Quality Performance Indicators Audit Report

Tumour Area:	Breast Cancer
Patients Diagnosed:	1st January – 31st December 2018
Published Date:	20th November 2020
Clinical Commentary:	Collated from comments submitted by all North of Scotland (NoS) health boards.

1. Breast Cancer in Scotland

Breast cancer is the most common cancer in women (and second most common cancer in both men and women combined) with over 4500 cases diagnosed in Scotland each year since 2010 with incidence remaining at a similar level over the last 10 years[1].

Relative survival for breast cancer is increasing[2]. The table below shows the percentage change in one-year and five-year age-standardised survival rates for female patients diagnosed in 1987-1981 compared to those diagnosed in 2007-2011. The improvement in survival for breast cancer is likely to reflect the introduction and increasing use of systemic adjuvant therapy[3] as well as the national breast-screening programme.

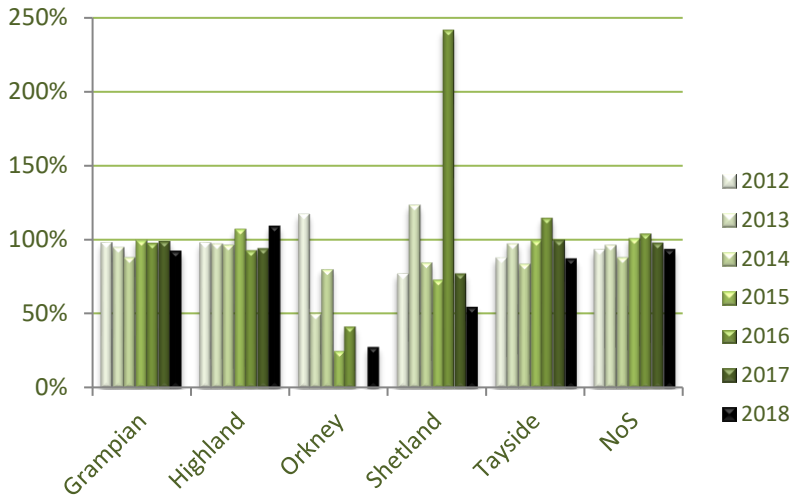
Relative age-standardised survival for breast cancer in Scotland at 1 year and 5 years showing percentage change from 1987-1981 to 2007-2011[2].

	Relative survival at 1 year (%)		Relative survival at 5 years (%)	
	2007-2011	% change	2007-2011	% change
Breast Cancer	94.6 %	+ 6.9 %	82.8 %	+ 16.6 %

2. Patient Numbers and Case Ascertainment in the North of Scotland

Between 1stJanuary and 31stDecember 2018 a total of 1216 cases of breast cancer were diagnosed in the North of Scotland and recorded through audit. Overall case ascertainment was high at 93% which indicates very good data capture through audit. As such QPIs based on cancer audit data are considered to be representative of all patients diagnosed with breast cancer during the audit period.

	Grampian	Highland & W Isles	Orkney	Shetland	Tayside	NoS
No. of Patients 2018	463	311	1	7	434	1216
% of NoS total	38.1%	25.6%	0.1%	0.6%	35.7%	100%
Mean ISD Cases 2013-17	502	285	4	13	499	1302
% Case ascertainment 2018	92.2%	109.0%	27.8%	54.7%	87.0%	93.4%

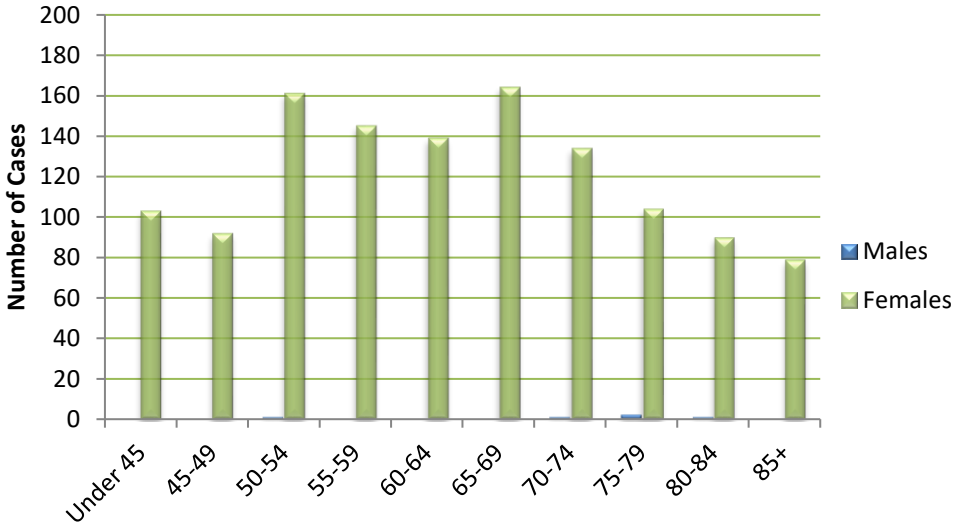


Case ascertainment by NHS Board for patients diagnosed with breast cancer in 2012-2018.

