NOSCAN
North of Scotland Cancer Network

NHS SCOTLAND

NORTH OF SCOTLAND PLANNING GROUP

Breast Cancer
Managed Clinical Network

Audit Report

Breast Cancer
Quality Performance Indicators

Patients diagnosed during 2014

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The North of Scotland Cancer Network (or NOSCAN), is one of the 3 regional Scottish Cancer Networks, which report to their respective regional NHS Board Planning Groups and for specific workstreams, to the Scottish Cancer Taskforce Group.

The principle role of NOSCAN is to support the organization, planning and delivery of regional and national cancer services, and thereby to ensure consistent and high quality cancer care is being provided equitably across the North of Scotland.

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EXECUTIVE SUMMARY

This publication reports the performance of breast cancer services in the six NHS Boards in the North of Scotland (NOS) against the Breast Cancer Quality Performance Indicators (QPIs) for patients diagnosed during 2014 (January to December). This is the third year in which Breast Cancer QPIs have been reported in Scotland and the opportunity has been taken to provide a comparison of performance in 2014 with that of 2012 and 2013.

Key points during the period audited (1st January to 31st December 2014)

- 1110 patients diagnosed with breast cancer were audited in the North of Scotland, a decrease of around 8% from 2013 (1210 patients).
- Overall case ascertainment was rather low at 88.1%. Though this is a decrease from 96% in 2013, nonetheless results were considered to be sufficiently representative of breast cancer services in the region.
- As in previous years, the main sources of referral were via a Primary Care Clinician and Screening Services (57% and 33% of referrals respectively).

Summary of QPI Results

QPI	QPI Target	Performance by Board	
		NOSCAN	Range[b]
QPI 1: Multidisciplinary Team Meeting (MDT) – Proportion of patients with breast cancer who are discussed at MDT meeting before definitive treatment.	95%	**99%**	91-100%
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).	95%	**95%[c]**	90-98%
QPI 3: Pre-Operative Assessment of Axilla – Proportion of patients with invasive breast cancer who undergo assessment of the axilla.			
i. All patients with invasive breast cancer should undergo ultrasound assessment of the axilla	95%	**98%**	97-99%
ii. If findings of ultrasound are suspicious of cancer spread to nodes all patients should undergo FNA/core biopsy.	85%	**97%**	96-98%
QPI 4: Conservation Rate – Proportion of surgically treated patients with breast cancer less than 20mm whole tumour size on histology who achieve breast conservation.	85%	**89%**	80-94%
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.	< 5%	**3.7%**	2.4-4.7%
QPI 6: Immediate Reconstruction Rate – Proportion of patients who undergo immediate breast reconstruction at the time of mastectomy for breast cancer.	> 10%	**25%**	18-31%

QPI 7: Negative Axillary Clearance Rate – Proportion of patients with breast cancer undergoing axillary clearance with no pathological evidence of nodal metastatic disease.	< 10%	**0.6%**	0-1.6%
QPI 8: Minimising Hospital Stay -"23 Hour" Surgery - Proportion of patients undergoing wide excision and/or an axillary sampling procedure for breast cancer with a maximum 1 night hospital stay following their procedure.	80%	**92%**	88-97%
QPI 9: HER2 Status for Decision Making - Proportion of patients with invasive breast cancer for whom the HER2 status, as defined by ImmunoHistoChemistry (IHC), is known at the initial MDT meeting to decide first treatment.	90%	**60%**	13-95%
QPI 10: Radiotherapy for Breast Conservation - Proportion of patients with breast cancer who receive radiotherapy to the breast after conservation for invasive cancer.	95%	**97%**	96-98%
QPI 11: Adjuvant Chemotherapy - Proportion of patients between 50 and 70 years of age at diagnosis with surgically proven node positive or at least G3 >20mm breast cancer who receive adjuvant chemotherapy.	85%	**80%**	70-89%
QPI 12: Anti-HER2 Positive Therapy - Proportion of patients with breast cancer (who are between 50 and 70 years of age at diagnosis) with HER2 positive cancer greater than 10 mm or node-positive who receive anti-HER2 positive therapy.	90%	**69%**	53-88%

Performance shaded pink where QPI target has not been met at regional level.
[b] Excluding Boards with less than 5 patients.
[c] Results rounded up to 95% therefore does not actually meet target.

2014 is the third year of QPI reporting, during which time NOSCAN boards have performed well against the required standards, exceeding the target for 8 of the 12 measured outcomes: this is very similar to results from 2013 where 8 of 11 indicators were met or exceeded and an improvement on results from 2012 when only five indicators were met.

The following actions have been identified for future years to help monitor and maintain excellent patient care and compliance with the QPI standards:

- **All Boards to be encouraged to discuss all patients at MDT prior to commencement of treatment, including non surgical cases.**

- **Comorbidities, anti-coagulation issues and consent issues are not a contra-indication for core biopsy. All Boards are encouraged to reduce dependence on FNAC.**

- **NHS Tayside protocol for core biopsy of patients on anti-coagulants to be circulated by MCN.**

- **Local policies for consent of patients with mental incapacity to be reviewed by NHS Grampian.**

- **Boards to be encouraged to continue to discuss surgical options in accordance with Scottish Intercollegiate Guidelines Network (SIGN).**

- **NHS Grampian to work to improve accuracy of SMR01 data to enable reporting of QPI 8.**

- **All Boards to continue to offer adjuvant chemotherapy above the 5% level of benefit.**

- **All Boards to consider adjuvant chemotherapy above the 3% level of benefit.**

- **All Boards to continue to offer Herceptin to patients if the level of benefit from chemotherapy is significant as defined in QPI 11.**

The Breast Cancer QPIs are due to be formally reviewed following the reporting this third year of QPI results. This report highlights some issues with the QPI definitions to be discussed at this review.

Contents

1. Introduction

In 2010, the Scottish Cancer Taskforce established the National Cancer Quality Steering Group (NCQSG) to take forward the development of national Quality Improvement Indicators (QPIs) for all cancer types to enable national comparative reporting and drive continuous improvement for patients. In collaboration with the three Regional Cancer Networks (NoSCAN, SCAN & WoSCAN) and Information Services Division (ISD), the first QPIs were published by Healthcare Improvement Scotland (HIS) in January 2012. CEL 06 (2012) mandates all NHS Boards in Scotland to report on specified QPIs on an annual basis. Data definitions and measurability criteria to accompany the Breast Cancer QPIs are available from the ISD website[1].

Regular reporting of activity and performance is a fundamental requirement of a Managed Clinical Network (MCN) to assure the quality of care delivered across the region. The need for regular reporting of activity and performance (to assure the quality of care delivered) was first set out nationally as a fundamental requirement of a Managed Clinical Network (MCN) in NHS MEL(1999)10[2]. This has since been further restated and reinforced in HDL(2002)69[3], HDL (2007) 21[4], and most recently in CEL 29 (2012)[5].

This report assesses the performance of the North of Scotland (NoS) breast cancer services, as measured against the Breast Cancer Quality Performance Indicators (QPIs)[6] which were implemented for patients diagnosed on or after 1st January 2014, and using clinical audit data for patients diagnosed with breast cancer in the twelve months from 1st January 2014 to 31st December 2014 . Comparison with the results from both 2012 and 2013, as reported in the ISD Breast Cancer QPI report[7] and NOSCAN Breast Cancer Audit Report[8], are also provided to illustrate trends in performance.

2. Background

Six NHS Boards across the NoS serve the 1.38 million population[9]. There were 1110 patients diagnosed with breast cancer in the North of Scotland between 1st January and 31st December 2014.

Best practice recommends that patients diagnosed with cancer should have all aspects of their clinical management multidisciplinary considered thereby ensuring enhanced consistency and quality of patient care and clinical outcomes. The configuration of the three Multidisciplinary Teams (MDTs) pertaining to the management of breast cancer in the region is set out below.

MDT	Constituent Boards
Grampian	NHS Grampian, NHS Orkney and NHS Shetland
Highland	NHS Highland and NHS Western Isles
Tayside	NHS Tayside

2.1 National Context

Breast cancer is the most common cancer in women (and second most common cancer in both men and women combined) with over 4300 cases diagnosed in Scotland each year since 2008[10].

Over the last decade the incidence rate has increased by 9%; 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

- an extension in the age range invited for screening (which previously excluded women between 65 - 70 years), which was phased in over the 3-year period beginning 1st April 2003[11].

Relative survival for breast cancer is also increasing[12]. 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[13] 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[12].

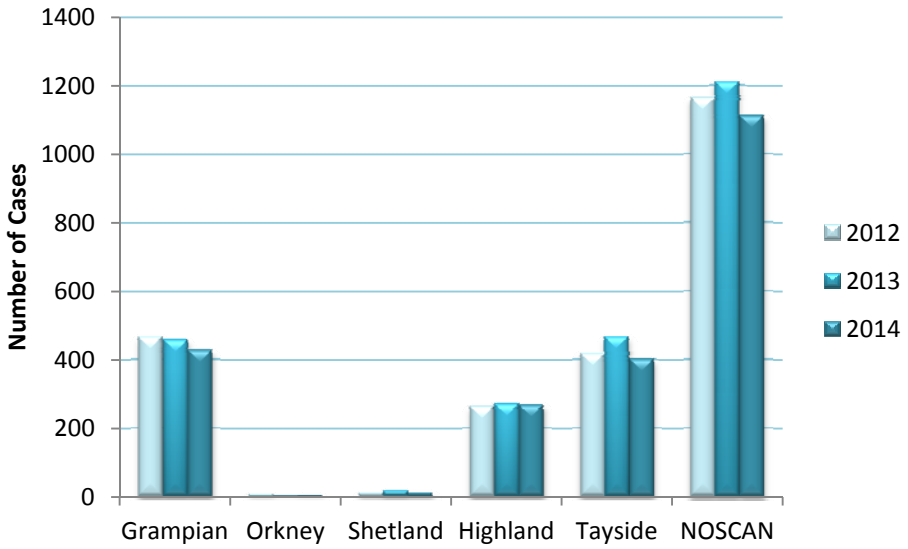
	Relative survival at 1 year (%)		Relative survival at 5 years (%)	
	2007-2011	% change	2007-2011	% change
Breast Cancer	94.6 %	+ 6.9 %	82.8 %	+ 16.6 %

2.2 North of Scotland Context

A total of 1110 cases of breast cancer were recorded through audit as diagnosed in the NoS between 1st January 2014 and 31st December 2014, which is a decrease of around 8% compared with 2013 (1210 patients). The number of patients diagnosed within each Board is presented below.

