 2014	Mastectomy 38	Conservation 93	Total 131
1	No recurrences/disease free	20	83	103
	%	52.6%	89.2%	78.6%
	Death ≤ 5 yrs	0	7	7
2	Local Recurrence only	1	2	3
	%	2.6%	2.2%	2.3%
	Death ≤ 5 yrs	0	0	0
3	Regional recurrence only	0	1	1
	%	0.0%	1.1%	0.8%
	Death ≤ 5 yrs	0	0	0
4	Local + Regional recurrence	0	1	1
	%	0.0%	1.1%	0.8%
	Death ≤ 5 yrs	0	1	1
5	Distant mets alone	7	2	9
	%	18.4%	2.2%	6.9%
	Death ≤ 5 yrs	5	0	5
6	Distant mets + local recurrence	1	0	1
	%	2.6%	0.0%	0.8%
	Death ≤ 5 yrs	1	0	1
7	Distant mets + regional recurrence	2	1	3
	%	5.3%	1.1%	2.3%
	Death ≤ 5 yrs	2	0	2
8	Distant + Regional + local	1	0	1
	%	2.6%	0.0%	0.8%
	Death ≤ 5 yrs	1	0	1
9	(Summary): Any recurrence or mets	12	7	19
	%	31.6%	7.5%	14.5%
	Death ≤ 5 yrs	9	1	10
10	Lost to follow up	6	3	9
	%	15.8%	3.2%	6.9%
11	Insufficient follow up (ie <5 years from diagnosis)	0	0	0
	%	0.0%	0.0%	0.0%
12	How many of these patients had a new primary recorded on the same side as the 2014 cancer, within 5 years?	0		

Fife - 2014 - 5 Year Recurrence reporting

DCIS only		Health Board - Fife	Mx	WLE	Total
		DCIS only - 2014	6	5	11
	1	No recurrences	5	5	10
		%	83.3%	100.0%	90.9%
		Death within 5 yrs	0	0	0
	2	Loc Rec only	1	0	1
		%	16.7%	0.0%	9.1%
		Death within 5 yrs	0	0	0
	3	Regional only	0	0	0
		%	0.0%	0.0%	0.0%
		Death within 5 yrs	0	0	0
	4	Local + Regional	0	0	0
		%	0.0%	0.0%	0.0%
		Death within 5 yrs	0	0	0
	5	Distant mets alone	0	0	0
		%	0.0%	0.0%	0.0%
		Death within 5 yrs	0	0	0
	6	Distant + local	0	0	0
		%	0.0%	0.0%	0.0%
		Death within 5 yrs	0	0	0
	7	Distant + regional	0	0	0
		%	0.0%	0.0%	0.0%
		Death within 5 yrs	0	0	0
	8	Distant + Regional + local	0	0	0
		%	0.0%	0.0%	0.0%
		Death within 5 yrs	0	0	0
	9	Any recurrence or mets	1	0	1
		%	16.7%	0.0%	9.1%
		Death within 5 yrs	0	0	0
	10	Lost to follow up	0	0	0
		%	0.0%	0.0%	0.0%
	11	Insufficient follow up (ie <5 years from diagnosis)	0	0	0
		%	0.0%	0.0%	0.0%
	12	How many of these patients had a new primary recorded on the same side as the 2014 cancer, within 5 years?	0		

Dumfries & Galloway - 2014 - 5 Year Recurrence reporting

Invasive disease	Dumfries and Galloway Invasive disease 2014	Mastectomy	Conservation	Total
		17	38	55
1	No recurrences/disease free	12	32	44
	%	70.6%	84.2%	80.0%
	Death ≤ 5 yrs	3	5	8
2	Local Recurrence only	0	0	0
	%	0.0%	0.0%	0.0%
	Death ≤ 5 yrs	0	0	0
3	Regional recurrence only	0	0	0
	%	0.0%	0.0%	0.0%
	Death ≤ 5 yrs	0	0	0
4	Local + Regional recurrence	0	0	0
	%	0.0%	0.0%	0.0%
	Death ≤ 5 yrs	0	0	0
5	Distant mets alone	4	4	8
	%	23.5%	10.5%	14.5%
	Death ≤ 5 yrs	4	1	5
6	Distant mets + local recurrence	1	0	1
	%	5.9%	0.0%	1.8%
	Death ≤ 5 yrs	1	0	1
7	Distant mets + regional recurrence	0	0	0
	%	0.0%	0.0%	0.0%
	Death ≤ 5 yrs	0	0	0
8	Distant + Regional + local	0	0	0
	%	0.0%	0.0%	0.0%
	Death ≤ 5 yrs	0	0	0
9	(Summary): Any recurrence or mets	5	4	9
	%	29.4%	10.5%	16.4%
	Death ≤ 5 yrs	6	1	7
10	Lost to follow up	0	0	0
	%	0.0%	0.0%	0.0%
11	Insufficient follow up (ie <5 years from diagnosis)	0	2	2
	%	0.0%	5.3%	3.6%
12	How many of these patients had a new primary recorded on the same side as the 2014 cancer, within 5 yrs?	0		

DCIS – Dumfries and Galloway

During 2014 Dumfries and Galloway report 2 patients were diagnosed with DCIS alone.
Neither was diagnosed with a recurrence or a new primary within 5 years.

