Quality Performance Indicators Audit Report

Tumour Area:	Breast Cancer
Patients Diagnosed:	1st January – 31st December 2017
Published Date:	26th March 2019
Clinical Commentary:	Mr Douglas Brown North Cancer Breast Lung Clinical Director

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[1].
Over the last decade the incidence rate has increased by 3%; this is partly due to:

- Increased detection by the Scottish Breast Screening Programme, which has seen a rise in attendance over the same time period,
  and
- Higher prevalence of known risk factors among the female population, such as increases in the mother's age at the birth of her first child, decreases in family size, increases in post-menopausal obesity, and increases in alcohol consumption[1].

Relative survival for breast cancer is also 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.

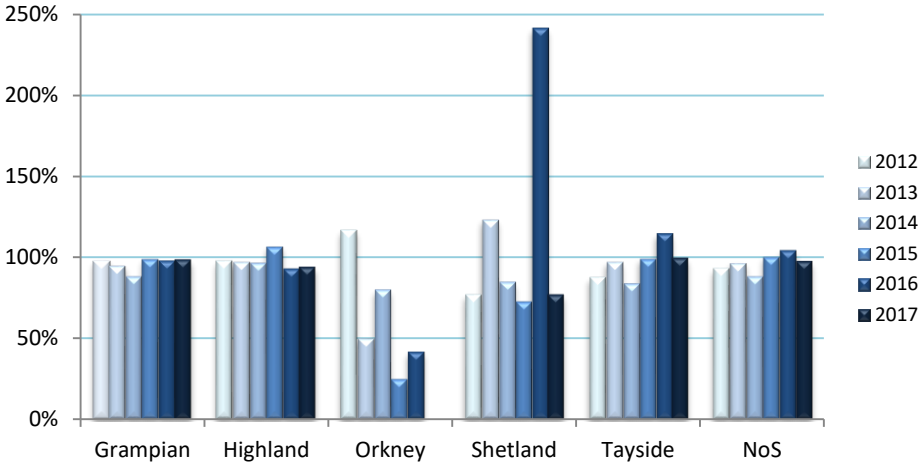
Relative age-standardised survival for breast cancer in Scotland at 1 year and 5 years showing percentage change from 1987-1981 to 2007-2011[2].

	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 1st January and 31st December 2017 a total of 1240 cases of breast cancer were diagnosed in the North of Scotland and recorded through audit. Overall case ascertainment was high at 97.5% 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 2017	484	264	0	10	482	**1240**
% of NoS total	39.0%	21.3%	0%	0.8%	38.9%	**100.0%**
Mean ISD Cases 2012-16	491	281	4	13	484	**1272**
% Case ascertainment 2017	98.6%	94.0%	0%	76.9%	99.6%	**97.5%**

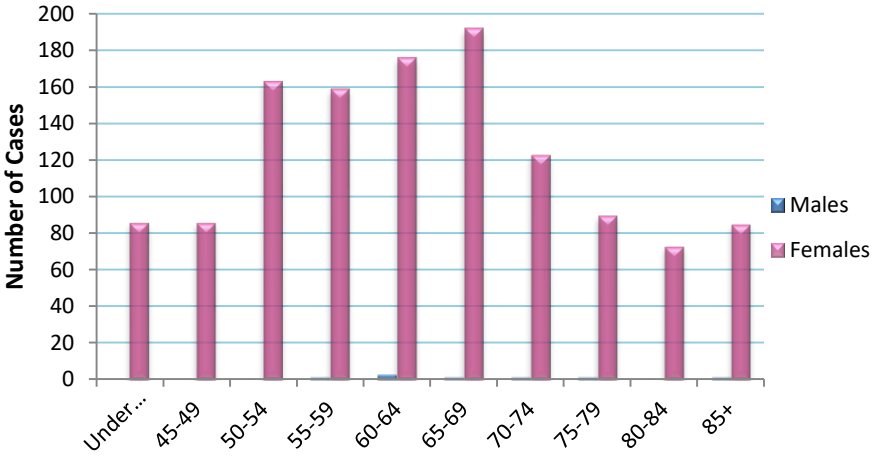


Case ascertainment by NHS Board for patients diagnosed with breast cancer in 2012-2017.

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. For 52 patients across the North of Scotland this information was not recorded and it was not possible to identify whether patients should be included within the QPI 11 results and they were therefore excluded from calculations, this is a considerable improvement on previous years. In addition small numbers of patients in NHS Tayside did not have the clinical M stage recorded while in Grampian the maximum microscopic tumour diameter was not recorded for some patients.

3. Age Distribution

The figure below shows the age distribution of patients diagnosed with breast cancer in the North of Scotland in 2017, with numbers of patients diagnosed highest in the 65-69 year age bracket.



Age distribution of patients diagnosed with breast cancer in the NoS in 2017.

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 if Surgery, and the Clinical Trials and Research Study Access QPI, 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 lead on North quality performance 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

Our current governance structure provides assurance to the boards that risks associated QPIs are being addressed as an alliance. Clinical risks are discussed at the North Cancer Breast Pathway Board (NCBPB) and North Cancer Clinical Leadership Group (NCCLG). Risk levels are jointly agreed. The NCCLG are presented with all available evidence and actions so they have all the information to define the risk in a collaborative way.

