

**West of Scotland Cancer Network
Gynaecological Cancer
Managed Clinical Network**



Audit Report

Ovarian Cancer Quality Performance Indicators

**Clinical Audit Data:
01 October 2020 to 30 September 2021**

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Ovarian Cancer Quality Performance Indicators

Patients Diagnosed: October 2020 - September 2021

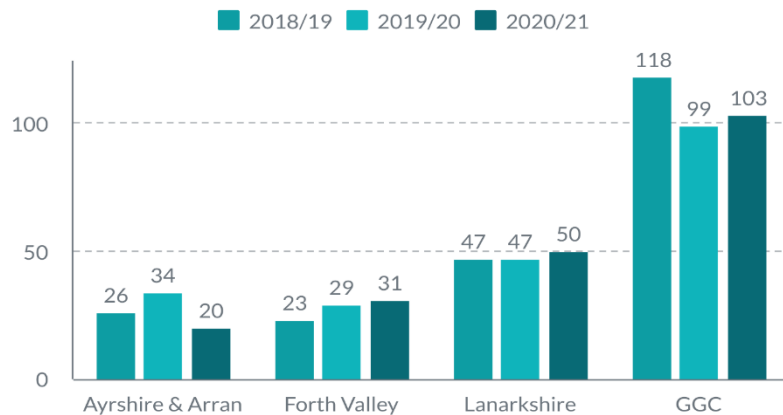
Number Diagnosed 2020/21: **204**

Case Ascertainment: **73.9%**

As measured against PHS ACaDMe comparative data:

Median Age at Diagnosis: **66**

No. Patients Diagnosed Between October 2018 and September 2021 by NHS Board



QPI Performance

QPI Title	QPI Target	WoS Performance	Target Met/Not Met
QPI 2 CT/MRI Prior to Treatment	95%	99.5%	✓
QPI 3 Discussed at MDT	95%	93.1%	✗
QPI 4 Adequate Staging Operation	90%	87.1%	✗
QPI 6 Histopathological reports are complete	90%	90.1%	✓
QPI 7 Histological diagnosis prior to starting chemotherapy	80%	97.0%	✓
QPI 9 First-line chemotherapy	90%	79.9%	✗
QPI 10(i) Surgery for advanced disease	65%	58.1%	✗
QPI 10(ii) Primary surgery for advanced disease no residual disease	60%	82.4%	✓
QPI 10(iii) Delayed primary surgery after chemotherapy with no residual disease	60%	67.6%	✓
QPI 11 Genetic Testing	90%	82.8%	✗
QPI 12 Surgical 30day Mortality	<5%	0.0%	✓

Key Achievements

- CT or MRI prior to commencing treatment
- Complete pathology reporting
- Histological diagnosis prior to starting chemotherapy
- Achieving no residual disease following primary surgery (or delayed surgery following chemotherapy) for advanced disease
- Zero 30 day mortality following surgery

Areas for Action

MCN will coordinate further regional analysis to better understand variance in performance in relation to:

- **QPI 4: Adequate Staging Operation for patients with early stage disease.**
- **QPI 9: First-line Chemotherapy**
- **QPI 10: Surgery for Advanced Disease**
- **QPI 11:-BRCA1 and BRCA2 Sequencing in Epithelial Ovarian Cancer**

Introduction

This report contains an assessment of the performance of West of Scotland (WoS) ovarian cancer services using clinical audit data relating to patients diagnosed with ovarian cancer between 1st October 2020 and 30th September 2021.

In order to ensure the success of the Cancer QPIs in driving quality improvement in cancer care, QPIs will continue to be assessed for clinical effectiveness and relevance. These clinically led reviews involve key clinicians from each of the Regional Cancer Networks. Formal review of the Ovarian Cancer QPIs was undertaken in 2017 and 2021, with the revised QPIs (v4.0) published in June 2021.

Results

A summary of the Ovarian Cancer QPI performance for the 2020/21 audit period is presented below, with a more detailed analysis of the results set out in the main report. Data are analysed by location of diagnosis or surgery and illustrate NHS Board performance against each target and overall regional performance for each performance indicator.

Ovarian Cancer QPI Performance Summary Report

Key	
	Above Target Result
	Below Target Result

Quality Performance Indicator (QPI)	Performance by NHS Board								
	Target	Year	AA	FV	Lan	NG	SG	Clyde	WoS
QPI 2 - 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 treatment.	95%	2020/21	100% (16/16)	100% (29/29)	97.9% (46/47)	100% (46/46)	100% (28/28)	100% (26/26)	99.5% (191/192)
		2019/20	100%	100%	100%	100%	100%	100%	100%
		2018/19	100%	100%	100%	100%	100%	96.6%	99.5%
QPI 3 - Proportion of patients with epithelial ovarian cancer who are discussed at a MDT meeting before definitive treatment.	95%	2020/21	94.1% (16/17)	85.7% (24/28)	91.7% (44/48)	97.7% (42/43)	96.4% (27/28)	92.0% (23/25)	93.1% (176/189)
		2019/20	96.9%	96.6%	95.7%	94.6%	93.8%	93.8%	95.1%
		2018/19	75.0%	95.7%	91.5%	97.7%	94.9%	96.4%	92.6%
QPI 4 - 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.	90%	2020/21	-	-	-	100% (17/17)	-	-	87.1% (27/31)
		2019/20	-	-	-	100%	100%	n/a	97.1%
		2018/19	-	-	100%	100%	-	-	93.8%

Quality Performance Indicator (QPI)	Performance by NHS Board								
	Target	Year	AA	FV	Lan	NG	SG	Clyde	WoS
QPI 6: 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%	2020/21	-	-	80% (4/5)	91.7% (88/96)	80.0% (4/5)	-	90.1% (100/111)
		2019/20	100%	50%	100%	97.1%	100%	100%	96.7%
		2018/19	100%	-	100%	94.1%	-	-	95.1%
QPI 7 – Proportion of patients with epithelial ovarian cancer having a histological diagnosis obtained by percutaneous image-guided biopsy or laparoscopy prior to starting chemotherapy.	80%	2020/21	100% (9/9)	91.7% (11/12)	95.0% (19/20)	100% (24/24)	95.0% (19/20)	100% (15/15)	97.0% (97/100)
		2019/20	100%	93.3%	96.3%	100%	90.9%	92.9%	96.0%
		2018/19	100%	84.6%	90.0%	100%	100%	100%	96.0%
QPI 9 - Proportion of patients with epithelial ovarian cancer who receive chemotherapy treatment with a platinum based compound.	90%	2020/21	80.0% (8/10)	61.5% (16/26)	75.6% (31/41)	87.8% (36/41)	92.0% (23/25)	81.0% (17/21)	79.9% (131/164)
		2019/20							
		2018/19							
QPI 10(i) - Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing surgery.	65%	2020/21	62.5% (5/8)	54.2% (13/24)	63.4% (26/41)	60.5% (23/38)	52.0% (13/25)	52.6% (10/19)	58.1% (90/155)
	60%	2019/20	57.1%	70.8%	65.0%	70.4%	52.0%	60.0%	63.0%
		2018/19	85.7%	59.1%	63.0%	63.2%	50.0%	40.0%	58.1%
QPI 10(ii) - Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing surgery where no residual disease is achieved.	60%	2020/21	n/a (0/0)	-	-	80.6% (25/31)	-	n/a (0/0)	82.4% (28/34)
		2019/20	n/a	n/a	n/a	73.5%	-	-	73.7%
	50%	2018/19	n/a	-	-	75.0%	-	-	72.5%

Quality Performance Indicator (QPI)	Performance by NHS Board								
	Target	Year	AA	FV	Lan	NG	SG	Clyde	WoS
QPI 10(iii) - Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing delayed primary surgery after chemotherapy where no residual disease is achieved.	60%	2020/21	n/a (0/0)	n/a (0/0)	n/a (0/0)	67.6% (23/34)	n/a (0/0)	n/a (0/0)	67.6% (23/34)
	50%	2019/20	n/a	n/a	n/a	65.2%	n/a	n/a	65.2%
		2018/19	n/a	n/a	n/a	68.6%	n/a	n/a	68.6%
QPI 11 - Proportion of patients with epithelial ovarian cancer who undergo genetic testing.	90%	2020/21	76.9% (10/13)	80.8% (21/26)	66.7% (28/42)	90.7% (39/43)	95.5% (21/22)	91.3% (21/23)	82.8% (140/169)
		2019/20	88.9%	88.0%	87.5%	93.9%	76.7%	92.6%	87.9%
		2018/19	80.0%	95.0%	78.6%	81.8%	83.8%	67.9%	80.6%
QPI 12(i) - Proportion of patients with epithelial ovarian cancer who die within 30 days of surgery.	<5%	2020/21	-	0.0% (0/5)	0.0% (0/7)	0.0% (0/106)	0.0% (0/6)	-	0.0% (0/129)
		2019/20	-	-	-	0.0%	0.0%	-	0.0%
		2018/19	0.0%	-	0.0%	0.9%	0.0%	-	0.7%

Conclusions and Action Required

Cancer audit has underpinned much of the regional development and service improvement work of the MCN and the regular reporting of activity and performance have been fundamental in assuring the quality of care delivered across the region. With the development of QPIs, this has now become a national programme to drive continuous improvement and ensure equity of care for patients across Scotland.

The QPI results indicate that overall, the quality of ovarian cancer services across WoS Boards is excellent, particularly in relation to CT or MRI prior to commencing treatment, complete pathology reporting, histological diagnosis prior to starting chemotherapy, achieving no residual disease following surgery (or delayed surgery following chemotherapy) for advanced disease and no 30 day mortality following surgery. However, there remains room for further service improvement around surgery for advanced disease and referral for genetic testing.

Where QPI targets were not met, the majority of NHS Boards have provided detailed commentary. In the main these indicate valid clinical reasons or that, in some cases, patient choice or co-morbidities have influenced patient management.

There are a number of actions required as a consequence of this assessment of performance against the agreed criteria.

Action Required:

QPI 3 - Treatment planned and reviewed at a multi-disciplinary team meeting

- MCN to advise local leads to re-iterate standard requirements for investigation for ovarian cancer.

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

- MCN to discuss and agree proposal for submission to the next Formal Review to ensure appropriate timing of FIGO staging (at MDT) is considered in any amendment to this QPI, in addition to the national standardisation of radiological staging across Scotland.

QPI 9 – First-line chemotherapy

- MCN to co-ordinate a further more detailed review at Board level to establish if patients that were deemed clinically unfit for chemotherapy were assessed by an oncologist.
- Local leads to consider ways to increase awareness of current treatments and outcomes for ovarian cancer to stimulate awareness in local hospitals with the aim of improving referrals between secondary care departments.

QPI 10 – Surgery for Advanced Disease

- MCN to co-ordinate a further more detailed analysis of cases not meeting the QPI at Board level to establish if delays or issues in the pathway contributed to patients not progressing with treatment.
- NHSGGC to continue to progress the development of services for complex gynaecological cases, building on the work already initiated, in order to improve the pathway for time to surgery.

QPI 11: Genetic Testing in Non-Mucinous Epithelial Ovarian Cancer.

