NOSCAN
North of Scotland Cancer Network

NHS SCOTLAND

NORTH OF SCOTLAND PLANNING GROUP

Gynaecological Cancer Managed Clinical Network

Audit Report

Ovarian Cancer
Quality Performance Indicators

Patients diagnosed October 2013 – September 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 delivery, planning, organisation 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.
www.noscan.scot.nhs.uk

EXECUTIVE SUMMARY

This publication reports the performance of cancer services in the six NHS Boards in the North of Scotland (NoS) for patients diagnosed with an ovarian cancer between October 2013 and September 2014. The quality of Board and regional performance are measured and reported against a set of nationally agreed standards (ie the Ovarian Cancer Quality Performance Indicators, or 'QPIs') that were clinically identified and thereafter service implemented across Scotland.

2013-2014 is the first year in which ovarian cancer QPI data have been nationally collected in Scotland, during which time in the North of Scotland:

- Ninety-nine patients diagnosed with ovarian cancer were audited.
- Overall case ascertainment was fairly low at 65.7%: this indicates that either the number of patients diagnosed in the North of Scotland was particularly low during the audit period or that data capture from audit was not complete.
- The results reported were considered to be indicative of ovarian cancer services in the region.

Summary of QPI Results

QPI	QPI Target	NOSCAN Performance & range[a]
QPI 1: Risk of Malignancy Index recorded in patient notes - Proportion of patients with Stage 1 epithelial ovarian cancer having RMI assessed and recorded in their notes prior to any definitive surgical intervention	90%	**17%** (0 - 40%)
QPI 2: Extent of disease assessed by Computer Tomography (CT) or Magnetic Resonance Imaging (MRI) prior to treatment - Proportion of patients with epithelial ovarian cancer having a CT scan or MRI of the abdomen and pelvis performed to exclude the presence of metastatic disease prior to starting definitive treatment	90%	**100%**
QPI 3: Treatment planned and reviewed at a multi-disciplinary team meeting - Proportion of patients with epithelial ovarian cancer who are discussed at a MDT meeting before definitive treatment	95%	**97%** (94-100%)
QPI 4: Patients with early stage disease have an adequate staging operation - Proportion of patients with early stage epithelial ovarian cancer (FIGO Stage 1) undergoing primary surgery for ovarian cancer, having their stage of disease adequately assessed (TAH, BSO, Omentectomy and washings), to determine suitability for adjuvant therapies		
i. All patients undergoing primary surgery	95%	**100%**

ii. Patients operated on by a gynaecological oncologist	95%	**100%**
QPI 5: No macroscopic residual disease following surgery for advanced disease - Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) who have < 1cm residual disease and those who have no macroscopic residual disease following surgery		
i. Proportion of patients with no microscopic residual disease following surgery	30%	**73%**
ii. Proportion of patients with macroscopic residual disease < 1cm	60%	**73%**
QPI 6: Histopathology reports are complete and support clinical decision-making - Proportion of patients with epithelial ovarian cancer undergoing pelvic clearance surgery having a complete pathology report as defined by the Royal College of Pathologists	90%	**100%**
QPI 7: Histo/cytological diagnosis prior to starting neo-adjuvant chemotherapy		
i. Proportion of patients with epithelial ovarian cancer having a histo/cytological diagnosis prior to starting neo-adjuvant chemotherapy	100%	**100%**
ii. Proportion of these with histological confirmation obtained by percutaneous image-guided biopsy or laparoscopy	80%	**89%** (88-89%)
QPI 8: Delayed primary surgery - Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 3c or 4) having delayed primary surgery following neo-adjuvant chemotherapy and where optimal cytoreduction is achieved		
i. Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 3c or 4) having delayed primary surgery following neo-adjuvant chemotherapy	75%	**25%** (0-36%)
ii. Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 3c or 4) undergoing delayed primary surgery with residual disease <1cm	65%	**75%**
QPI 9: First-line Chemotherapy - Proportion of epithelial ovarian cancer patients who receive platinum-based chemotherapy, either in combination or as a single agent	90%	**75%** (66-94%)

Performance shaded pink where QPI target has not been met by NOSCAN.
[b] Excluding Boards with less than 5 patients.

It is acknowledged that there has been significant learning at all levels during the first year of QPI reporting for ovarian cancer. Besides assisting clinical staff and others involved in the organising and provision of specialist services for patients diagnosed with an ovarian cancer in the North of Scotland, the knowledge that has been gained will enable further refinement of data collection and interpretation of QPI definitions to ensure that reporting will provide more clinically relevant results in future years.

Within NOSCAN 6 out of 9 QPIs were achieved during this audit cycle. This would suggest we are delivering high quality clinical care to women with ovarian cancer in the North of Scotland. Where any QPI has not been met there has been regional analysis of cases, multidisciplinary discussion and action plans are currently being developed to address any areas for improvement.

To date, areas identified requiring further work to improve on the quality of clinical services particular to the care and management of patients with an ovarian cancer diagnosis in the NoS include:

- **All Boards to investigate reasons for the low levels of case ascertainment in 2013-2014 and review processes for identifying patients for cancer audit to ensure near-complete audit in future years.**

- **All Boards to ensure that RMI is documented at MDT.**

- **NHS Grampian to ensure that patients diagnosed outwith gynaecology are still discussed at MDT.**

- **All Boards to continue assessment of patients for delayed primary surgery. Within NOSCAN this consists of mid way CT, image review and MDT discussion, laparoscopy and careful patient selection to ensure high complete cytoreduction rates.**

The first year of reporting against the Ovarian Cancer QPIs has 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. There will be a review of the Ovarian Cancer QPIs following this first year of QPI reporting, in this report some additional actions have been identified to feed into this process.

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 Ovarian Cancer QPIs are available from the ISD website[1].

The need for regular reporting of activity and performance (to assure the quality of care delivered) was first nationally set out 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 specialist cancer services for patients diagnosed with an ovarian cancer in the North of Scotland Cancer Network during the twelve months from 1st October 2013 to 30th September 2014.

Using clinical audit data (which has been collected at individual/local Board level for all patients diagnosed with an ovarian cancer during the period indicated) performance is reported against the Ovarian Cancer Quality Performance Indicators (QPIs)[6] which were implemented for patients diagnosed on or after 1st October 2013. Results are reported both by Board, and collectively as a network, with supporting narrative to enhance understanding of performance outcomes.

2. Background

Six NHS Boards across the North of Scotland serve the 1.38 million population[7]. There were 99 patients diagnosed with ovarian cancer in the NoS between 1st October 2013 and 30th September 2014. The configuration of the Multidisciplinary Teams (MDTs) in the North of Scotland for the management of cancer of the genital system (or 'Gynaecological Cancer'), which includes ovarian cancer, is set out below.

MDT	Constituent Hospitals
Grampian	Aberdeen Royal Infirmary, Balfour Hospital, Kirkwall, Gilbert Bain Hospital, Lerwick
Highland	Raigmore Hospital, Inverness
Tayside	Ninewells Hospital, Dundee

Best practice recommends that patients diagnosed with cancer should have all aspects of their clinical management multidisciplinary considered thereby ensuring consistency and enhanced quality of patient care and clinical outcomes.

