

Quality Performance Indicators Audit Report

Tumour Area:	Bladder Cancer
Patients Diagnosed:	1 st April 2017 – 31 st March 2018
Published Date:	28 th October 2019
Clinical Commentary:	Mr. Ghulam Mustafa Nandwani NCA Bladder Cancer clinical lead



1. Bladder Cancer in Scotland

Latest available cancer registration figures indicate that with 870 cases recorded during 2016, bladder cancer is the 9th most common types of cancer in Scotland, with incidence rates changing little over the past 10 years¹.

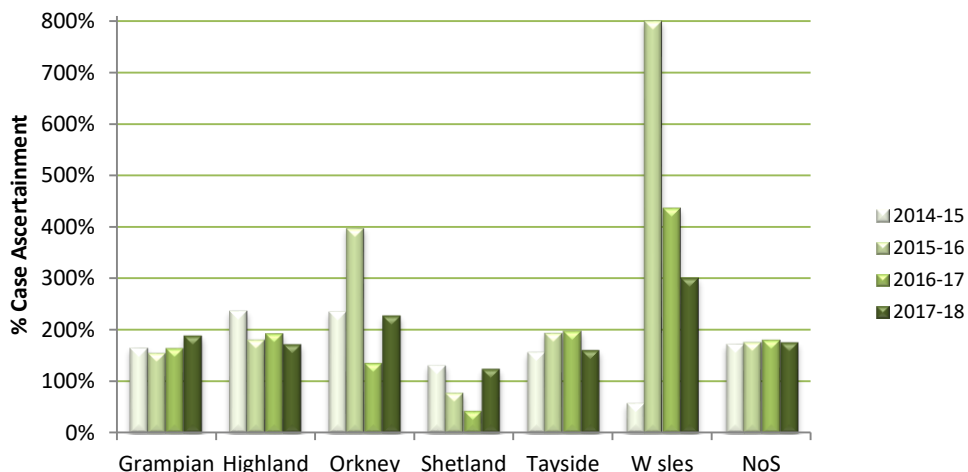
Survival from bladder cancer is lower than the average for all malignant neoplasms, with a one year age-standardised relative survival for 2007-2011 of 74.6% and 5-year survival of 49.1% for men and considerably lower survival rates for women. Survival from bladder cancer appears to have decreased considerably since 1987-1991, however this is an artefact of changes in the coding of bladder cancers between the two periods². 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 bladder cancer in Scotland at 1 year and 5 years showing percentage change from 1987-1991 to 2007-2011².

	Relative survival at 1 year (%)		Relative survival at 5 years (%)	
	2007-2011	% change	2007-2011	% change
Male	74.6%	- 6.7%	49.1%	- 14.2%
Female	63.3%	-9.5%	36.2%	-22.0%

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

Between 1st April 2017 and 31st March 2018 a total of 361 cases of bladder cancer were diagnosed in the North of Scotland and recorded through audit. Overall case ascertainment was very high at 176%, as in previous years. The reason for this high case ascertainment is due to differences between the way in which bladder cancer is defined through SCR and the QPI datasets. As such, total case ascertainment is not particularly meaningful for this tumour group however comparisons between Boards and years are of interest and suggest that patients with bladder cancer are well captured by cancer audit across the North of Scotland.

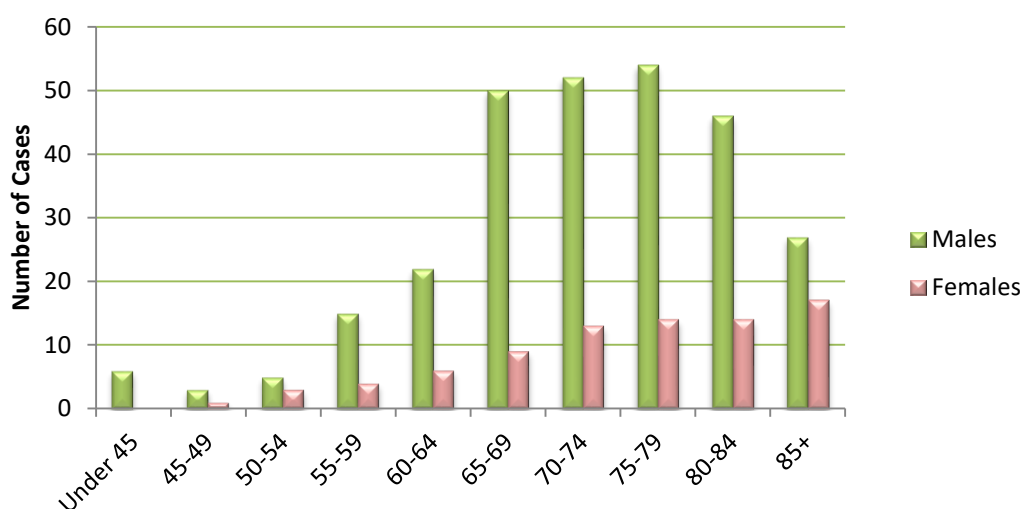


Case ascertainment by NHS Board for patients diagnosed with bladder cancer in 2014-2018.

	Grampian	Highland	Orkney	Shetland	Tayside	W sles	NoS
No. of Patients 2017-18	159	63	5	5	123	6	361
% of NoS total	44.0%	17.5%	1.4%	1.4%	34.1%	1.7%	100%
Mean ISD Cases 2013-17	84.2	36.6	2.2	4.0	76.6	2.0	205.6
% Case ascertainment 2017-18	188.8%	172.1%	227.3%	125.0%	160.6%	300.0%	175.6%

3. Age Distribution

The figure below shows the age distribution of patients diagnosed with bladder cancer in the North of Scotland in 2017-18. Males were diagnosed in significantly higher numbers in comparison to females. Bladder cancer was more commonly found between ages of 65 to 84 years.