	Grampian	Highland[a]	Orkney	Shetland	Tayside	NoS
Number of Patients	**427**	**267**	**4**	**11**	**401**	**1110**
% of NoS total	**38.5%**	**24.1%**	**0.4%**	**1.0%**	**36.1%**	**100%**

[a] Highland results include patients from Argyll & Bute and the Western Isles.



3. Methodology

The audit data presented in this report was collected by clinical audit staff in each NHS Board in accordance with an agreed dataset and definitions[1]. The data was entered locally into the electronic Cancer Audit Support Environment (eCASE): a secure centralised web-based database.

Data for patients diagnosed between 1st January 2014 and 31st December 2014 and any comments on QPI results were then signed-off at NHS Board level to ensure that the data were an accurate representation of service in each area prior to submission to NOSCAN for collation at a regional level. The reporting timetable was developed to take into account the patient pathway and ensure that a complete treatment record was available for the vast majority of cases.

Where the number of cases meeting the denominator criteria for any indicator is between one and four, the results has not been shown in any associated charts or tables. This is to avoid any unwarranted variation associated with small numbers and to minimise the risk of disclosure. Any charts or tables impacted by this are denoted with an asterisk (*). However, any commentary provided by NHS Boards relating to the impacted indicators will be included as a record of continuous improvement.

4. Results

4.1 Case Ascertainment

Audit data completeness can be assessed from case ascertainment, which is the proportion of expected patients that have been identified through audit. Case ascertainment is calculated by comparing the number of new cases identified by the cancer audit with a five year average of the numbers recorded by the National Cancer Registry, with analysis being undertaken by NHS Board of diagnosis. Cancer Registry figures were extracted from ACaDMe (Acute Cancer Deaths and Mental Health), a system provided by ISD. Due to

timescale of data collection and verification processes, National Cancer Registry data are not available for 2014. Consequently an average of the previous five years' figures is used to take account of annual fluctuations in incidence within NHS Boards.

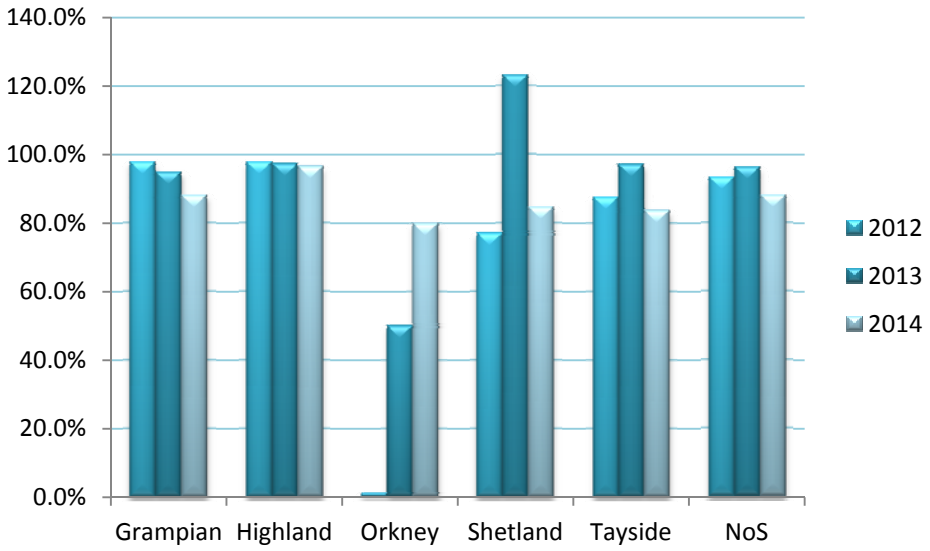
Overall case ascertainment for the North of Scotland was relatively low at 88.1%. This is a decrease from the 2013 figure of 96%. Case ascertainment figures are provided for guidance and are not an exact measurement of audit completeness as it is not possible to compare the same cohort of patients. Case ascertainment for each Board across the North of Scotland is illustrated below. There is variation in percentage case ascertainment across the Boards ranging from 80% to 96%. It is not clear whether declines in case ascertainment observed in NHS Tayside and NHS Grampian are a result of either:

- particularly low numbers of patients being diagnosed with breast cancer in these Boards in 2014,

or

- incomplete data capture by audit.

The wider variation in Orkney and Shetland will reflect the screening cycle in that area: as the mobile screening unit did not visiting either Board in 2014, lower levels of diagnosis would be expected for this year. Similarly, the spike in case ascertainment in NHS Shetland in 2013 coincided with the mobile breast screening unit visiting the islands in that year.



Case ascertainment by NHS Board for patients diagnosed with breast cancer 2012 - 2014.

	Grampian	Highland[a]	Orkney	Shetland	Tayside	NoS
Cases from audit 2014	427	267	4	11	401	**1110**
ISD Cases annual average (2009-2013)	485	277	5	13	479	**1260**
% Case ascertainment 2014	**88.0%**	**96.4%**	**80.0%**	**84.6%**	**83.7%**	**88.1%**
% Case ascertainment 2013	94.8%	97.1%	50.0%	123.1%	97.1%	96.3%

[a] Highland results include patients from the Western Isles

Audit data were considered to be sufficiently complete to allow QPI calculations: the number of instances of data not being recorded was generally very low, with no notable gaps across the region. Of particular note, there has a considerable improvement in the completeness of data collected from NHS Tayside since 2012, with improvements again in 2014.

4.2 Source of referral

As in previous years reported, the majority of patient referrals in Scotland were from Primary Care Clinicians (56.6%) and the Screening Service (33.0%), and were similar across boards. In NHS Orkney and NHS Shetland there were no referrals from the screening service as the mobile breast screening service did not visit either of these NHS Boards in 2014.

Source of referral (%)	Grampian	Highland[a]	Orkney*	Shetland	Tayside	NoS
Primary Care Clinician	53.6%	54.3%	-	81.8%	60.1%	**56.6%**
Screening Service	34.7%	37.1%	-	0%	29.7%	**33.0%**
Secondary Care	5.6%	3.7%	-	9.1%	2.2%	**4.0%**
Review Clinic	4.2%	1.9%	-	9.1%	3.5%	**3.4%**
Referral from private healthcare	0.9%	0.7%	-	0%	0%	**0.6%**
Increased Risk Clinic	0.7%	1.5%	-	0%	1.5%	**1.2%**
Other	0.2%	0.7%	-	0%	3.0%	**1.4%**

[a] Highland results include patients from the Western Isles

4.3 Performance against Quality Performance Indicators (QPIs)

Results of the analysis of Breast Cancer Quality Performance Indicators are set out in the following sections. Graphs and charts have been provided where this aids interpretation and, where appropriate, numbers have also been included to provide context.

Data are presented by individual Board of audit and collectively for the whole of the North of Scotland. Where performance is shown to fall below the target, commentary is often included to provide context to the variation. Specific regional and NHS Board actions have been identified to address issues highlighted through the data analysis.

QPI 1: Multidisciplinary Team Meeting (MDT)

QPI 1: Multidisciplinary Team Meeting (MDT): Patients with newly diagnosed breast cancer should be discussed by a multidisciplinary team prior to definitive treatment.

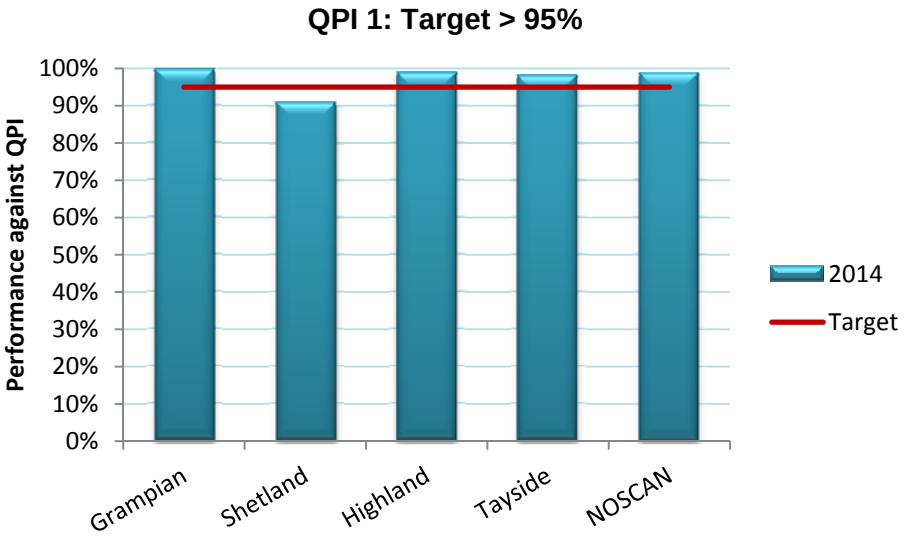
Evidence suggests that patients with cancer managed by a multidisciplinary team have a better outcome. There is also evidence that the multidisciplinary management of patients increases their overall satisfaction with their care.

Numerator:	Number of patients with breast cancer discussed at the MDT **before definitive treatment.**
Denominator:	All patients with breast cancer.
Exclusions:	Patients who died before first treatment.
Target:	95%

QPI 1 Performance against target

Of the 1106 breast cancer patients diagnosed in the North of Scotland in 2014, 1092 were discussed at the MDT before definitive treatment; this equates to a rate of 98.7% and is above the target rate of 95%. 2014 being the first year that this QPI has been measured, there are no previous results to compare it with.