- Single Point of Contact (SPoC) to look at identification of early cases and highlight cases to relevant clinicians.
- MCN to look at process whereby cases with no histological/cytological diagnosis can have testing offered taking cognisance of the fact that index patients being tested may not be alive when the results become available. This is important due to the benefits for the extended family.

A summary of actions for each NHS Board has been included within the Action Plan templates in the Appendix.

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

1. Introduction

This report presents an assessment of performance of West of Scotland (WoS) Gynaecology Services relating to patients diagnosed with ovarian cancer in the region between 01 October 2020 and 30 September 2021. These audit data underpin much of the regional development/service improvement work of the Managed Clinical Network (MCN) and regular reporting of activity and performance is a fundamental requirement of an MCN to assure the quality of care delivered across the region.

Twelve months of data were measured against v4.0 of the Ovarian Cancer Quality Performance Indicators (QPIs) which were implemented for patients diagnosed on or after 01 October 2020. This was the eighth consecutive year of analysis following the initial Healthcare Improvement Scotland (HIS) publication of Ovarian Cancer QPIs in 2013¹.

2. Background

The effective management of these patients relies on well co-ordinated delivery of treatment and care, requiring close collaboration of professionals from a range of specialties. Treatment and care for gynaecological cancer patients is delivered by a single regional multi-disciplinary team (MDT) comprising of professionals from a range of clinical specialities across the region. Complex gynaecological malignancy often requires a multi-modality approach and surgery remains a key component of effective curative management.

The standard treatments for ovarian cancer in Scotland are:

- Primary surgery followed by adjuvant chemotherapy.
- Primary chemotherapy followed by delayed primary surgery.
- Primary chemotherapy.

2.1 National Context

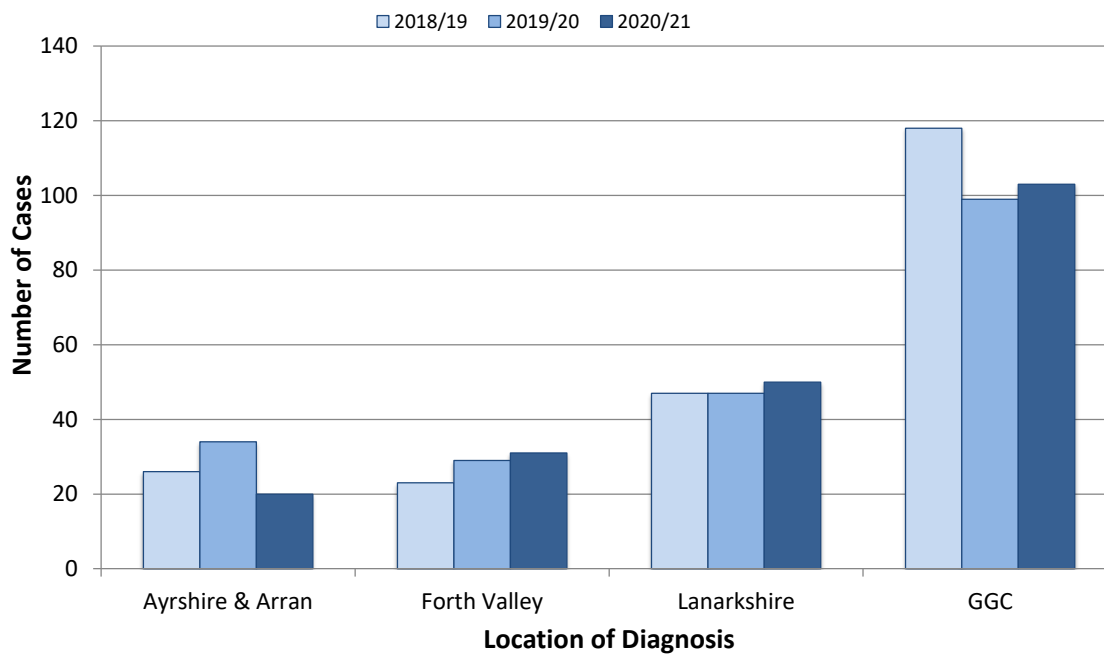
Ovarian cancer is the sixth most commonly diagnosed malignancy in Scottish women with a relative frequency of around 3.5% of all female cancers³. There has been an overall decrease in the incidence of ovarian cancer in the past ten years of 17.5%.

Latest ISD figures show a fall in mortality in ovarian cancer patients of 12% over the last 10 year period, with corresponding improvements in 5 year survival; approximately 37% of patients are now surviving at least five years after diagnosis, compared to around 31% of those diagnosed between 1983-1987³.

2.2 West of Scotland Context

There were 204 new diagnoses of ovarian cancer captured by audit in the WoS between 01 October 2020 and 30 September 2021. Distribution by location of diagnosis is shown below in Figure 1.

Figure 1: Number of patients diagnosed with ovarian cancer by location of diagnosis

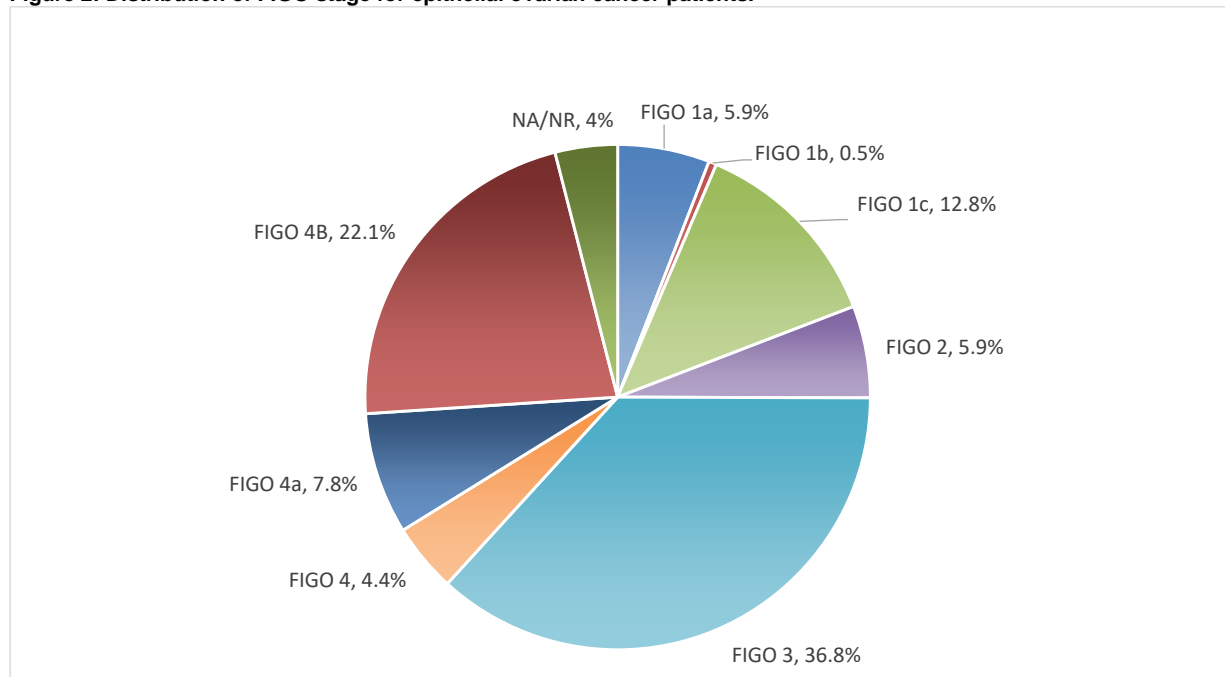


	AA	FV	Lan	GGC	WoS
Year 6_2018/19	26	23	47	118	214
Year 7_2019/20	34	29	47	99	209
Year 8_2020/21	20	31	50	103	204

2.3 FIGO Stage

Stage of disease is an important prognostic factor and knowledge of the stage distribution allows the MCN to understand implications of current and future management of patients with ovarian cancer. Furthermore, it facilitates greater understanding of disease progression and outcomes through survival analyses therefore it is important that this information is available and recorded accurately.

Figure 2: Distribution of FIGO stage for epithelial ovarian cancer patients.



FIGO Stage	1a	1b	1c	2	3	4	4a	4b	NA/NR
n	12	1	26	12	75	9	16	45	8

Figure 2 illustrates that 81% of patients in the WoS presented with advanced stage disease (FIGO 2 or above).

3. Methodology

Further detail on the audit and analysis methodology and data quality is available in the meta data within appendix 1.

4.2 Performance against Quality Performance Indicators (QPIs)

Results for each QPI are shown in detail in the main report and illustrate Board performance against each target and overall WoS performance for each performance indicator. Results are presented graphically and the accompanying tabular format also highlights any missing data and its possible effect on any of the measured outcomes.

Data (both graphically and in tabular format) are presented by location of diagnosis or treatment, with some criteria given as an overall WoS representation. Specific regional and NHS Board actions have been identified to address issues highlighted through the data analysis.

Where the number of cases meeting the denominator criteria for any indicator is between one and four, the percentage calculation has not been shown on 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 a dash (-). Any commentary provided by NHS Boards relating to the impacted indicators will however be included as a record of continuous improvement.

QPI 2 - Extent of disease assessed by CT or MRI prior to treatment.

For women diagnosed with ovarian cancer it is necessary to fully image the pelvis and abdomen prior to starting any definitive treatment in order to establish the extent of disease and minimise unnecessary treatment. The target for this QPI is set at 95%. The tolerance allowed by the target reflects the fact that CA125 assessment and ultrasound scan does not always raise suspicion of cancer¹.

QPI Title:	Patients with epithelial ovarian cancer should have their stage of disease assessed by CT or MRI prior to 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:	95%

Figure 4: Proportion of patients with epithelial ovarian cancer having a CT scan or MRI of the abdomen and pelvis performed prior to starting definitive treatment.