In the North of Scotland, whilst some patients diagnosed with an ovarian cancer continue to only be discussed only at a single (NHS Tayside) or dual Board (NHS Grampian and NHS Highland) MDT level (due to the constraints of time and resource available to permit them all to be collectively discussed at a regional level), all of the more clinically complex patients diagnosed with ovarian cancer have their care planned and discussed at regional MDT level

(which is convened on a weekly basis), and their surgical care delivered (singly or jointly with other specialist/sub-speciality clinicians) by a Gynaecology oncologist.

It should be noted however, that whilst patients residing in the administrative regions of NHS Eileanan Siar (W. Isles) and Bute come under the jurisdiction of NOSCAN, nonetheless in the event that they present for investigation or with a diagnosis of ovarian cancer, consequent to long-established service delivery arrangements, they are clinically managed by services co-ordinated by the West of Scotland Cancer Network (WoSCAN).

2.1 National Context

Latest available cancer registration figures indicate that with 565 cases recorded during 2013, ovarian cancer ranks as the sixth most common cancer type in women in Scotland. However, incidence has been observed to have decreased by around by 13.8% since 2003, which is thought to be partly due to increased use of the oral contraceptive pill from the 1960s onwards, which is understood to also protect against the development of ovarian cancer[8].

Relative survival from ovarian cancer is increasing[9]. The table below details the percentage change in 1 and 5 year relative survival for patients diagnosed 1987-1991 to 2007-2011.

Relative age-standardised survival for ovarian cancer in Scotland at 1 year and 5 years showing percentage change from 1987-1991 to 2007-20011[9].

Relative survival at 1 year (%)		Relative survival at 5 years (%)	
2007-2011	% change	2007-2011	% change
65.8%	+ 15.2%	38.7%	+ 11.6%

2.2 North of Scotland Context

Between 1st October 2013 and 30th September 2014, a total of 99 cases of ovarian cancer were diagnosed in the North of Scotland and recorded through audit. The number of patients diagnosed within each Board is presented in Figure 1.

	Grampian	Highland[a]	Orkney	Shetland	Tayside	W Isles	NoS
Number of Patients	**34**	**19**	**0**	**1**	**45**	**0**	**99**
% of NoS total	**34%**	**19%**	**0%**	**1%**	**45%**	**0%**	**100%**

[a] Highland results include patients diagnosed in Argyll & Bute.

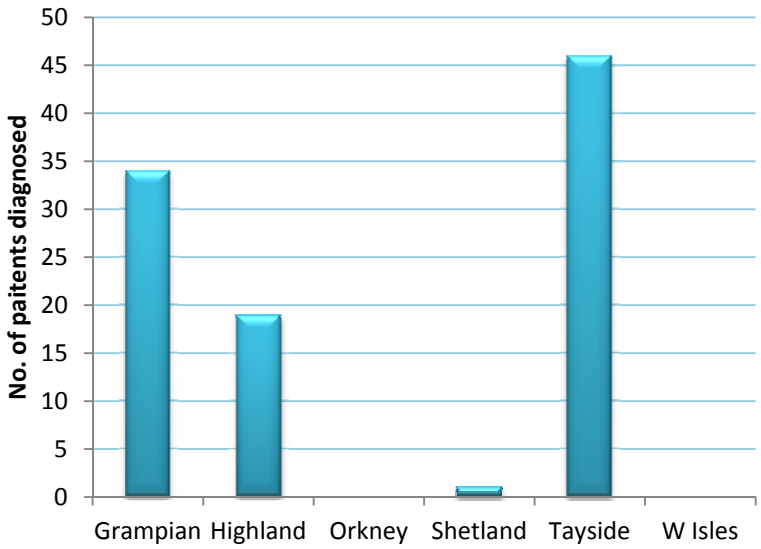


Figure 1: Number of patients diagnosed with ovarian cancer by Board of diagnosis, October 2013 – September 2014.

3. Methodology

The clinical audit data presented in this report was collected 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 October 2013 and 30th September 2014 were locally collated by cancer audit staff within individual NHS Boards. These data and any comments on QPI results were then signed-off at NHS Board level to ensure that the data was 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 (i.e. time taken from first cancer diagnosis until the point at which all information required to measure the QPIs is available) and thereby 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 within the time period measured. Case ascertainment is calculated by comparing the number of new cases identified by the cancer audit with a five year average of the total numbers having a similar diagnosis, as recorded by the National Cancer Registry (provided by Information Services Division (ISD)), for a particular 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 (i.e. 2008 to 2013) is used to take account of annual fluctuations in incidence within NHS Boards. It should be noted that case ascertainment figures are provided for guidance only: and as it is not possible to compare the same cohort of patients, they are not an exact measurement of audit completeness.

Overall case ascertainment for the period reported in the NoS is relatively low at 66.4%. While the low level of case ascertainment could be partially due to low levels of patients being diagnosed in the audit period, it is more likely that these results suggest instead that not all patients diagnosed with ovarian cancer were captured by the cancer audit.

Case ascertainment for each Board across the North of Scotland is illustrated in Figure 2, and whilst figures are low for all NHS Boards, this is particularly notable in NHS Grampian.

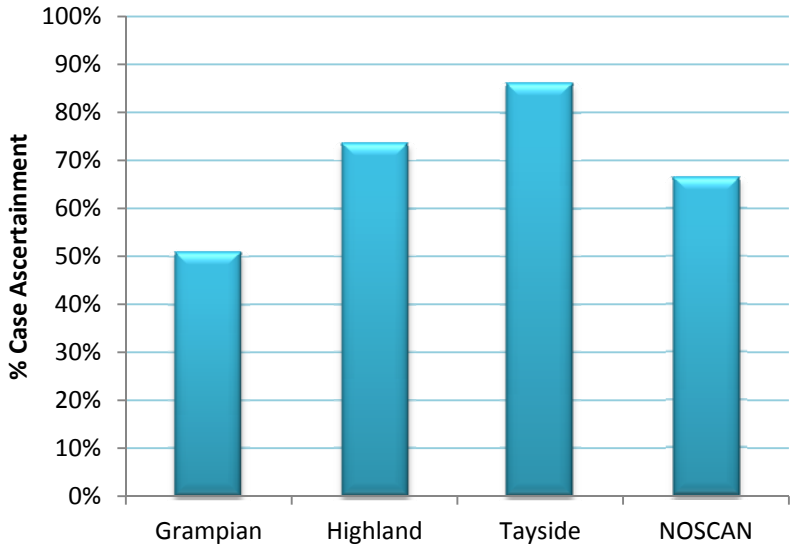


Figure 2: Case ascertainment by NHS Board for patients diagnosed with ovarian cancer in 2013-2014.

	Grampian	Highland[a]	Orkney	Shetland	Tayside	W Isles	NoS
Cases from audit	34	19	0	1	45	0	**99**
ISD Cases (2009-2013)	66.8	25.8	1.0	1.8	53.4	2.4	**150.6**
% Case ascertainment	50.9%	73.6%	0%	57.1%	84.3%	0%	**65.7%**

[a] Highland results include patients diagnosed in Argyll & Bute.