Age distribution of patients diagnosed with bladder cancer in North of Scotland 2017-2018.

QPI calculations based on data captured are considered to be representative of all patients diagnosed with bladder cancer during the audit period. In previous years the absence of recording of information on some aspects of surgical care across all of NHS Boards has had a significant effect on the QPI results. This reflects the complex nature of the bladder cancer QPI dataset, which includes a lot of detailed information around TURBT and cystectomy that has not been routinely collected previously. While there has been a considerable improvement in the completeness of some of these data over recent years, for some QPIs missing data does affect QPI performance figures. Unless there is adequate data to inform their exclusion, patients default to being included within the QPI calculations. A lack of information on whether patients should be excluded affected 22% of patients for QPI 2. In 2017-18 missing data was most notable for patients from NHS Grampian where the lack of recording of 'Intent of Surgery (TURBT)' and 'Tumour Size at TURBT' affected QPI results.

4. Performance against Quality Performance Indicators (QPIs)

Definitions for the QPIs reported are published by Health Improvement Scotland³, while further information on datasets and measurability used are available from Information Services Division⁴. Data for most QPIs are presented by Board of diagnosis; however QPIs 2, 3, 5 and 11 (surgical mortality) are presented by Hospital of Surgery and QPI 8 is presented by the NHS Board of the surgeon performing surgery. QPI 12 reports patients consented for clinical trials or research studies in 2017 and is reported by the patients NHS Board of residence. QPI definitions were updated in 2018 following the Formal Review of the Bladder Cancer QPIs. Some amended QPIs cannot be reported for 2017-18 as the data required to calculate them was not captured for patients diagnosed in 2017-18. These QPIs are not reported but will be reported for patients diagnosed after April 2018.

5. Governance and Risk

Governance is defined as the combination of structures and processes at all levels to lead on North quality performance including:

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

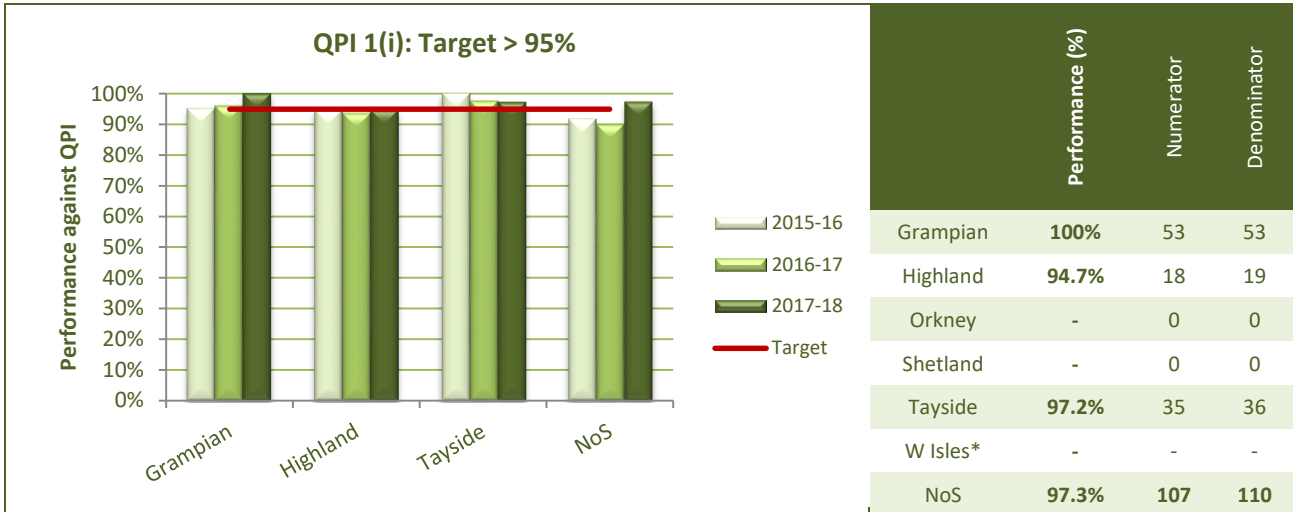
Our current governance structure provides assurance to the boards that risks associated QPIs are being addressed as an alliance. Clinical risks are discussed at the North Cancer Head and Neck Pathway Board and Regional Cancer Clinical Leadership Group (RCCLG). Risk levels are jointly agreed. The RCCLG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

- **Tolerate** - Accept the risk at its current level
- **Mitigate** - Reduce or mitigate the risk, in terms of reducing the likelihood of its occurrence or reducing the severity of impact if it does occur. This can be assessed through the action plans provided or the information provided is appropriate to prevent reoccurrence.
- **Escalate** - Escalate the risk to the appropriate committee and/or take further action as the mitigations were not suitable or there are no actions identified to mitigate the risk. This will be revisited by the RCCLG for further risk discussion.
- **Immediate** - Immediate action is required to prevent the risk reoccurring. This risk will have major impact on patient care delivery and the consequences thereafter. Very few risks should occur in this level.

The full governance document on risk should be referred to in conjunction with this summary, which is available on the NCA website⁵.

QPI 1	Multi-Disciplinary Team Meeting Discussion
Proportion of patients with bladder cancer who are discussed at MDT meeting before definitive treatment.	