All mainland NHS Boards in the North of Scotland met this QPI. While NHS Orkney and NHS Shetland did not meet the QPI target it is acknowledging that small numbers of patients are involved, with only one patient not meeting the QPI 1 requirement in each Board, the reasons for which have been locally investigated and found to be entirely justified.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**99.5%**	423	425	0	0%	0	0%	0
Orkney*	**-**	-	-	-	-	-	-	-
Shetland	**90.9%**	10	11	0	0%	0	0%	0
Highland[a]	**98.9%**	264	267	0	0%	0	0%	0
Tayside	**98.2%**	392	399	0	0%	0	0%	0
NoS	**98.7%**	**1092**	**1106**	0	0%	0	0%	0

Actions Required:

- **All Boards to be encouraged to discuss all patients at MDT prior to commencement of treatment, including non surgical cases.**

QPI 2: Non Operative Diagnosis

QPI 2: Non Operative Diagnosis: Patients with breast cancer should have a non-operative histological diagnosis.

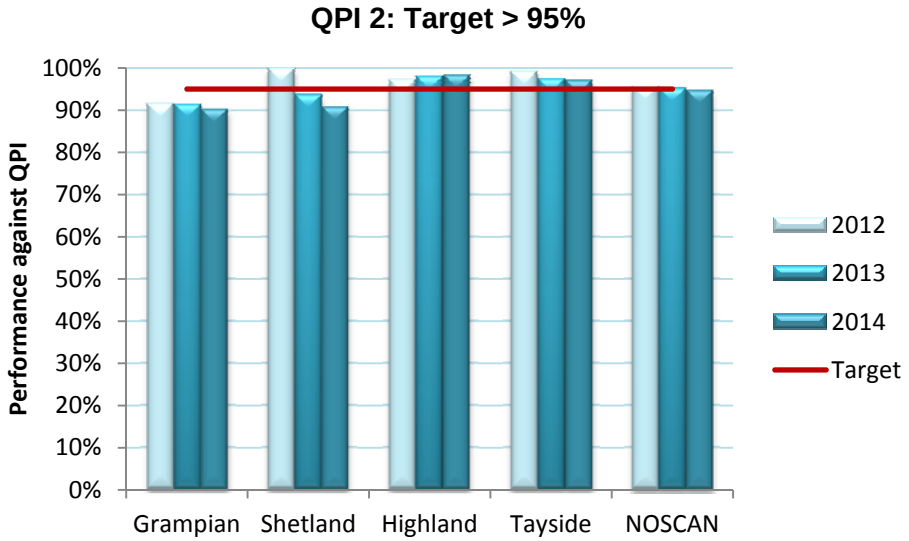
Diagnosis of patients non-operatively allows them, where possible, to have only one definitive procedure. However, it may not always be technically possible to undertake a biopsy and patient choice may also be a factor.

Numerator:	Number of patients with a non-operative diagnosis of breast cancer (core biopsy / large volume biopsy).
Denominator:	All patients with invasive or in-situ breast cancer.
Exclusions:	All breast cancer patients with lobular carcinoma in situ (LCIS).
Target:	95%

QPI 2 Performance against target

Of the 1096 invasive or in-situ breast cancer patients diagnosed in the North of Scotland in 2014, 1039 were given a non operative diagnosis; this equates to a rate of 94.8% which is just below the target rate of 95%, and is a similar level to the 95.4% recorded in 2013.

At NHS Board level NHS Highland, NHS Tayside and NHS Orkney met the QPI target, showing a very similar pattern to previous years for the three mainland Boards.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**90.3%**	383	424	0	0%	0	0%	0
Orkney*	**-**	-	-	-	-	-	-	-
Shetland	**90.9%**	10	11	0	0%	0	0%	0
Highland[a]	**98.5%**	258	262	0	0%	0	0%	0
Tayside	**97.2%**	384	395	0	0%	0	0%	0
NoS	**94.8%**	**1039**	**1096**	**0**	**0%**	**0**	**0%**	**0**

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	**91.4%**	456	**90.3%**	424	-1.1%
Orkney	**-**	-	**-**	-	-
Shetland	**93.8%**	16	**90.9%**	11	-2.9%
Highland[a]	**98.1%**	265	**98.5%**	262	+0.4%
Tayside	**97.9%**	466	**97.2%**	395	-0.7%
NoS	**95.4%**	**1206**	**94.8%**	**1096**	**-0.6%**

[a] Highland results include patients from the Western Isles

Core biopsy is the gold standard for non operative diagnosis. This has been adopted by the majority of UK Breast Units and has replaced fine needle aspiration cytology (FNAC).

The NHS Shetland figure relates to 1 patient who declined further investigation other than US guided FNAC.

The NHS Grampian figure reflects continued use of FNAC for some non operative cases. Core biopsy was not performed largely due to co-morbidities, anti-coagulation issues or impaired mental health preventing informed consent.

Actions Required:

- **Comorbidities, anti-coagulation issues and consent issues are not a contra-indication for core biopsy. All Boards are encouraged to reduce dependence on FNAC.**

- **NHS Tayside protocol for core biopsy of patients on anti-coagulants to be circulated by MCN.**

- **Local policies for consent of patients with mental incapacity to be reviewed by NHS Grampian.**

QPI 3: Pre-Operative Assessment of Axilla

QPI3: Pre-Operative Assessment of Axilla (i): patients with breast cancer should have pre-operative ultrasound assessment of the axilla.

A pre-operative diagnosis of nodal disease enables definitive treatment of axilla at the time of initial breast surgery. However, some patients may refuse investigation and/or treatment.

Numerator: Number of patients with invasive breast cancer who undergo assessment of the axilla by ultrasound before surgery.

Denominator: All patients with invasive breast cancer undergoing surgery.

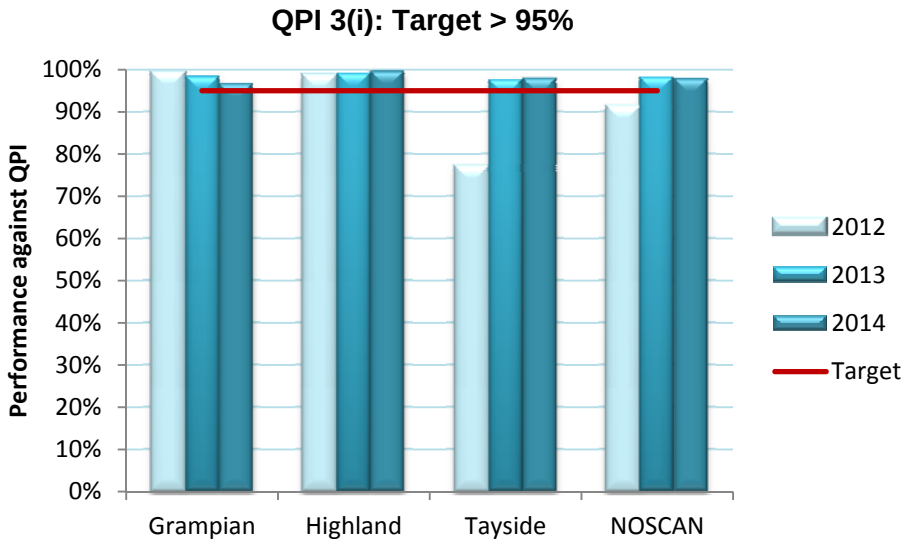
Exclusions: No exclusions.

Target: 95%

QPI 3(i) Performance against target

The regional average rate for pre-operative assessment of axilla (i) was 97.8%; this is above the target rate of 95% and is very similar to the 2013 result of 98.2%.

As in 2013, all NHS Boards within the North of Scotland met the target for this QPI.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**96.6%**	311	322	0	0%	0	0%	1
Orkney*	**-**	-	-	-	-	-	-	-
Shetland*	**-**	-	-	-	-	-	-	-
Highland[a]	**99.5%**	195	196	0	0%	0	0%	0
Tayside	**97.9%**	323	330	3	0.9%	0	0%	0
NoS	**97.8%**	**835**	**854**	**3**	**0.4%**	**0**	**0%**	**1**

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	**98.3%**	354	**96.6%**	322	-1.7%
Orkney*	**-**	-	**-**	-	-
Shetland*	**100%**	12	**-**	-	-
Highland[a]	**99.1%**	220	**99.5%**	196	+0.4%
Tayside	**97.5%**	361	**97.9%**	330	+0.4%
NoS	**98.2%**	**949**	**97.8%**	**854**	**-0.4%**

[a] Highland results include patients from the Western Isles

QPI3: Pre-Operative Assessment of Axilla (ii): patients with breast cancer whose pre-operative ultrasound assessment of the axilla found suspicious morphology should undergo FNA/core biopsy.

Patients with invasive breast cancer should undergo pre-treatment ultrasound assessment of the axilla and if morphologically suspicious nodes are identified these should be sampled using FNA or core biopsy. However, FNA/core biopsy of the axilla is not always technically possible.

Numerator: Number of patients with invasive breast cancer with suspicious morphology on ultrasound who undergo an FNA/core biopsy.

Denominator: All patients with invasive breast cancer undergoing surgery with suspicious morphology reported on ultrasound.

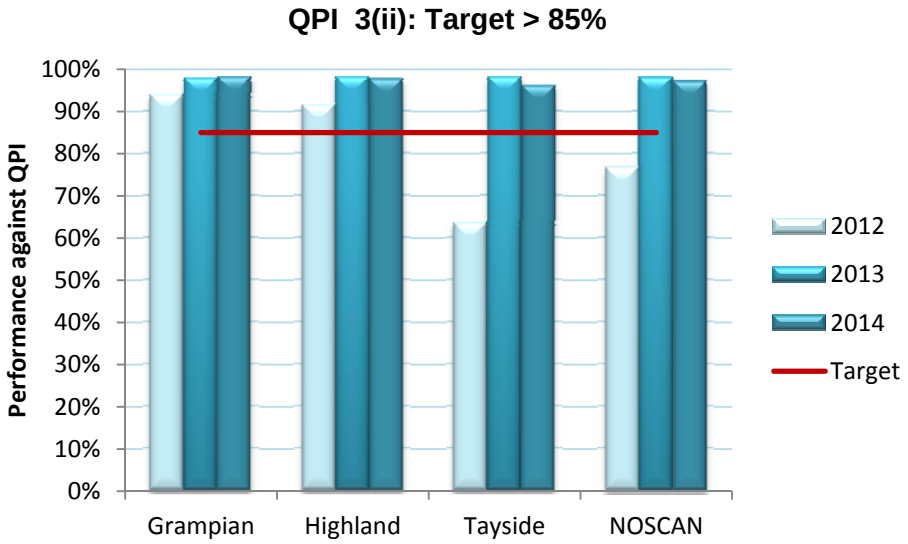
Exclusions: No exclusions.