Appendices

Appendix 1 – Age at Diagnosis

Age at Diagnosis 2020

	Borders	D&G	Fife	St John's	WGH	Lothian	SCAN
70+	42.0%	37.8%	37.3%	32.0%	27.5%	28.1%	31.6%
50-69	46.9%	42.9%	34.8%	46.0%	55.5%	54.3%	49.1%
<50	11.1%	19.4%	27.9%	22.0%	17.0%	17.6%	19.3%
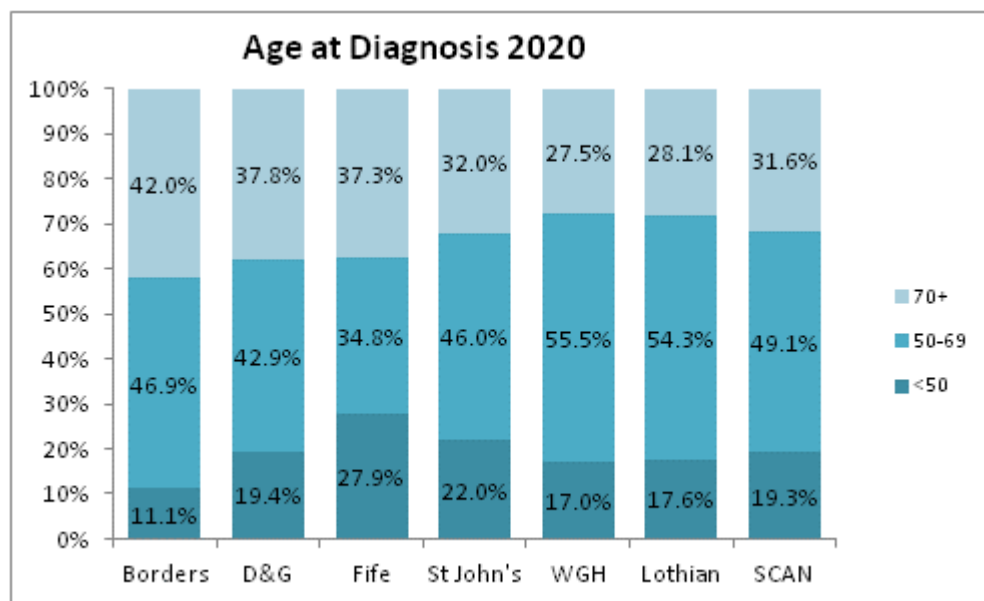
Appendix 2 – Gender

2020	Borders		Dumfries		Fife		WGH		St John's		SCAN	
Gender		**%**		**%**		**%**		**%**		**%**		**%**
Female	81	100%	98	100%	232	99.6%	692	99.6%	99	99%	1202	99.6%
Male	0	0.0%	0	0.0%	1	0.4%	3	0.4%	1	1.0%	5	0.4%
Total	81	100%	98	100%	233	100%	695	100%	100	100%	1207	100%

Appendix 3 – Summary of Key Categories – 2020

Referral	Borders №	%	Dumfries №	%	Fife №	%	WGH №	%	St John's №	%	SCAN №	%
Primary Care Clinician	65	80.2%	83	84.7%	194	83.3%	364	52.4%	70	70.0%	776	64.3%
Breast Screening	4	4.9%	9	9.2%	10	4.3%	239	34.4%	12	12.0%	274	22.7%
Incidental/Secondary care	5	6.2%	4	4.1%	18	7.7%	50	7.2%	16	16.0%	93	7.7%
Review patients	4	4.9%	0	0.0%	7	3.0%	36	5.2%	2	2.0%	49	4.1%
Increased Risk Clinic	3	3.7%	1	1.0%	0	0.0%	3	0.4%	0	0.0%	7	0.6%
Ref from private healthcare	0	0.0%	0	0.0%	1	0.4%	2	0.3%	0	0.0%	3	0.2%
Other	0	0.0%	1	1.0%	3	1.3%	0	0.0%	0	0.0%	4	0.3%
Not recorded	0	0.0%	0	0.0%	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Total	81	100.0%	98	100.0%	233	100.0%	695	100.0%	100	100.0%	1207	100.0%
T Stage												
T0	0	0.0%	1	1.0%	0	0.0%	1	0.1%	0	0.0%	2	0.2%
T1	23	28.4%	31	31.6%	64	27.5%	298	42.9%	29	29.0%	445	36.9%
T2	37	45.7%	42	42.9%	123	52.8%	227	32.7%	39	39.0%	468	38.8%
T3	9	11.1%	5	5.1%	5	2.1%	36	5.2%	8	8.0%	63	5.2%
T4	6	7.4%	2	2.0%	20	8.6%	52	7.5%	15	15.0%	95	7.9%
Tis (DCIS)	5	6.2%	3	3.1%	20	8.6%	75	10.8%	8	8.0%	111	9.2%
Tx (not assessable)	1	1.2%	0	0.0%	1	0.4%	5	0.7%	0	0.0%	7	0.6%
T9 (not recorded)	0	0.0%	14	14.3%	0	0.0%	1	0.1%	1	1.0%	16	1.3%
Total	81	100.0%	98	100.0%	233	100.0%	695	100.0%	100	100.0%	1207	100.0%
N Stage												
N0	56	69.1%	60	61.2%	162	69.5%	562	80.9%	78	78.0%	918	76.1%
N1	25	30.9%	20	20.4%	60	25.8%	107	15.4%	20	20.0%	232	19.2%
N2	0	0.0%	0	0.0%	3	1.3%	6	0.9%	0	0.0%	9	0.7%
N3	0	0.0%	1	1.0%	5	2.1%	14	2.0%	1	1.0%	21	1.7%
NX	0	0.0%	3	3.1%	3	1.3%	3	0.4%	0	0.0%	9	0.7%
N9 (not recorded)	0	0.0%	14	14.3%	0	0.0%	3	0.4%	1	1.0%	18	1.5%
Total	81	100.0%	98	100.0%	233	100.0%	695	100.0%	100	100.0%	1207	100.0%