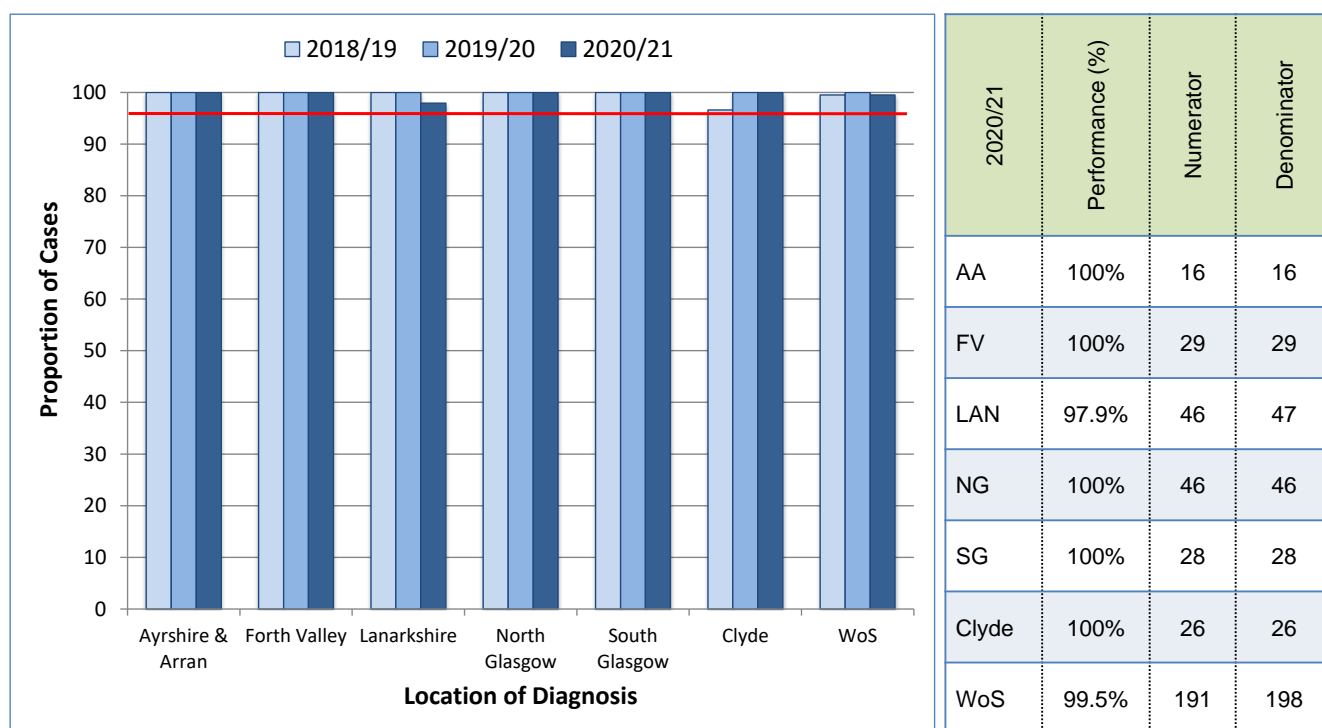


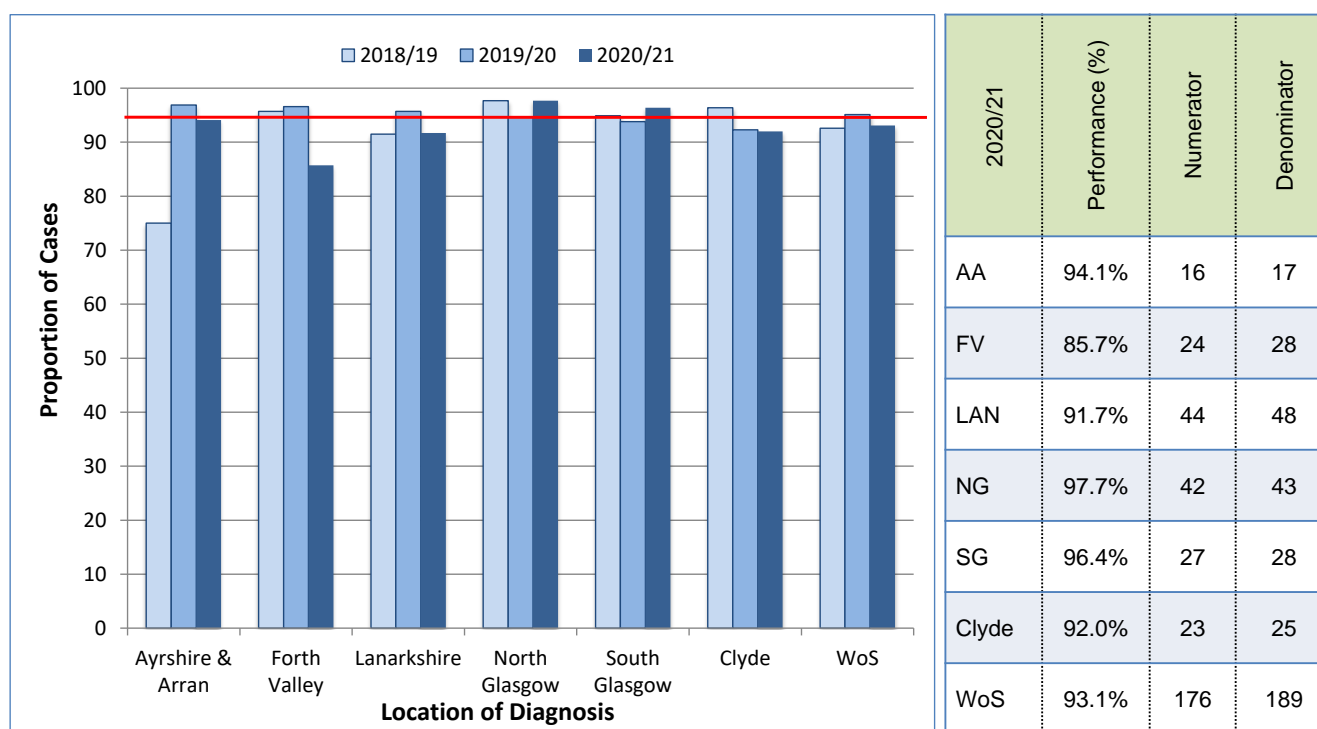
Figure 4 demonstrates excellent results across all Boards over the three years of reporting with all units consistently achieving the QPI target year on year; overall regional performance in the WoS in Year 8 was noted as 99.5%.

QPI 3 - Treatment planned and reviewed at a multi-disciplinary team meeting

Effective MDT working is considered integral to provision of high quality ovarian cancer care, facilitating a cohesive treatment-planning function and ensuring treatment and care provision is individualised to patient needs. QPI 3 states that 95% of patients should be discussed at the MDT prior to definitive treatment. The tolerance allows for patients who need treatment urgently¹.

QPI Title:	Patients with epithelial ovarian cancer should be discussed by a MDT prior to 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. Patients with Risk of Malignancy Index <200
Target:	95%

Figure 5: Proportion of patients with epithelial ovarian cancer who are discussed at a MDT meeting before definitive treatment.



Following formal review QPI 3 was revised to measure discussion at a 'regional MDT' and to exclude patients with a RMI of <200. 2020/21 data includes the new exclusion criteria.

Of the 189 patients across the region with ovarian cancer who were measured against this QPI, 178 were discussed at MDT prior to definitive treatment. This equates to 93.1% just below the 95% QPI target with only NHSGGC North Glasgow and South Glasgow sectors meeting the QPI target.

NHSAA narrowly missed the target with 94.1%. This equates to one case which was diagnosed after emergency surgery.

NHSFV reviewed the 4 cases that missed the target. Reasons provided included patients with mucinous tumours and 1 patient was not seen by gynaecology however was under the care of another team at the time of diagnosis.

Following review NHSLS commented that RMI was not applicable in 3 cases as a pelvic ultrasound was not carried out and 1 case who was not discussed at MDT. The Board added that these cases will be included in future teaching to highlight the importance of MDT discussion prior to surgery in patients with a high RMI.

RMI remains a fundamental component of investigation for ovarian cancer and therefore the MCN will ensure that this is reiterated as a standard requirement for investigation of ovarian cancer in all Boards.

Action Required:-

- MCN to advise local leads to re-iterate standard requirements for investigation for ovarian cancer.

Location of Surgery

QPIs 4, 6, 10(ii) and 10(iii) are reported by location of surgery rather than by location of diagnosis. Surgical management of ovarian cancer is provided by gynaecological oncologists working in the regional specialist surgical centre in Glasgow Royal Infirmary (represented by North Glasgow on charts). Some patients with an RMI of less than 200, i.e. cancer is not suspected pre-operatively, may receive surgery in their local hospital but are subsequently diagnosed with epithelial ovarian cancer when post-operative pathology is available.

In Year 8 131 patients (64.2%) underwent surgery. Hospital of surgery is noted below.

- 105 cases in regional specialist centre (GRI)
- 11 cases in NHSGGC (not specialist surgical centre)
- 7 cases in NHS Lanarkshire
- 5 cases in NHS Forth Valley
- 3 cases in NHS Ayrshire & Arran

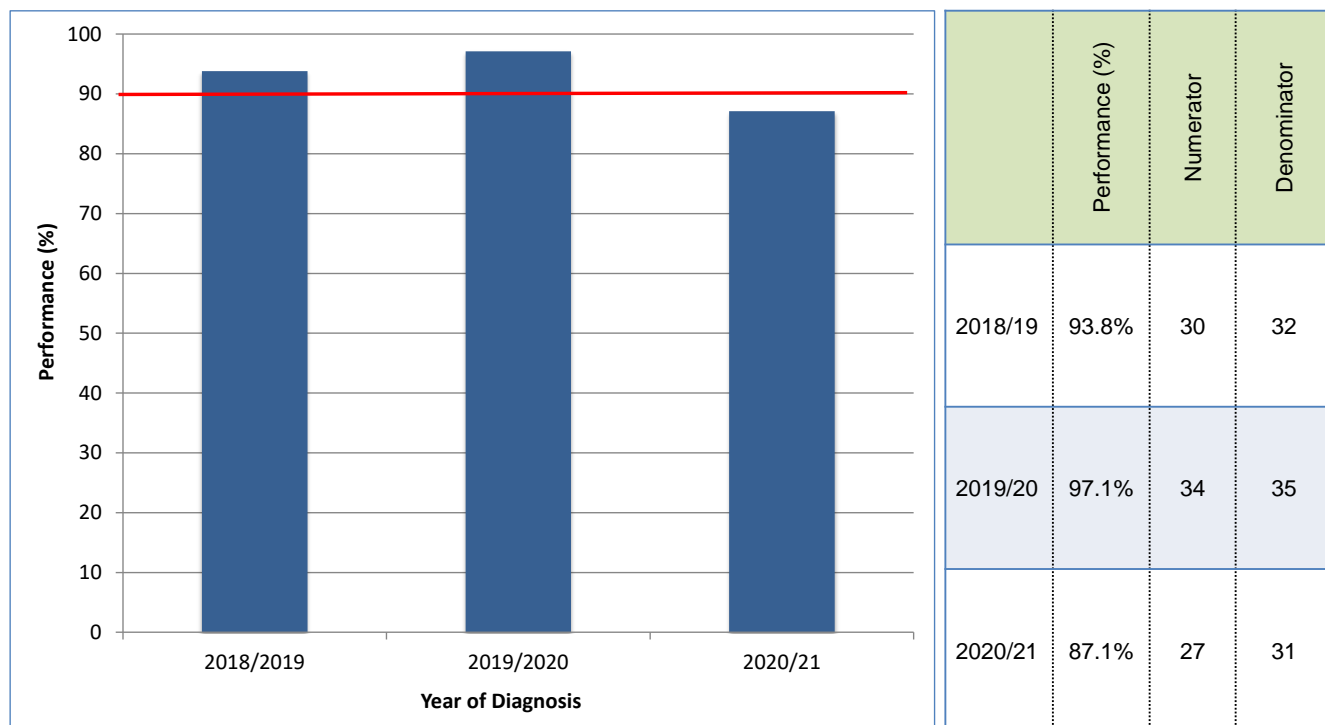
Please note that the number of operations carried out in local hospitals is small therefore comparisons of percentages should be made with caution.

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

Surgery is considered the initial treatment of choice for women with early stage epithelial ovarian cancer and will typically include TAH, BSO and omentectomy and may also involve assessment by palpation, visualisation and/or biopsy as indicated, of peritoneal surfaces, appendix and bowel mesentery and sampling of pelvic and para-aortic lymph nodes¹.