Tolerate - Accept the risk at its current level

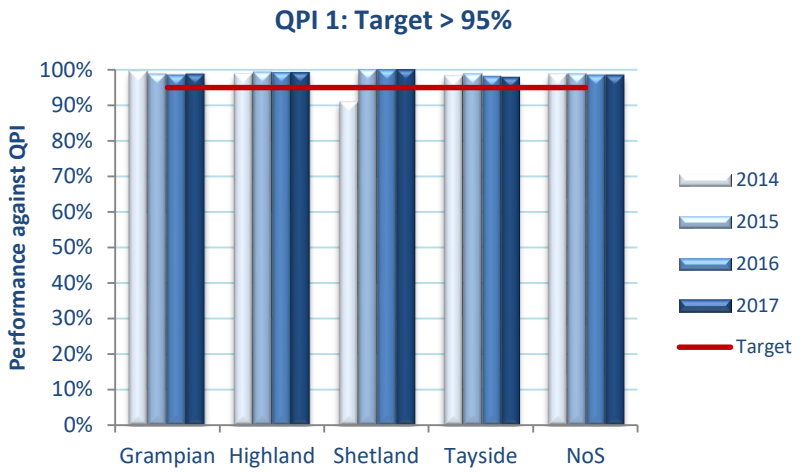
Mitigate - Reduce or mitigate the risk, in terms of reducing the likelihood of its occurrence or reducing the severity of impact if it does occur. This can be assessed through the action plans provided or the information provided is appropriate to prevent reoccurrence.

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 RCCLG 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.

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

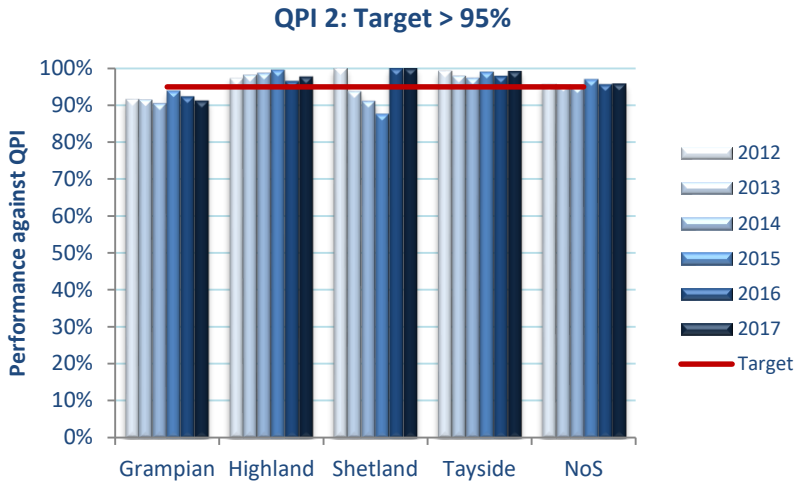
QPI 1	Multidisciplinary Team Meeting (MDT)
Proportion of patients with breast cancer who are discussed at MDT meeting before definitive treatment.	



	Performance (%)	Numerator	Denominator
Grampian	**98.8%**	474	480
Highland & W Isles	**99.2%**	262	264
Shetland	**100%**	10	10
Tayside	**97.9%**	472	482
NoS	**98.5%**	**1218**	**1236**

Clinical Commentary	
Actions	No actions required
Risk Status	Tolerate

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).	

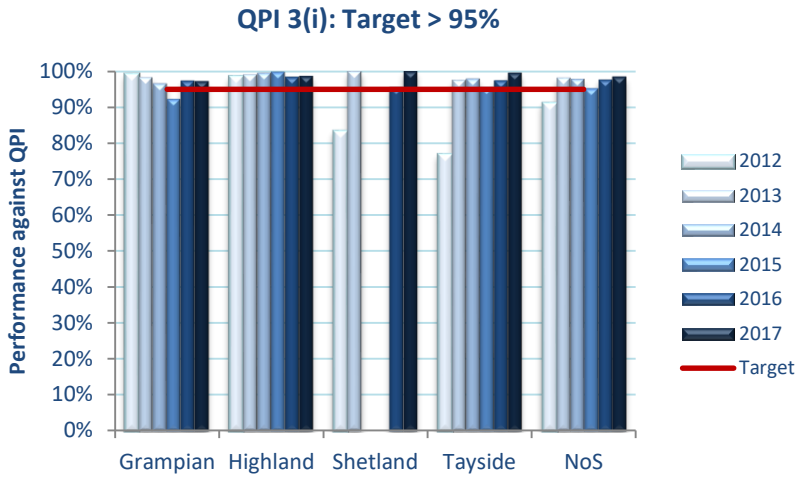


	Performance (%)	Numerator	Denominator
Grampian	**91.2%**	437	479
Highland & W Isles	**97.7%**	256	262
Shetland	**100%**	10	10
Tayside	**99.2%**	478	482
NoS	**95.8%**	**1181**	**1233**