M Stage	Borders		Dumfries		Fife		WGH		St John's		SCAN	
M0	75	92.6%	86	87.8%	207	88.8%	641	92.2%	86	86.0%	1095	90.7%
M1	6	7.4%	6	6.1%	21	9.0%	43	6.2%	13	13.0%	89	7.4%
M9 (not recorded)	0	0.0%	6	6.1%	5	2.1%	11	1.6%	1	1.0%	23	1.9%
Total	**81**	**100.0%**	**98**	**100.0%**	**233**	**100.0%**	**695**	**100.0%**	**100**	**100.0%**	**1207**	**100.0%**
Part of TNM not recorded	0	0.0%	18	18.4%	5	2.1%	16	2.3%	2	2.0%	41	3.4%
Tumour Types	№	%	№	%	№	%	№	%	№	%	№	%
DCIS	3	100.0%	3	100.0%	8	66.7%	52	82.5%	5	100.0%	71	45.2%
LCIS	0	0.0%	0	0.0%	3	25.0%	8	12.7%	0	0.0%	11	7.0%
Paget's Disease	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other non-invasive	0	0.0%	0	0.0%	1	8.3%	3	4.8%	0	0.0%	4	2.5%
Non-invasive total	**3**	**3.7%**	**3**	**3.1%**	**12**	**5.2%**	**63**	**9.1%**	**5**	**5.0%**	**86**	**7.1%**
Ductal carcinoma	60	77.9%	74	78.7%	182	83.1%	478	76.0%	72	76.6%	866	77.8%
Lobular carcinoma	13	16.9%	14	14.9%	24	11.0%	92	14.6%	14	14.9%	157	14.1%
Medullary carcinoma	0	0.0%	1	1.1%	2	0.9%	1	0.2%	0	0.0%	4	0.4%
Mucinous carcinoma	1	1.3%	1	1.1%	2	0.9%	9	1.4%	2	2.1%	15	1.3%
Tubular carcinoma	0	0.0%	0	0.0%	1	0.5%	12	1.9%	0	0.0%	13	1.2%
Mixed (invasive)	2	2.6%	2	2.1%	3	1.4%	19	3.0%	4	4.3%	30	2.7%
Other invasive	0	0.0%	2	2.1%	4	1.8%	18	2.9%	2	2.1%	26	2.3%
Occult, with +ve nodes	1	1.3%	0	0.0%	1	0.5%	0	0.0%	0	0.0%	2	0.2%
Invasive total	**77**	**95.1%**	**94**	**95.9%**	**219**	**94.0%**	**629**	**90.5%**	**94**	**94.0%**	**1113**	**92.2%**
Inapplicable (no histology)	1	1.2%	1	1.0%	2	0.9%	3	0.4%	1	1.0%	8	0.7%
Not recorded	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	**81**	**100.0%**	**98**	**100.0%**	**233**	**100.0%**	**695**	**100.0%**	**100**	**100.0%**	**1207**	**100.0%**
ER Status (Invasive tumours)												
High Positive (6-8)	58	71.6%	72	76.6%	157	71.7%	504	80.1%	73	77.7%	864	77.4%
Low positive (3-5)	1	1.2%	16	17.0%	10	4.6%	20	3.2%	3	3.2%	50	4.5%
Negative (0-2)	21	25.9%	6	6.4%	52	23.7%	105	16.7%	18	19.1%	202	18.1%
Not assessable	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Not recorded	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Inapplicable	1	1.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.1%
Total	**81**	**100.0%**	**94**	**100.0%**	**219**	**100.0%**	**629**	**100.0%**	**94**	**100.0%**	**1117**	**100.0%**