Although it would appear that cancer audit for ovarian cancer patients was not complete, QPI calculations based on data captured are considered to be representative of all patients diagnosed with ovarian cancer during the audit period.

Actions Required:

- **All Boards to investigate reasons for the low levels of case ascertainment in 2013-2014 and review processes for identifying patients for cancer audit to ensure near-complete audit in future years.**

For patients included within the audit, data collection was near complete, with the exception of the information on the Risk of Malignancy Index (RMI), which was only available for 16.7% of patients. Not only did the absence of this data result in the failure to meet the QPI target for QPI 1 at both a Board and regional level, it also affects the results of other reportable standards (such as QPI 4), which depend on this information.

4.2 Age Distribution

Figure 3 below shows the age distribution of patients diagnosed with ovarian cancer in the North of Scotland in 2013-2014.

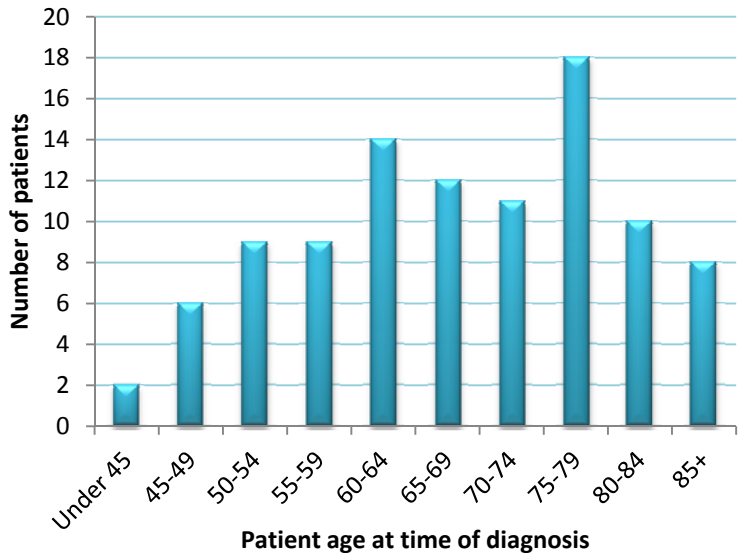


Figure 3: Age distribution of patients diagnosed with ovarian cancer in NOSCAN 2013-2014.

Age	Grampian	Orkney	Shetland	Highland[a]	Tayside	W Isles	NOSCAN
Under 45	2	0	0	0	0	0	2
45-49	4	0	0	0	2	0	6
50-54	3	0	0	2	4	0	9
55-59	4	0	0	2	3	0	9
60-64	4	0	0	5	5	0	14
65-69	6	0	0	2	4	0	12
70-74	3	0	0	1	7	0	11
75-79	4	0	1	4	9	0	18
80-84	3	0	0	0	7	0	10
85+	1	0	0	3	4	0	8
Total	**34**	**0**	**1**	**19**	**45**	**0**	**99**

[a] Highland results include patients diagnosed in Argyll & Bute.

4.3 Performance against Quality Performance Indicators (QPIs)

Results of the analysis of Ovarian 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 for most QPIs are presented by Board of diagnosis, however surgical QPIs (QPIs 4, 5 and 6) are presented by Board of Surgery. 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 where appropriate.

QPI 1: Risk of Malignancy Index recorded in the patient notes

QPI 1: Risk of Malignancy Index recorded in the patient notes: Patients with stage 1 epithelial ovarian cancer should have Risk of Malignancy Index (RMI) assessed and recorded in their notes prior to any definitive surgical intervention.

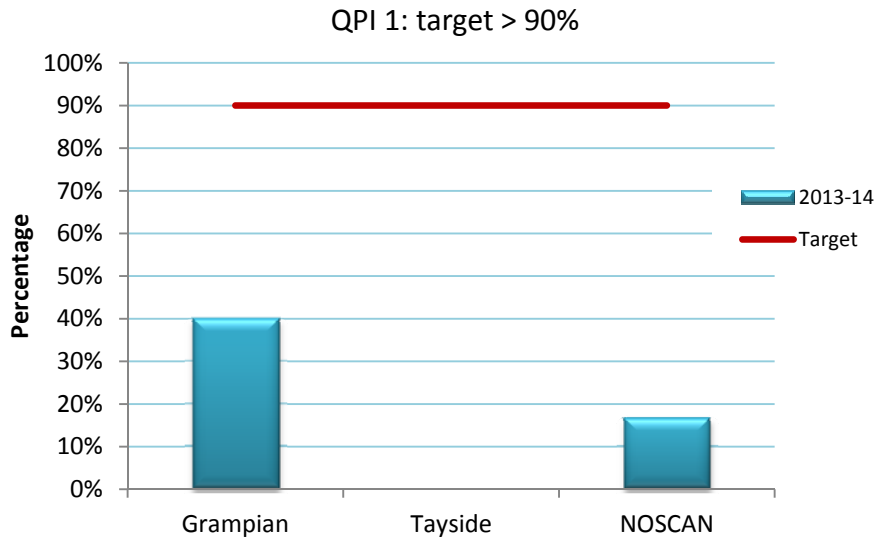
Proportion of patients with Stage 1 epithelial ovarian cancer having RMI assessed and recorded in their notes prior to any definitive surgical intervention.

Numerator:	Number of patients with FIGO Stage 1 epithelial ovarian cancer having RMI score recorded in their notes prior to any definitive surgical intervention.
Denominator:	All patients with FIGO Stage I epithelial ovarian cancer undergoing definitive surgical intervention.
Exclusions:	Patients presenting for surgery as an emergency.
Target:	90%

QPI 1 Performance against target

Of the 12 patients with FIGO Stage I epithelial ovarian cancer undergoing definitive surgical intervention in North of Scotland in 2013-2014, only 2 had had their Risk of Malignancy Index (RMI) score recorded in their notes prior to definitive surgical intervention. This equates to a rate of 16.7%, which is well below the target rate of 90%.

All NOSCAN Boards within patients eligible for inclusion within this QPI failed to reach the target.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**40.0%**	2	5	0	0%	0	0%	0
Highland	**-**	0	0	0	-	0	-	0
Shetland	**-**	0	0	0	-	0	-	0
Tayside	**0%**	0	7	0	0%	0	0%	0
NoS	**16.7%**	**2**	**12**	**0**	**0%**	**0**	**0%**	**0**

This is a recording issue and MDT recording will be implemented to ensure RMI is recorded in future. Grampian have already implemented a new MDT proforma and will circulate this to Highland and Tayside to ensure consistency in recording.

Actions Required:

- **All Boards to ensure that RMI is documented at MDT.**

QPI 2: Extent of disease assessed by Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) prior to treatment

QPI2: Extent of disease assessed by Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) prior to treatment: Patients with epithelial ovarian cancer should have their stage of disease assessed by CT or MRI prior to treatment.

Proportion of patients with epithelial ovarian cancer having a CT scan or MRI of the abdomen and pelvis performed to exclude the presence of metastatic disease prior to starting definitive treatment.