Target: 85%

QPI 3 (ii) Performance against target

A total of 344 breast cancer patients in the North of Scotland were found to have morphologically suspicious nodes after ultrasound assessment of the axilla. Of these, 334 (97.1%) underwent FNA/core biopsy; this means that at a regional level, the target of 85% was met. This is a very similar result to the 2013 result of 98.0%.

As in 2013, all NHS Boards in the North of Scotland exceeded the required performance level.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**98.1%**	104	106	0	0%	0	0%	1
Orkney*	**-**	-	-	-	-	-	-	-
Shetland*	**-**	-	-	-	-	-	-	-
Highland[a]	**97.6%**	81	83	0	0%	0	0%	0
Tayside	**96.0%**	145	151	0	0%	0	0%	3
NoS	**97.1%**	**334**	**344**	0	0%	0	0%	4

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	**97.7%**	88	**98.1%**	106	+0.4%
Orkney*	**-**	-	**-**	-	-
Shetland*	**-**	-	**-**	-	-
Highland[a]	**98.1%**	107	**97.6%**	83	-0.5%
Tayside	**98.0%**	152	**96.0%**	151	-2.0%
NoS	**98.0%**	**352**	**97.1%**	**344**	**-0.9%**

[a] Highland results include patients from the Western Isles

Actions Required:

Performance was considered to be satisfactory and no actions were identified.

QPI 4: Conservation rate

QPI 4: Conservation rate: patients with small breast cancers should undergo breast conservation whenever appropriate.

Breast conservation is appropriate for small breast cancers; randomised trials have shown no difference in survival for tumours treated by conservation surgery followed by radiotherapy to mastectomy.

Breast conservation may not be appropriate for all patients for a variety of reasons including patient choice and genetic risk.

Numerator: Number of surgically treated patients with breast cancer less than 20mm whole tumour size on histology (invasive plus in situ disease) treated by breast conservation surgery.

Denominator: All surgically treated patients with breast cancer less than 20mm whole tumour size on histology (invasive plus in situ disease).

Exclusions:

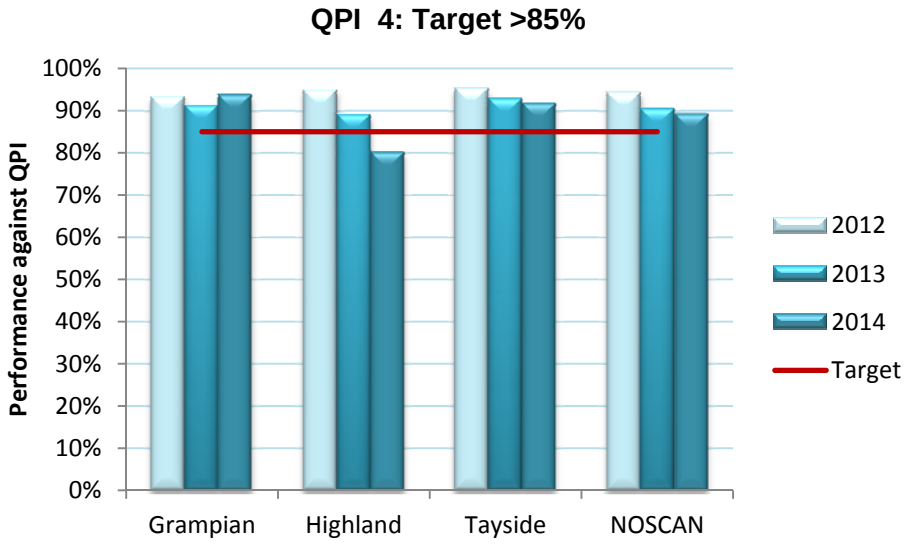
- All patients with multifocal breast cancer.
- All patients with breast cancer who have received neoadjuvant systemic therapy for ≥6 weeks (hormonal therapy or chemotherapy).
- All male patients.

Target: 85%

QPI 4 Performance against target

The breast conservation rate in the North of Scotland was 89.2% in 2014, above the target rate of 85%. This is a very similar to the 2013 result of 90.5%.

With a performance rate of 80.2%, NHS Highland was the only mainland Board not to meet this QPI target.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**93.8%**	122	130	0	0%	4	3.1%	0
Orkney	**-**	0	0	0	-	0	-	0
Shetland*	**-**	-	-	-	-	-	-	-
Highland[a]	**80.2%**	73	91	0	0%	0	0%	0
Tayside	**91.8%**	112	122	0	0%	0	0%	0
NoS	**89.2%**	**307**	**344**	0	0%	4	1.2%	0

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	91.3%	149	**93.8%**	130	+2.5%
Orkney*	-	-	**-**	0	-
Shetland*	-	-	**-**	-	-
Highland[a]	89.1%	101	**80.2%**	91	-8.9%
Tayside	92.9%	126	**91.8%**	122	-1.1%
NoS	**90.5%**	**379**	**89.2%**	**344**	**-1.3%**

[a] Highland results include patients from the Western Isles

NHS Highland has confirmed that all patients had full discussion of the benefits / risks of conservation surgery and mastectomy. The decision to proceed to mastectomy was patient choice. Distance to travel for radiotherapy did not appear to influence patient decision.

Actions Required:

- **Boards to be encouraged to continue to discuss surgical options in accordance with Scottish Intercollegiate Guidelines Network (SIGN).**

QPI 5: Surgical Margins

QPI 5: Surgical margins: Breast cancers which are surgically treated should be adequately excised.

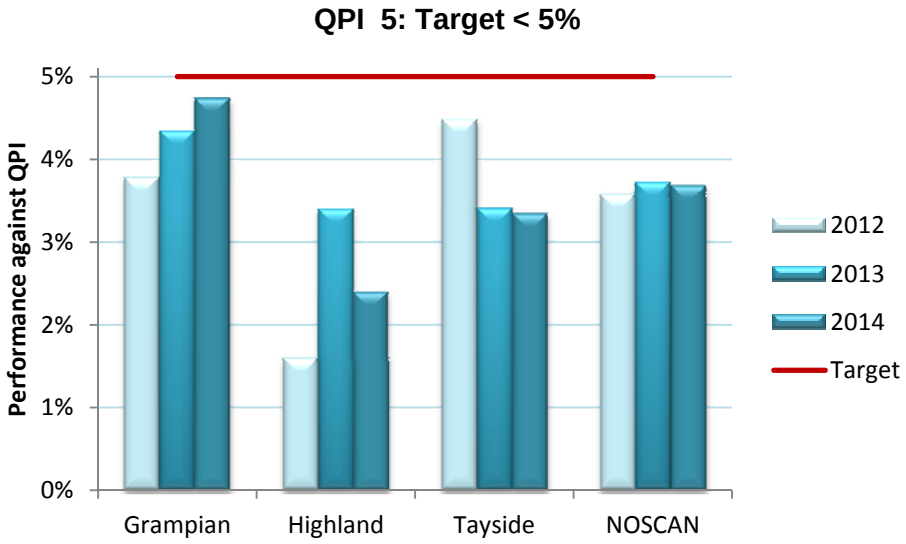
There is an increased risk of local recurrence if radial surgical excision margins are less than 1mm after breast cancer surgery.

Numerator:	Number of patients with breast cancer (invasive or ductal carcinoma in situ) having breast conservation surgery with final radial (i.e. superior, inferior, medial or lateral) excision margins less than 1mm (on pathology report).
Denominator:	All patients with breast (invasive or ductal carcinoma in situ) cancer having breast conservation surgery.
Exclusions:	LCIS alone.
Target:	< 5%

QPI 5 Performance against target

Overall in 2014, 22 out of 597 surgically treated breast cancer patients in the region had final radial excision margins of less than 1mm. At a rate of 3.7%, this meets the target set at less than 5% of patients. This is very similar to results from 2013 when the rate was also 3.7%.

As in previous years, all NHS Boards in the North of Scotland me the target for this QPI.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**4.7%**	11	232	0	0%	0	0%	0
Orkney	**-**	0	0	0	-	0	-	0
Shetland*	**-**	-	-	-	-	-	-	-
Highland[a]	**2.4%**	3	125	0	0%	0	0%	0
Tayside	**3.3%**	8	239	0	0%	0	0%	0
NoS	**3.7%**	**22**	**597**	**0**	**0%**	**0**	**0%**	**0**

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	**4.3%**	207	**4.7%**	232	+0.4%
Orkney	**-**	0	**-**	0	-
Shetland*	**-**	-	**-**	-	-
Highland[a]	**3.4%**	147	**2.4%**	125	-1.0%
Tayside	**3.4%**	237	**3.3%**	239	-0.1%
NoS	**3.7%**	**592**	**3.7%**	**597**	**0.0%**

[a] Highland results include patients from the Western Isles

Actions Required:

Performance was considered to be satisfactory and no actions were identified.

QPI 6: Immediate Reconstruction Rate

QPI 6: Immediate Reconstruction Rate: Patients undergoing mastectomy for breast cancer should have access to immediate breast reconstruction.

Evidence suggests that breast reconstruction is not associated with an increase in the rate of local recurrence, nor does it affect the ability to detect recurrence and it can yield psychological benefit. Access to immediate breast reconstruction is difficult to measure so uptake is used as a proxy. Patient choice is a key factor in the number who undergo immediate breast reconstruction. Age and co-morbidity factors (associated with deprivation category) should be taken into account when reviewing data for this QPI.