	Borders		Dumfries		Fife		WGH		St John's		SCAN	
Her2 Status (Invasive tumours)												
Her2 positive	14	18.2%	13	13.8%	31	14.2%	80	12.7%	13	13.8%	151	13.6%
Her2 negative	63	81.8%	81	86.2%	184	84.0%	548	87.1%	80	85.1%	956	85.9%
Not recorded	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Not done / Inconclusive	0	0.0%	0	0.0%	2	0.9%	0	0.0%	0	0.0%	2	0.2%
Not assessable	0	0.0%	0	0.0%	2	0.9%	1	0.2%	1	1.1%	4	0.4%
Total	**77**	**100.0%**	**94**	**100.0%**	**219**	**100.0%**	**629**	**100.0%**	**94**	**100.0%**	**1113**	**100.0%**
First treatment												
Surgery	39	48.1%	47	48.0%	93	39.9%	384	55.3%	62	62.0%	625	51.8%
Hormone therapy	28	34.6%	31	31.6%	84	36.1%	210	30.2%	21	21.0%	374	31.0%
Chemotherapy	13	16.0%	18	18.4%	44	18.9%	91	13.1%	13	13.0%	179	14.8%
Radiotherapy	0	0.0%	1	1.0%	1	0.4%	2	0.3%	1	1.0%	5	0.4%
Biological therapy	0	0.0%	0	0.0%	1	0.4%	2	0.3%	0	0.0%	3	0.2%
No active treatmt (Supportive care)	0	0.0%	1	1.0%	6	2.6%	4	0.6%	2	2.0%	13	1.1%
Died before treatment	0	0.0%	0	0.0%	2	0.9%	2	0.3%	1	1.0%	5	0.4%
Refused all treatment	1	1.2%	0	0.0%	2	0.9%	0	0.0%	0	0.0%	3	0.2%
Not recorded	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	**81**	**100.0%**	**98**	**100.0%**	**233**	**100.0%**	**695**	**100.0%**	**100**	**100.0%**	**1207**	**100.0%**
Final Surgery												
Localising/Excision biopsy	0	0.0%	0	0.0%	1	0.6%	9	1.5%	0	0.0%	10	1.0%
Conservation surgery	38	56.7%	53	63.1%	99	58.2%	443	73.0%	58	73.4%	691	68.6%
Therapeutic mammoplasty	2	3.0%	1	1.2%	1	0.6%	33	5.4%	1	1.3%	38	3.8%
Conservation Total	**40**	**59.7%**	**54**	**64.3%**	**101**	**59.4%**	**485**	**79.9%**	**59**	**74.7%**	**739**	**73.4%**
Mastectomy alone	22	32.8%	26	31.0%	57	33.5%	89	14.7%	19	24.1%	213	21.2%
Mastectomy + immed. reconstruction	2	3.0%	4	4.8%	10	5.9%	30	4.9%	1	1.3%	47	4.7%
Mastectomy total	**24**	**35.8%**	**30**	**35.7%**	**67**	**39.4%**	**119**	**19.6%**	**20**	**25.3%**	**260**	**25.8%**
Axillary surgery alone	3	4.5%	0	0.0%	0	0.0%	1	0.2%	0	0.0%	4	0.4%
Other	0	0.0%	0	0.0%	2	1.2%	2	0.3%	0	0.0%	4	0.4%
Surgery total	**67**	**82.7%**	**84**	**85.7%**	**170**	**73.0%**	**607**	**87.3%**	**79**	**79.0%**	**1007**	**83.4%**
Refused treatment	1	1.2%	0	0.0%	4	1.7%	12	1.7%	0	0.0%	17	1.4%
Not yet/pending	0	0.0%	1	1.0%	13	5.6%	3	0.4%	0	0.0%	17	1.4%
Not applicable	13	16.0%	13	13.3%	46	19.7%	73	10.5%	21	21.0%	166	13.8%
Not recorded	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	**81**	**100.0%**	**98**	**100.0%**	**233**	**100.0%**	**695**	**100.0%**	**100**	**100.0%**	**1207**	**100.0%**

Borders	Dumfries	Fife	WGH	St John's	SCAN

Radiotherapy

	Borders		Dumfries		Fife		WGH		St John's		SCAN	
Primary radical	0	0.0%	0	0.0%	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Adjuvant	54	66.7%	59	60.2%	132	56.7%	477	68.6%	66	66.0%	788	65.3%
Palliative	1	1.2%	1	1.0%	8	3.4%	12	1.7%	2	2.0%	24	2.0%
Refused	2	2.5%	8	8.2%	11	4.7%	12	1.7%	1	1.0%	34	2.8%
Inapplicable	23	28.4%	29	29.6%	66	28.3%	190	27.3%	31	31.0%	339	28.1%
Not recorded	0	0.0%	0	0.0%	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Not yet/pending	1	1.2%	1	1.0%	16	6.9%	2	0.3%	0	0.0%	20	1.7%
Total	**81**	**100.0%**	**98**	**100.0%**	**233**	**100.0%**	**695**	**100.0%**	**100**	**100.0%**	**1207**	**100.0%**