Clinical Commentary	This is the sixth consecutive year that NHS Grampian have not met this QPI target. In this board 42 patients did not have a core biopsy or a large volume biopsy. A number of these patients declined core biopsy or were considered unfit or inappropriate for core biopsy, never-the-less, the use of FNA rather than core biopsy/large volume biopsy for the diagnosis in some patients not fit for surgery in NHS Grampian is at variance with other areas in Scotland. It would be considered appropriate to move away from using FNA for diagnosis of breast cancer patients.
Actions	1. North Cancer Breast Pathway Board (NCBPB) to update North Cancer breast clinical management guideline to exclude FNA biopsy for non-operative diagnosis. 2. NCBPB to investigate barriers to implementation in NHS Grampian and provide support where necessary in changing practice and achieving this QPI target. 3. QPI 2 to be a standing agenda Item at NCBPB until risk is deescalated. 4. North Cancer Alliance, on behalf of the North Cancer Clinical Leadership Group (NCCLG), to write to NHS Grampian management team to reaffirm the change in practice required. NCCLG to be made aware of this in order to provide support where required. 5. An interim audit has been carried out for 2018 patients in NHS Grampian, with target narrowly missed at 94.9% for patients diagnosed in the first half of 2018. Performance will continue to be monitored to ensure achievement of the 95% target with the release of the next set of QPI data for 2018 patients. 6. NCBPB to monitor progress against these actions and risk to remain as Escalate until assurances received that change in practice has been implemented.
Risk Status	Escalate

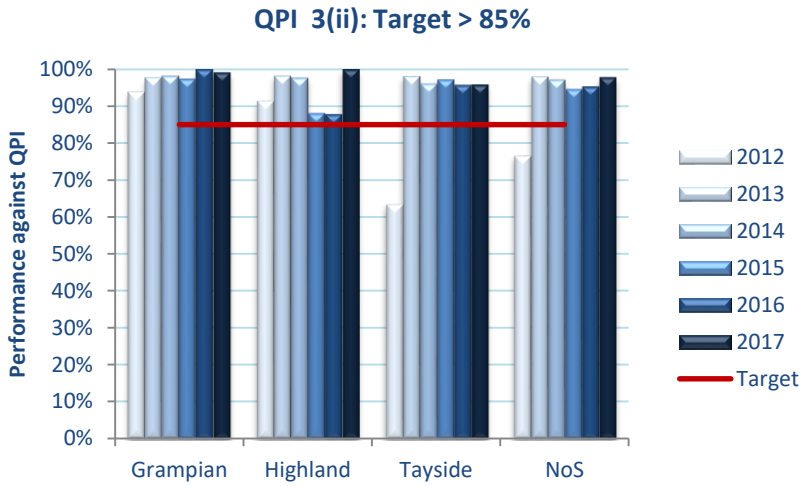
QPI 3	Pre-Operative Assessment of Axilla
Proportion of patients with invasive breast cancer who undergo assessment of the axilla.	

Specification (i) All patients with invasive breast cancer should undergo ultrasound assessment of the axilla



	Performance (%)	Numerator	Denominator
Grampian	**97.2%**	351	361
Highland & W Isles	**98.6%**	204	207
Shetland	**100%**	7	7
Tayside	**99.5%**	368	370
NoS	**98.4%**	**930**	**945**

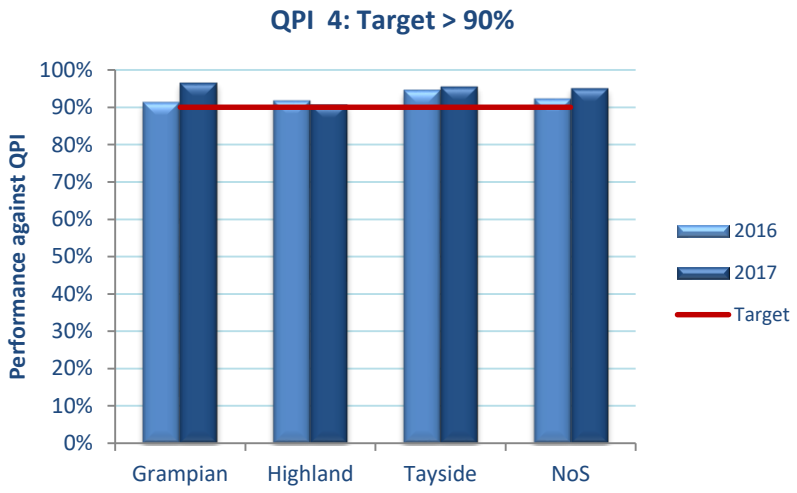
Specification (ii) If findings of ultrasound are suspicions of cancer spread to nodes all patients should undergo FNA/core biopsy



	Performance (%)	Numerator	Denominator
Grampian	**99.1%**	110	111
Highland & W Isles	**100%**	45	45
Shetland*	-	-	-
Tayside	**95.8%**	113	118
NoS	**97.8%**	**270**	**276**