The number of instances of data not being recorded was generally very low. The '% predicted survival benefit' of chemotherapy treatment is a new data item introduced in January 2016 and is required to report QPI 11 and 17. For some patients this information was not recorded and it was not possible to identify whether patients should be included within the QPIs and they were therefore excluded from calculations. In addition disease stage was not recorded for some patients from Grampian, affecting results for QPI 18 and Progesterone Receptor Status was not recorded for a number of patients in NHS Highland affecting results for QPIs 11(ii), 14(ii) and 18.

3. Age Distribution

The figure below shows the age distribution of patients diagnosed with breast cancer in the North of Scotland in 2018, with numbers of patients diagnosed highest in the 65-69 year age bracket.



Age distribution of patients diagnosed with breast cancer in the NoS in2018.

4. Performance against Quality Performance Indicators (QPIs)

Definitions for the QPIs reported in this section are published by Health Improvement Scotland[4], while further information on datasets and measurability used are available from Information Services Division[5]. Data is presented by Board of Audit, with the exception QPI 8, which is reported by Board of Surgery, and QPI 16, which is reported by Board of residence of the patient.

5. Governance and Risk

Governance is defined as the combination of structures and processes at all levels to ensure quality performance and improvement including:

- Ensuring accountability for quality and required standards
- Investigating and taking action on sub-standard performance
- Identifying, sharing and ensuring delivery of best-practice
- Identifying and managing risks to ensure quality of care
- Driving continuous improvement

The North Cancer Alliance governance structure provides assurance to the six North of Scotland NHS boards that QPI risks are being addressed as an alliance.

An assessment of clinical risk for each QPI is made by the tumour-specific Clinical Director and Pathway Board manager upon the availability of data. This is discussed collaboratively within the tumour-specific Pathway Board, achieving consensus on clinical risk status assigned.

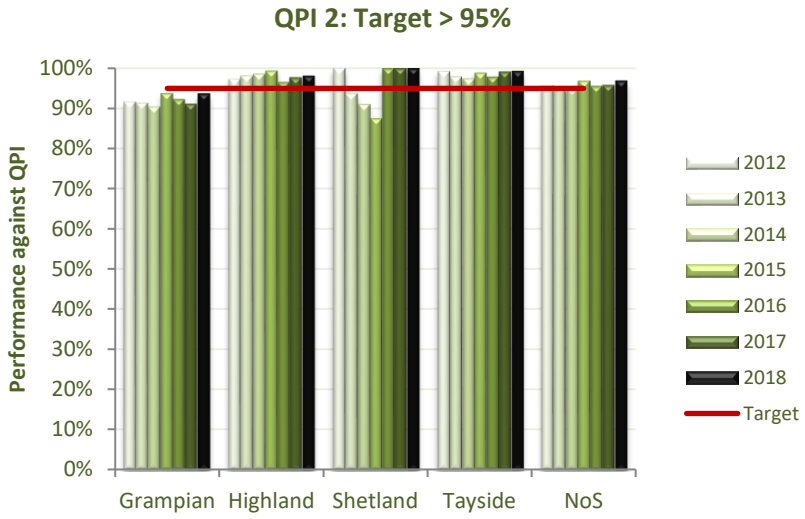
This assessment of clinical risk is then discussed and agreed with the NCA Clinical Director and Regional Cancer Manager who take independent oversight of current QPI performance, mitigation and actions proposed. The NCA Clinical Director or Manager may propose that the risk status requires oversight from the North Cancer Clinical Leadership Group (NCCLG).

NCCLG are presented with all available evidence and actions so they have all the information to define the risk in a collaborative way. NCCLG confirm the risk status of each QPI and ensure QPIs requiring escalation can be directed through the NCA governance structure.

- **Tolerate -** Accept the risk at its current level
- **Mitigate -** Reduce or mitigate the risk, in terms of reducing the likelihood of its occurrence or reducing the severity of impact if it does occur. This can be assessed through the action plans provided or the information provided is appropriate to prevent reoccurrence.
- **Escalate -** Escalate the risk to the appropriate committee and/or take further action as the mitigations were not suitable or there are no actions identified to mitigate the risk. This will be revisited by the NCCLG for further risk discussion.
- **Immediate -** Immediate action is required to prevent the risk reoccurring. This risk will have major impact on patient care delivery and the consequences thereafter. Very few risks should occur in this level.
- **Manage –** The risk is currently being managed through an action plan developed in liaison with the tumour-specific Clinical Director / Pathway Board members. It is likely risks that have previously been escalated will be assigned this risk status until there is evidence of an improvement in QPI compliance.

The full governance document on risk should be referred to in conjunction with this summary, which is available on the NCA website[6].

QPI 2	Non-operative diagnosis
Proportion of patients with invasive or in-situ breast cancer who have a non-operative diagnosis (core biopsy / large volume biopsy).	