Chemotherapy

	Borders		Dumfries		Fife		WGH		St John's		SCAN	
Adjuvant	15	18.5%	4	4.1%	42	18.0%	92	13.2%	19	19.0%	172	14.3%
Neoadjuvant	12	14.8%	0	0.0%	46	19.7%	88	12.7%	13	13.0%	159	13.2%
Palliative	1	1.2%	0	0.0%	2	0.9%	12	1.7%	0	0.0%	15	1.2%
Refused	8	9.9%	0	0.0%	9	3.9%	22	3.2%	7	7.0%	46	3.8%
Inapplicable	45	55.6%	93	94.9%	122	52.4%	476	68.5%	61	61.0%	797	66.0%
Not recorded	0	0.0%	0	0.0%	0	0.0%	2	0.3%	0	0.0%	2	0.2%
Not yet/pending	0	0.0%	1	1.0%	12	5.2%	3	0.4%	0	0.0%	16	1.3%
Total	**81**	**100.0%**	**98**	**100.0%**	**233**	**100.0%**	**695**	**100.0%**	**100**	**100.0%**	**1207**	**100.0%**

Hormone therapy (1st course)

	Borders		Dumfries		Fife		WGH		St John's		SCAN	
Neoadjuvant	3	3.7%	20	20.4%	44	18.9%	113	16.3%	5	5.0%	185	15.3%
Peri-operative	13	16.0%	0	0.0%	6	2.6%	39	5.6%	1	1.0%	59	4.9%
Primary	6	7.4%	12	12.2%	24	10.3%	43	6.2%	7	7.0%	92	7.6%
Palliative	5	6.2%	1	1.0%	15	6.4%	28	4.0%	9	9.0%	58	4.8%
Adjuvant	29	35.8%	43	43.9%	74	31.8%	298	42.9%	52	52.0%	496	41.1%
Inapplicable	21	25.9%	21	21.4%	67	28.8%	162	23.3%	25	25.0%	296	24.5%
Not recorded	0	0.0%	0	0.0%	0	0.0%	5	0.7%	0	0.0%	5	0.4%
Refused	2	2.5%	1	1.0%	1	0.4%	1	0.1%	1	1.0%	6	0.5%
Not yet/pending	2	2.5%	0	0.0%	2	0.9%	6	0.9%	0	0.0%	10	0.8%
Total	**81**	**100.0%**	**98**	**100.0%**	**233**	**100.0%**	**695**	**100.0%**	**100**	**100.0%**	**1207**	**100.0%**

	Borders	Dumfries	Fife	WGH	St John's	SCAN

Biological therapy (Her2

positive)

Her2 positive, invasive

											0	
Herceptin treatment	8	57.1%	10	76.9%	25	80.6%	61	76.3%	5	38.5%	109	72.2%
No biological therapy	5	35.7%	3	23.1%	6	19.4%	18	22.5%	7	53.8%	39	25.8%
No decision yet	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Not recorded	0	0.0%	0	0.0%	0	0.0%	1	1.3%	0	0.0%	1	0.7%
Other	1	7.1%							1	7.7%	2	1.3%
Total	**14**	**100.0%**	**13**	**100.0%**	**31**	**100.0%**	**80**	**100.0%**	**13**	**100.0%**	**151**	**100.0%**

Appendix 4 – SCAN: New Breast Cancer Totals by Year of Diagnosis

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Borders	56	92	60	59	95	68	70	72	61	72	80	74	70	81
Dumfries	127	103	110	112	112	108	103	119	108	92	108	127	110	98
Fife	177	170	171	189	206	185	193	194	169	180	182	201	199	233
WGH	792	820	789	793	880	866	869	912	971	771	805	835	845	695
St J	116	94	81	107	98	93	106	111	105	111	107	105	112	100
SCAN	1268	1279	1211	1260	1391	1320	1341	1408	1414	1226	1282	1342	1336	1207

SCAN: new breast cancer patients by year of diagnosis 2007 -2020
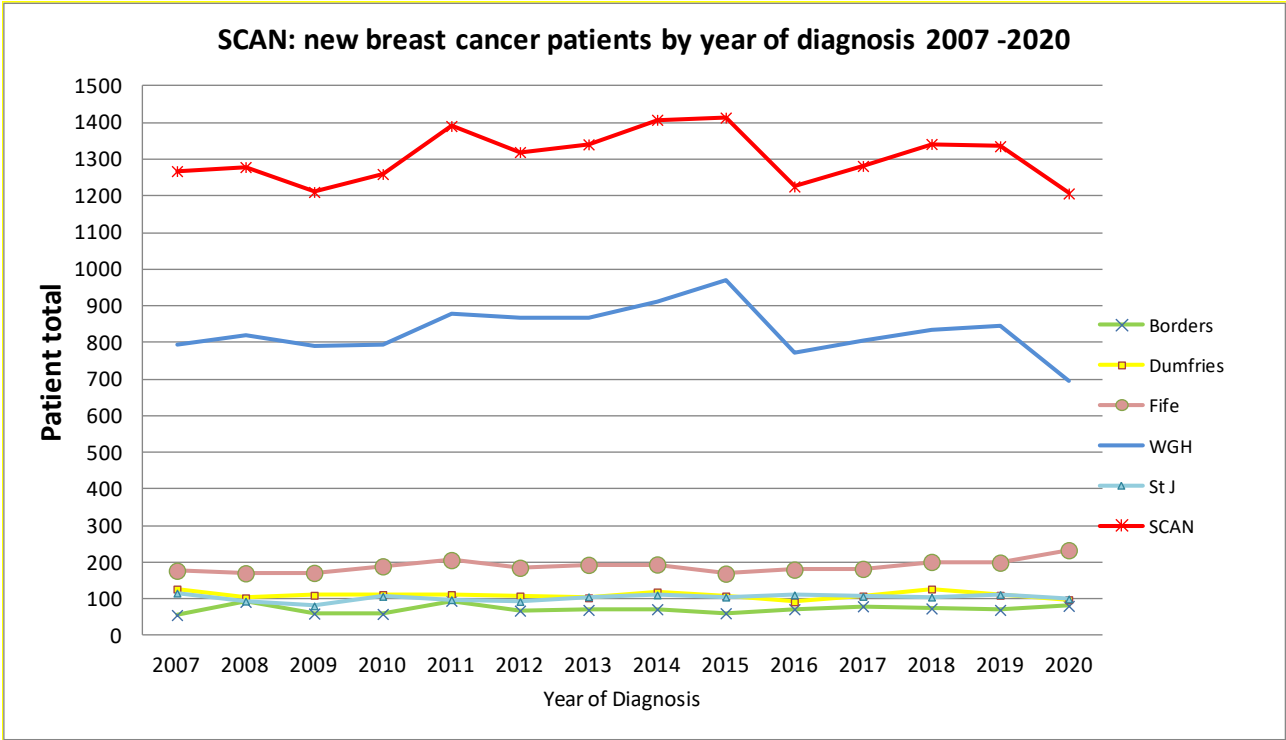
Appendix 5 – Overall Workload by Health Board