Clinical Commentary	
Actions	No actions required
Risk Status	Tolerate

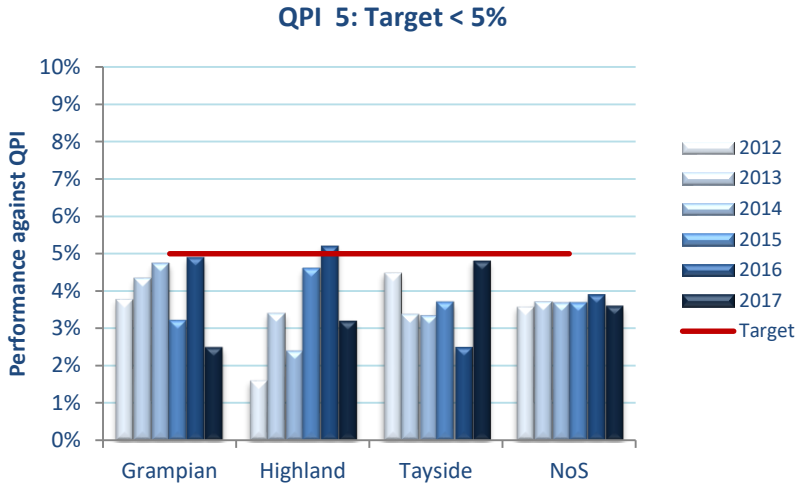
QPI 4	Conservation Rate
Proportion of surgically treated patients with breast cancer less than 20mm whole tumour size on histology who achieve breast conservation.	



	Performance (%)	Numerator	Denominator
Grampian	**96.6%**	141	146
Highland & W Isles	**90.8%**	59	65
Shetland*	-	-	-
Tayside	**95.6%**	130	136
NoS	**95.1%**	**332**	**349**

Clinical Commentary	
Actions	No actions required
Risk Status	Tolerate

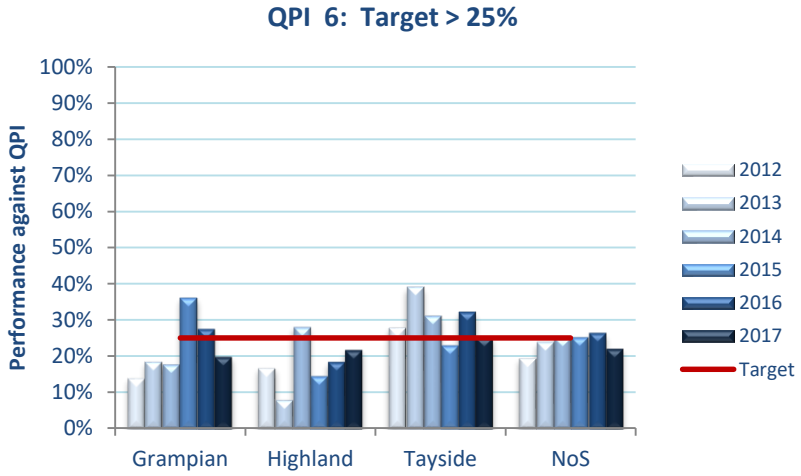
QPI 5	Surgical Margins
Proportion of surgically treated patients with breast cancer (invasive or ductal carcinoma in situ) with final radial excision margins of less than 1mm.	



	Performance (%)	Numerator	Denominator
Grampian	**2.5%**	7	280
Highland & W Isles	**3.2%**	5	154
Shetland*	-	-	-
Tayside	**4.8%**	14	294
NoS	**3.6%**	**26**	**731**

Clinical Commentary	
Actions	No actions required
Risk Status	Tolerate

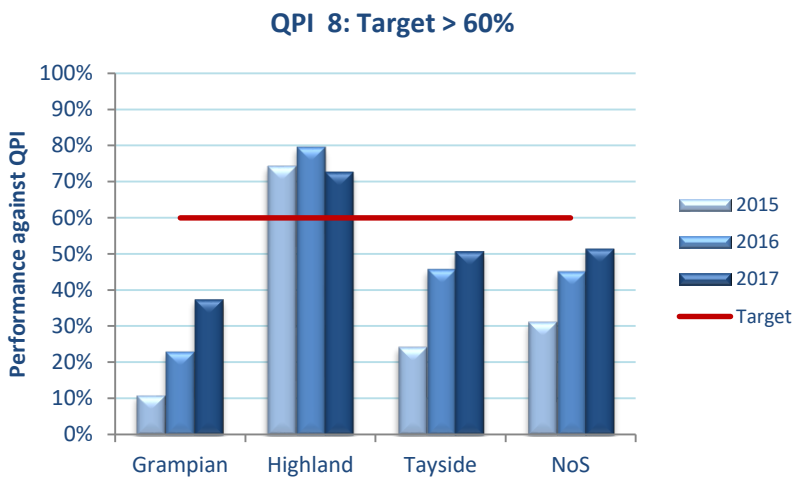
QPI 6	Immediate Reconstruction Rate
Proportion of patients who undergo immediate breast reconstruction at the time of mastectomy for breast cancer.	