Numerator: Number of patients with epithelial ovarian cancer having a CT scan or MRI of the abdomen and pelvis carried out prior to starting treatment.

Denominator: All patients with epithelial ovarian cancer.

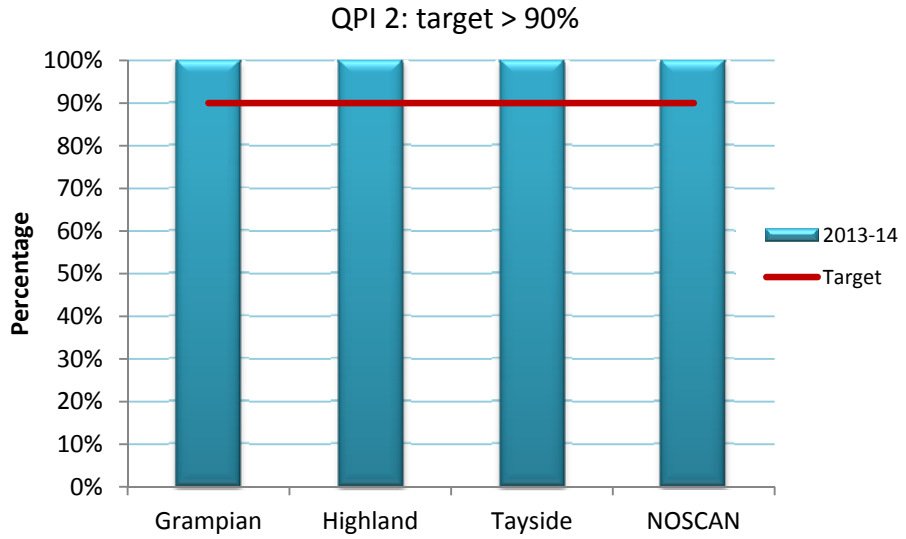
Exclusions:

- Patients who decline to undergo investigation.
- Patients presenting for surgery as an emergency.

Target: 90%

QPI 2 Performance against target

Across the North of Scotland, all patients included within the QPI (100%) had the extent of disease assessed by Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) prior to treatment, meeting the target rate of 90%.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**100%**	33	33	0	0%	0	0%	0
Highland	**100%**	18	18	0	0%	0	0%	0
Shetland*	**-**	-	-	**-**	-	**-**	-	-
Tayside	**100%**	43	43	0	0%	0	0%	0
NoS	**100%**	**95**	**95**	**0**	**0%**	**0**	**0%**	**0**

Actions required:

No actions were identified.

QPI3: Treatment planned and reviewed at a multi-disciplinary team meeting

QPI3: Treatment planned and reviewed at a multi-disciplinary team meeting: Patients with epithelial ovarian cancer should be discussed by a multidisciplinary team (MDT) prior to definitive treatment.

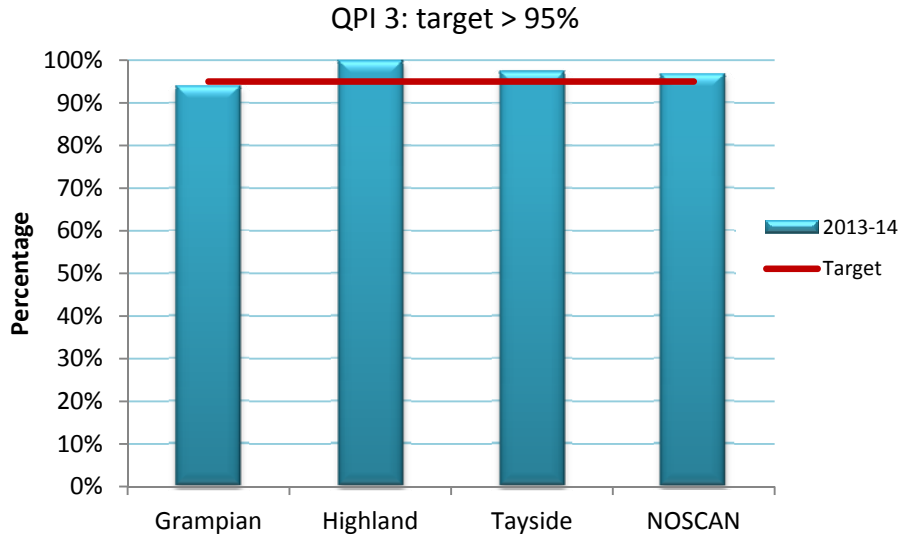
Proportion of patients with epithelial ovarian cancer who are discussed at a MDT meeting before definitive treatment.

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

QPI 3 Performance against target

In the North of Scotland, 96.7% of patients with epithelial ovarian cancer were discussed at a MDT meeting prior to definitive treatment; this means that at a regional level, the target of 95% was met.

However, whilst individual Board level performance was high across the North of Scotland, NHS Grampian just failed to meet the target (93.9%).



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**93.9%**	31	33	0	0%	0	0%	0
Highland	**100%**	19	19	0	0%	0	0%	0
Shetland	**-**	-	-	**-**	-	**-**	-	-
Tayside	**97.4%**	38	39	0	0%	0	0%	0
NoS	**96.7%**	**89**	**92**	**0**	**0%**	**0**	**0%**	**0**

In NHS Grampian two patients that were not discussed at MDT, both of these were diagnosed outwith gynaecology.

Actions required:

- **NHS Grampian to ensure that patients diagnosed outwith gynaecology are still discussed at MDT.**

QPI 4: Patients with early stage disease have an adequate staging operation

QPI 4: Patients with early stage disease have an adequate staging operation: Patients undergoing surgery for early stage epithelial ovarian cancer (FIGO Stage 1) have an adequate staging operation which includes Total Abdominal Hysterectomy (TAH), Bilateral Salpingo-Oophorectomy (BSO), omentectomy and washings.

Patients undergoing surgery for early stage epithelial ovarian cancer (FIGO Stage 1) have an adequate staging operation which includes Total Abdominal Hysterectomy (TAH), Bilateral Salpingo-Oophorectomy (BSO), omentectomy and washings.

Specification (i)

Numerator: Number of early stage (FIGO Stage 1) epithelial ovarian cancer patients having primary surgery involving TAH, BSO, omentectomy and washings

Denominator: All early stage (FIGO Stage 1) epithelial ovarian cancer patients undergoing primary surgery.

Exclusions:

- Patients having fertility conserving surgery.
- Patients with risk of malignancy index <200.
- Patients presenting for emergency surgery

Target: 95%

Specification (ii)

Numerator: Number of early stage (FIGO Stage 1) epithelial ovarian cancer patients having primary surgery involving TAH, BSO, omentectomy and washings.

Denominator: All early stage (FIGO Stage 1) epithelial ovarian cancer patients operated on by a gynaecological oncologist.