NHS Lothian
Source: Analytical Services Department. Reference: IRS 2005

Attendance and Referral Source to breast cancer services at NHS Lothian Western General Hospital and St John's Hospital at Howden.*
Jan-Dec 2020

Western General Hospital

Referral Source	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Accident and Emergency Department	1												1
ASC Assessment	34	56	70	35		3	4	4	32	46	60	58	402
Community Health Service		1											1
Consultant from another Hospital out with this Health Board area	3	2											5
Consultant from another Hospital within Health Board		1	1		1	1					1		5
Consultant within the Trust	28	38	26	25	61	48	46	44	39	44	45	30	474
GP	511	458	496	402	496	475	421	432	488	569	558	585	5891
Other (includes Armed Forces)	1						1						2
Other Nurse (Community)			1		2	1				1	1		6
Outpatient Department			4	2	1	2			3	1	1	2	16
Prison/Penal Establishments		1			1	2				1			5
Self referral											2		2
No Referral Source	18	20	14	19	33	21	11		1	2			139
Total	**596**	**577**	**612**	**483**	**595**	**553**	**483**	**480**	**563**	**664**	**668**	**675**	**6949**

St John's Hospital

Referral Source	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Accident and Emergency Department		1	1										2
Consultant from another Hospital out with this Health Board area					1								1
Consultant from another Hospital within Health Board	2			1			1	1			1		6
Consultant within the Trust	3	5	4		2	2	6		2	2	1	5	32
GP	142	119	119	95	85	102	106	103	110	116	117	142	1356
Other Nurse (Community)	1												1
Prison/Penal Establishments	1												1
Self referral							1						1
Total	**149**	**125**	**124**	**96**	**88**	**104**	**114**	**104**	**112**	**118**	**119**	**147**	**1400**

Appointment type: New. Only the first patient attendance has been counted.

NHS Fife

New outpatient attendance activity, 2014-2020

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2014	221	234	212	235	238	217	253	206	246	245	234	255	**2796**
2015	251	221	248	242	209	237	238	217	255	220	226	269	**2833**
2016	233	219	252	204	207	249	180	274	241	223	250	214	**2746**
2017	216	213	236	221	205	226	116	221	233	251	259	155	**2552**
2018	201	146	158	134	260	178	194	185	287	214	258	223	**2438**
2019	302	293	274	265	297	291	213	271	194	241	232	210	**3083**
2020	241	256	228	82	100	179	209	131	238	224	311	264	**2463**

Source: Marcus Vosoughi, NHS Fife. Reports: SR IR7143 and 325282

NHS Borders

Actual Demand 2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Grand Total
Not Vetted	0	1	0	0	0	0	0	1	0	0	0	0	2
Routine	47	23	18	4	16	24	29	19	31	33	35	25	304
Soon	0	0	0	0	0	2	0	1	0	0	1	0	4
Urgent	35	26	32	22	21	23	30	35	28	43	36	26	357
Urgent - Suspected Cancer	38	23	37	18	35	41	40	35	37	41	40	42	427
Urgent - Suspicion of Cancer	0	1	0	0	0	1	0	0	0	0	0	0	2
Grand Total	**120**	**74**	**87**	**44**	**72**	**91**	**99**	**91**	**96**	**117**	**112**	**93**	**1096**

NHS Dumfries & Galloway

New outpatient attendance activity, 2020

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
DGRI (breast clinics)	164	149	150	53	63	88	57	86	108	106	103	74	1201

It is estimated that up to 40 additional new breast cancer patients were seen in clinics at Galloway Community Hospital. It is not possible to extract this group from the remaining general surgery new patients seen at this location.