QPI Title:	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.
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 presenting for emergency surgery
Target:	90%

Figure 6: Proportion of early stage (FIGO Stage 1) epithelial ovarian cancer patients having primary surgery involving TAH, BSO, omentectomy and washings.



Due to the small numbers meeting the denominator criteria in each year of analysis individual board results cannot be presented therefore Figure 6 shows WoS yearly results.

Of the 31 patients with early stage epithelial ovarian cancer patients who underwent primary surgery, 27 had an adequate staging operation involving TAH, BSO, omentectomy and washings, resulting in a performance of 87.1% against the 90% QPI target.

At unit level the majority of cases were operated on in NHSGGC North Glasgow sector who achieved 100% against the 90% target with all 17 patients having an adequate staging operation.

NHS Lanarkshire, NHS FV and NHS GGC reviewed the small number of cases not meeting the QPI criteria. Two cases involved young women where primary pelvic clearance would not have been appropriate as lesions were not originally thought to be malignant. A further case was not managed in line with RCOG guidance re premenopausal ovarian masses however the Board confirmed that this was an isolated case, with post-operative complications which precluded further staging surgery.

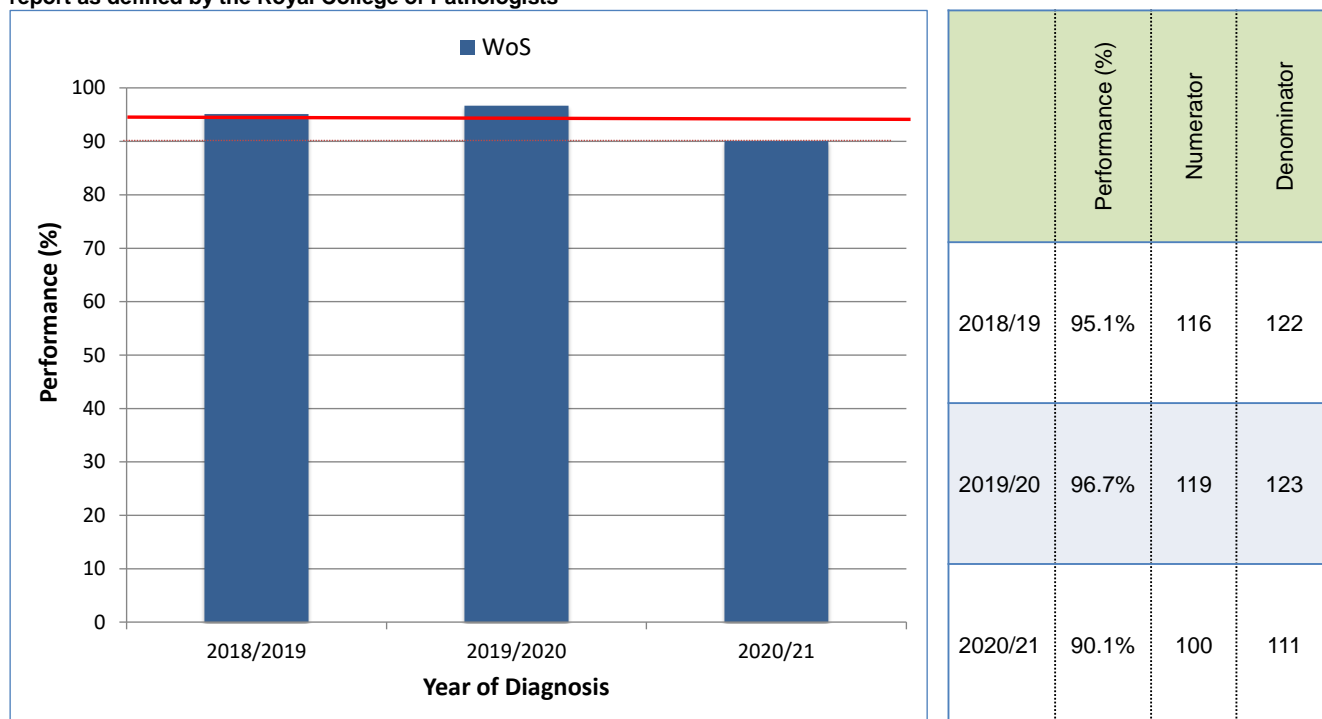
NHS Lanarkshire has implemented a post operation checklist to confirm that the intended procedure listed on the consent form has been carried out.

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

Histopathological reporting provides prognostic indicators which inform treatment planning for women diagnosed with epithelial ovarian cancer. The use of datasets improves the completeness of data in pathology reports and the Royal College of Pathologists has agreed a minimum data set for reporting ovarian cancer¹. The target for this QPI has been set at 90% and the tolerance within the target is designed to account for situations where it is not possible to report all components of the dataset due to poor quality of specimen.

QPI Title:	Histopathology reports relating to pelvic clearance surgery for patients with epithelial ovarian cancer contain all necessary information to inform treatment decision making.
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:	95%

Figure 7: Proportion of patients with epithelial ovarian cancer undergoing pelvic clearance surgery having a complete pathology report as defined by the Royal College of Pathologists



Due to the majority of operations taking place in the centre (North Glasgow) the numbers for other individual units are low therefore Figure 7 shows WoS annual results. Overall in the WoS in Year 7, 90.1% of patients with epithelial ovarian cancer undergoing definitive cytoreductive surgery had a complete pathology report which is under the 95% QPI target.

NHSFV and NHS Lanarkshire reviewed the small number of cases not meeting the QPI criteria. Both Boards confirmed that in each case only a single data item was missing from the pathology report (either FIGO stage or grade).

NHSGGC reported that FIGO staging was not included in the report for those cases not meeting the QPI criteria. Staging is now completed at the MDT taking into account intraoperative and histological factors. However it should be noted that intraoperative findings are not always available at the time of the MDT discussion to enable determination of complete stage. This is being addressed in GGC by the Gynaecological Pathology lead clinician to ensure that FIGO stage is included in pathology reports.

Action Required:-

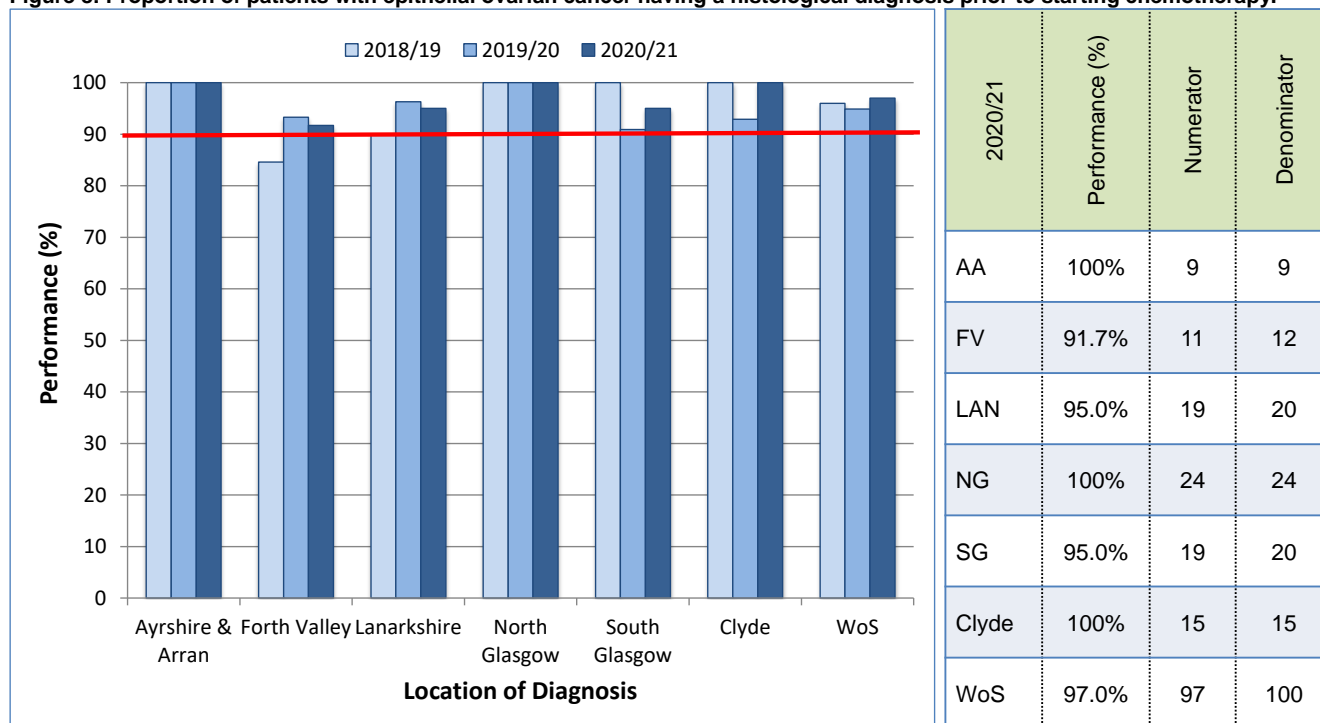
- MCN to discuss and agree proposal for submission to the next Formal Review to ensure appropriate timing of FIGO staging (at MDT) is considered in any amendment to this QPI, in addition to the national standardisation of radiological staging across Scotland.

QPI 7 - Histological diagnosis prior to starting chemotherapy

QPI 7 looks at the proportion of patients who have a histological diagnosis prior to starting chemotherapy. The target for this QPI is set at 80%. The tolerance for this level reflects that not all patients are suitable for histological confirmation of disease, e.g. where no targetable lesion is identified on imaging and the patient unsuitable for general anaesthetic/laparoscopy¹.

QPI Title:	Patients with epithelial ovarian cancer should have a histological diagnosis of their cancer prior to starting chemotherapy.
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 undergoing chemotherapy.
Exclusions:	No Exclusions
Target:	80%

Figure 8: Proportion of patients with epithelial ovarian cancer having a histological diagnosis prior to starting chemotherapy.