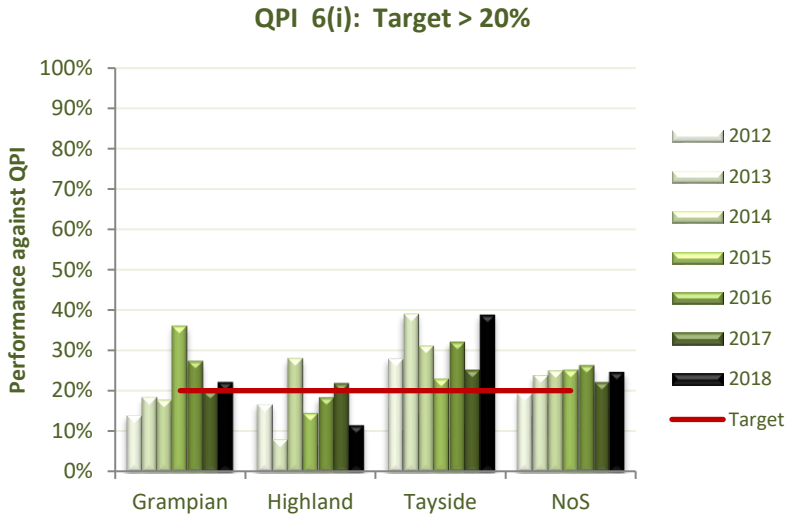


	Performance (%)	Numerator	Denominator
Grampian	**93.7%**	428	457
Highland & W Isles	**98.1%**	304	310
Orkney*	**-**	-	-
Shetland	**100%**	6	6
Tayside	**99.3%**	430	433
NoS	**96.9%**	**1169**	**1207**

Clinical Commentary	The NoS boards overall met this QPI target however, this is the seventh consecutive year that NHS Grampian have not. During the Breast Cancer CMG review in 2019, FNA biopsy was removed as a singular diagnostic option in the breast cancer pathway. Core biopsy/large volume biopsy is the procedure agreed that should be conducted as part of standard practice. In NHSG, 29 patients did not have a core biopsy or large volume biopsy. Results have improved from last year, rising from 91.2% to 93.7%. NHS Grampian commented that patients who did not receive a core biopsy were too frail, presented with metastatic disease or did not appear malignant on biopsy.
Actions	1. NCBPB to continue to take oversight of this QPI performance until NHS Grampian meets the standard required 2. NCA to escalate this issue as per the above governance structure and support with actions required to improve performance
Risk Status	Escalate

QPI 6	Immediate Reconstruction Rate
Proportion of patients who undergo immediate breast reconstruction at the time of mastectomy for breast cancer, and within 6 weeks of treatment decision.	

Specification (i) Patients undergoing immediate breast reconstruction at the time of mastectomy



	Performance (%)	Numerator	Denominator
Grampian	**22.2%**	30	135
Highland & W Isles	**11.6%**	10	86
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**38.7%**	41	106
NoS	**24.7%**	**81**	**328**

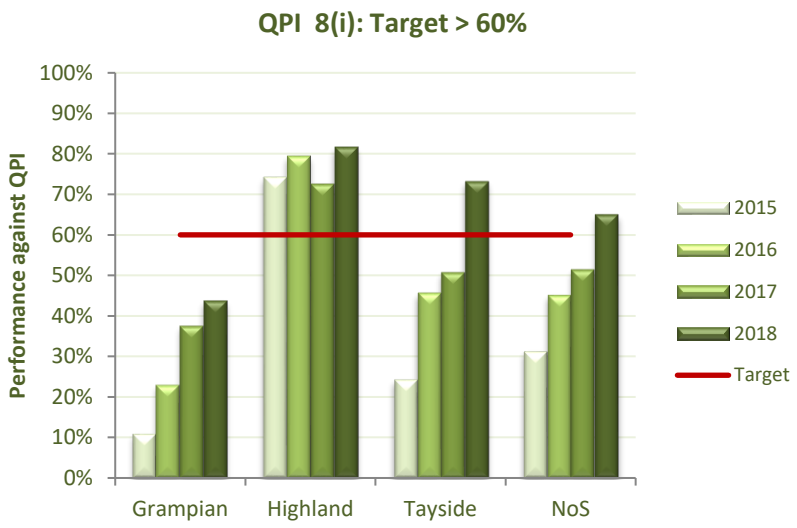
Specification (ii) Patients undergoing immediate breast cancer at the time of mastectomy and within 6 weeks of treatment decision

This specification was developed through the Formal Review of Breast Cancer QPIs in 2019. Data required to report this standard has not been collected for patients diagnosed in 2018 and therefore it is not possible to report performance against this target. Results will be reported for patients diagnosed in 2019.