Specification (i) Patients with Muscle Invasive Bladder Cancer (MIBC) discussed at MDT before definitive treatment



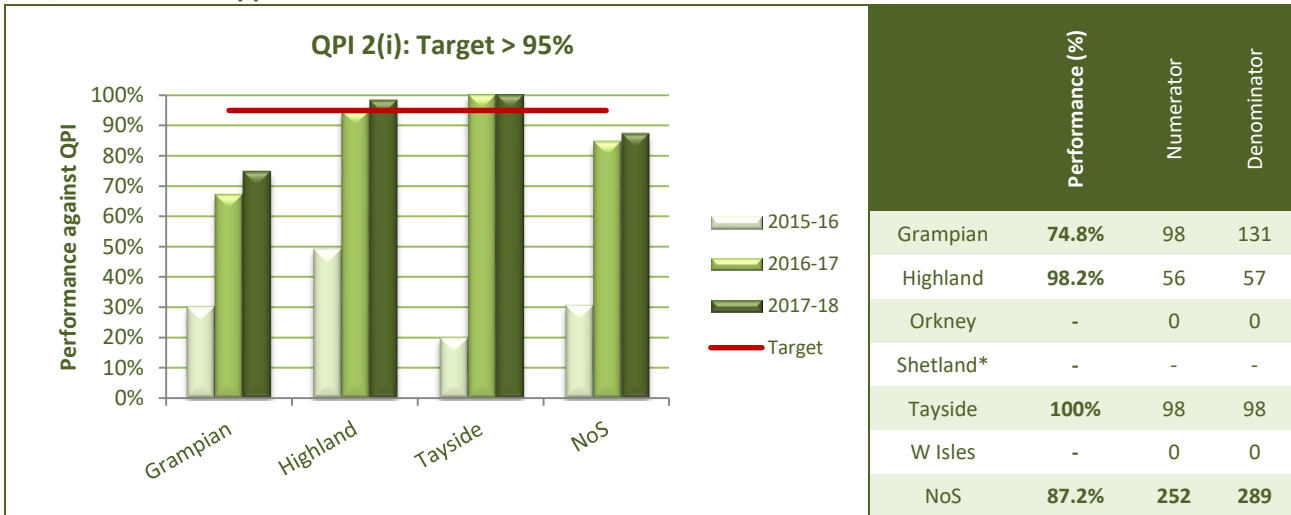
Specification (ii) Patients with Non Muscle Invasive Bladder Cancer (NMIBC)

This specification was revised at the Formal Review of Bladder Cancer QPIs in 2018. Data required to report the revised standard has not been collected for patients diagnosed in 2017-2018 and therefore it is not possible to report performance against this target here. Results will be reported for patients diagnosed in 2018-2019.

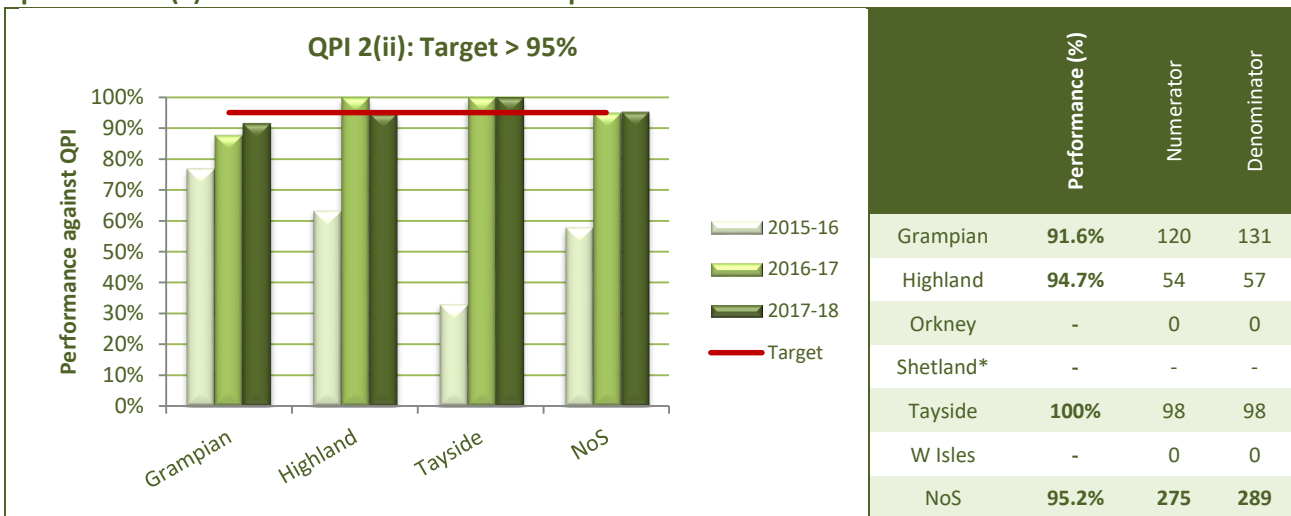
Clinical Commentary	Performance across the North of Scotland continues to improve with only three patients within this patient cohort not discussed at MDT prior to definitive treatment, recorded as due to patient fitness and / or timing for definitive treatment.
Actions	No action required
Risk Status	Tolerate

QPI 2	Quality of Transurethral Resection of Bladder Tumour Recording
Proportion of patients with bladder cancer who undergo good quality TURBT. The specifications of this QPI are separated to ensure clear measurement of the following at initial resection:	
(i) Use of a bladder diagram / detailed description with documentation of tumour location, size, number and appearance;	
(ii) Whether the resection is complete or not; and	
(iii) Whether detrusor muscle included in the specimen.	