	Performance (%)	Numerator	Denominator
Grampian	**19.8%**	24	121
Highland & W Isles	**21.7%**	15	69
Shetland*	-	-	-
Tayside	**25.0%**	31	124
NoS	**22.0%**	**70**	**318**

Clinical Commentary	The target for this QPI was increased from 10% to 25%. There is access to timely reconstructive surgery for patients across the North of Scotland, however the 25% target is challenging as many patients choose not to have immediate reconstruction even though they are offered it. In addition, some patients with higher BMI may not be suitable for reconstructive surgery. NHS Grampian will audit their reasons for failing this QPI.
Actions	1. Change CMG to exclude patients with a BMI of over 35 for immediate reconstruction at the time of mastectomy 2. NCA to investigate patient numbers who have declined immediate reconstruction 3. Agenda item NCBPB
Risk Status	Escalate

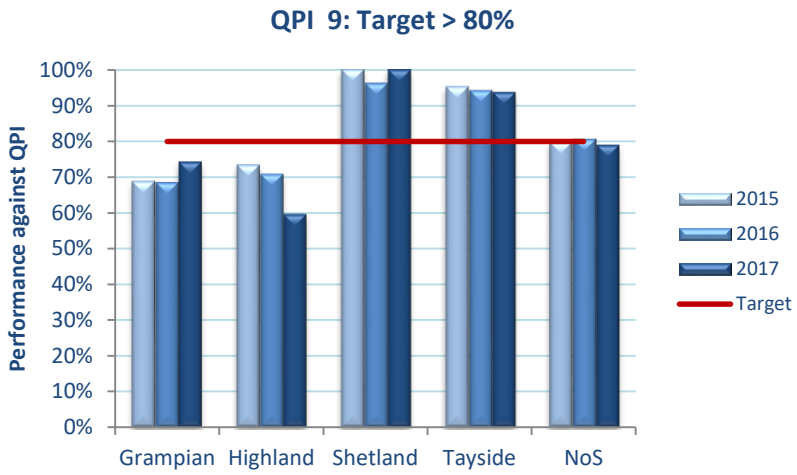
QPI 8	Minimising Hospital Stay – Day Case Surgery
Proportion of patients undergoing wide excision and/or an axillary sampling procedure for breast cancer as day case surgery.	



	Performance (%)	Numerator	Denominator
Grampian	**37.5%**	112	299
Highland & W Isles	**72.5%**	150	207
Shetland*	-	-	-
Tayside	**50.7%**	170	335
NoS	**51.4%**	**433**	**843**

Clinical Commentary	NHS Grampian and NHS Tayside failed to reach this target, however have achieved steady improvement year on year. NHS Highland were able to meet the QPI due to the use a patient hotel at Raigmore. Performance in NHS Grampian has improved over the last 3 years, while the target remains a challenge for the board but hope to achieve this target once the new Baird Hospital opens. NHS Tayside have made some improvement but wish to improve further by next year.
Actions	1. Analyse variance and explore best practice across North, East and West. 2. Explore areas of constraint in NHS Tayside and NHS Grampian restricting day case surgery from taking place. 3. QPI 8 to be a standing agenda Item at the NCBPB until the above actions have been completed. 4. NCCLG to monitor future performance of this QPI until actions have been taken and the risk can be deescalated
Risk Status	Escalate

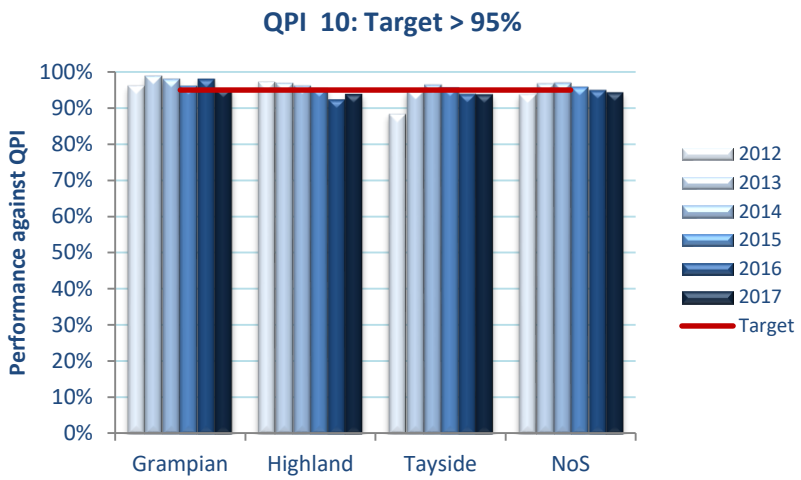
QPI 9	HER2 Status for Decision Making
Proportion of patients with invasive breast cancer for whom the HER2 status (as detected by immunohistochemistry (IHC) and/or FISH analysis) is reported within 2 weeks of core biopsy.	