Clinical Commentary	The target for specification (i) has been reduced to 20% (previously 25%) with NHS Grampian and NHS Tayside meeting the target. NHS Highland have seen a drop in performance in comparison to previous years, despite local practice not changing and patients having access to immediate reconstruction. This may reflect NHS Highland's increasing use of neo-adjuvant chemotherapy resulting in more conservation procedures.
Actions	1. NHS Highland to audit reasons for not meeting this QPI and provide update to NCBPB 2. NCA to progress issues with access to immediate breast reconstruction at the time of mastectomy
Risk Status	Escalate within NHS Highland

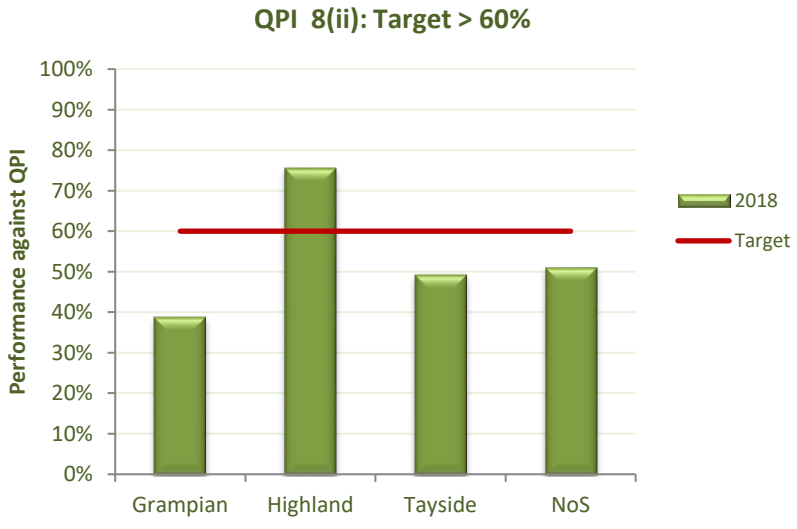
QPI 8	Minimising Hospital Stay
Proportion of patients undergoing day case / 23 hour surgery for breast surgery.	

Specification (i) Patients undergoing wide excision and / or an axillary sampling procedure as day case surgery



	Performance (%)	Numerator	Denominator
Grampian	**43.7%**	121	277
Highland & W Isles	**81.5%**	190	233
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**73.0%**	189	259
NoS	**64.9%**	**502**	**773**

Specification (ii) Patients undergoing mastectomy (without reconstruction) with a maximum hospital stay of 1 night following their procedure

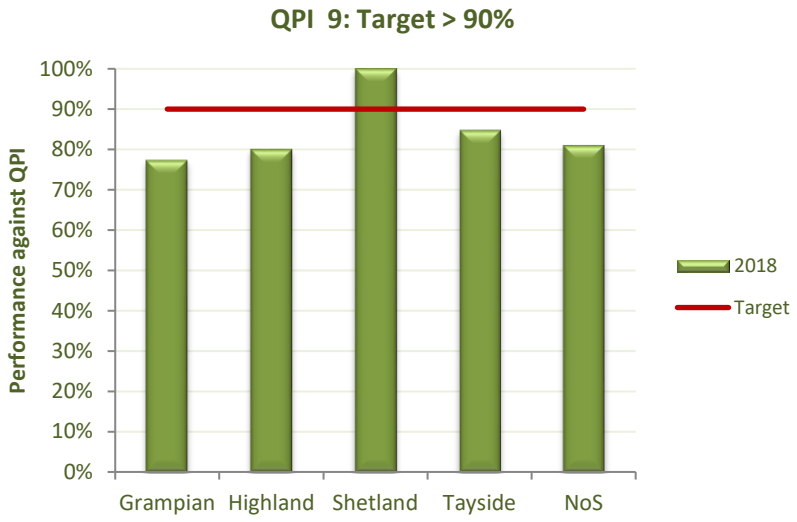


	Performance (%)	Numerator	Denominator
Grampian	**39.1%**	52	133
Highland & W Isles	**75.6%**	59	78
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**49.4%**	41	83
NoS	**51.2%**	**152**	**297**

Clinical Commentary	NHS Highland and NHS Tayside met specification (i) of this QPI, with NHSH managing to maintain their high standard. NHS Tayside have seen a large improvement in results this year after agreeing changes with their anaesthetics department and local protocols. NHS Grampian have also seen improvements year on year, however are still not reaching the target. The geography of NHS Grampian's region remains challenging with the lack of adequate patient hotel facilities. However, the opening of a Day of Surgery admissions unit in May 2019 should assist with NHS Grampian's performance in future years. Specification (ii) was introduced to the national reporting scheme after the breast cancer

	QPI formal review which took place in March 2019. This means the QPI has been implemented retrospectively for patients diagnosed in 2018. NHS Highland managed to meet this QPI standard. NHS Grampian and NHS Tayside did not meet this target in the first reporting year. NHS Tayside have commented that they are likely to meet the target in 2020 following improvements that have been made with their anaesthetics department and local protocols. Some inaccuracies in coding within SMR01 have been noted, resulting in some patients that had immediate reconstruction being included within the figures for NHS Grampian. Review of the NHS Grampian data suggests that actually 53 out of 133 patients having mastectomy without immediate reconstruction were discharged the day following surgery (43.1%).
Actions	1. NCBPB to explore geographical distance in relation to NHS Grampian's performance with this QPI 2. NCA to support NHS Grampian with changes in the patient pathway that are required 3. NCBPB to develop NCA breast cancer surgical guidelines with agreed discharge timescales 4. QPI 8 to be a standing agenda item at the NCBPB meetings
Risk Status	Mitigate

QPI 9	HER2 Status for Decision Making
Proportion of patients with invasive breast cancer for whom the HER2 status (as detected by immunohistochemistry (IHC) and/or FISH analysis) is reported within 2 weeks of core biopsy.	