Specification (i) Use of a bladder diagram / detailed description with documentation of tumour location, size, number and appearance



Specification (ii) Whether the resection is complete resection or not

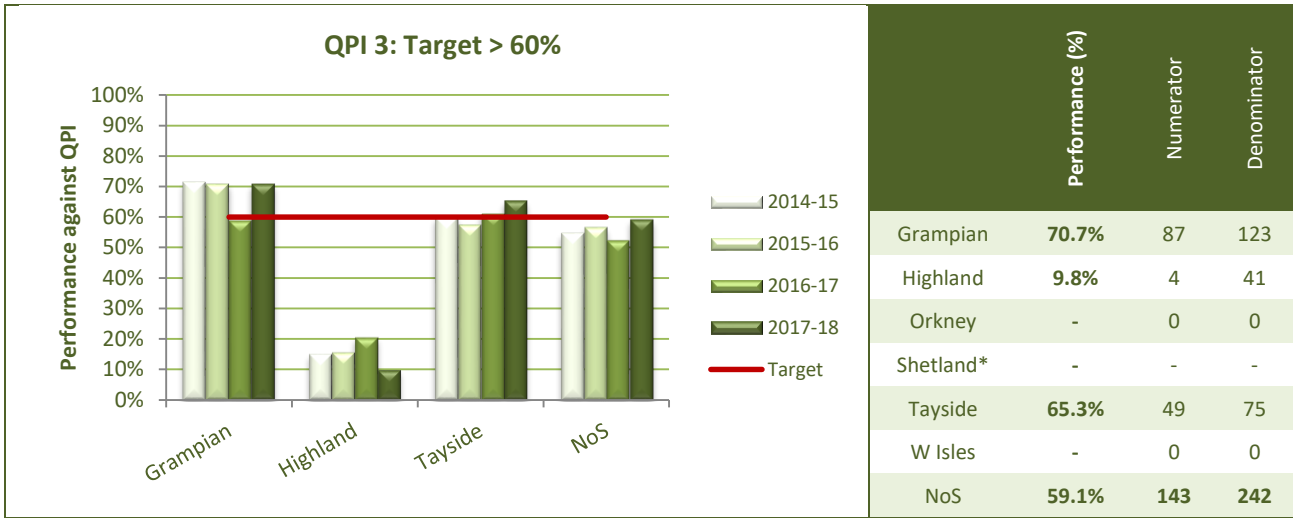


Specification (iii) Whether detrusor muscle included in the specimen

This specification was changed significantly through the Formal Review of Bladder Cancer QPIs in 2018. Data required to report this revised standard has not been collected for patients diagnosed in 2017-2018 and therefore it is not possible to report performance against this target here. Results will be reported for patients diagnosed in 2018-2019.

Clinical Commentary	<p>For QPI 2(i) NHS Highland and NHS Tayside met targets. NHS Grampian did not achieve the target but showed improved performance from 67% to 74.8% in comparison to the previous year.</p> <p>For QPI 2(ii) NHS Tayside and NHS Highland met the target for the second consecutive year. NHS Grampian again showed improvement in this QPI parameter from 88% to 91.6% in comparison to the previous year but narrowly missed the target.</p> <p>Performance across the North of Scotland continues to improve in the two specifications reported for patients diagnosed in 2017/18. However, lower performance in NHS Grampian is attributed to data collection / access issues as there is a mixture of paper and electronic note keeping, and this can cause issues in ensuring audit staff to have access to the required documentation to include in this audit. NHS Grampian is working closely with clinicians to improve data collection by using a specific TURBT Performa.</p>
Actions	<ol style="list-style-type: none"> 1. NCUPB to work with NHS Grampian audit team to ensure they have access to bladder diagrams and documentation to support reporting of this QPI.
Risk Status	Mitigate

QPI 3	Mitomycin C Following Transurethral Resection of Bladder Tumour (TURBT)
Proportion of patients with NMIBC who undergo TURBT who receive a single instillation of mitomycin C within 24 hours of resection.	



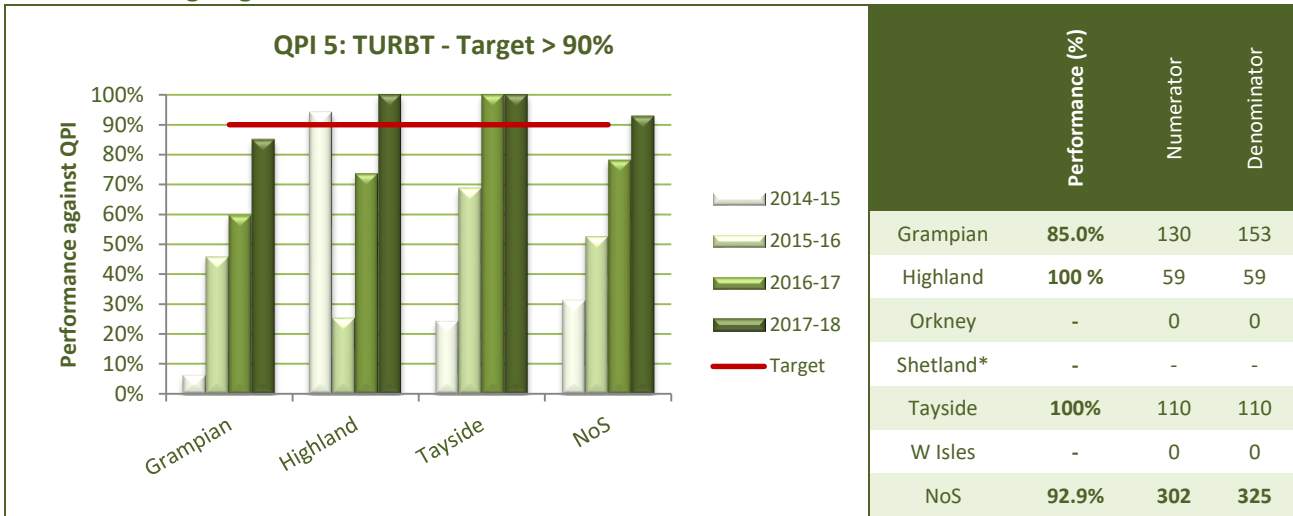
Clinical Commentary	<p>NHS Grampian and NHS Tayside met the 60% target but NHS Highland achieved less than 10% performance for this QPI. This has caused the North to narrowly miss this 60% target.</p> <p>For this reporting year, Mitomycin C was not available in theatre in NHS Highland and for this work is in progress with pharmacy colleagues to ensure the availability of Mitomycin C to NMIBC patients who undergo TURBT.</p> <p>NHS Highland have confirmed this is now available and will be reported for patients diagnosed in 2019 onwards. Compliance is expected to improve in future years now that NHS Highland has Mitomycin C in theatre and an agreed Standard Operating Procedure for its use.</p>
Actions	<ol style="list-style-type: none"> 1. NHS Highland confirmed to NCCLG that Mitomycin C is now available in NHS Highland as of 1st August 2019. 2. NCUPB to closely monitor the results of this QPI next year to ascertain the improvement in performance and escalate to NCCLG as required.
Risk Status	Mitigate