Exclusions:

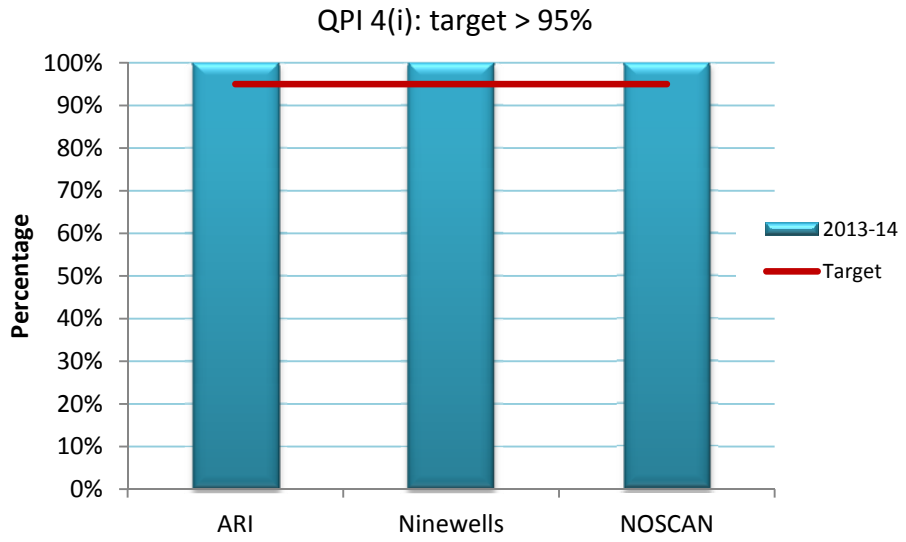
- Patients having fertility conserving surgery.
- Patients with risk of malignancy index <200.
- Patients presenting for emergency surgery

Target: 95%

QPI 4 Performance against target

Of the 12 patients with early stage epithelial ovarian cancer who underwent primary surgery in the North of Scotland all (100%) had surgery involving TAH, BSO, omentectomy and washings. This included 5 patients operated on by a gynaecological

oncologist. Consequently the target rate of 95% was met for both specification (i) and (ii) both for the region and for all hospitals undertaking this surgery.



Specification (i) All patients.

	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
ARI	**100%**	5	5	0	0%	3	60.0%	0
Raigmore	**-**	0	0	0	-	0	-	0
Ninewells	**100%**	7	7	0	0%	7	100%	0
NoS	**100%**	**12**	**12**	0	0%	10	83.3%	0

Results for specification (ii) are not shown in graphs or tables due to the small numbers involved.

There was some discussion on whether specification (ii) was asking the right question. It is currently asking 'whether patients operated on by a gynaecological oncologist have an adequate staging operation' (i.e. is a subset of specification (i), presumably to see if any failure in (i) is due to gynaecological oncologist practice or practice of other gynaecologists). Is this the most clinically relevant question or do we want to ask 'What proportion of these patients are being operated on by a gynaecological oncologist?'

Actions required:

- **NOSCAN to suggest to Ovarian Cancer QPI Baseline Review that QPI 4(ii) be reconsidered.**

QPI 5: No macroscopic residual disease following surgery for advanced disease

QPI 5: No macroscopic residual disease following surgery for advanced disease: Surgery, as first definitive treatment, for patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) should achieve no macroscopic residual disease.

Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) who have < 1cm residual disease and those who have no macroscopic residual disease following surgery.

Specification (i)

Numerator: Number of patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) with no macroscopic residual disease following surgery.

Denominator: All patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing surgery.

Exclusions: Patients with FIGO Stage 4 disease.

Target: 30%

Specification (ii)

Numerator: Number of patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing surgery with macroscopic residual disease < 1cm.

Denominator: All patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing surgery.

Exclusions: Patients with FIGO Stage 4 disease.

Target: 60%

QPI 5 Performance against target

Specification (i) – No macroscopic disease

Of the 15 patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing surgery in the North of Scotland, 11 (73.3%) had no macroscopic residual disease following surgery. These figures show that the target of 30% was met in the North of Scotland.

The numbers of patients included within this QPI were very small in all Boards except NHS Grampian, and as such data are not displayed graphically. However, the required standard was met by all Boards in the North of Scotland.

	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
ARI	72.7%	8	11	0	0%	0	0%	0
Raigmore*	-	-	-	-	-	-	-	-
Ninewells*	-	-	-	-	-	-	-	-
NoS	73.3%	11	15	1	6.7%	0	0%	0

Specification (ii) – Macroscopic residual disease < 1cm

Of the 15 patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing surgery 11 (73.3%) had macroscopic residual disease < 1cm following surgery. Consequently, the North of Scotland meets target of 70% for this QPI.

At a hospital level most met the target. The one centre that did not meet this QPI (Raigmore Hospital) had very small numbers of patients included within the QPI. As numbers of patients included within this QPI were very small in all Boards except NHS Grampian, data are not displayed graphically.

	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
ARI	72.7%	8	11	0	0%	0	0%	0
Raigmore*	-	-	-	-	-	-	-	-
Ninewells*	-	-	-	-	-	-	-	-
NoS	73.3%	11	15	1	6.7%	0	0%	0

Currently, patients undergoing delayed primary surgery are included within this QPI. MCN agreed that such patients should not be included as they are reported in QPI 8, and the QPI title states 'surgery, as first definitive treatment'.

In NHS Tayside the volume of residual disease was not recorded in one patient, however this has been addressed and will be now be recorded at MDT.

Actions required:

- **NOSCAN to suggest to Ovarian Cancer QPI Baseline Review that patients undergoing delayed primary surgery should not be included QPI 5.**

QPI 6: Histopathology reports are complete and support clinical decision-making

QPI 6: Histopathology reports are complete and support clinical decision-making: Histopathology reports relating to pelvic clearance surgery for patients with epithelial ovarian cancer contain all necessary information to inform treatment decision making.

Proportion of patients with epithelial ovarian cancer undergoing pelvic clearance surgery having a complete pathology report as defined by the Royal College of Pathologists.

Numerator: Number of patients with epithelial ovarian cancer undergoing definitive cytoreductive surgery who have a complete pathology report that contains all data items as defined by the Royal College of Pathologists.

Denominator: All patients with epithelial ovarian cancer undergoing definitive cytoreductive surgery.

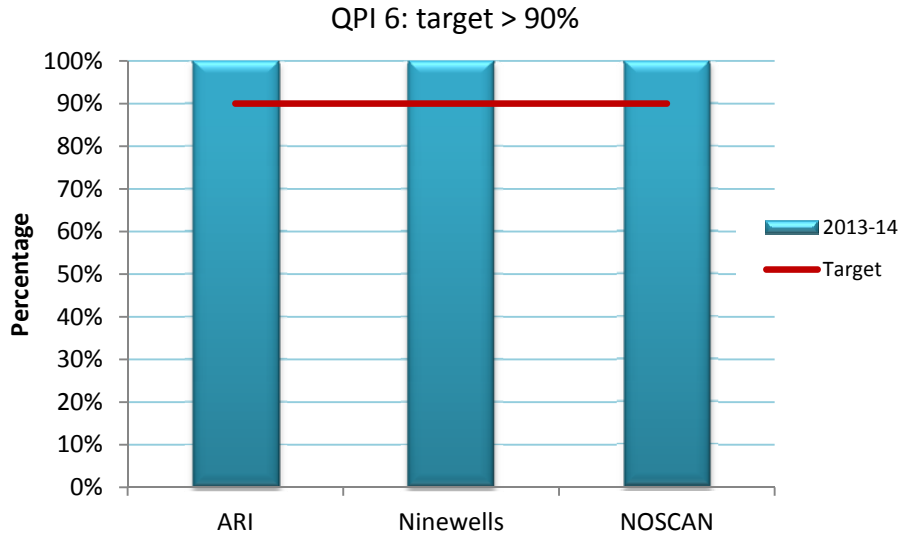
Exclusions: No exclusions

Target: 90%

QPI 6 Performance against target

In 2013 - 2014, 28 patients undergoing cytoreductive surgery in the North of Scotland had a complete pathology report that contained all data items, a rate of 100%. This is greater than the target rate of 90%.