	Performance (%)	Numerator	Denominator
Grampian	**77.4%**	278	359
Highland & W Isles	**80.1%**	217	271
Orkney	-	0	0
Shetland	**100%**	5	5
Tayside	**84.8%**	323	381
NoS	**81.0%**	**823**	**1016**

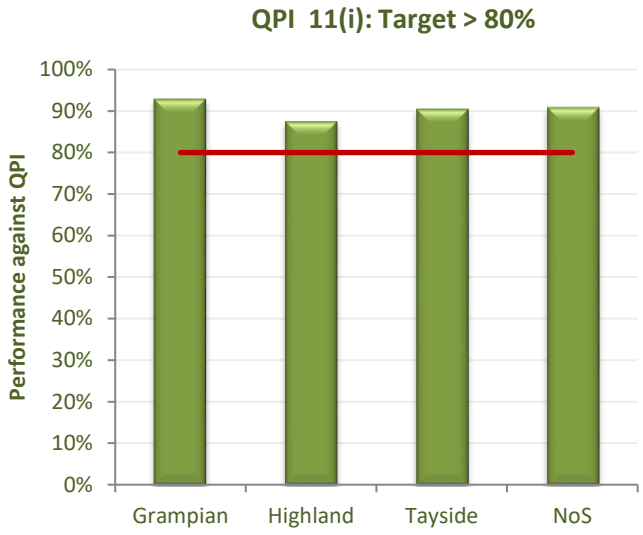
Clinical Commentary	This QPI has been amended from the previous year; the target has increased to 90%. The NoS overall miss this QPI target by 9% with none of NoS cancer centres meeting the target. An audit was undertaken on the 2018 patient cohort to determine where delays in this particular pathway occur. It was noted that for patients requiring further FISH testing caused the largest delay amongst each board. In NHSH the wait for IHC also presented a larger delay in comparison to NHS Grampian and NHS Tayside. These results have been discussed amongst the NCBPB in order to raise awareness of importance of timely HER2 testing.
Actions	1. NCBPB to repeat HER2 pathway audit for 2019 patients and develop action plan. 2. NCBPB to write to the molecular pathology consortium to highlight the importance of timely HER2 testing.
Risk Status	Escalate

QPI 10	Radiotherapy for Breast Conservation in Older Adults
Proportion of patients ≥ 70 years of age with T1 N0, ER-positive, HER2-negative, LVI negative, Grade I to II breast cancers undergoing conservation surgery (completely excised with margin ≥1mm) with hormone therapy who receive radiotherapy.	

This QPI was developed through the Formal Review of Breast Cancer QPIs in 2019. Data required to report this standard has not been collected for patients diagnosed in 2018 and therefore it is not possible to report performance against this target. Results will be reported for patients diagnosed in 2019.

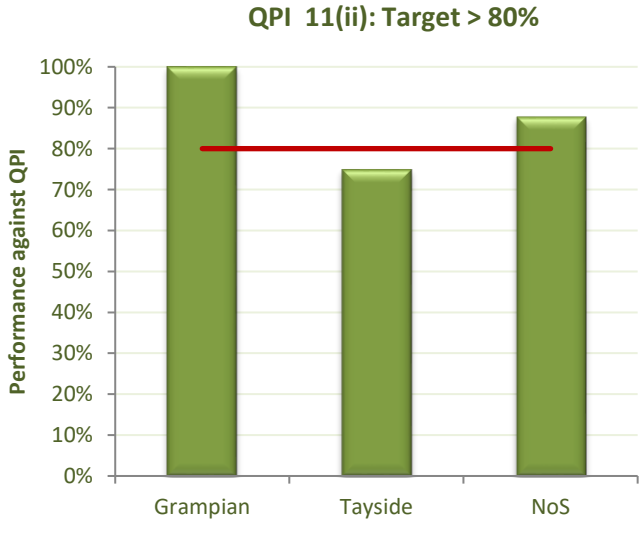
QPI 11	Adjuvant Chemotherapy
Proportion of patients with invasive breast cancer who have a ≥5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo adjuvant chemotherapy.	

Specification (i): Patients with hormone receptor (ER and/or PR) positive, HER2 negative breast cancer with a >5% overall survival benefit of chemotherapy treatment predicted at 10 years and/or high risk genomic assay score.



	Performance (%)	Numerator	Denominator
Grampian	**92.9%**	13	14
Highland & W Isles	**87.5%**	7	8
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**90.5%**	19	21
NoS	**90.9%**	**40**	**44**

Specification (ii) Patients with triple negative (ER negative, PR negative, HER2 negative) or HER2 positive breast cancer with >5% overall survival benefit of chemotherapy treatment predicted at 10 years.