QPI 4	QPI 4: Early Re-Transurethral Resection of Bladder Tumour (TURBT)
Proportion of patients who have undergone TURBT with high grade and/ or T1 NMIBC, where detrusor muscle is absent from specimen or initial resection is incomplete, who have a second resection or early cystoscopy (\pm biopsy) within 6 weeks of initial TURBT.	

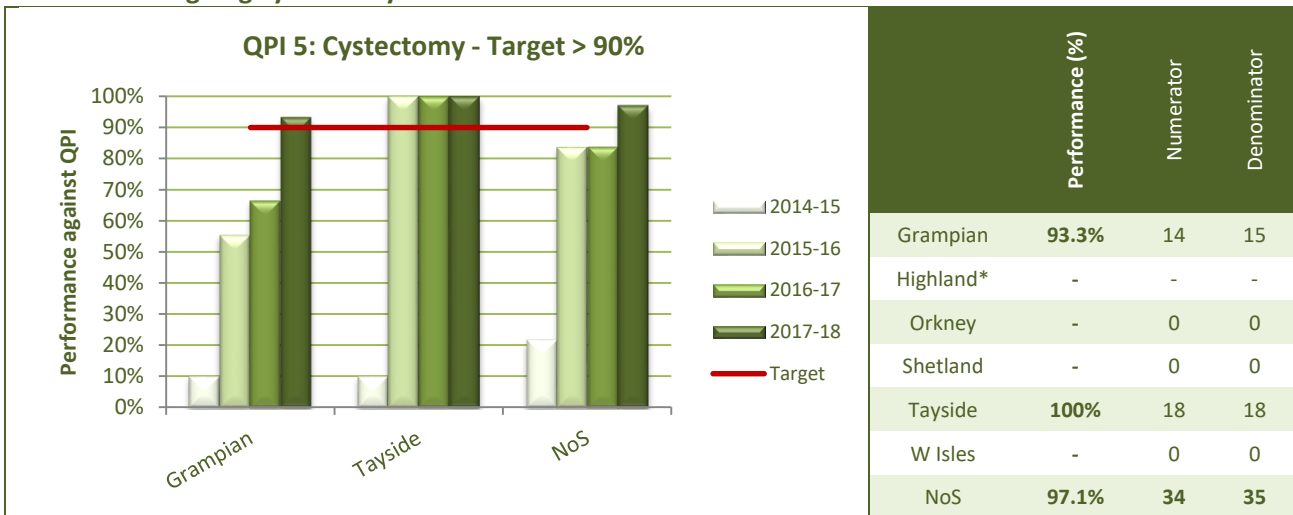
This QPI was revised at the Formal Review of Bladder Cancer QPIs in 2018. Data required to report the revised standard has not been collected for patients diagnosed in 2017-2018 and therefore it is not possible to report performance against this target here. Results will be reported for patients diagnosed in 2018-2019.

QPI 5	Pathology Reporting
Proportion of patients with bladder cancer who undergo TURBT or cystectomy reported according to the guidelines provided by the Royal College of Pathology for the reporting of these specimens.	