	Performance (%)	Numerator	Denominator
Grampian	**74.3%**	297	400
Highland & W Isles	**59.7%**	141	236
Shetland	**100%**	10	10
Tayside	**93.7%**	399	426
NoS	**79.0%**	**847**	**1072**

Clinical Commentary	The North of Scotland overall just missed this target by 1%. NHS Tayside and NHS Shetland continue maintain their high standard. NHS Grampian have improved since last year from 68.6% to 74.3% following discussions with cytogenetics. The board aim to improve further by next year. NHS Highland's results have fallen again this year from 70.9% to 59.7%. NHS Highland do not perform analysis of HER2 status on site but have to send samples to NHS Tayside for analysis, which may affect timeliness of reporting. HER2 test results can help to inform the use of neo-adjuvant chemotherapy and it is noted that NHS Highland's levels of neo-adjuvant chemotherapy are slightly lower than those in Grampian and Tayside. The provision of molecular pathology laboratory services is overseen by The Molecular Pathology Evaluation Panel (MPEP). It was recently agreed at a national level that the importance of timely HER2 reporting should be highlighted to this group to help drive quicker turn-around with HER2 reported across Scotland. As host for the national meeting, NCA will progress this correspondence.
Actions	1. Determine constraints on laboratory services in Highland and Grampian. 2. NCA Clinical Director for Breast Cancer to write to MPEP on behalf of the 3 regional leads highlighting the importance of timely HER2 testing. 3. Benchmark this QPI against the other Scottish mainland boards. 4. QPI 9 to be a standing agenda item NCBPB to monitor progress against these actions/ 5. NCCLG to monitor the actions against this QPI until they are complete and the risk can be deescalated.
Risk Status	Escalate

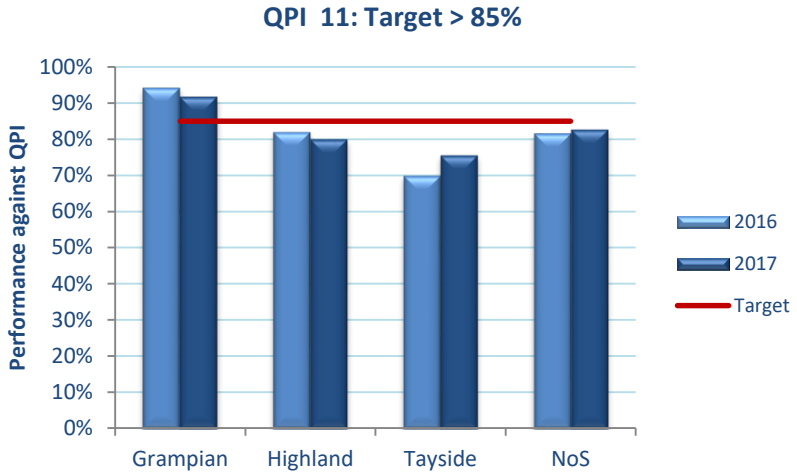
QPI 10	Radiotherapy for Breast Conservation
Proportion of patients with breast cancer who receive radiotherapy to the breast after conservation for invasive cancer.	



	Performance (%)	Numerator	Denominator
Grampian	**95.3%**	202	212
Highland & W Isles	**93.9%**	124	132
Shetland*	-	-	-
Tayside	**93.8%**	240	256
NoS	**94.4%**	**568**	**602**

Clinical Commentary	NHS Tayside and NHS Highland just failed this target by 1.2% and 1.1%. 8 patients in NHS Highland did not receive radiotherapy after breast conservation due to patient's refusal, deemed unfit or had metastatic disease. 16 patients in NHS Tayside did not receive radiotherapy after breast conservation. Reasons include radiotherapy not advised, patient declined, co-morbities and awaiting specialist input.
Actions	No actions required
Risk Status	Tolerate

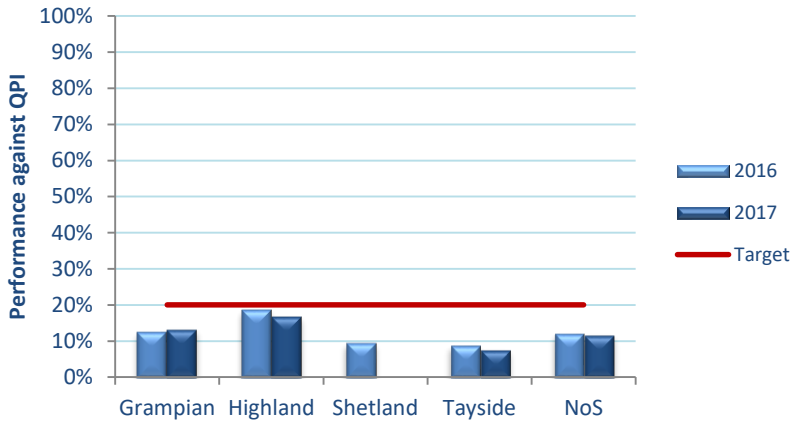
QPI 11	Adjuvant Chemotherapy
Proportion of patients with invasive breast cancer who have a ≥5% overall survival benefit of chemotherapy treatment predicted at 10 years that undergo adjuvant chemotherapy.	