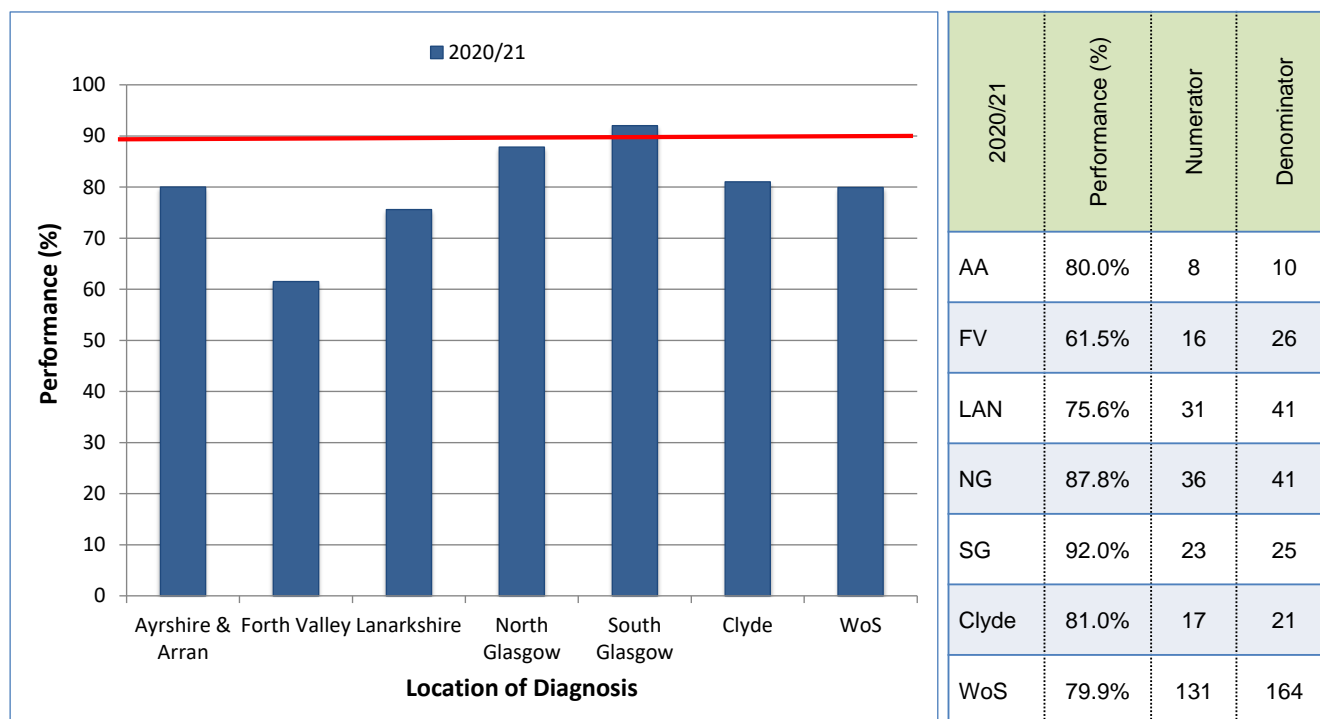
Performance across the WoS was 97.0% against the 90% QPI target with 97 of 100 patients having their diagnoses of ovarian cancer confirmed by histology prior to starting chemotherapy. All units achieved the QPI target.

QPI 9 – First-line chemotherapy

First line chemotherapy treatment of epithelial ovarian cancer should include a platinum agent, either in combination or as a single agent. ¹

QPI 9:	Chemotherapy treatment of epithelial ovarian cancer should include a platinum based compound
Numerator:	Number of patients with epithelial ovarian cancer who receive chemotherapy treatment with a platinum-based compound.
Denominator:	All patients with epithelial ovarian cancer.
Exclusions:	Stage 1-IV Low grade serous ovarian carcinomas, Stage 1A-1C3 G1/G2 Endometrioid ovarian carcinomas, Stage 1A-1C1 clear cell ovarian carcinomas, Mucinous Stage 1A Grade 1 or 2, Mucinous Stage 1B-1C3 Grade 1 or 2, Patients who decline chemotherapy treatment.
Target:	90%

Figure 10: Proportion of patients with epithelial ovarian cancer who receive chemotherapy treatment with a platinum-based compound.



Due to QPI 9 being updated at formal review comparison with previous year's results is not possible.

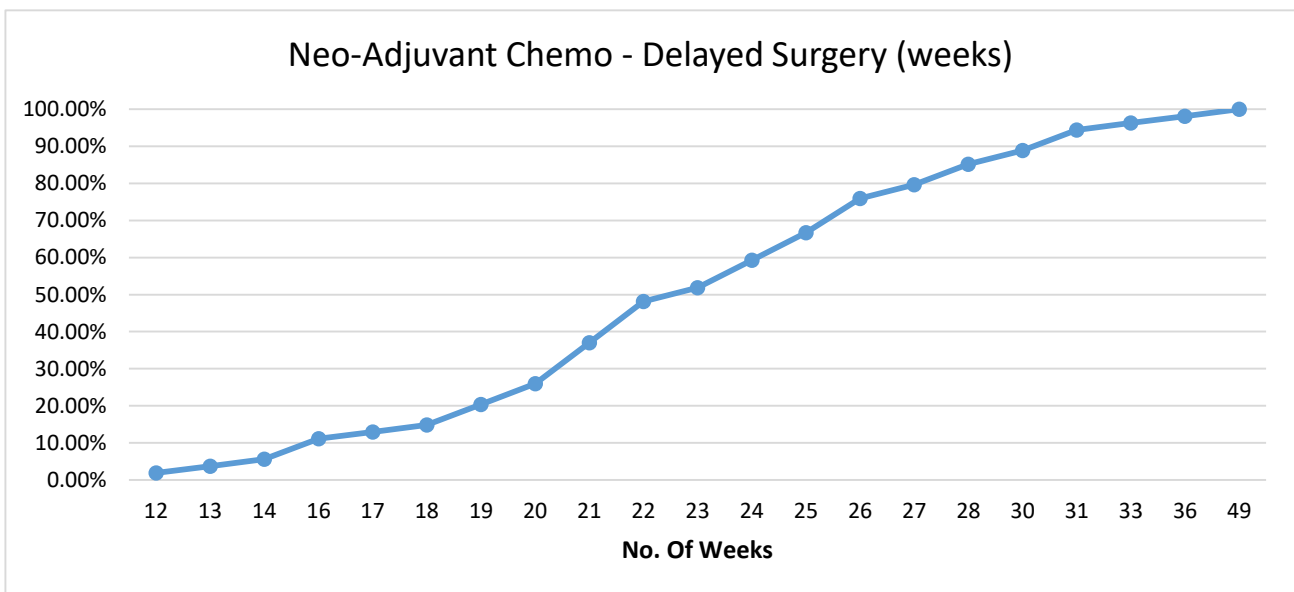
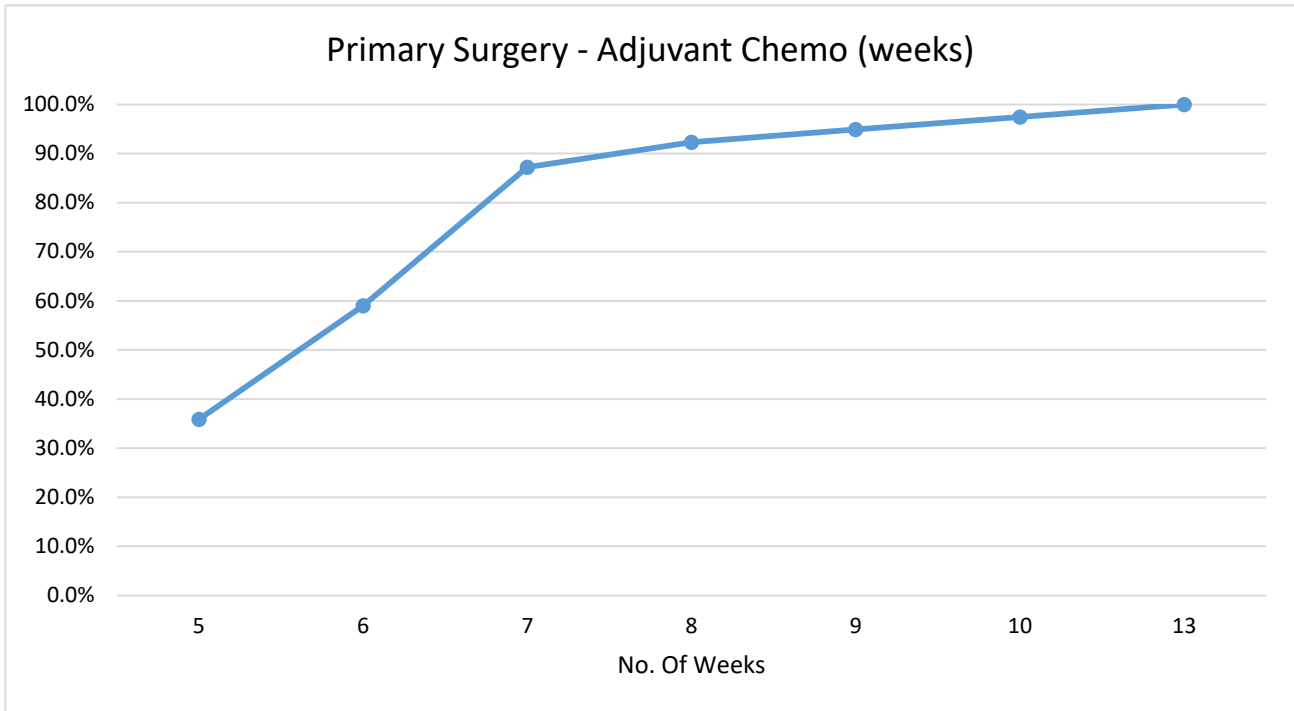
Performance across the WoS was 79.9% against the 90% QPI target with 131 of 164 patients receiving chemotherapy with a platinum based compound. Only NHSGGC South sector met the QPI target. Performance ranged from 61.5% in NHSFV to 92% in NHSGGC South sector.