Appendix 6 – Attainment Summary 2019

Breast Cancer QPI Attainment Summary 2019			Target %	Borders		D&G		Fife		Lothian		SCAN	
QPI 6 Immediate reconstruction	i) Immediate reconstruction		20	N 1 / D 18	5.6%	N 3 / D 28	10.7%	N 7 / D 63	11.1%	N 59 / D 141	41.8%	N 70 / D 250	28.0%
	ii) Immediate reconstruction within 42 days		90	N 0 / D 0	N/A	N 3 / D 3	100%	N 5 / D 7	71.4%	N 38 / D 48	79.2%	N 46 / D 58	79.3%
QPI 8 Minimising Hospital Stay	i) Day case surgery (conservation)	By HB surgery	60	N 33 / D 33	100%	N 47 / D 54	87.0%	N 106 / D 132	80.3%	N 676 / D 795	85.0%	N 862 / D 101	85.0%
		By HB residence	60	N 46 / D 46	100%	N 47 / D 55	85.5%	N 255 / D 315	81.0%	N 517 / D 610	84.8%	N 865 / D 102	84.3%
	ii) Mastectomy without reconstruction	By HB of treatment	60	N 1 / D 18	5.6%	N 31 / D 39	79.5%	N 43 / D 67	64.2%	N 22 / D 133	16.5%	N 97 / D 257	37.7%
		By HB of Residence	60	N 1 / D 18	5.6%	N 31 / D 39	79.5%	N 53 / D 89	59.6%	N 21 / D 124	16.9%	N 106 / D 270	39.3%
QPI 9 Her2 status for decision making			90	N 51 / D 63	81.0%	N 62 / D 94	66.0%	N 118 / D 177	66.7%	N 686 / D 779	88.1%	N 917 / D 111	82.4%
QPI 10 Radiotherapy for conservation in Older Adults			<40	N 0 / D 0	N/A	N 0 / D 3	0.0%	N 2 / D 4	50.0%	N 18 / D 31	58.1%	N 20 / D 38	52.6%
QPI 11 Adjuvant chemotherapy	i) Hormone receptor (ER plus/minus PR) positive, HER2 negative breast cancer		80	N 3 / D 9	33.3%	N 8 / D 12	66.7%	N 17 / D 20	85.0%	N 36 / D 51	70.6%	N 64 / D 92	69.6%
	ii) Triple negative or HER2 positive breast cancer		80	N 2 / D 5	40.0%	N 3 / D 3	100%	N 14 / D 17	82.4%	N 23 / D 30	76.7%	N 42 / D 55	76.4%
QPI 13 Re-excision rates			<20	N 4 / D 39	10.3%	N 8 / D 52	15.4%	N 28 / D 106	26.4%	N 164 / D 696	23.6%	N 204 / D 893	22.8%
QPI 14 Referral for genetics testing	i) Patients under 30		90	N 0 / D 0	N/A	N 1 / D 1	100%	N 3 / D 3	100%	N 3 / D 3	100%	N 7 / D 7	100%
	ii) Patients under 50 (triple negative)		90	N 2 / D 3	66.7%	N 3 / D 3	100%	N 5 / D 5	100%	N 14 / D 14	100%	N 24 / D 25	96.0%
QPI 15		Neoadjuvant	<1	N		N		N		N		N	

Breast Cancer QPI Attainment Summary 2019		Target %	Borders		D&G		Fife		Lothian		SCAN	
30 day mortality following chemotherapy			D		D		D		D		D	
Data to be reported using Chemocare - Reports not yet available	Adjuvant	<1	N		N		N		N		N	
			D		D		D		D		D	
	Palliative	<5	N		N		N		N		N	
			D		D		D		D		D	
QPI 16 Clinical trials & Research Study access – patients consented to any trial (SCRN data)		15	N	13	N	10	N	17	N	194	N	234
			D	75	D	114	D	208	D	906	D	130
				17.4%		8.8%		8.2%		21.4%		18.0%
QPI 17 Genomic testing		60	N	0	N	5	N	3	N	9	N	17
			D	2	D	8	D	8	D	21	D	39
				0.0%		62.5%		37.5%		42.9%		43.6%
QPI 18 Neoadjuvant chemotherapy (triple negative or HER2 positive, Stage II or III ductal breast cancer)	Patients receiving neoadjuvant chemo	80	N	10	N	7	N	27	N	60	N	104
			D	11	D	9	D	36	D	74	D	130
				90.9%		77.8%		75.0%		81.1%		80.0%
	Patients with pathological complete response	30	N	3	N	3	N	13	N	27	N	46
			D	10	D	7	D	27	D	60	D	104
				30.0%		42.9%		48.1%		45.0%		44.2%
QPI 19 Deep Inspiratory Hold (DIBH) Radiotherapy		80	N	4	N	8	N	23	N	100	N	135
			D	20	D	23	D	57	D	330	D	430
				20.0%		34.8%		40.4%		30.3%		31.4%

Numerator	% performance
Denominator	

Target met	Not met

Appendix 7 – Glossary

Adjuvant therapy/ treatment
Additional cancer treatment given after the primary treatment to lower the risk that the cancer will come back. Adjuvant therapy may include chemotherapy, radiation therapy, hormone therapy, targeted therapy or biological therapy.