	Performance (%)	Numerator	Denominator
Grampian	**91.7%**	33	36
Highland & W Isles	**80.0%**	16	20
Shetland*	-	-	-
Tayside	**75.6%**	31	41
NoS	**82.7%**	**81**	**98**

Clinical Commentary	This is the second year that this QPI has looked at survival benefit using the PREDICT tool, which is designed to help clinicians and patients make informed decisions about treatment following breast cancer surgery by predicting a survival an individual's survival both with and without adjuvant chemotherapy. NHS Highland and NHS Tayside failed to reach this target. This was due to patients refusing chemotherapy, considered to be unfit or chemotherapy not being advised.
Actions	1. Regional Manager to meet with Clinical Director to progress actions to improve compliance 2. Monitor performance on this QPI through the Pathway Board
Risk Status	Escalate

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	**13.2%**	54	409
Highland & W Isles	**16.7%**	38	227
Shetland	**0%**	0	7
Tayside	**7.6%**	32	422
NoS	**11.6%**	**124**	**1065**

Clinical Commentary	
Actions	No actions required
Risk Status	Tolerate

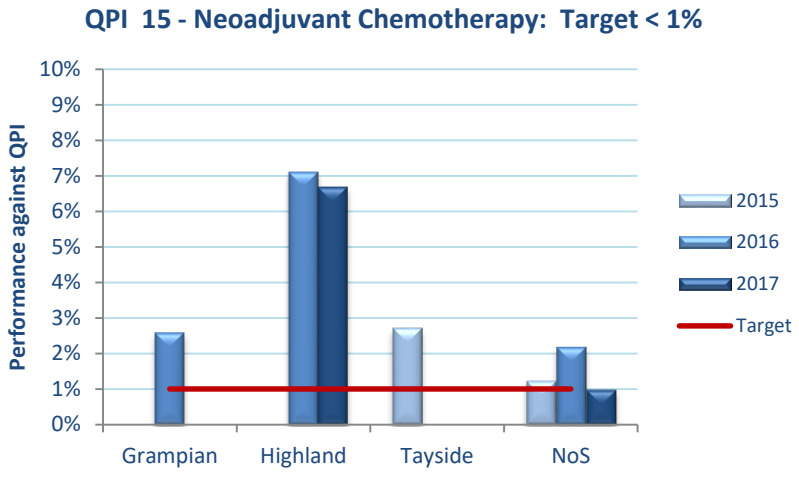
QPI 14	Referral for Genetic Testing
Proportion of patients who meet the following criteria for gene testing and are referred to a specialist genetics clinic.	

	Specification (i) Patients with breast cancer who are under 30 years of age			Specification (ii) Patients with triple negative breast cancer who are under 40 years of age		
	Performance (%)	Numerator	Denominator	Performance (%)	Numerator	Denominator
Grampian*	-	-	-	**100%**	6	6
Highland & W Isles	-	0	0	-	0	0
Shetland	-	0	0	-	0	0
Tayside*	-	-	-	-	-	-
NoS*	-	-	-	**100%**	**8**	**8**

Clinical Commentary	NHS Highland have no patients reported for specification (ii) as they do not undertake PR testing so have no patients identified as having triple negative breast cancer.
Actions	1. NHS Highland to begin PR testing for HER2 negative and ER negative patients 2. Agenda item NCBPB
Risk Status	Mitigate

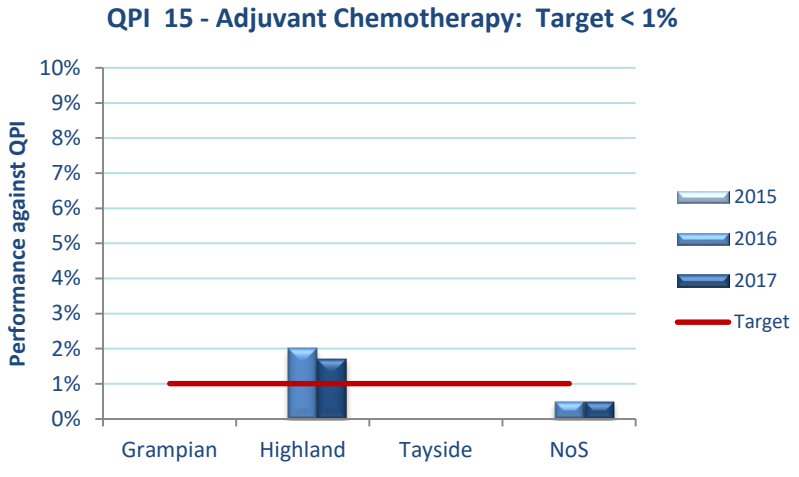
QPI 15	30 Day Mortality following Chemotherapy
Proportion of patients with breast cancer who die within 30 days of chemotherapy.	