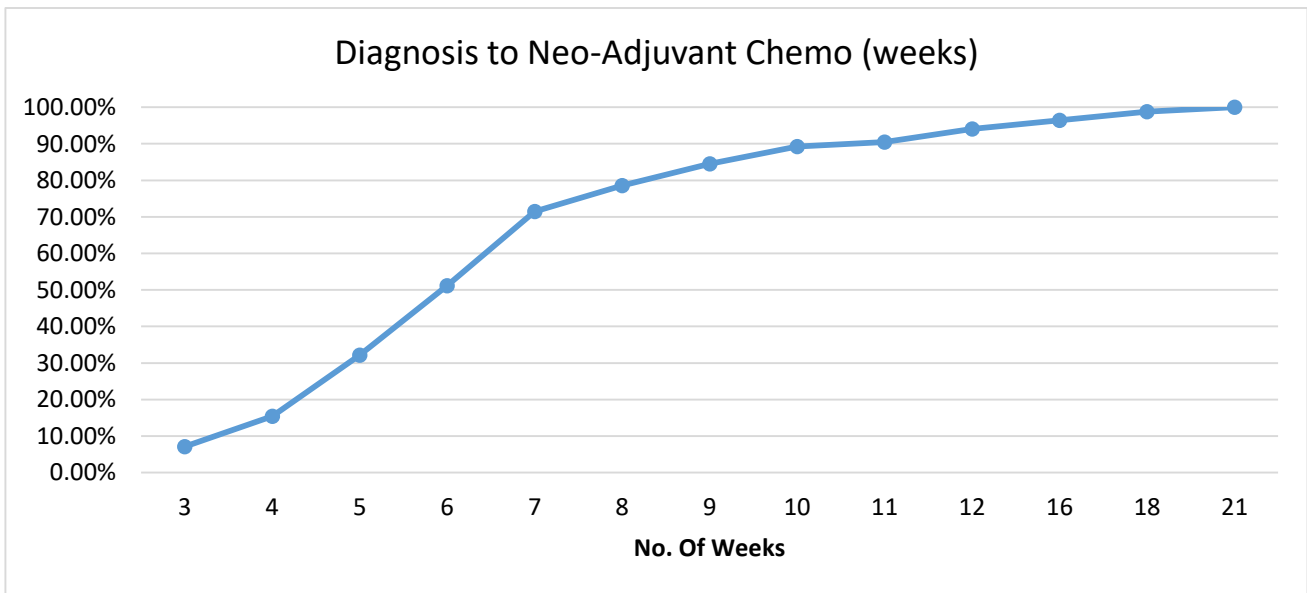
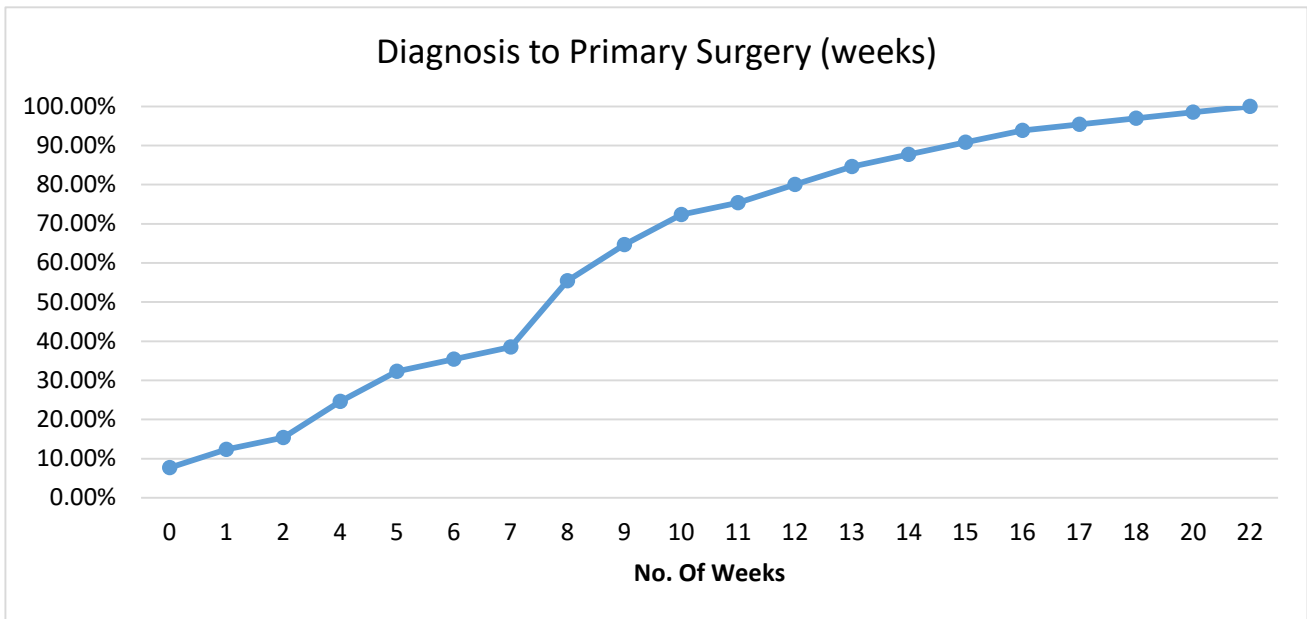
NHS Boards reviewed all cases that did not meet the QPI. Reasons provided included patients that were clinically unfit for chemotherapy, patients that were assessed but decision was that chemotherapy was not appropriate and patients that died before treatment.

Action required:-

- MCN to co-ordinate a further more detailed review at Board level to establish if patients that were deemed clinically unfit for chemotherapy were assessed by an oncologist.
- Local leads to consider ways to increase awareness of current treatments and outcomes for ovarian cancer to stimulate awareness in local hospitals with the aim of improving referrals between secondary care departments.

Additional information on the time from diagnosis to neoadjuvant chemotherapy to surgery, and diagnosis to surgery to adjuvant chemotherapy is reported alongside QPI 9. This information is reviewed to ensure there is no impact on the quality of care due to delays in patient pathways.





Timelines between neo-adjuvant chemotherapy and surgery indicate that patients are receiving 6 cycles of chemotherapy instead of 3. This reflects the delays/ accessibility of joint surgical lists, as highlighted under QPI 10. Regional comparison indicates an 11 week difference in WoS compared to SCAN and NCA with 75% of patients having delayed surgery within 25 weeks in the WoS compared to 15 and 18 weeks in NCA and SCAN.

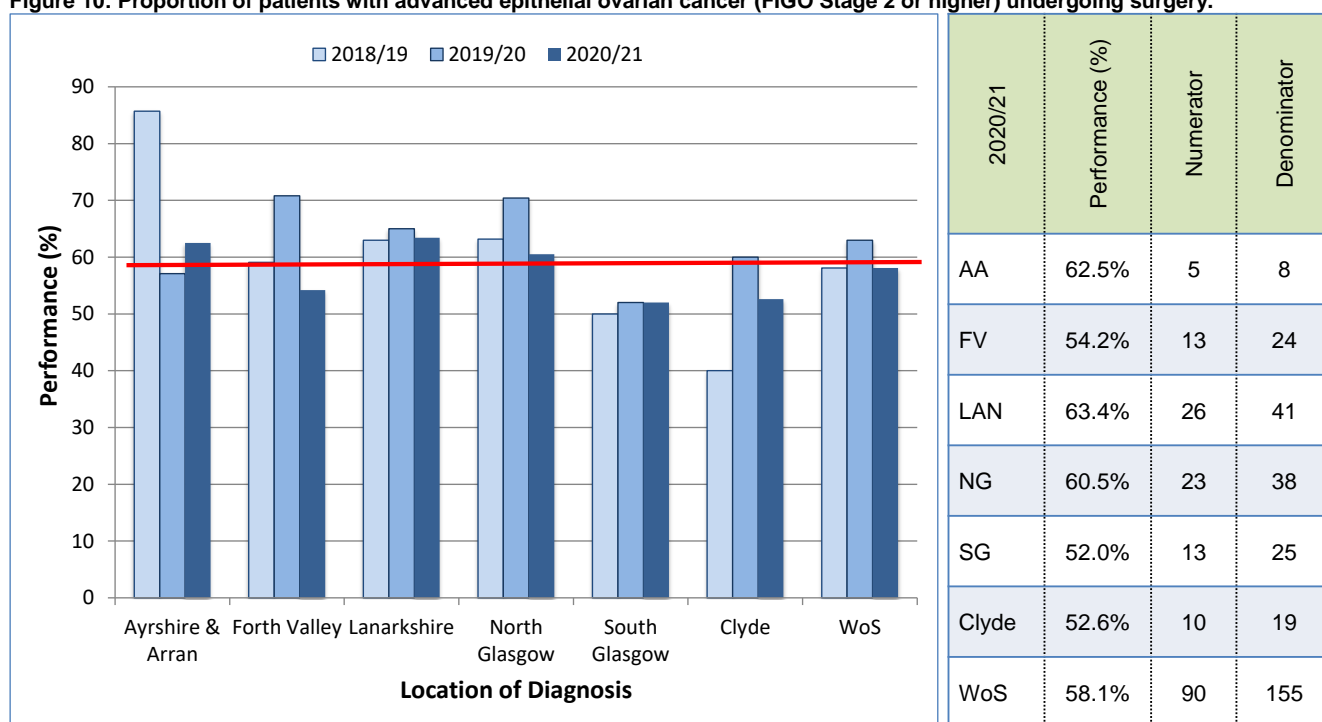
It is anticipated that the implementation of a Single Point of Contact (SPoC) function will help to improve the management of the referral process going forward.

QPI 10 – Surgery for Advanced Disease

Evidence shows that most women with ovarian cancer present with advanced disease. Surgery along with chemotherapy remains the optimal treatment for women with advanced ovarian cancer¹.

QPI 10(i):	Patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) should undergo primary or delayed surgery and should achieve no macroscopic residual disease.
Numerator:	Number of patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing surgery (primary or delayed).
Denominator:	All patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher)
Exclusions:	No Exclusions
Target:	65%

Figure 10: Proportion of patients with advanced epithelial ovarian cancer (FIGO Stage 2 or higher) undergoing surgery.



Overall in the WoS, 58.1% of patients with advanced epithelial ovarian cancer underwent either primary or delayed surgery which is below the 65% QPI target. Three of the six units met the target with performance ranging from 52% in South Glasgow to 63.4% in NHS Lanarkshire.

All Boards carried out a detailed review of patients who did not undergo primary or delayed surgery. Reasons provided included patients that were fit only for Best Supportive Care; patients that had neo-adjuvant chemotherapy and died before surgery, patients that declined surgery, patients that were not suitable candidates for surgery; patients who died before treatment and patients who refused treatment.

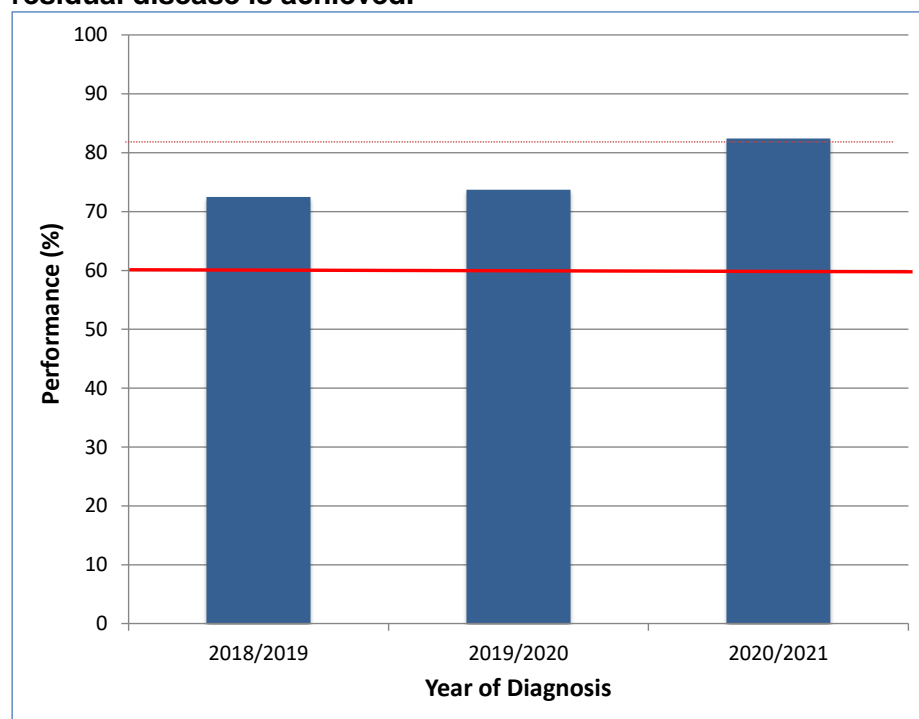
The COVID19 pandemic has impacted upon the ability of patients to access healthcare, with patients often presenting with more advanced stage disease which is inoperable. In addition diagnostic and treatment delays as a consequence of the ongoing pandemic have impacted upon performance against this measure.

Work is already initiated within NHSGGC to develop and improve services for complex pelvic cancer surgery cases.

Action required:

- MCN to co-ordinate a further more detailed analysis of cases not meeting the QPI at Board level to establish if delays or issues in the pathway contributed to patients not progressing with treatment.
- NHSGGC to continue to progress the development of services for complex gynaecological cases, building on the work already initiated, in order to improve the pathway for time to surgery.