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.
- All male patients.

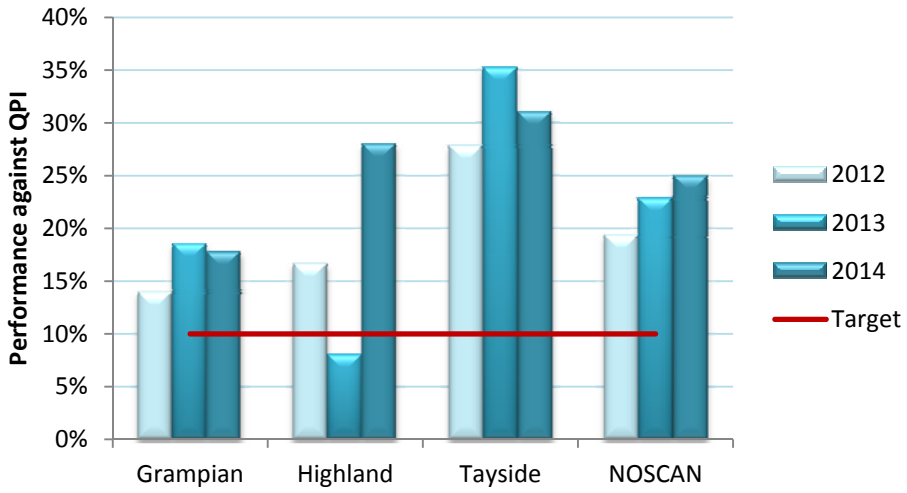
Target: 10%

QPI 6 Performance against target

In 2014, 85 patients diagnosed with breast cancer in the North of Scotland underwent immediate breast reconstruction at the time of mastectomy, which is a rate of 25.0%. This is very similar to the 2013 rate of 23.9% and considerably higher than the target rate of 10%.

With a notable improvement in results for NHS Highland during the last year, this QPI was met in the three mainland Boards in the North of Scotland. However the QPI target was not individually met in either of NHS Orkney and NHS Shetland, although it should also be noted that the numbers of patients involved during 2014 were very small in both Boards.

QPI 6: Target > 10%



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**17.8%**	21	118	0	0%	0	0%	0
Orkney*	**-**	-	-	-	-	-	-	-
Shetland*	**-**	-	-	-	-	-	-	-
Highland[a]	**28.0%**	28	100	0	0%	1	1%	0
Tayside	**31.0%**	36	116	0	0%	0	0%	0
NoS	**25.0%**	**85**	**340**	**0**	**0%**	**1**	**0.3%**	**1**

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	**18.2%**	135	**17.8%**	118	-0.4%
Orkney*	**-**	-	**-**	-	-
Shetland	**0%**	10	**-**	-	-
Highland[a]	**8.0%**	87	**28.0%**	100	+20.0%
Tayside	**39.0%**	159	**31.0%**	116	-8.0%
NoS	**23.9%**	**394**	**25.0%**	**340**	**+1.1%**

[a] Highland results include patients from the Western Isles

NHS Shetland figure relates to 5 patients. One patient did undergo immediate reconstruction but as this was performed in ARI the patient is included in the NHS Grampian figures. If included in NHS Shetland figures then standard would have been met.

Actions Required:

No actions were identified.

QPI 7: Negative Axillary Clearance Rate

QPI 7: Negative Axillary Clearance Rate: Over treatment of the axilla should be minimised.

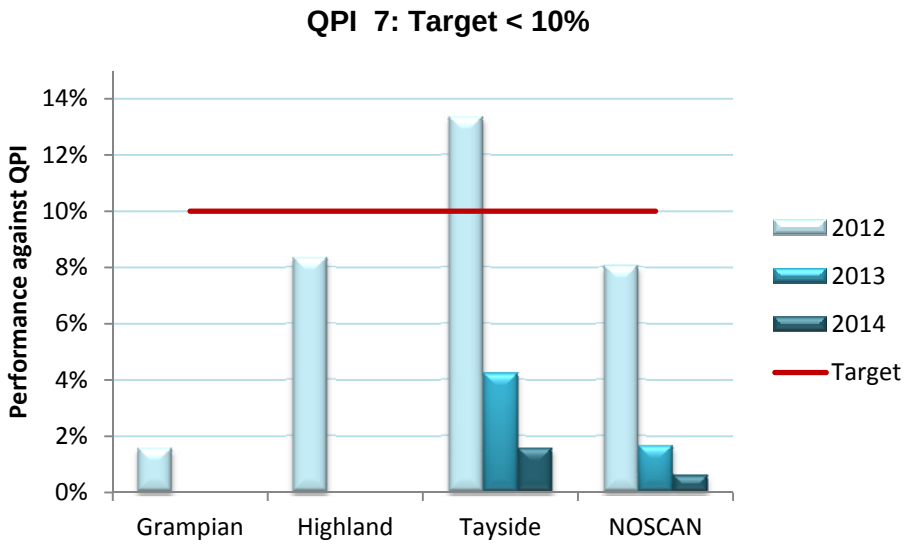
Surgical axillary clearance is associated with increased arm morbidity compared with other surgical staging procedures and should therefore not be utilised unless there is evidence of nodal metastatic disease.

Numerator:	Number of patients with breast cancer undergoing surgical axillary clearance found to have no nodal metastasis (including nodes taken at any previous sampling procedure).
Denominator:	All patients with breast cancer undergoing surgical axillary clearance.
Exclusions:	All patients with breast cancer who have received neoadjuvant systemic therapy for ≥6 weeks (hormonal therapy or chemotherapy).
Target:	< 10%

QPI 7 Performance against target

The overall negative axillary clearance rate for North of Scotland for 2014 was 0.6%, well below the target rate of less than 10%. This is a similar level to results from 2013 (1.6%), showing that the North of Scotland has maintained the considerable improvements in results for this measure since 2012 for a second year.

This QPI was met by all NHS Boards in the North of Scotland.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**0%**	0	53	0	0%	0	0%	0
Orkney*	**-**	-	-	-	-	-	-	-
Shetland*	**-**	-	-	-	-	-	-	-
Highland[a]	**0%**	0	50	0	0%	0	0%	0
Tayside	**1.6%**	1	64	0	0%	0	0%	0
NoS	**0.6%**	**1**	**170**	**0**	**0%**	**0**	**0%**	**0**

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	**0%**	43	**0%**	53	0.0%
Orkney*	**-**	-	**-**	-	-
Shetland*	**-**	-	**-**	-	-
Highland[a]	**0%**	66	**0%**	50	0.0%
Tayside	**4.3%**	70	**1.6%**	64	-2.7%
NoS	**1.6%**	**182**	**0.6%**	**170**	**-1.0%**

[a] Highland results include patients from the Western Isles

Continued excellent performance. If all regions (WOSCAN, SCAN) have achieved a similar level of performance consistently over a 3 year period then the QPI should be replaced.

Actions Required:

- **NOSCAN to recommend replacement of QPI7 at formal review if other networks have achieved similar levels of performance as NOSCAN over a 3 year period.**

QPI 8: Minimising Hospital Stay

QPI 8: Minimising Hospital Stay – "23 Hour" Surgery: Patients should have the opportunity for a maximum of 1 overnight stay following surgery wherever appropriate.

It is safe to perform wide excision and axillary staging as a short stay procedure in the majority of patients & clinical quality has been shown to be improved utilising this model, resulting in better patient outcomes. Benefits of short stay include reduction in readmissions, reduction in complications, improved patient mobility and enhanced recovery.

However, it is not always appropriate for all patients due to social circumstances, co-morbidities and/or geographical residence.

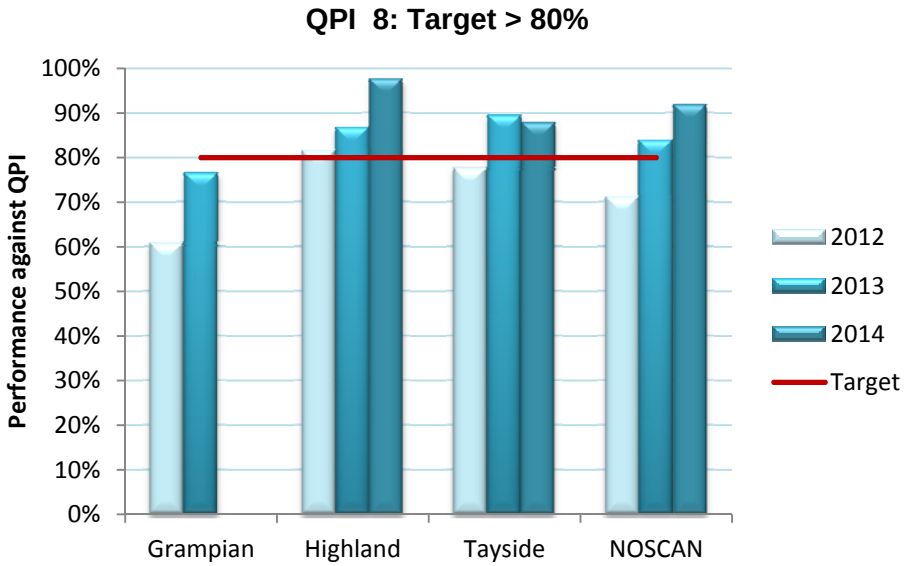
Numerator:	Number of patients with breast cancer undergoing wide excision and/or axillary sampling procedure (sentinel node biopsy or node sample (≥4 nodes) with a maximum hospital stay of 1 night following their procedure.
Denominator:	All patients with breast cancer undergoing wide excision and/or axillary sampling procedure (sentinel node biopsy or node sample (≥4 nodes)).
Exclusions:	All patients with breast cancer undergoing partial breast reconstruction.
Target:	80%

QPI 8 Performance against target

Rather than audit data, which is used to report all the other breast cancer QPIs, QPI 8 uses data from the SMR01 dataset. Analysis has shown that the accuracy of the NHS Grampian SMR01 data used to calculate this QPI was particularly poor. As such, no NHS Grampian results are available to be reported this cycle and 2014 results for the NoS are based on data from NHS Tayside and NHS Highland only.