At a Hospital level the QPI was met by all centres undertaking this surgery in the North of Scotland.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
ARI	**100%**	17	17	0	0%	0	0%	0
Raigmore	**-**	0	0	0	-	0	-	0
Ninewells	**100%**	11	11	0	0%	0	0%	0
NoS	**100%**	**28**	**28**	**0**	**0%**	**0**	**0%**	**0**

[a] Highland results include patients from the Western Isles

Actions required:

No actions were identified.

QPI 7: Histocytological diagnosis prior to starting neo-adjuvant chemotherapy

QPI 7: Histo/cytological diagnosis prior to starting neo-adjuvant chemotherapy: Patients with epithelial ovarian cancer should have a histo/cytological diagnosis of their cancer prior to starting neo-adjuvant chemotherapy.

Proportion of patients with epithelial ovarian cancer having a histo/cytological diagnosis prior to starting neo-adjuvant chemotherapy and the proportion of these with histological confirmation obtained by percutaneous image-guided biopsy or laparoscopy.

Specification (i)

Numerator: Number of patients having histo/cytological diagnosis of epithelial ovarian cancer recorded prior to starting chemotherapy.

Denominator: All patients with epithelial ovarian cancer undergoing neo-adjuvant chemotherapy.

Exclusions: Patients for whom paracentesis, image-guided biopsy or laparoscopy is considered not suitable.

Target: 100%

Specification (ii)

Numerator: Number of patients who have a diagnosis of epithelial ovarian cancer confirmed by histology prior to starting chemotherapy.

Denominator: All patients with epithelial ovarian cancer having histo/cytological diagnosis recorded prior to starting neo-adjuvant chemotherapy.

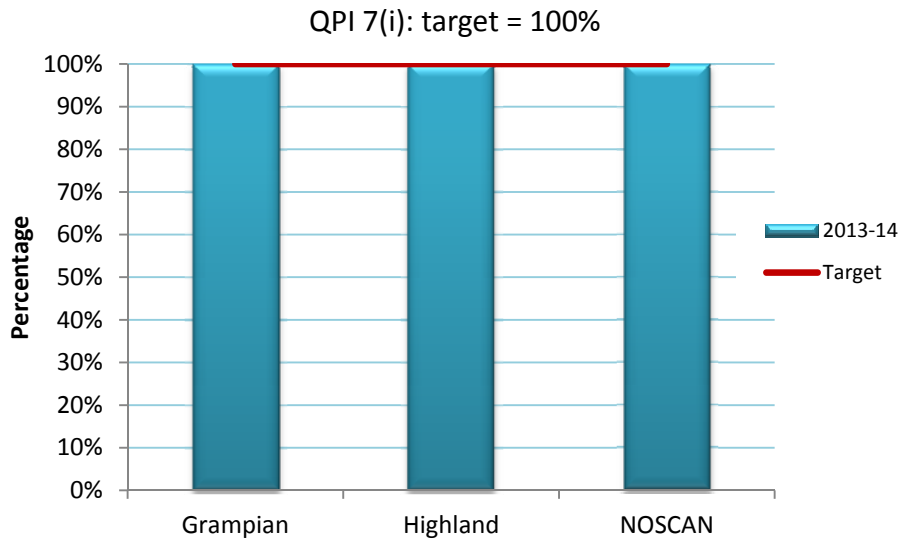
Exclusions: No exclusions

Target: 80%

QPI 7 Performance against target

(i) Proportion of patients with histo/cytological diagnosis prior to starting neo-adjuvant chemptherapy

Of the 27 patients with epithelial ovarian cancer undergoing neo-adjuvant chemotherapy in the North of Scotland, all (100%) received a histo-cytological diagnosis of epithelial ovarian cancer prior to starting chemotherapy. This means that all Boards in the North of Scotland with patients measured by this QPI met the required performance target.

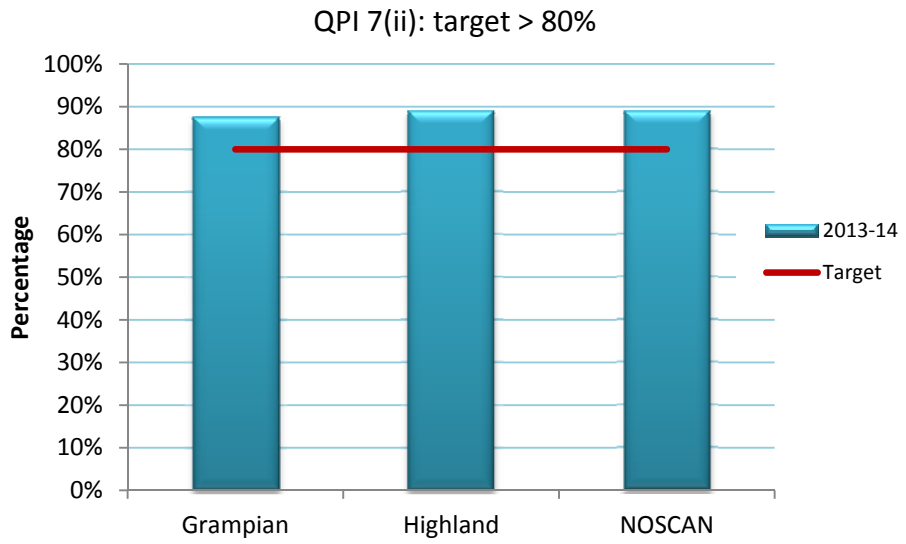


	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**100%**	16	16	0	0%	0	0%	0
Highland	**100%**	9	9	0	0%	0	0%	0
Shetland*	**-**	-	-	**-**	-	**-**	-	-
Tayside*	**-**	-	-	**-**	-	**-**	-	-
NoS	**100%**	**27**	**27**	**0**	**0%**	**0**	**0%**	**0**

(ii) Proportion of patients with diagnosis confirmed by histology prior to starting neo-adjuvant chemotherapy

Of the 27 patients with a histo/cytological diagnosis recorded prior to starting chemotherapy, 24 (88.9%) had diagnosis confirmed by histology in the North of Scotland. This is above the target level of 80%.