Audit
The measuring and evaluation of care against best practice with a view to improving current practice and care delivery.

Axilla
The armpit.

Biopsy
Removal of a sample of tissue from the body to assist in diagnosis of a disease.

Case ascertainment
Number of cases recorded as a proportion of those expected using the average of the most recent available five years reported in the Scottish Cancer Registry.

Chemotherapy
The use of drugs that destroy cancer cells, or prevent or slow their growth.

Co-morbidity
The condition of having two or more diseases at the same time.

DIBH (Deep Inspiration Breath Hold)
A radiation therapy technique where patients take a deep breath during treatment, and hold this breath while the radiation is delivered, reducing the dose to the heart and the lung, whilst ensuring the breast / chest wall area receives the full dose as prescribed.

Diagnosis
The process of identifying disease from its signs and symptoms.

ECC
Edinburgh Cancer Centre.

Histology/Histological
The study of cells and tissue on the microscopic level.

IBR
Immediate Breast Reconstruction.

Lymph nodes
Small bean shaped organs located along the lymphatic system. Nodes filter bacteria or cancer cells that might travel through the lymphatic system. In breast cancer, particular attention is focussed on the axillary lymph nodes.

Malignant
Cancerous. Malignant cells can invade and destroy nearby tissue and spread to other parts of the body.

MDM
The Multi-Disciplinary Meeting of the MDT. See **MDT**.

MDT: Multi-Disciplinary Team
A multi-professional group of people from different disciplines (both healthcare and non-healthcare) who work together to provide care for patients with a particular condition. The composition of multi-disciplinary teams will vary according to many factors. These include: the specific condition, the scale of the service being provided; and geographical/ socio-economic factors in the local area.

Metastatic disease (metastases)
Spread of cancer away from the primary site to somewhere else, e.g. via the bloodstream or the lymphatic system.

Neo-adjuvant chemotherapy
Drug treatment which is given before the treatment of a primary tumour with the aim of improving the results of surgery and preventing the development of metastases.

One-Stop Clinic
A service in which patients with a known lesion (e.g. a woman with a breast mass identified by her GP) of an unascertained nature (benign vs. malignant) undergo a multimodality (physical examination, imaging and fine-needle aspiration cytology and biopsy) evaluation during the same visit and in most (average 96%) cases leave the clinic with a definitive diagnosis, already booked for further therapy if needed.

Palliative care
Palliative care is the active total care of patients and their families by a multi-professional team when the patient's disease is no longer responsive to curative treatment. The aim is to alleviate symptoms and improve quality of life.

Palliative Radiotherapy
When it is not possible to cure a cancer, radiotherapy can be given to alleviate symptoms. Lower doses are given than for curative or radical radiotherapy and generally over a shorter period of time.

Pathological diagnosis
The microscopic examination (histological or cytological) of the specimen by a pathologist to determine the presence of malignancy and the classification of the malignant tumour.

PREDICT
PREDICT, or nhs.predict, is a tool used across NHS Scotland to calculate PREDICT scores (the predicted 10-year survival benefit of adjuvant chemotherapy) for patients. The latest version was released in October 2020.

Primary Tumour
Original site of the cancer. The mass of tumour cells at the original site of abnormal tissue growth.

Quality Performance Indicators (QPIs)
A set of quality measures developed collaboratively with the three Scottish Regional Cancer Networks, Information Services Division (ISD), and Healthcare Improvement Scotland. The Breast Cancer QPIs were first reported for patients diagnosed during 2012.

Radical Radiotherapy
Radiotherapy is given with the aim of destroying cancer cells to attain cure.

Radiotherapy
The use of radiation, usually X-rays or gamma rays, to kill tumour cells.

Resection
Surgical removal of a portion of any part of the body.

SCAN
South East Scotland Cancer Network: 1 of 3 regional cancer networks in Scotland, covering a population of 1.4 million across 4 Health Boards (Borders, Dumfries & Galloway, Fife and Lothian). A multidisciplinary, patient-focused network of professionals aiming to improve cancer care by facilitating communication and partnership working.

Sentinel Lymph Node Biopsy (SNB)
A surgical procedure used to determine if cancer has spread beyond a primary tumor into the lymphatic system, via the axilla.

SESBSP
South East Scotland Breast Screening Programme.

Staging
The process of determining whether cancer has spread. Staging involves clinical, surgical, radiological and pathological assessment.

TNM Classification
TNM classification provides a system for staging the extent of cancer. T refers to the size and position of the primary tumour. N refers to the involvement of the lymph nodes. M refers to the existence of metastatic disease

Tumour
An abnormal mass of tissue. A tumour may be either benign (not cancerous) or malignant. Also known as a neoplasm.

USS
Ultrasound – a type of imaging used in the investigation of breast abnormalities.

WLE (Wide Local Excision)
Breast conserving surgery – removal of the tumour with a margin of normal looking tissue around it. It may also be referred to as a lumpectomy.