In NHS Tayside and NHS Highland during 2014, there were 352 operations conducted as a short stay procedure out of a possible 384 which at 91.7%, is above the QPI target level of 80%. There were no procedures undertaken in either NHS Orkney or NHS Shetland that were included within this indicator. This is an increase on the results that were reported for 2013 when the rate was 83.8%. However, this apparent regional increase during 2014 may in part be due to the lack of data from NHS Grampian in 2014, as results for NHS Grampian were low in previous years (due to data accuracy issues). For comparative purposes only, when Grampian figures are removed from 2013 figures, the NoS performance was recalculated at 88.6%.

All NHS Boards with adequate data to report on performance against this QPI met the required target level.



	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian[b]	76.4%	275	-	-	-
Orkney	-	0	-	0	-
Shetland	-	-	-	0	-
Highland[a]	87.2%	156	97.5%	157	+10.3%
Tayside	89.3%	271	87.7%	227	-1.6%
NoS[c]	**83.8%**	**705**	**91.7%**	**384**	**+7.9%**

[a] Highland results include patients from the Western Isles.
[b] NHS Grampian figures not reported due to the low accuracy of required data held within SMR01 database.
[c] Excluding NHS Grampian.

There is a problem with obtaining accurate SMR01 data for NHS Grampian and as a result these data have been excluded from the 2014 figures. NHS Grampian are aware of the problem and are working to improve accuracy of data.

Actions Required:

- **NHS Grampian to work to improve accuracy of SMR01 data to enable reporting of QPI 8.**

QPI 9: HER2 Status for Decision Making

QPI9: HER2 Status for Decision Making: HER2 status should be available to inform treatment decision making.

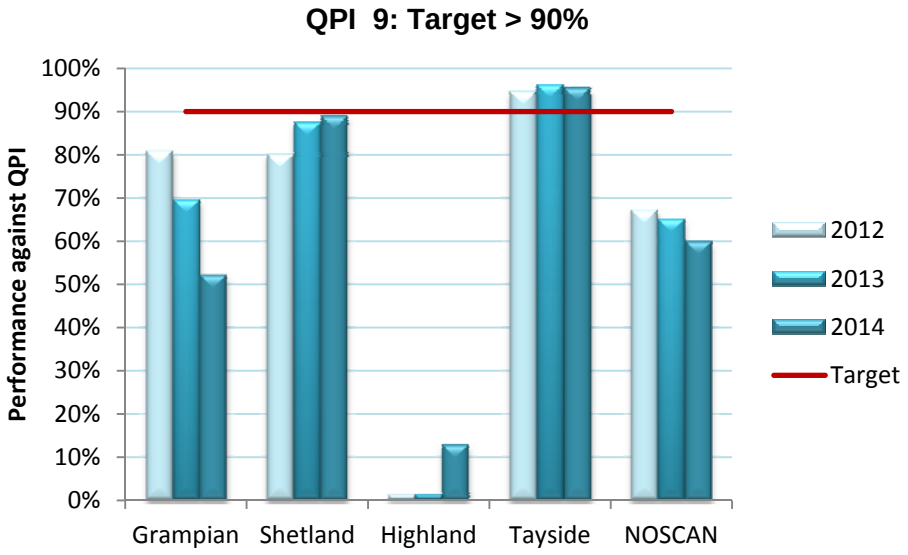
HER2 status has a significant impact on survival and so has a significant influence on decisions on neoadjuvant and adjuvant treatment. However, it is not always possible to undertake IHC on a core biopsy e.g. due to tumour size.

Numerator:	Number of patients with invasive breast cancer for whom the HER2 status (as defined by IHC) is known at initial MDT meeting to decide first treatment.
Denominator:	All patients with invasive breast cancer.
Exclusions:	No exclusions.
Target:	90%

QPI 9 Performance against target

From a total of 963 patients diagnosed with invasive breast cancer in the North of Scotland during 2014, 577 patients had their HER2 status known at the pre-treatment multidisciplinary team (MDT) meeting. This equates to 59.9% which is well below the target figure of over 90% and is a slight decline compared with the 2013 result of 65.1%.

Only one Board, NHS Tayside, met this QPI target during 2014. While there was an increase in the proportion of patients meeting the QPI in NHS Highland, this was likely to be due to changes in the way in which the QPI is calculated; in 2014 the date of the pre-treatment MDT was used rather than that of the initial MDT. In NHS Grampian, there was a marked decline in the proportion of patients who had their HER2 status know at the time of the pre-treatment MDT in 2014, down from 69.5% in 2013 to only 52.1% in 2014.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**52.1%**	185	355	0	0%	0	0%	0
Orkney	**-**	-	-	-	-	-	-	-
Shetland	**88.9%**	8	9	0	0%	0	0%	0
Highland[a]	**12.9%**	29	225	0	0%	0	0%	0
Tayside	**95.4%**	353	370	0	0%	0	0%	0
NoS	**59.9%**	**577**	**963**	0	0%	0	0%	0

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	**69.5%**	417	**52.1%**	355	-17.4%
Orkney*	**-**	-	**-**	-	-
Shetland	**87.5%**	16	**88.9%**	9	+1.4%
Highland[a]	**1.2%**	244	**12.9%**	225	+11.7%
Tayside	**96.5%**	425	**95.4%**	370	-1.1%
NoS	**65.0%**	**1104**	**59.9%**	**963**	**-5.1%**

[a] Highland results include patients from the Western Isles

NHS Shetland only just miss the target, with only one patient not meeting the required target this results reflects the small numbers of patients on which this QPI result is based.

NHS Highland continue to be unable to provide HER2 status at the time of first MDT. HER2 status is essential to determine the potential benefit of neoadjuvant chemotherapy so relevant patients are re-discussed the following week when HER2 is available.

This QPI may not be relevant if it does not influence the decision to give neoadjuvant chemotherapy. Maybe this QPI should be changed to a standard assessing the number of HER2 positive patients receiving neoadjuvant chemotherapy.

Actions Required:

- **NOSCAN to suggest amendment of QPI at formal review.**

QPI 10: Radiotherapy for Breast Conservation

QPI 10: Radiotherapy for Breast Conservation: After wide local excision patients with breast cancer should receive radiotherapy

Trials have demonstrated a significant reduction in local recurrence with the use of radiotherapy after breast conservation. Patient choice and fitness for treatment will have an effect on uptake.

Numerator: Number of patients with invasive breast cancer having conservation surgery receiving radiotherapy to the breast.

Denominator: All patients with invasive breast cancer having conservation surgery.

Exclusions:

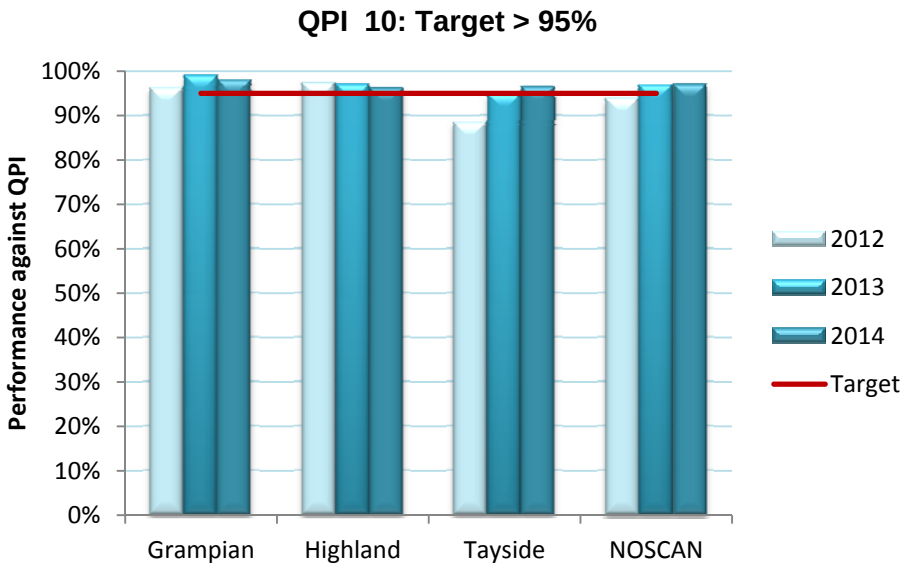
- All patients with breast cancer taking part in clinical trials of radiotherapy treatment.
- All patients with M1 disease.

Target: 95%

QPI 10 Performance against target

Overall, in 2014 493 out of 508 (97.0%) of patients diagnosed with breast cancer in the North of Scotland received radiotherapy after wide local excision, which exceeds the target of 95%, and which is very similar to the 2013 result of 96.8%.

All NHS Boards with patients included within calculations for this QPI met the target of 95%.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**98.0%**	200	204	0	0%	0	0%	0
Orkney	**-**	0	0	0	-	0	-	0
Shetland	**-**	0	0	0	-	0	-	0
Highland[a]	**96.2%**	101	105	0	0%	0	0%	0
Tayside	**96.5%**	192	199	0	0%	5	2.5%	0
NoS	**97.0%**	**493**	**508**	**0**	**0%**	**5**	**1.0%**	**0**

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	**98.9%**	188	**98.0%**	204	-0.9%
Orkney	**-**	0	**-**	0	-
Shetland*	**-**	-	**-**	0	-
Highland[a]	**97.0%**	134	**96.2%**	105	-0.8%
Tayside	**94.8%**	213	**96.5%**	199	+1.7%
NoS	**96.8%**	**536**	**97.0%**	**508**	**+0.2%**

[a] Highland results include patients from the Western Isles

Actions Required:

Performance was considered to be satisfactory and no actions were identified.

QPI 11: Adjuvant Chemotherapy

QPI11: Adjuvant chemotherapy: patients with higher risk breast cancer should receive chemotherapy post operatively.