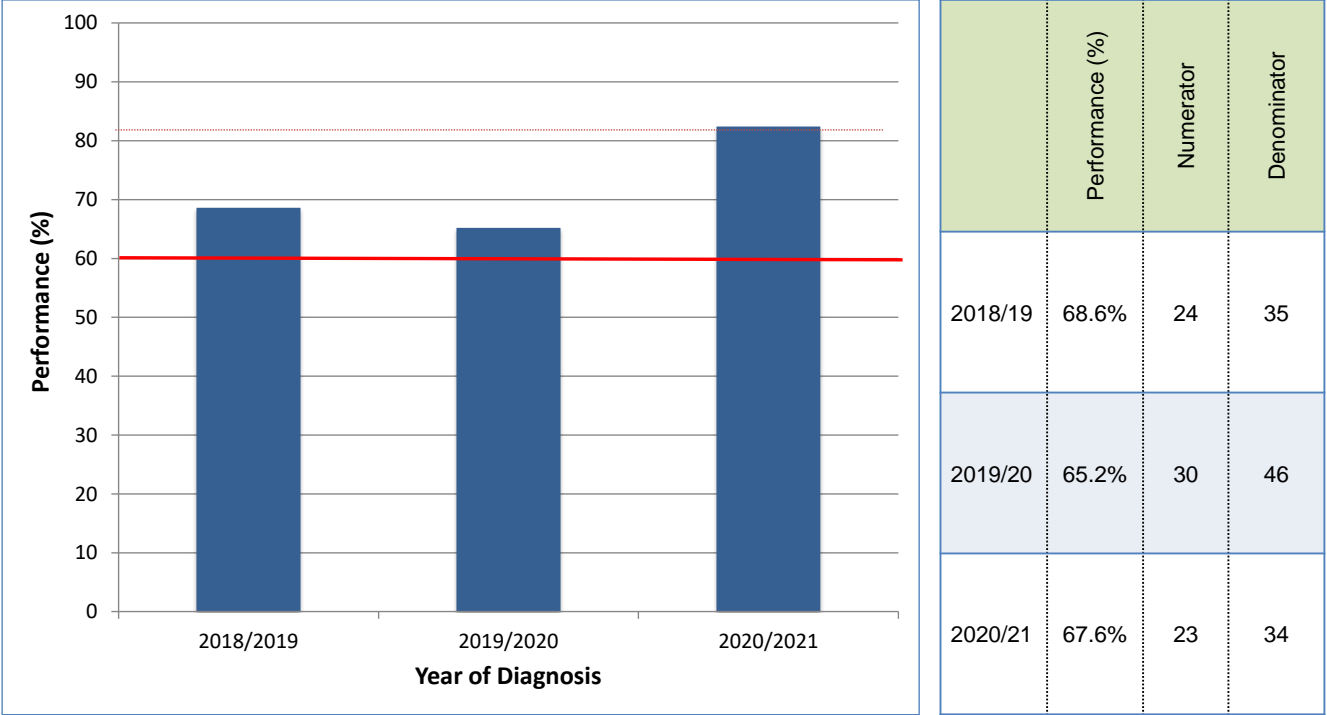
QPI 10 (ii) Patients with advanced epithelial cancer undergoing primary surgery where no residual disease is achieved.



	Performance (%)	Numerator	Denominator
2018/19	72.5%	37	51
2019/20	73.7%	28	38
2020/21	82.4%	28	34

QPI 10 (ii) examines those patients with advanced epithelial cancer who underwent primary surgery where no residual disease is achieved. Due to the majority of operations taking place in the Glasgow centre the numbers for other individual units are low therefore individual Board results cannot be presented. WoS performance against this QPI was 82.4% (28 out of 34 cases) against the 60% QPI target.

QPI 10 (iii) looks at those patients with advanced epithelial ovarian cancer who underwent delayed primary surgery after chemotherapy, where no residual disease is achieved.



Thirty four patients underwent delayed primary surgery with 23 achieving no residual disease; this equates to 67.6% and meets the 60% QPI target. All cases were operated on at the centre (North Glasgow).

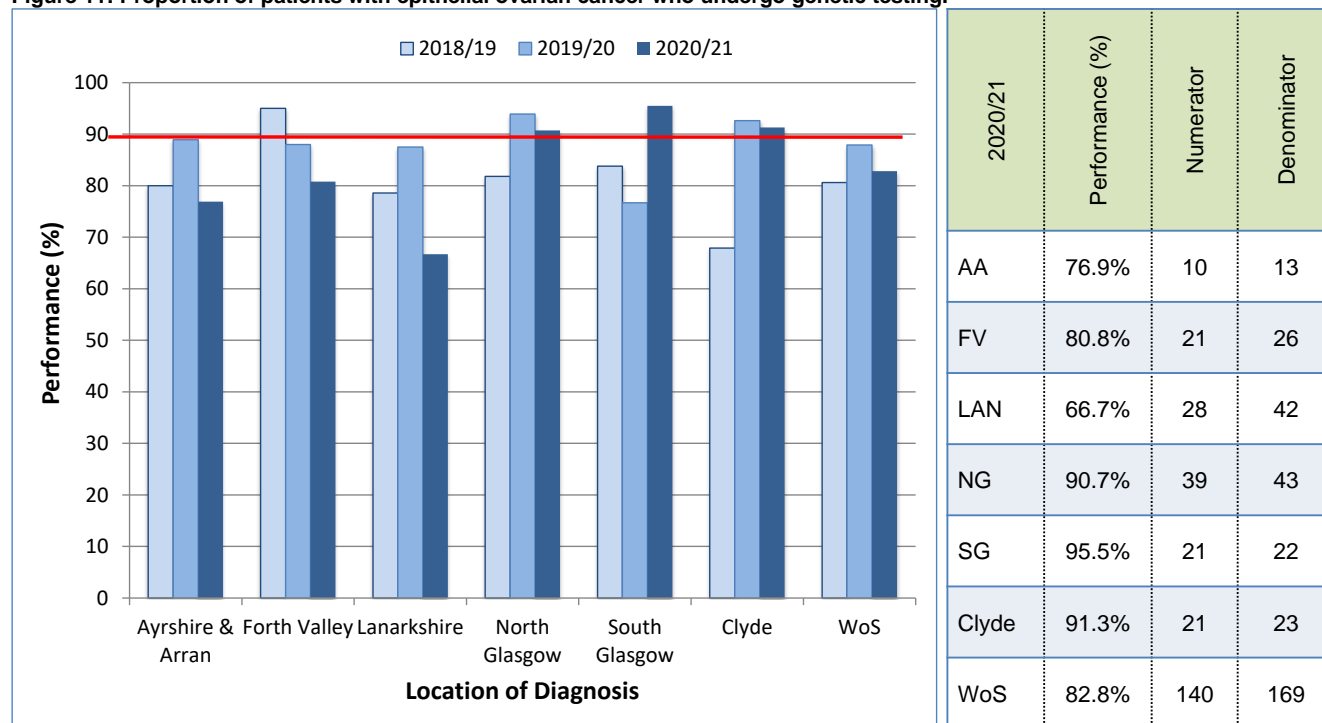
QPI 11: Genetic Testing in Non-Mucinous Epithelial Ovarian Cancer.

Genetic testing should be performed in patients with ovarian cancer where the combined risk of BRCA1 and BRCA2 mutation is $\geq 10\%$. All women with non-mucinous ovarian cancer should be offered BRCA1 and BRCA2 mutation testing.

Access to genetic testing is very difficult to measure accurately therefore uptake is utilised within this QPI as a proxy for access. Although it will not provide an absolute measure of patient access to genetic testing it will give an indication across NHS Boards and highlight any areas of variance which can then be further examined.

QPI Title:	Patients with ovarian cancer should have access to genetic testing.
Numerator:	Number of patients with non-mucinous epithelial ovarian cancer who undergo genetic testing.
Denominator:	All patients with non-mucinous epithelial ovarian cancer.
Exclusions:	Patients with low grade serous disease.
Target:	90%

Figure 11: Proportion of patients with epithelial ovarian cancer who undergo genetic testing.



Overall in the WoS 140 patients with epithelial ovarian cancer underwent genetic testing resulting in a WoS performance of 82.8%, against the 90% target. Three of the six units met the target with performance ranging from 66.7% in NHS Lanarkshire to 95.5% in NHS GGC South sector.

NHS AA, FV and Lanarkshire reviewed cases that did not undergo genetic testing, noting that the majority of cases did not have a histological or cytological diagnosis and therefore somatic genetic testing was not possible. In addition, a small number of patients refused treatment, died before treatment or had surgery but were not referred for genetic testing.

In NHS Lanarkshire the Gynaecology CNS is now taking an active role in genetic testing for patients undergoing palliative care. Genetics testing will be included in future teaching to highlight the importance of referral.

The potential exclusion of patients who do not have a histological or cytological diagnosis has been raised with PHS and will be considered as part of the next ovarian cancer QPI Formal Review.

Action Required:

- Single Point of Contact (SPoC) to establish a robust process for identification of early cases and flagging of cases to relevant clinicians.
- MCN to explore the development of a process whereby cases with no histological/cytological diagnosis can have testing offered, taking cognisance of the fact that index patients being tested may not be alive when the results become available. This is important due to the benefits for the extended family.

QPI 12 – 30 Day Mortality after Treatment for Ovarian Cancer

Treatment related mortality is a marker of the quality and safety of the whole service provided by the Multi-Disciplinary Team (MDT).

QPI Title:	30 day mortality following treatment for ovarian cancer.
Numerator:	Number of patients with epithelial ovarian cancer who die within 30 days of treatment.
Denominator:	All patients with epithelial ovarian cancer who undergo treatment. . a) Surgery b) Primary/Palliative Chemotherapy c) Adjuvant chemotherapy
Exclusions:	No exclusions.
Target:	<5%

There were no deaths (0/129) within 30 days of surgery in patients diagnosed with epithelial ovarian cancer in the WoS.

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

5. Next Steps

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 summary of actions for each NHS Board has been included within the Action Plan templates in Appendix I.

Acknowledgement

This report has been prepared using clinical audit data provided by the following NHS Boards in the WoSCAN area:

NHS Ayrshire & Arran
NHS Forth Valley
NHS Greater Glasgow and Clyde
NHS Lanarkshire

We would like to thank all members and active participants in the cancer network for their continued support of the MCN, and the many hospitals that are committed to making the audit succeed. We also acknowledge the efforts of the clinical effectiveness staff, nurses, and other service users for their work in ensuring the data are available to enable analysis to take place each year. Without their considerable efforts this level of progress would not be possible.