All NHS Boards within the North of Scotland met this QPI.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**87.5%**	14	16	0	0%	0	0%	0
Highland	**88.9%**	8	9	0	0%	0	0%	0
Shetland*	-	-	-	-	-	-	-	-
Tayside*	-	-	-	-	-	-	-	-
NoS	**88.9%**	**24**	**27**	0	0%	0	0%	0

NHS Tayside noted some issues around the definition of neo-adjuvant chemotherapy which should be addressed.

Actions required:

- **NOSCAN to raise issue of how neo-adjuvant chemotherapy is defined at the Ovarian Cancer QPI Baseline Review.**

QPI 8: Delayed primary surgery

QPI 8: Delayed primary surgery – Delayed primary surgery, after neo-adjuvant chemotherapy for advanced epithelial ovarian cancer (FIGO Stage 3c or 4), should achieve optimal cytoreduction (<1cm).

Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 3c or 4) having delayed primary surgery following neo-adjuvant chemotherapy and where optimal cytoreduction is achieved.

Specification (i)

Numerator: Number of patients with advanced epithelial ovarian cancer (FIGO Stage 3c or 4) undergoing delayed primary surgery after neo-adjuvant chemotherapy.

Denominator: All patients with advanced epithelial ovarian cancer (FIGO Stage 3c or 4) having neo-adjuvant chemotherapy.

Exclusions: No exclusions

Target: 75%

Specification (ii)

Numerator: Number of patients with advanced epithelial ovarian cancer (FIGO Stage 3c or 4) undergoing delayed primary surgery with residual disease <1cm.

Denominator: All patients with advanced epithelial ovarian cancer (FIGO Stage 3c or 4) undergoing delayed primary surgery after neo-adjuvant chemotherapy.

Exclusions: No exclusions

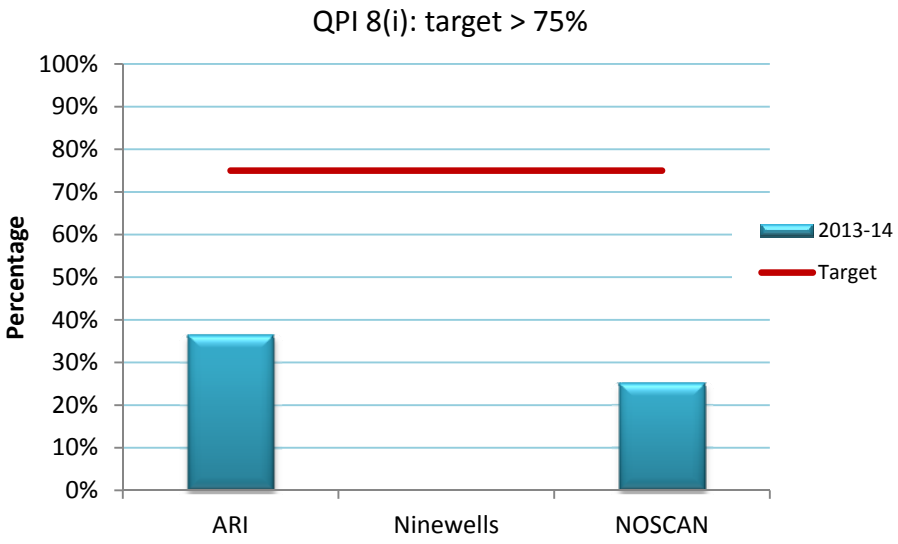
Target: 65%

QPI 8 Performance against target

(i) Proportion of patients with advanced epithelial ovarian cancer undergoing delayed primary surgery after neo-adjuvant chemotherapy

In 2013 - 2014 four patients with advanced epithelial ovarian cancer in the North of Scotland underwent delayed surgery following neo-adjuvant chemotherapy, which equates to 25.0% of patients with advanced disease having neo-adjuvant chemotherapy. This is well below the target for this QPI of 75%.

Only two NHS Boards in the North of Scotland had patients included within this QPI, NHS Grampian (n=11) and NHS Highland (n=5). Both of these failed the QPI by a significant margin.



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**36.4%**	4	11	0	0%	0	0%	0
Highland	**0%**	0	5	0	0%	0	0%	0
Shetland	**-**	0	0	0	-	0	-	0
Tayside	**-**	0	0	0	-	0	-	0
NoS	**25.0%**	**4**	**16**	**0**	**0%**	**0**	**0%**	**0**

(ii) Proportion of patients having delayed primary surgery after neo-adjuvant chemotherapy with residual disease < 1cm

In 2013 – 2014, of the four patients with advanced epithelial ovarian cancer having delayed primary surgery after neo-adjuvant chemotherapy in the North of Scotland, three (75%) had residual disease < 1cm. This is above the target for this QPI of 65%.

Due to the small numbers of patients used to calculate this QPI meaningful comparisons between NHS Boards cannot be made and data are not shown in tables or graphs.

All patients had a CT scan either during or after chemotherapy. All were rediscussed at MDT, where imaging was formally reviewed. Laparoscopy was considered for some patients and the selection of surgical patients was undertaken carefully, and successfully, as can be seen from the results from specification (ii). It was considered that the QPI should be amended to either:

- Reduce the target for specification (i)
- Amend specification (i) to the proportion of patients that are considered for surgery.

Actions required:

- **NOSCAN to suggest to Ovarian Cancer QPI Baseline Review to amend QPI definition or target for QPI 8(i).**
- **All NHS Boards to continue assessment of patients for delayed primary surgery. Within NOSCAN this consists of mid way CT, image review and MDT discussion, laparoscopy and careful patient selection to ensure high complete cytoreduction rates.**

QPI 9: First-line Chemotherapy

QPI 9: First-line Chemotherapy: Chemotherapy treatment of epithelial ovarian cancer should include a platinum agent.

Proportion of epithelial ovarian cancer patients who receive platinum-based chemotherapy, either in combination or as a single agent.

Numerator: Number of epithelial ovarian cancer patients who receive chemotherapy treatment involving either paclitaxel in combination with a platinum-based compound or carboplatin only.

Denominator: All epithelial ovarian cancer patients

Exclusions:

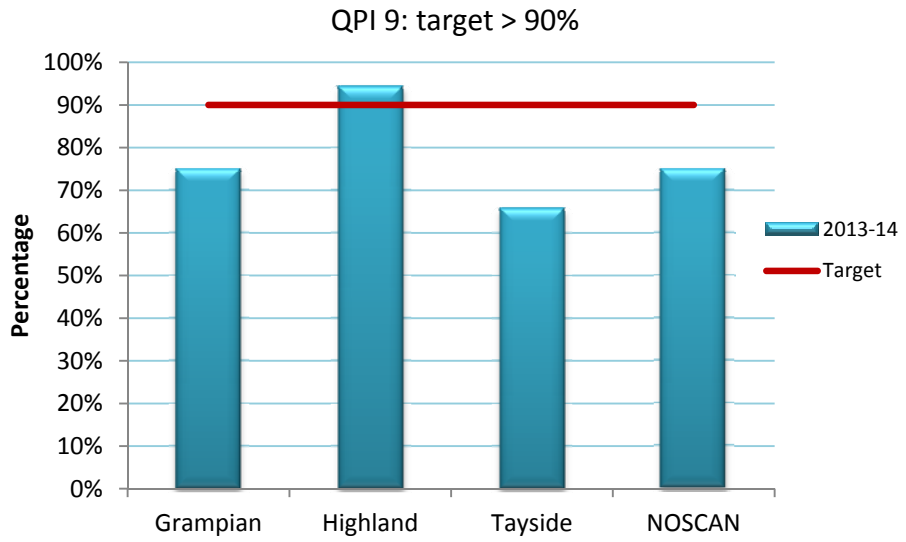
- Patients with low-grade serous disease.
- Patients with FIGO stage 1a or 1b, low grade (G1) disease.
- Patients with Stage 1a clear cell tumours.
- Patients who decline chemotherapy treatment.