Clinical trials have demonstrated that adjuvant drug treatments substantially reduce 5-year recurrence rates and 15-year mortality rates. However, it may not always be undertaken due to factors such as patient choice, co-morbidities and fitness for treatment.

Numerator: Number of patients between 50 and 70 years of age at diagnosis with surgically proven node positive or at least G3 > 20mm breast cancer who receive adjuvant chemotherapy.

Denominator: All patients between 50 and 70 years of age at diagnosis with surgically proven node positive or at least G3 > 20mm breast cancer.

Exclusions:

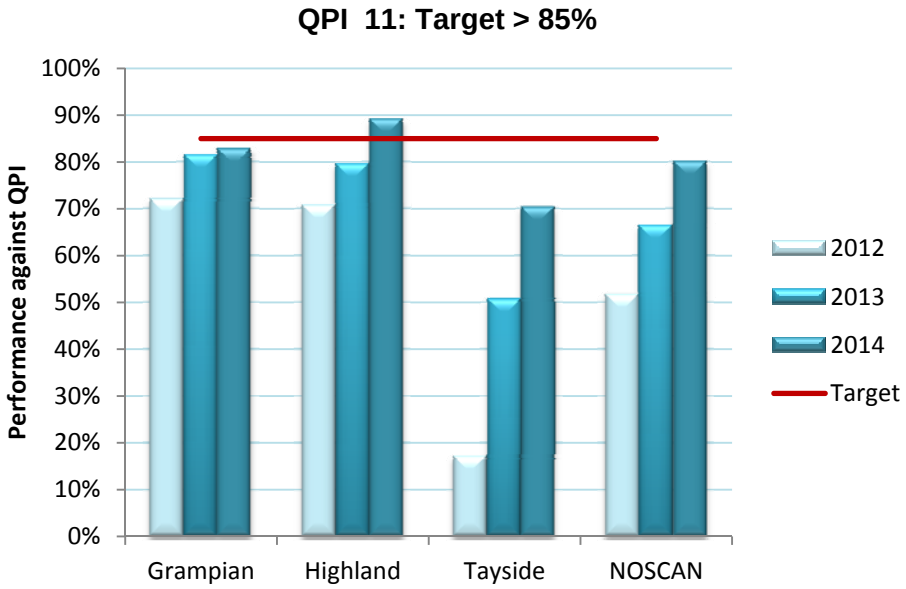
- All patients with breast cancer taking part in trials of chemotherapy treatment.
- All patients with breast cancer who have had neo-adjuvant chemotherapy.
- All patients with M1 disease.

Target: 85%

QPI 11 Performance against target

Over three quarters of patients in the North of Scotland (80.1%) with higher risk breast cancer received chemotherapy post operatively in 2014 which is below the target of 85%. However, this is a significant improvement compared with 2013 when only 70.9% of such patients received chemotherapy post operatively.

NHS Highland and NHS Orkney were the only Boards in the North of Scotland to meet this QPI target.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**82.8%**	53	64	0	0%	0	0%	0
Orkney*	**-**	-	-	-	-	-	-	-
Shetland	**-**	0	0	0	-	0	-	0
Highland[a]	**89.2%**	33	37	0	0%	0	0%	0
Tayside	**70.4%**	38	54	0	0%	3	5.6 %	0
NoS	**80.1%**	**125**	**156**	**0**	**0%**	**3**	**1.9%**	**0**

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	**81.5%**	54	**82.8%**	64	+1.3%
Orkney*	**-**	0	**-**	-	-
Shetland*	**28.6%**	7	**-**	0	-
Highland[a]	**79.5%**	44	**89.2%**	37	+9.7%
Tayside	**60.0%**	60	**70.4%**	54	+10.4%
NoS	**70.9%**	**165**	**80.1%**	**156**	**+9.2%**

[a] Highland results include patients from the Western Isles

The potential benefit of chemotherapy must involve a discussion of potential morbidity. All units balance the risks and benefits on an individual patient basis. All units discuss chemotherapy with patients if the level of benefit exceeds 5%. Some units will consider chemotherapy above the 3% level. At present this standard includes micrometastatic disease as node positive despite current evidence which suggests that the level of benefit is less than for patients with macrometastatic disease.

The continued failure of units within NOSCAN to meet this standard parallels similar figures across the other Scottish regions. This was discussed nationally at the Scottish Clinical Trials meeting earlier this year and it was acknowledged that the standard may need re-defined or the target level changed.

Actions Required:

- **All Boards to continue to offer adjuvant chemotherapy above the 5% level of benefit.**
- **All Boards to consider adjuvant chemotherapy above the 3% level of benefit.**
- **NOSCAN to suggest review of QPI 11 at formal review.**

QPI 12: Anti-HER2 Positive Therapy

QPI12: Anti-HER2 Positive Therapy: Patients with HER2 positive intermediate or high risk breast cancer should receive anti-HER2 positive therapy.

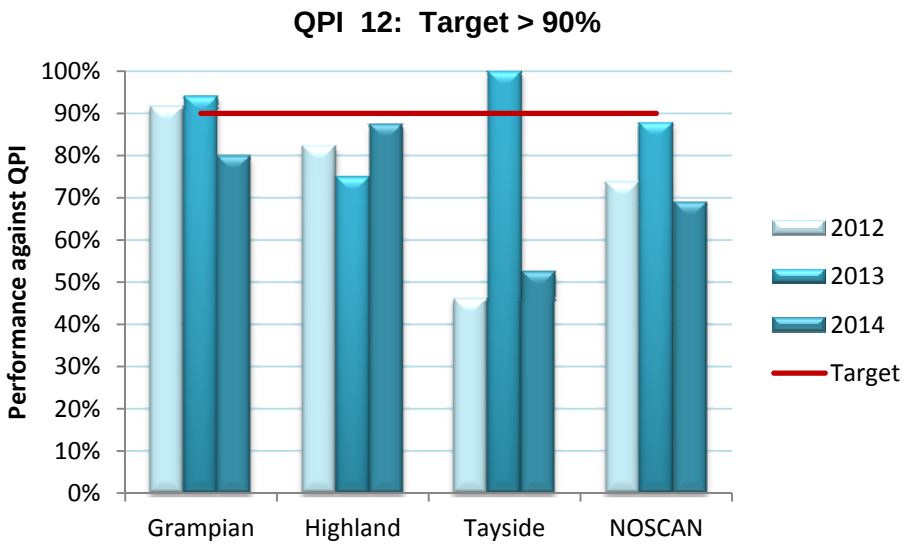
Women with intermediate or high risk-disease who are HER2 positive show benefit when they receive trastuzumab in addition to chemotherapy. However, uptake will be influenced by factors such as patient choice, co-morbidities and fitness for treatment.

Numerator:	Number of patients with breast cancer who are between 50 and 70 years of age at diagnosis with HER2 positive (by 3+ on IHC &/or FISH +ve) tumours >10mm (or ≤10mm and node positive) who receive anti-HER2 positive therapy.
Denominator:	All patients with breast cancer who are between 50 and 70 years of age at diagnosis with HER2 positive (by 3+ on IHC &/or FISH +ve) tumours >10mm (or ≤10mm and node positive).
Exclusions:	Patients with metastatic disease ($T_{any}N_{any}M1$).
Target:	90%

QPI 12 Performance against target

In 2014, 69.0% of patients in the North of Scotland with HER2 positive intermediate or high risk breast cancer received anti-HER2 positive therapy, which is well below the target rate of 90% and a considerable decrease when compared with the 2013 result of 87.8%,.

Furthermore, no NHS Boards within the North of Scotland individually met this QPI target in 2014.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	80.0%	12	15	0	0%	0	0%	0
Orkney	-	0	0	0	-	0	-	0
Shetland	-	0	0	0	-	0	-	0
Highland[a]	87.5%	7	8	0	0%	0	0%	0
Tayside	52.6%	10	19	0	0%	0	0%	1
NoS	**69.0%**	**29**	**42**	**0**	**0%**	**0**	**0%**	**1**

	2013 Performance (%)	2013 Denominator	2014 Performance (%)	2014 Denominator	Change in Performance
Grampian	94.1%	17	80.0%	15	-14.1%
Orkney	-	0	-	0	-
Shetland*	-	-	-	0	-
Highland[a]	75.0%	12	87.5%	8	+12.5%
Tayside	100%	10	52.6%	19	-47.4%
NoS	**87.8%**	**41**	**69.0%**	**42**	**-18.8%**

[a] Highland results include patients from the Western Isles

It is noted that the numbers of patients in the NoS included within these calculations are relatively small. Furthermore, of the patients who it is known had HER2 positive intermediate or high risk breast cancer but who then did not go on to receive anti-HER2 positive therapy, it was identified that the clinical benefit was either only considered to be borderline, or the patient opted to decline therapy.

Adjuvant Herceptin is dependent upon patients also undergoing chemotherapy. In all units patients were not offered Herceptin if the level of benefit from chemotherapy was considered borderline. A significant number of patients decline Herceptin/chemotherapy despite an explanation of potential benefit.

Actions Required:

- **All Boards to continue to offer Herceptin to patients if the level of benefit from chemotherapy is significant as defined in QPI 11.**

Clinical Trials Access QPI

The ability of patients to readily access a Clinical Trial is a common issue for all cancer types, and in order to further support recruitment through more active comparison and measurement of Board and network performance across the country, a generic QPI was developed as part of the National Programme of cancer quality improvement. Further details on the development and definition of this QPI can be found here.

The QPI is defined as follows.

Clinical Trials Access QPI

All patients should be considered for participation in available clinical trials, wherever eligible.

Numerator: Number of patients with breast cancer enrolled in an interventional clinical trial of translational research.

Denominator: All patients with breast cancer.

Exclusions: No Exclusions

Target: Interventional clinical trials – 7.5%

Translational research - 15%

Key points during the period audited:

- 6.2% of patients with breast cancer in the North of Scotland were recruited into interventional clinical trials in one of the three cancer centres in the region; this is just below the required target of 7.5%.
- Though a similar level of recruitment into translational research was attained of 7.0%, it fell well below the more challenging target which is set at 15%.