Patients undergoing TURBT



Patients undergoing cystectomy



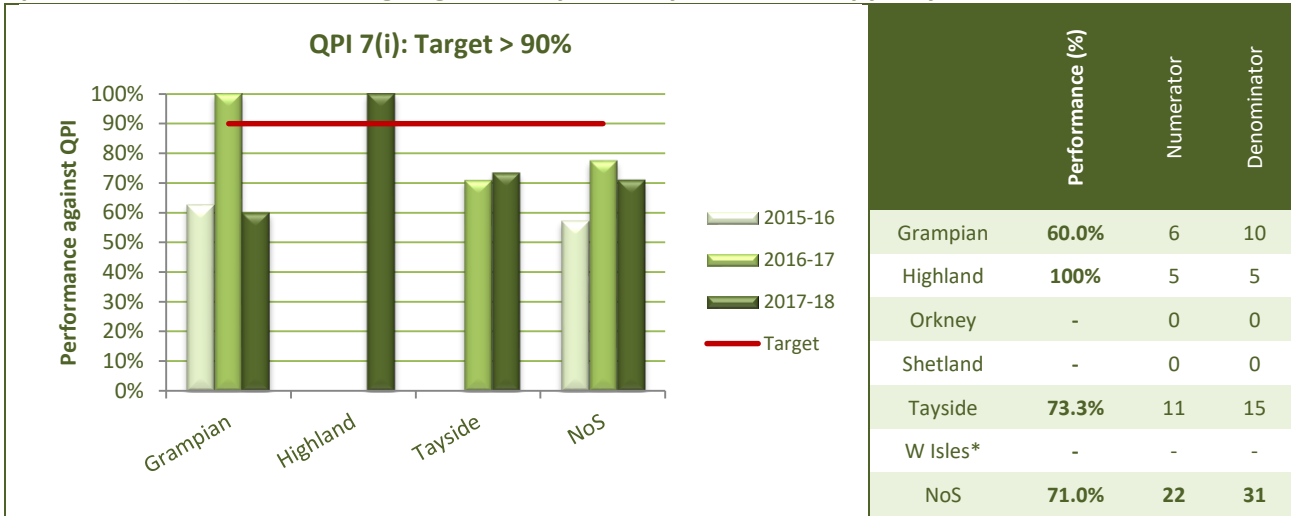
Clinical Commentary	For QPI 5 (TURBT), NHS Highland and NHS Tayside showed 100% compliance with required target. Both NHS Grampian and NHS Highland showed good improvement but NHS Grampian missed the target by only 5%. Improvement in this QPI was related to the use of reporting template and by designated uropathologist. QPI 5 (Cystectomy), Both NHS Grampian and NHS Tayside achieved targets. NHS Tayside showed consecutive 100% achievement for the last 3 years.
Actions	No action required.
Risk Status	Tolerate

QPI 6	Lymph Node Yield
Proportion of patients with bladder cancer who undergo primary radical cystectomy where at least level 2 pelvic lymph node dissection (to the middle of the common iliac artery or level of the crossing of the ureter) has been undertaken.	

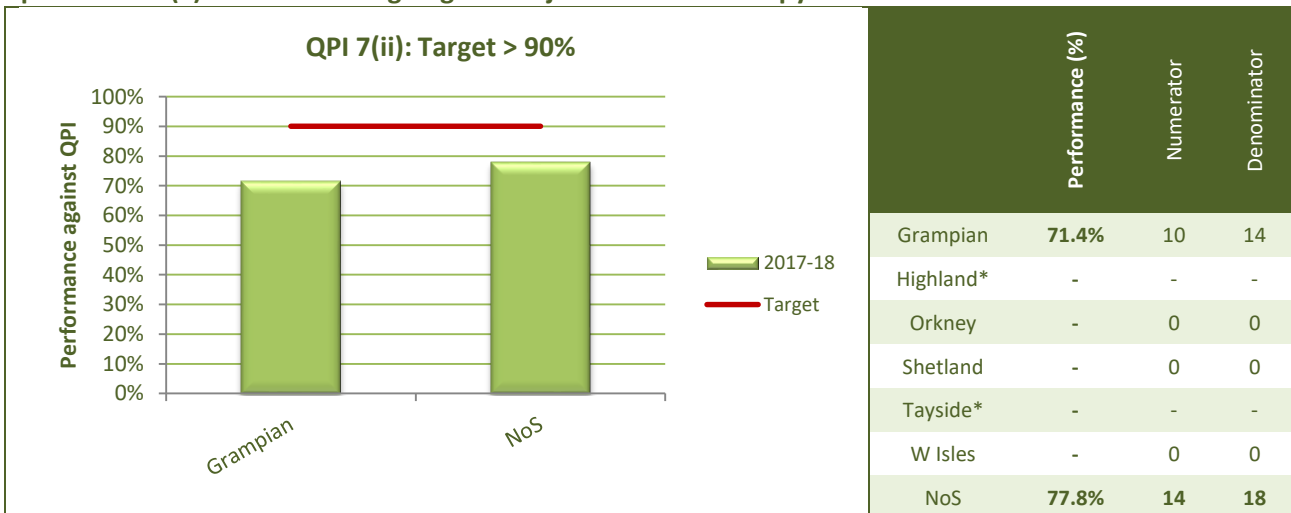
This QPI was revised at the Formal Review of Bladder Cancer QPIs in 2018. Data required to report the revised standard has not been collected for patients diagnosed in 2017-2018 and therefore it is not possible to report performance against this target here. Results will be reported for patients diagnosed in 2018-2019.

QPI 7	Time to Treatment
Proportion of patients with MIBC who commence radical treatment within 3 months of their diagnosis of MIBC, or within 8 weeks of treatment where patients are undergoing neoadjuvant chemotherapy.	

Specification (i) Patients undergoing radical cystectomy or radiotherapy only



Specification (ii) Patients undergoing neo-adjuvant chemotherapy



Clinical Commentary	For QPI 7(i) NHS Highlands patients achieved targets. NHS Grampian and NHS Tayside, both did not achieve target. These boards have confirmed that some patients who did not comply with this target had complex requirements resulting in delays for surgery, while some patients for neo-adjuvant chemotherapy missed these targets by a few days. Theatre capacity continues to be a key challenge across the North of Scotland and this is being looked at as part of the North of Scotland Surgery: A Case for Change programme looking to ensure sustainability in cancer surgery services in the North of Scotland. The NCUPB is currently mapping surgical capacity and demand to support this programme of work, and the requirements of this QPI will be examined in line with this.
Actions	<ol style="list-style-type: none"> 1. NCUPB to support the NoS Surgery: Case for Change programme ensuring that theatre access is a key theme that supports clinical services to meet the requirements of this QPI. 2. NCUPB to review bladder cancer clinical management guidelines and ensure patient pathways are in place to achieve the requirements of this QPI.