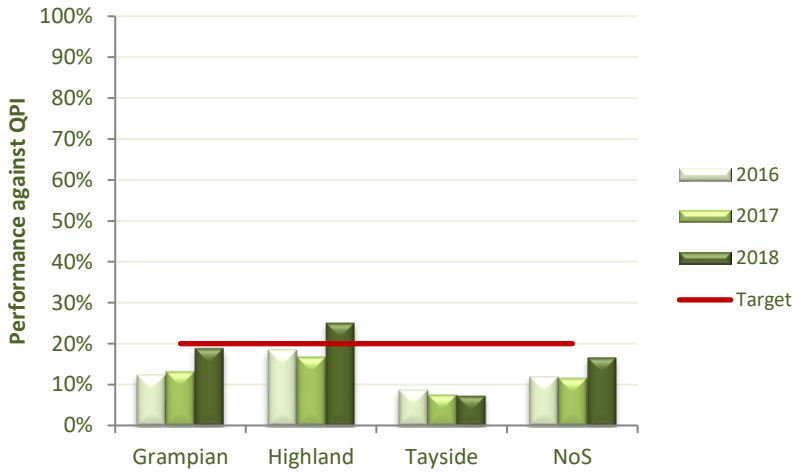


	Performance (%)	Numerator	Denominator
Grampian	**100%**	25	25
Highland & W Isles	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	**75.0%**	18	24
NoS	**87.8%**	**43**	**49**

Clinical Commentary	Overall this QPI target was achieved in the North of Scotland. NHS Tayside missed the QPI target by 5% resulting in 6 patients in the sub group not receiving adjuvant chemotherapy. 5 out of these 6 patients refused chemotherapy as treatment. Although the North of Scotland's performance met this QPI, it is important to note that it was not possible to tell if some patients should be included within this QPI as the PREDICT score was not recorded for 58 patients (predominantly in NHS Grampian and NHS Tayside) and the PR score was not collected for 21 in NHS Highland.

Actions	1. NoS boards to improve PREDICT recording 2. NCBPB to link in with the National Cancer Quality Operational Group (NCQOG) regarding the national actions to implement a PREDICT algorithm within the e-case dataset 3. NHS Highland to improve PR recording
Risk Status	Mitigate

QPI 13	Re-excision Rates
Proportion of surgically treated patients with breast cancer (invasive or in situ) who undergo re-excision or mastectomy following their initial surgery.	



	Performance (%)	Numerator	Denominator
Grampian	**18.9%**	51	270
Highland & W Isles	**25.0%**	51	204
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**7.4%**	19	258
NoS	**16.6%**	**122**	**735**

Clinical Commentary	The North of Scotland as a whole achieved this QPI, however NHS Highland did not meet this target despite local practice not changing over margins taken and appropriate cavity shaves at the first operation.
Actions	1. NHS Highland to audit cases that required re-excision
Risk Status	Tolerate

QPI 14	Referral for Genetic Testing
Proportion of patients who meet the following criteria for gene testing and are referred to a specialist genetics clinic.	

	Specification (i) Patients with breast cancer who are under 30 years of age Target 90%			Specification (ii) Patients with triple negative breast cancer who are under 50 years of age Target 90%		
	Performance (%)	Numerator	Denominator	Performance (%)	Numerator	Denominator
Grampian	**100%**	5	5	**72.7%**	8	11
Highland &W Isles*	-	0	0	-	-	-
Orkney	-	0	0	-	0	0
Shetland	-	0	0	-	0	0
Tayside*	-	-	-	**100%**	11	11
NoS	**100%**	**7**	**7**	**87.5%**	**21**	**24**

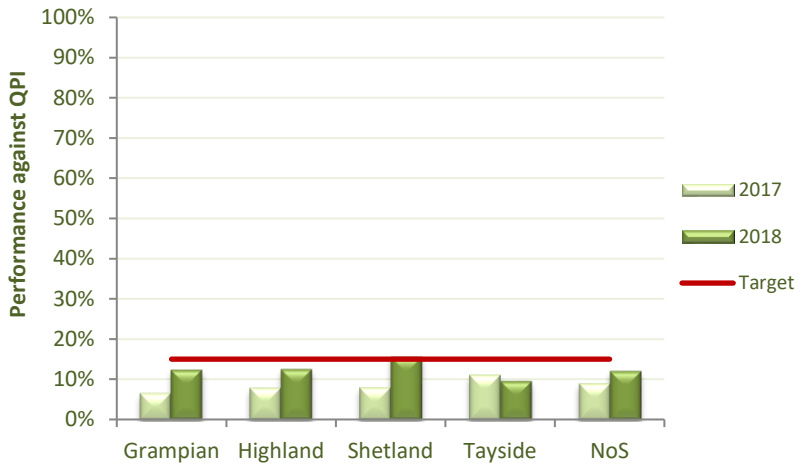
Clinical Commentary	Specification (ii) of this QPI has increased the age specification to 50 (previously 40) of eligible patients suitable for gene testing. NHS Grampian did not meet this QPI target however, the change in age was not agreed until the Breast QPI Formal Review in March 2019 which is after this reported patient co-hort. NHS Grampian expect figures to improve next year after changes made within their local MDT.
Actions	No actions identified
Risk Status	Tolerate

QPI 15	30 Day Mortality following Chemotherapy
Proportion of patients with breast cancer who die within 30 days of chemotherapy.	