Target: 90%

QPI 9 Performance against target

In 2013 – 2014 in the North of Scotland, 75.0% of epithelial ovarian cancer patients received chemotherapy treatment which included a platinum agent (either paclitaxel in combination with a platinum-based compound or carboplatin only). This falls short of the target of 90%.

Across the North of Scotland, there was some variation in how Boards performed against this QPI, with NHS Highland being the only Board to meet the target (94.4%).



	Performance (%)	Numerator	Denominator	Not recorded - Numerator	% not recorded - Numerator	Not recorded - Exclusions	% not recorded - Exclusions	Not recorded - Denominator
Grampian	**75.0%**	24	32	0	0%	0	0%	0
Highland	**94.4%**	17	18	0	0%	0	0%	0
Shetland*	**-**	-	-	**-**	-	**-**	-	-
Tayside	**65.9%**	27	41	1	2.4%	0	0%	0
NoS	**75.0%**	**69**	**92**	1	1.1%	0	0%	0

[a] Highland results include patients from the Western Isles

All patients were considered for first line chemotherapy, patient fitness may lead to the decision to provide other treatment, for example Letrazole. Performance status is formally assessed. It was considered that this QPI would require further discussion at baseline review, with input from oncologists.

Actions required:

- **NOSCAN to suggest that the target for QPI 9 should be discussed at QPI Ovarian Cancer Baseline Review.**

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 ovarian cancer enrolled in an interventional clinical trial of translational research.

Denominator: All patients with ovarian cancer.

Exclusions: No Exclusions

Target: Interventional clinical trials – 7.5%

Translational research - 15%

Key points during the period audited:

- Approximately 3.3% of patients with ovarian cancer in the North of Scotland were recruited into interventional clinical trials in one of the three cancer centres in the region; this is well below the required target of 7.5%.
- Recruitment into translational research was higher at 15.9%, meeting the target of 15%.

	Number of patients recruited	ISD Cases annual average (2009-2013)	Percentage of patients recruited
Interventional Clinical Trials	5	151	**3.3%**
Translational Research	24	151	**15.9%**

The QPI targets for clinical trials are 7.5% for interventional trials and 15% for translational trials. It should be noted that these targets are particularly ambitious, especially 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 ovarian 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 ovarian cancer.

During 2014 in NOSCAN, there were 2 interventional trials and 2 translational trials open and recruiting patients, thereby offering patients with an ovarian cancer diagnosis the opportunity to participate in a range of different ovarian cancer tumour types and levels of treatment investigation. Furthermore, all the ovarian 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 ovarian cancer in the NoS during 2014, 24 (15.9%) patients were screened for translational trials and 91 (4.0%) were screened for interventional 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.

5. Conclusions

The Quality Performance Indicators programme was first introduced in order to launch and thereafter drive forward a programme of continuous service improvement and to ensure the quality and equity of access to care for cancer patients across Scotland.

As part of this programme, the North of Scotland has also recently launched a programme of annual reporting of regional performance against QPIs. This is the first time that the results of individual Board performance against the Ovarian Cancer QPIs have been reported in the North of Scotland, providing a clearer measure of overall performance across the region, and a more formal structure around which any improvements will be made.

Although case ascertainment was relatively low (at only 66.4%) overall, results of both Board and regional performance against the Ovarian Cancer QPI's for patients diagnosed between 1st October 2013 and 30th September 2014 were considered to be representative of cancer service specific to the management of ovarian cancer in the North of Scotland. However, due to the unusually low case ascertainment, there is a possibility that some patients diagnosed with ovarian cancer during the period of audit may not have been captured.

For six of the nine QPIs performance measured, the audit report indicated that the required QPI targets were met. There were three QPIs where the target was not met: QPI 1, QPI 8(i), QPI 9. Measures have already been put in place to ensure that QPI1 will be met in the future. The addition of the RMI table on the MDT proforma should robustly improve the recording of RMI.

It is difficult to predict whether QPI 8(i) and 9 can be improved in the future. Patient selection for surgery or indeed chemotherapy is complex and indeed may be patient determined. However there are consistent protocols followed, i.e. formal assessment of performance status, MDT review of imaging and laparoscopic assessment if appropriate. It may be these targets are not clinically achievable. More discussion around these issues is required on a national level.

The actions so far identified to improve services in the North of Scotland include;

- **All Boards to investigate reasons for the low levels of case ascertainment in 2013-2014 and review processes for identifying patients for cancer audit to ensure near-complete audit in future years.**

- **All Boards to ensure that RMI is documented at MDT.**

- **NHS Grampian to ensure that patients diagnosed outwith gynaecology are still discussed at MDT.**

- **All Boards to continue assessment of patients for delayed primary surgery. Within NOSCAN this consists of mid way CT, image review and MDT discussion, laparoscopy and careful patient selection to ensure high complete cytoreduction rates.**

A number of other areas have also been identified where further work might be required with national partners to ensure that the ovarian cancer QPIs are as clinically relevant as possible in the future, and able to better evaluate patient and service outcomes. These include:

- **NOSCAN to suggest to Ovarian Cancer QPI Baseline Review that QPI4 (ii) be reconsidered.**

- **NOSCAN to suggest to Ovarian Cancer QPI Baseline Review that patients undergoing delayed primary surgery should not be included QPI 5.**

- **NOSCAN to raise issue of how neo-adjuvant chemotherapy is defined at the Ovarian Cancer QPI Baseline Review.**

- **NOSCAN to suggest to Ovarian Cancer QPI Baseline Review to amend QPI definition or target for QPI 8(i).**

- **NOSCAN to suggest that the target for QPI 9 should be discussed at QPI Ovarian Cancer Baseline Review.**

The North of Scotland Gynaecology Cancer 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 to this report.

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 North of Scotland Gynaecology Cancer 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 Gynaecology Clinical Lead as part of the regional audit governance process to enable RCAF to review and monitor regional improvement.

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Appendix 1: List of clinical trials for patients with ovarian cancer into which patients were recruited in 2014.

Trial	Principle Investigator	Trial Type
OvPSYCH 2	Michelle Ferguson (Tayside)	Interventional
ICON8 and ICON8B	Trevor McGoldrick (Grampian) Michelle Ferguson (Tayside)	Interventional
DNA Methylation Study	David Parkin (Grampian)	Translational
DOCS	Michelle Ferguson (Tayside)	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: Ovarian 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*