Specification (i) Patients receiving Neoadjuvant Chemotherapy



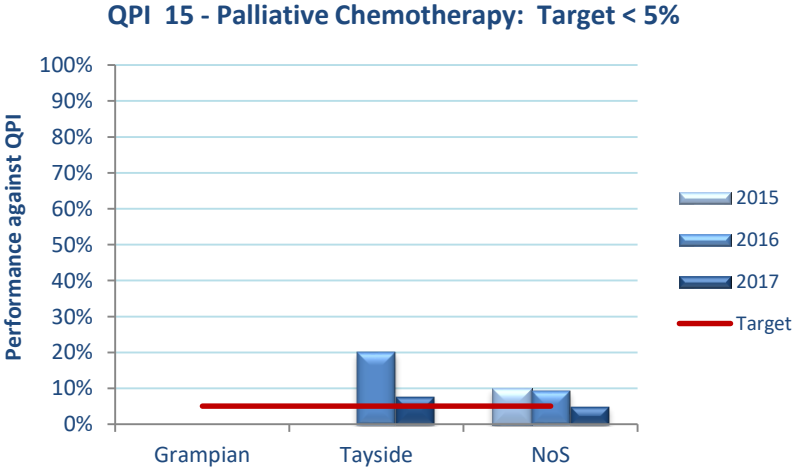
	Performance (%)	Numerator	Denominator
Grampian	**0%**	0	34
Highland & W Isles	**6.7%**	1	15
Shetland*	-	-	-
Tayside	**0%**	0	47
NoS	**1.0%**	**1**	**97**

Specification (ii) Patients receiving Adjuvant Chemotherapy



	Performance (%)	Numerator	Denominator
Grampian	**0%**	0	97
Highland & W Isles	**1.7%**	1	60
Shetland*	-	-	-
Tayside	**0%**	0	49
NoS	**0.5%**	**1**	**207**

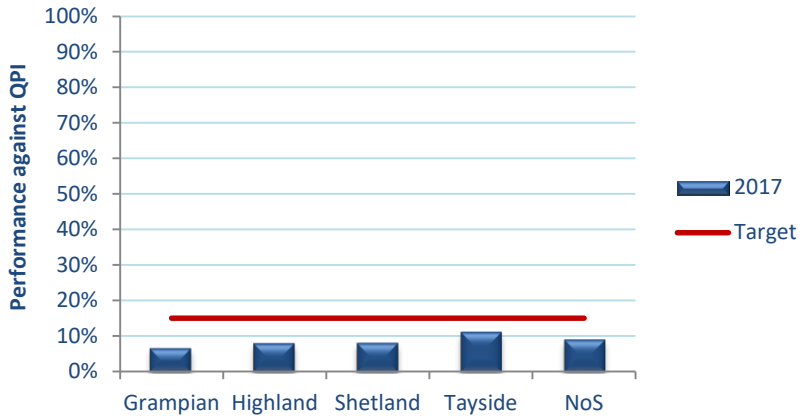
Specification (iii) Patients receiving Palliative Chemotherapy



	Performance (%)	Numerator	Denominator
Grampian	**0%**	0	6
Highland & W Isles*	-	-	-
Shetland	-	0	0
Tayside	**7.7%**	1	13
NoS	**5.0%**	**1**	**20**

Clinical Commentary	With small number of patients involved, it is hard to draw meaningful conclusions from these results. The 3 patients in question were discussed at a mortality review.
Actions	No actions identified
Risk Status	Tolerate

Clinical Trials and Research Study Access QPI
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 2017.



	Performance (%)	Numerator	Denominator
Grampian	**6.5%**	32	491
Highland & W Isles	**12.8%**	36	281
Orkney*	**-**	-	-
Shetland	**7.9%**	1	13
Tayside	**11.2%**	54	484
NoS	**10.0%**	**127**	**1272**

Clinical Commentary	In addition to the recruitment to trials for patients with a confirmed cancer diagnosis, recruitment to the breast screening trial ActWELL has been ongoing during 2017. 96 patients have been recruited to this trial in the North of Scotland (44 in NHS Grampian and 52 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.
Risk Status	Tolerate

References

1. Information Services Division. Cancer in Scotland, April 2018. http://www.isdscotland.org/Health-Topics/Cancer/Publications/2018-04-24/Cancer_in_Scotland_summary_m.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, 2016. Breast Cancer Clinical Performance Indicators, Version 3.0. Health Improvement Scotland. http://www.healthcareimprovementscotland.org/his/idoc.ashx?docid=f69f7a80-2244-4242-9d44-fb8b9d488c6d&version=-1

5. http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Audit/

6. 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 2017

Trial	Principle Investigator	Patients enrolled
Add Aspirin	Russell Mullen (Inverness) Douglas Adamson (Tayside)	Y
ARB	Jane Macaskill (Tayside)	y
AURORA	Sarah Vinnicombe (Tayside)	y
Baronet	Jane Macaskill (Tayside)	y
CANC – 3831 MBC – disease registry study	Jayaram Mohanamurali (Highland)	y
Clinical Data Collection for SPECIALS	Andy Evans (Tayside)	y
CompLEEment-1	Trevor McGoldrick (Grampian)	y
IBIS 3 Feasibility version 1.0	Jane Macaskill (Tayside)	y
MAMMO-50	Andy Evans (Tayside)	y
Poetic (Version 6) Sub-Study	Ravi Sharma (Grampian)	y
POSNOC	Nick Abbott (Highland) Ravi Sharma (Grampian) Beatrix Elsberger (Tayside)	y
PRIMETIME	Ravi Sharma (Grampian)	y
UNIRAD	Jane Macaskill (Tayside)	y
Vac Node	Andy Evans (Tayside)	y
LORIS	Jane Macaskill (Tayside)	n