Abbreviations

BWoSCC	Beatson West of Scotland Cancer Centre
BSO	Bilateral Salpingo-Oophorectomy
CT	Computed Tomography
eCASE	Electronic Cancer Audit Support Environment
FIGO	Federation of Gynaecological Oncologists
GRI	Glasgow Royal Infirmary
HIS	Healthcare Improvement Scotland
ISD	Information Services Division
MCN	Managed Clinical Network
MDT	Multidisciplinary Team
MRI	Magnetic resonance imaging
NCQSG	National Cancer Quality Steering Group
NHSGGC	NHS Greater Glasgow and Clyde
PET	Positron Emission Tomography
QPI	Quality Performance Indicator
RCAG	Regional Cancer Advisory Group
RMI	Risk of Malignancy Index
TAH	Total Abdominal Hysterectomy
WoS	West of Scotland
WoSCAN	West of Scotland Cancer Network

References

1. Healthcare Improvement Scotland. Ovarian Cancer Quality Performance Indicators, August 2013 [Accessed on: 22nd November 2022] Available at: http://www.healthcareimprovementscotland.org/our_work/cancer_care_improvement/cancer_qpis/quality_performance_indicators.aspx
2. Information Services Division. Cancer in Scotland, June 2004 (updated July 2020) [Accessed on: 22nd November 2022]. Available at: <http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Statistics/>
3. Information Services Division, Cancer Statistics, Summary statistics for female genital organ cancers. [Accessed on: 22nd November 2022]. Available at: <http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Statistics/Female-Genital-Organ/>

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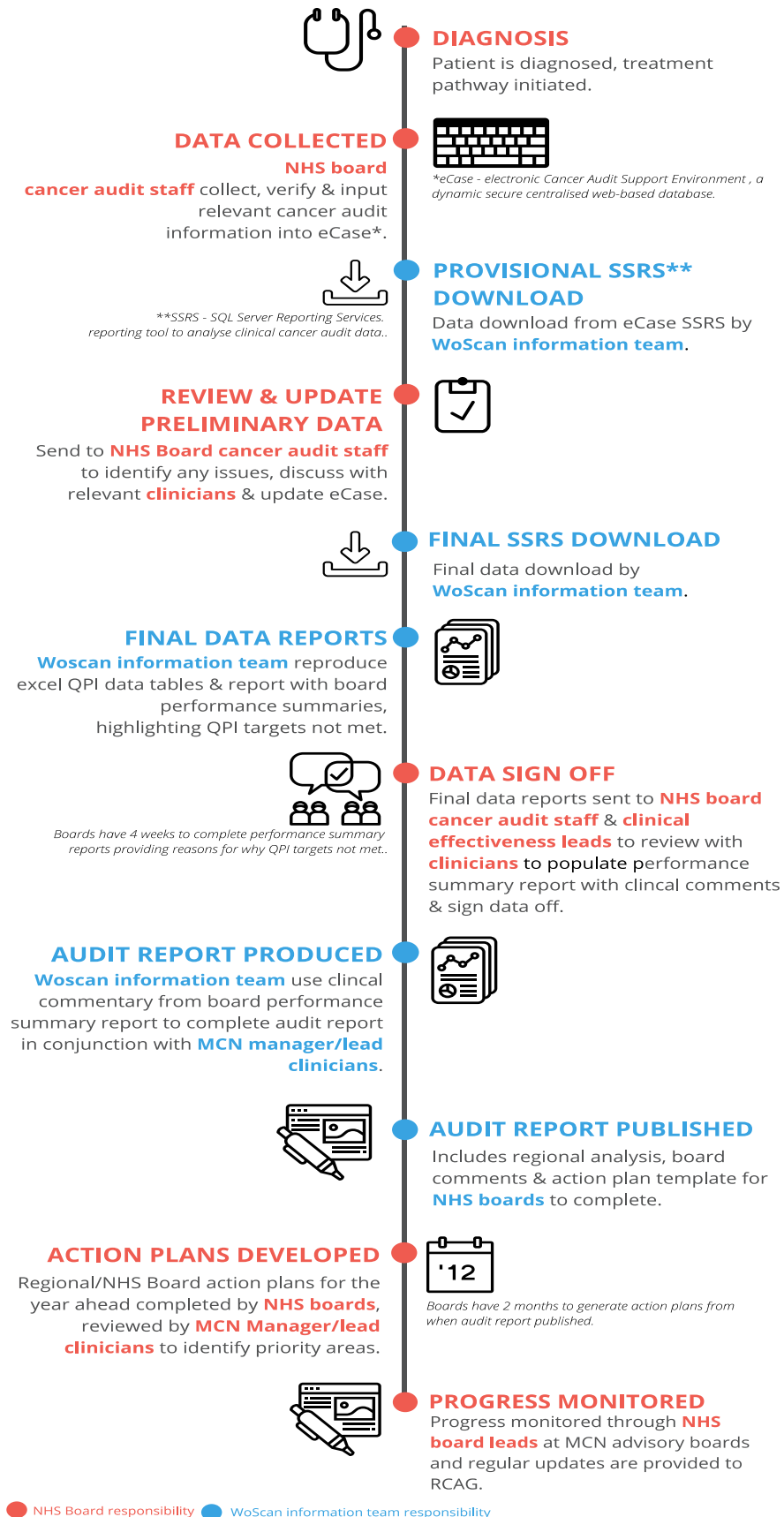
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Appendix 1: Meta Data

Report Title	Cancer Audit Report: Ovarian Cancer Quality Performance Indicators																								
Time Period	Patients diagnosed between 01 October 2020 to 30 September 2021																								
Data Source	Cancer Audit Support Environment (eCASE). A secure centralised web-based database which holds cancer audit information in Scotland.																								
Data extraction date	2200 hrs on 24 August 2022																								
Methodology	<p>Analysis was performed centrally for the region by the WoSCAN Information Team. The timescales agreed took into account the patient pathway to ensure that a complete treatment record was available for the majority of patients.</p> <p>Initial results were provided to Boards to check for inaccuracies, inconsistencies or obvious gaps and a subsequent download taken upon which final analysis was carried out.</p> <p>The final data analysis was disseminated for NHS Board verification in line with the regional audit governance process to ensure that the data was an accurate representation of service in each area. Please see info graphic in appendix 2 for a more detailed look at the reporting process.</p>																								
Data Quality	<p>Audit data completeness can be assessed by estimating the proportion of expected patients that have been identified through audit compared to the number reported by the National Cancer registry (provided by ISD, National Services Division); this is known as case ascertainment. Figures should only be used as a guide as it is not possible to compare the same exact cohort from each data source. Note that a 5 year average is taken for cancer registry cases to take account of annual fluctuations in incidence within NHS Boards.</p> <p>Ovarian Cancer</p> <table border="1"> <thead> <tr> <th>Health Board of diagnosis</th> <th>(01/10/2020-30/09/2021) Audit</th> <th>Cancer Reg 2016-20*</th> <th>Case Ascertainment</th> </tr> </thead> <tbody> <tr> <td>Ayrshire & Arran</td> <td>20</td> <td>40</td> <td>50.0%</td> </tr> <tr> <td>Forth Valley</td> <td>31</td> <td>31</td> <td>100.0%</td> </tr> <tr> <td>GGC</td> <td>103</td> <td>150</td> <td>68.7%</td> </tr> <tr> <td>Lanarkshire</td> <td>50</td> <td>55</td> <td>90.9%</td> </tr> <tr> <td>WoS Total</td> <td>204</td> <td>276</td> <td>73.9%</td> </tr> </tbody> </table>	Health Board of diagnosis	(01/10/2020-30/09/2021) Audit	Cancer Reg 2016-20*	Case Ascertainment	Ayrshire & Arran	20	40	50.0%	Forth Valley	31	31	100.0%	GGC	103	150	68.7%	Lanarkshire	50	55	90.9%	WoS Total	204	276	73.9%
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Lanarkshire	50	55	90.9%																						
WoS Total	204	276	73.9%																						

Appendix 2: Cancer Audit Timeline



Appendix 1: Action / Improvement Plans

WoSCAN

Action / Improvement Plan – Ovarian Cancer

NHS Board:	WoSCAN
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

No	Action Required	NHS Board Action Taken	Timescales		Lead	Status (see key)
			Start	End		
	<i>Ensure actions mirror those detailed in Audit Report.</i>	Provide detailed outcome of clinical review, details of specific improvement action taken, or reasons why no action taken.	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each action.</i>	<i>Insert No. from key above</i>
1.	QPI 3 - Treatment planned and reviewed at a multi-disciplinary team meeting MCN to advise local leads to re-iterate standard requirements for investigation for ovarian cancer.					
	QPI 6 - Histopathology reports are complete and support clinical decision-making MCN to discuss and agree proposal for submission to the next Formal Review to ensure appropriate timing of FIGO staging (at MDT) is considered in any amendment to this QPI, in addition to the national standardisation of radiological staging across Scotland.					

No	Action Required	NHS Board Action Taken	Timescales		Lead	Status (see key)
			Start	End		
	QPI 9 – First-line chemotherapy MCN to co-ordinate a further more detailed review at Board level to establish if patients that were deemed clinically unfit for chemotherapy were assessed by an oncologist.					
	QPI 10 – Surgery for Advanced Disease MCN to co-ordinate a further more detailed analysis of cases not meeting the QPI at Board level to establish if delays or issues in the pathway contributed to patients not progressing with treatment.					
	QPI 11: Genetic Testing in Non-Mucinous Epithelial Ovarian Cancer. Single Point of Contact (SPoC) to look at identification of early cases and highlight cases to relevant clinicians.					
	QPI 11: Genetic Testing in Non-Mucinous Epithelial Ovarian Cancer. MCN to look at process whereby cases with no histological/cytological diagnosis can have testing offered taking cognisance of the fact that index patients being tested may not be alive when the results become available. This is important due to the benefits for the extended family.					

NHSGGC

Action / Improvement Plan – Ovarian Cancer

NHS Board:	NHSGGC
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

No	Action Required	NHS Board Action Taken	Timescales		Lead	Status (see key)
			Start	End		
	<i>Ensure actions mirror those detailed in Audit Report.</i>	Provide detailed outcome of clinical review, details of specific improvement action taken, or reasons why no action taken.	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each action.</i>	<i>Insert No. from key above</i>
	QPI 9 – First-line chemotherapy Local leads to consider ways to increase awareness of current treatments and outcomes for ovarian cancer to stimulate awareness in local hospitals with the aim of improving referrals between secondary care departments.					
1.	QPI 10 – Surgery for Advanced Disease NHSGGC to continue to progress the development of services for complex gynaecological cases, building on the work already initiated, in order to improve the pathway for time to surgery.					

NHS Ayrshire & Arran

Action / Improvement Plan – Ovarian Cancer

NHS Board:	NHS Ayrshire & Arran
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

No	Action Required	NHS Board Action Taken	Timescales		Lead	Status (see key)
			Start	End		
	<i>Ensure actions mirror those detailed in Audit Report.</i>	Provide detailed outcome of clinical review, details of specific improvement action taken, or reasons why no action taken.	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each action.</i>	<i>Insert No. from key above</i>
1.	QPI 9 – First-line chemotherapy Local leads to consider ways to increase awareness of current treatments and outcomes for ovarian cancer to stimulate awareness in local hospitals with the aim of improving referrals between secondary care departments.					

NHS Forth Valley

Action / Improvement Plan – Ovarian Cancer

NHS Board:	NHS Forth Valley
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
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No	Action Required	NHS Board Action Taken	Timescales		Lead	Status (see key)
			Start	End		
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1.	QPI 9 – First-line chemotherapy Local leads to consider ways to increase awareness of current treatments and outcomes for ovarian cancer to stimulate awareness in local hospitals with the aim of improving referrals between secondary care departments.					

NHS Lanarkshire

Action / Improvement Plan – Ovarian Cancer

NHS Board:	NHS Lanarkshire
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

No	Action Required	NHS Board Action Taken	Timescales		Lead	Status (see key)
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