With regards to mortality following SACT, a decision has been taken nationally to move to a new generic QPI (30-day mortality for SACT) applicable across all tumour types.

This new QPI will use CEPAS (Chemotherapy ePrescribing and Administration System) data to measure SACT mortality to ensure that the QPI focuses on the prevalent population rather than the incident population. The measurability for this QPI is still under development to ensure consistency across the country and it is anticipated that performance against this measure will be reported in the next audit cycle. In the meantime all deaths within 30 days of SACT will continue to be reviewed at a NHS Board level.

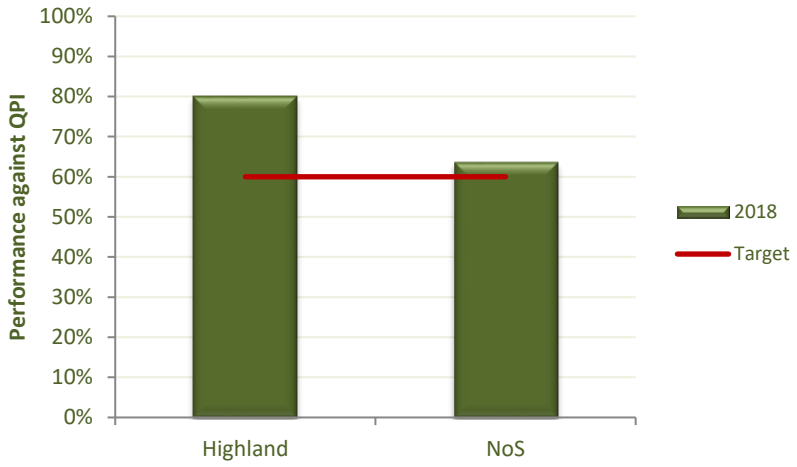
QPI 16	Clinical Trials and Research Study Access
Proportion of patients with breast cancer who are consented for a clinical trial / translational research. Figures show patients consented for clinical trials or research studies during 2018.	



	Performance (%)	Numerator	Denominator
Grampian	**12.4%**	62	502
Highland & W Isles	**12.6%**	36	285
Orkney*	-	-	-
Shetland	**15.6%**	2	13
Tayside	**9.6%**	48	499
NoS	**12.1%**	**158**	**1302**

Clinical Commentary	Results for patients residing in NHS Grampian, NHS Highland and NHS Shetland have increased compared to the previous year. However, these figures do not include patients that were entered into screening trials, such as the CONTEST study in NHS Tayside.
Actions	1. All clinicians should consider opening relevant clinical trials in their tumour areas. When this is not possible patient referrals to other sites for access to clinical trials should be considered. *[Generic action identified by SCRN-North]*
Risk Status	Tolerate

QPI 17	Genomic Testing
Proportion of 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.	

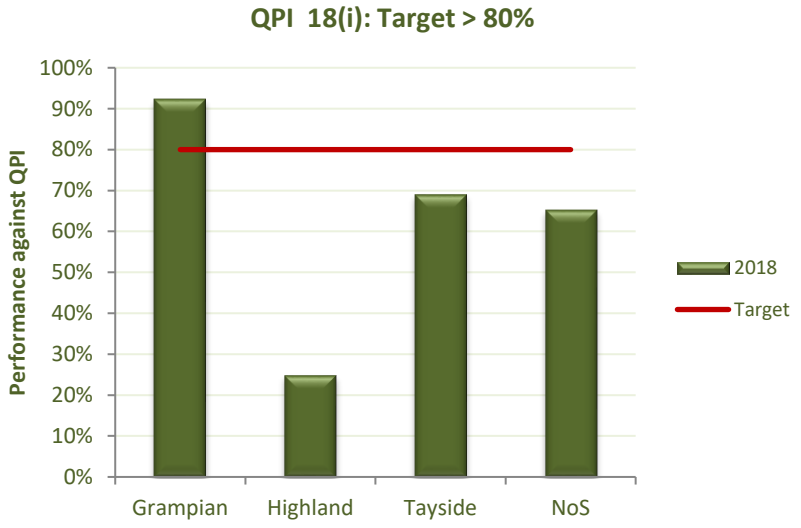


	Performance (%)	Numerator	Denominator
Grampian*	-	-	-
Highland & W Isles	**80.0%**	4	5
Orkney	-	0	0
Shetland	-	0	0
Tayside*	-	-	-
NoS	**63.6%**	**7**	**11**

Clinical Commentary	NHS Highland met this QPI target. Due to the lack of recording of PREDICT for 10 patients between NHS Grampian and NHS Tayside meant it was not possible to know whether they should be included within this QPI.
Actions	1. NoS boards to improve PREDICT recording 2. NCBPB to link in with the National Cancer Quality Operational Group (NCQOG) regarding the national actions to implement a PREDICT algorithm within the e-case dataset 3. NCA to benchmark usage and audit access with regards to equitability across Scotland
Risk Status	Escalate

QPI 18	Neoadjuvant Chemotherapy
Proportion of patients with triple negative (ER / PR / HER2 negative) or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy that undergo neoadjuvant chemotherapy with the aim of achieving pathological complete response.	