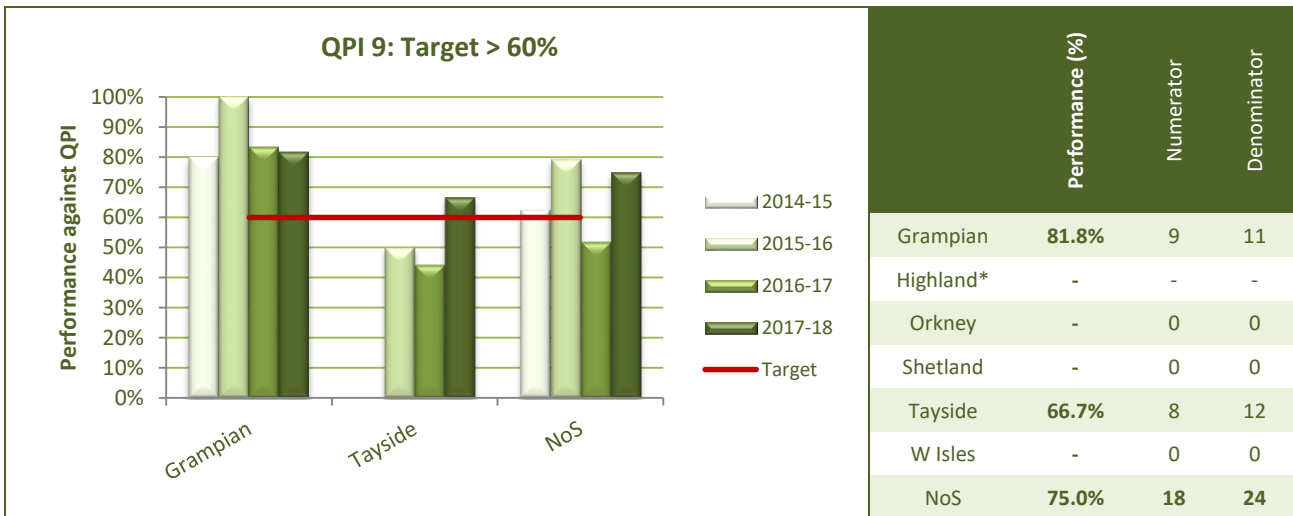
	3. Agenda item for NCUPB meeting in November 2019 to share best practice on achievement of this QPI in NHS Highland.
Risk Status	Mitigate

QPI 8	Volume of Cases per Surgeon
Number of radical cystectomy procedures performed by a specialist centre, and surgeon over a 1 year period. Results show numbers of patients having surgery within the audit period and are derived from SMR01 data.	

Target:	Minimum 10 procedures per surgeon		Minimum of 20 procedures per centre	
NHS Board of Surgeon	Surgeon	Number of Cases	Surgical Centre	Number of Cases
Grampian	Surgeon 1	15	ARI	15
Highland	Surgeon 2	4	Raigmore	5
	Surgeon 3	1		
Tayside	Surgeon 4	22	Ninewells	25
	Surgeon 5	1		
	Surgeon 6	1		
	Surgeon 7	1		

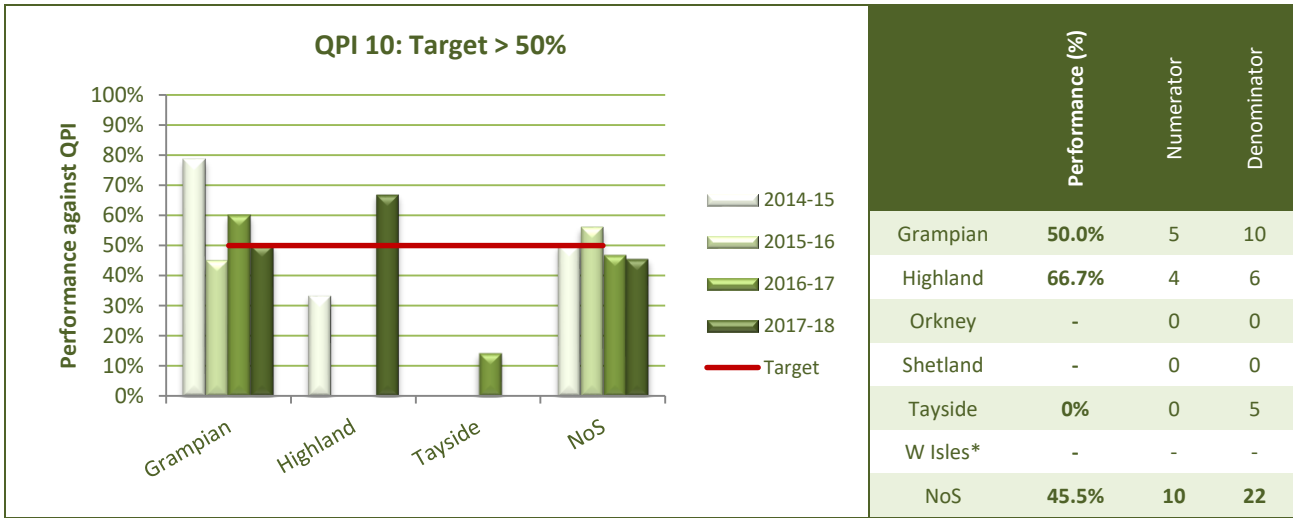
Clinical Commentary	The majority of radical cystectomy procedures were undertaken at ARI and Ninewells hospitals. An audit of figures at NHS Tayside have found that 28 radical cystectomies were performed by a single surgeon at NHS Tayside, the highest for the region. However, the data collected here through cancer audit system shows that the majority of radical cystectomies were undertaken by two surgeons in the North of Scotland. Surgical volumes are being examined as part of the North of Scotland Surgery: A Case for Change programme and as part of the wider transformation of regional urology services.
Actions	1. NCUPB to input into the NoS Surgery: A Case for Change programme including considering surgical volumes and capacities across the North and providing sustainability in the delivery of urological cancer surgery services in the North.
Risk Status	Escalate

QPI 9	Oncological Discussion
Proportion of patients with MIBC who had radical surgery who met with an oncologist prior to radical cystectomy.	