	Number of patients recruited	ISD Cases annual average (2009-2013)	Percentage of patients recruited
Interventional Clinical Trials	78	1260	**6.2%**
Translational Research	88	1260	**7.0%**

The QPI target for clinical trials is 7.5% for interventional trials and for translational trials is 15%. It should be noted that these targets are ambitious, particularly with the move towards more targeted trials.

All cancer patients that pass through each of the three cancer centres in NOSCAN are considered for potential participation in the open trials currently available. However, as with other cancer specific studies, consequent to the demise of larger general trials and the advent of genetically selective trials that only target small populations of patients, many of the breast cancer trials that are currently open to recruitment in the NoS have very select eligibility criteria. Consequently they will only be available to a small percentage of the total number of people who were diagnosed with breast cancer.

During 2014 in NOSCAN, there were 8 interventional trials and 7 translational trials open and recruiting patients[1], thereby offering patients with a breast cancer diagnosis the opportunity to participate in a range of different breast cancer tumour types and levels of treatment investigation. Furthermore, all the breast cancer patients passing through the cancer centres in NOSCAN will have been assessed for eligibility for clinical trials: further enquiry indicates that of patients diagnosed with breast cancer in the NoS during 2014, 81 (6.4%) patients were screened for interventional trials and 91 (7.2%) were screened for translational trials during the reporting period

Due to the increasing complexity of trials and time burden needed to run them effectively, and a lack of clinical and research support to run such further trials, it is not currently possible to open a greater number (and thereby to have a greater scope) of available trials in the NoS. However a large number of feasibility requests for trials are continually being reviewed by all consultants and if an expression of interest is submitted, the chances that the site will be selected for running the trial become higher.

[1] A list of these trials can be found in Appendix 1.

5. Conclusions

The Quality Performance Indicators programme was developed to drive continuous improvement and ensure equity of care for cancer patients across Scotland. As part of this the North of Scotland has initiated a programme of annual reporting of regional performance against QPIs. This is the second regional Breast Cancer QPI comparative performance report to be published and will help to provide a clearer indication of performance and a more formal structure for enabling improvements to be made.

Overall, results from the third year of Breast Cancer QPI reporting are encouraging; case ascertainment and data capture is of a high standard overall, with significant improvements having been reported in some boards over the last year.

The audit report indicated that during 2014, the QPI targets for breast cancer were met over the North of Scotland for eight of the 12 QPIs.

Regarding QPI 2 (non-operative diagnosis from core biopsy or large volume biopsy), the target was only narrowly missed at a regional level even though results for 2014 are very similar to those reported in 2013, when the QPI was just met. It was noted that the regional results are affected by the results reported by NHS Grampian where FNA is used for some patients.

Regarding QPI 9 (HER2 status for decision making), once again this QPI was not met by a significant margin in 2014. Clinicians are confident that this failure does not equate in any way to evidencing poor clinical practice and it is suggested that this QPI requires amending to ensure its original intention is properly captured.

The 2014 results for QPI 11 (adjuvant chemotherapy), were considerably higher than in 2013, although once again the required target was not met at regional level. While it is important to ensure that all patients are offered chemotherapy when there is an identified clinical benefit, it has also been acknowledged nationally and elsewhere that this QPI may need to be redefined. Furthermore, due to the reporting linkages between QPI11 and QPI 12, until there is national agreement on redefinition of QPI 11 achieving the required target for QPI 12 as presently defined, risks remaining illusive.

Some actions to improve services have been identified. These are

- **All Boards to be encouraged to discuss all patients at MDT prior to commencement of treatment, including non surgical cases.**

- **Comorbidities, anti-coagulation issues and consent issues are not a contra-indication for core biopsy. All Boards are encouraged to reduce dependence on FNAC.**

- **NHS Tayside protocol for core biopsy of patients on anti-coagulants to be circulated by MCN.**

- **Local policies for consent of patients with mental incapacity to be reviewed by NHS Grampian.**

- **Boards to be encouraged to continue to discuss surgical options in accordance with Scottish Intercollegiate Guidelines Network (SIGN).**

- **NHS Grampian to work to improve accuracy of SMR01 data to enable reporting of QPI 8.**

- **All Boards to continue to offer adjuvant chemotherapy above the 5% level of benefit.**

- **All Boards to consider adjuvant chemotherapy above the 3% level of benefit.**

- **All Boards to continue to offer Herceptin to patients if the level of benefit from chemotherapy is significant as defined in QPI 11.**

The first years of reporting against the Breast Cancer QPIs have been a learning process during which both the QPIs themselves and the way in which data is collected to report them have been refined and developed. Consequently there will be a formal review of the Breast Cancer QPIs following this third year of QPI reporting, some further actions have been identified to feed into this process.

- **NOSCAN to recommend replacement of QPI7 at formal review if other networks have achieved similar levels of performance as NOSCAN over a 3 year period.**

- **NOSCAN to suggest amendment of QPI 9 at formal review.**

- **NOSCAN to suggest review of QPI 11 at formal review.**

The MCN will actively take forward regional actions identified and NHS Boards are asked to develop local Action / Improvement Plans in response to the findings presented in the report. A blank Action Plan template can be found in the Appendix.

Completed Action Plans should be returned to NOSCAN within two months of publication of this report.

Progress against these plans will be monitored by the MCN and any service or clinical issue which the Advisory Board considers not to have been adequately addressed will be escalated to the NHS Board Lead Cancer Clinician and Regional Lead Cancer Clinician.

Additionally, progress will be reported to the Regional Cancer Advisory Forum (RCAF) annually by the NOSCAN Breast Cancer Clinical Lead as part of the regional audit governance process to enable RCAF to review and monitor regional improvement.

6. References

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

2. NHS MEL (1999)10. Introduction of Manager Clinical Networks within the NHS in Scotland http://www.show.scot.nhs.uk/sehd/mels/1999_10.htm

3. HDL(2002)69. Promoting the development of Managed Clinical Networks in NHSScotland. http://www.show.scot.nhs.uk/sehd/mels/HDL2002_69.pdf

4. HDL (2007)21. Strengthening the role of Manager Clinical Networks. http://www.show.scot.nhs.uk/sehd/mels/HDL2007_21.pdf

5. CEL 29 (2012). Managed Clinical Networks: Supporting and Delivering the Healthcare Quality Strategy. http://www.sehd.scot.nhs.uk/mels/CEL2012_29.pdf

6. Scottish Cancer Taskforce, 2014. Breast Cancer Clinical Performance Indicators, Version 2.0. Health Improvement Scotland. Available at http://www.healthcareimprovementscotland.org/our_work/cancer_care_improvement/cancer_qpis/quality_performance_indicators.aspx

7. NHS Information Services Division. 2014. Breast Cancer Quality Performance Indicators: Patients diagnosed during 2012.

8. Daltrey, I., McLachlan, N, & Urquhart, C., 2015. Audit Report: Breast Cancer Quality Performance Indications – Patients diagnosed during 2013. NOSCAN. Available at http://www.noscan.scot.nhs.uk/guidelinesandprotocols/CancerQPIs/QPIreporting

9. ScotPHO, Public Health Information for Scotland. Population: estimates by NHS Board [Accessed on: 31st August 2015] Available at: http://www.scotpho.org.uk/population-dynamics/population-estimates-and-projections/data/nhs-board-population-estimates

10. Information Services Division. Cancer Statistics: Breast Cancer. [Accessed on: 1st September 2015]. Available at: http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Statistics/Breast/

11. Information Services Division. Cancer in Scotland, 2015. Available at: http://www.isdscotland.org/Health-Topics/Cancer/Publications/2015-04-28/Cancer_in_Scotland_summary_m.pdf

12. ISD, NHS National Services Scotland. Cancer Survival in Scotland, 1987-2011. March 2015. Available at: https://isdscotland.scot.nhs.uk/Health-Topics/Cancer/Publications/2015-03-03/2015-03-03-CancerSurvival-Report.pdf

13. 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.

Appendix 1: Open clinical trials for breast cancer that recruited in 2014.

Trial	Principle Investigator	Trial Type
Digital breast tomosynthesis in younger symptomatic women	Andy Evans (Tayside)	Interventional
OPPORTUNE	Jane Macaskill (Tayside)	Interventional
NCRN384 - KATHERINE	Jayaram Mohanamurali (Tayside)	Interventional
EMBRACE	Zosia Miedzybrodzka (Grampian) Helen Gregory (Highland)	Interventional & Translational
SOLD	Douglas Adamson (Tayside)	Interventional
NCRN2802 - OlympiAD	Trevor McGoldrick (Grampian)	Interventional
BIG 3-07 (TROG 07.01)	Ravi Sharma (Grampian) Carole MacGregor (Highland)	Interventional
Staging the axilla in breast cancer	Steve Heys (Grampian)	Interventional
THE BIG MOLECULAR SCREENING FEASIBILITY STUDY	Sarah Vinnicombe (Tayside)	Translational
MIMIC	Andy Evans (Tayside)	Translational
BOCS (formerly FBCS)	Zosia Miedzybrodzka (Grampian & Highland)	Translational
Artemis sub-Study 6: SCARF	Ravi Sharma (Grampian)	Translational

Appendix 2: NHS Board Action Plans

A blank Action Plan template can be found attached. Completed Action Plans should be returned to NOSCAN within two months of publication of this report.

NOSCAN
North of Scotland Cancer Network

Action Plan: Breast Cancer

Board:	
Action Plan Lead:	
Date:	

Status key	
1	**Action Fully Implemented**
2	**Action agreed but not yet implemented**
3	**No action taken (please state reason)**

QPI	Action Required	NHS Board Action Taken	Date		Lead	Progress	Status
			Start	End			
	Ensure actions mirror those detailed in Audit Report	*Detail specific actions that will be taken by the NHS Board*	*Insert date*	*Insert date*	*Insert name of responsible lead for each action.*	*Detail actions in progress, changes in practice, problems encountered of reasons why no action has been taken.*	*Insert no. from key*