Specification (i) Patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who receive chemotherapy that undergo neoadjuvant chemotherapy



	Performance (%)	Numerator	Denominator
Grampian	**92.3%**	24	26
Highland & W Isles	**25.0%**	5	20
Orkney	-	0	0
Shetland	-	0	0
Tayside	**69.0%**	20	29
NoS	**65.3%**	**49**	**75**

Specification (ii) Patients with triple negative or HER2 positive, Stage II or III ductal breast cancer who undergo neoadjuvant chemotherapy who achieve a pathological complete response.

This specification was developed through the Formal Review of Breast Cancer QPIs in 2019. Data required to report this standard has not been collected for patients diagnosed in 2018 and therefore it is not possible to report performance against this target. Results will be reported for patients diagnosed in 2019.

Clinical Commentary	This new QPI reflects a relatively new change in clinical practice and was included within the NCA Breast Cancer CMG that was reviewed in 2019. Due to the relatively new change in practice, this QPI had been challenging to meet in NHS Tayside and NHS Highland. All patients who did not have neo-adjuvant chemotherapy received adjuvant chemotherapy instead, except one patient who declined.
Actions	1. NCBPB to monitor NHS Highland and NHS Tayside performance in future years
Risk Status	Tolerate

QPI 19	Deep Inspiratory Breath Hold (DIBH) Radiotherapy
Proportion of patients with left sided breast cancer or DCIS receiving adjuvant radiotherapy treatment who use a DIBH radiotherapy technique.	

This QPI was developed through the Formal Review of Breast Cancer QPIs in 2019. Data required to report this standard has not been collected for patients diagnosed in 2018 and therefore it is not possible to report performance against this target. Results will be reported for patients diagnosed in 2019.

References

1. Information Services Division. Cancer incidence and Prevalence in Scotland (to December 2017), April 2019 https://www.isdscotland.org/Health-Topics/Cancer/Publications/2019-04-30/2019-04-30-Cancer-Incidence-Report.pdf
2. NHS National Services Scotland. Cancer Survival in Scotland, 1987-2011. 2015. https://isdscotland.scot.nhs.uk/Health-Topics/Cancer/Publications/2015-03-03/2015-03-03-CancerSurvival-Report.pdf
3. Scottish Breast Cancer Focus Group, Scottish Cancer Trials Breast Group and Scottish Cancer Therapy Network (1996). Scottish Breast Cancer Audit 1987 & 1993: Report to the Chief Scientist and CRAG. Edinburgh: Scottish Cancer Therapy Network.
4. Scottish Cancer Taskforce, 2019. Breast Cancer Clinical Performance Indicators, Version 4.0. Health Improvement Scotland. http://www.healthcareimprovementscotland.org/his/idoc.ashx?docid=967353aa-a887-4112-86fe-582b266d1ac2&version=-1
5. http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Audit/
6. North Cancer Alliance: QPI Process Explained (August 2020) https://www.nrhcc.scot/uploads/tinymce/NCA/NCA%20Governance/NCA-GOV-QPI-Process-Explained.pdf

Appendix 1: Clinical Trials and Research Studies for breast cancer open to recruitment in the North of Scotland in 2018

Trial	Principle Investigator	Patients consented
Add Aspirin	Trevor McGoldrick (Grampian) Russell Mullen (Highland) Douglas Adamson (Tayside)	y
AURORA	Sarah Vinnicombe (Tayside)	y
Baronet	Jane Macaskill (Tayside)	y
Clinical Data Collection for SPECIALS	Andy Evans (Tayside)	y
HORIZON	Chrissie Lane (Highland) Debbie Forbes (Tayside)	y
LORIS	Jane Macaskill (Tayside)	y
MAMMO-50	Andy Evans (Tayside)	y
POSNOC	Nick Abbott (Highland) Ravi Sharma (Grampian) Beatrix Elsberger (Tayside)	y
PRIMETIME	Nick Abbott (Highland) Ravi Sharma (Grampian)	y
UNIRAD	Jane Macaskill (Tayside)	y
VIOLETTE	Trevor McGoldrick (Grampian)	y
ARB	Jane Macaskill (Tayside)	n
CANC – 3831 MBC – disease registry study ESTHER	Neil McPhail (Highland)	n
THE PIONEER Study	Vassilis Pitsinis (Tayside)	n
Ribociclib Non-Interventional Study	Trevor McGoldrick (Grampian)	n