Clinical Commentary	<p>This target was met across the North of Scotland. At NHS Tayside due to co-morbidities, higher numbers of patients were not fit for chemotherapy. Also, it was planned from MDT that radical surgery was the preferred option for these patients and this is reflected in this QPI.</p> <p>While performance in the North of Scotland improved from the previous year, a small number of patients were not recorded as having had a discussion with an oncologist prior to having a radical cystectomy. Work is required to ensure the requirements of this QPI are met and documented in patient records for audit purposes.</p> <p>Furthermore, there is a need to define exclusion criteria for this QPI as surgery is offered to more complex patients who are not suitable for chemotherapy or radiotherapy. By introducing these exclusions for this QPI, future performance against this target will improve.</p>
Actions	<ol style="list-style-type: none"> As part of the review of the Clinical Management Guidelines, NCUPB to ensure pathways are in place to ensure patients meet with an oncologist prior to radical surgery for MIBC. As part of next formal review, Bladder Cancer clinical lead to raise the additional exclusion criteria for QPI 9 definition for patients who have surgery but are not suitable for chemotherapy or radiotherapy.
Risk Status	Mitigate

QPI 10	Radical Radiotherapy with Chemotherapy
Proportion of patients with transitional cell carcinoma of the bladder (T2-T4) undergoing radical radiotherapy receiving concomitant chemotherapy.	



Clinical Commentary	Some patients who did not receive chemotherapy while undergoing radical radiotherapy were noted as not being fit for concomitant chemotherapy. The North narrowly failed to meet this target as a result.
Actions	1. NCUPB to review clinical management guidelines for bladder cancer and ensure requirement for patients undergoing radical radiotherapy to receive concomitant chemotherapy are embedded within.
Risk Status	Mitigate

QPI 11	30 / 90 Day Mortality after Treatment for Bladder Cancer
Proportion of patients with bladder cancer who die within 30/90 days of treatment with curative intent (radical cystectomy, radiotherapy and chemotherapy) for bladder cancer.	

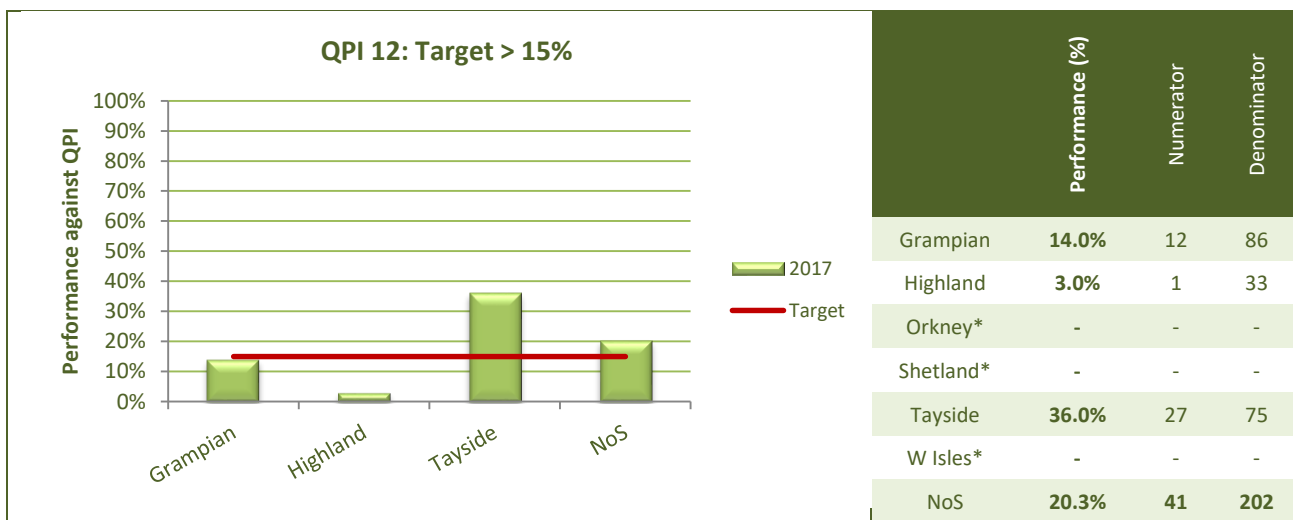
Radical cystectomy	30 Day Mortality (Target < 3%)			90 Day Mortality (Target < 5%)		
	Performance (%)	Numerator	Denominator	Performance (%)	Numerator	Denominator
Grampian	0%	0	16	0%	0	15
Highland	-	0	0	-	0	0
Orkney	-	0	0	-	0	0
Shetland	-	0	0	-	0	0
Tayside	0%	0	16	0%	0	16
W Isles	-	0	0	-	0	0
NoS	0%	0	32	0%	0	31

Radiotherapy	30 Day Mortality (Target < 3%)			90 Day Mortality (Target < 5%)		
	Performance (%)	Numerator	Denominator	Performance (%)	Numerator	Denominator
Grampian	0%	0	15	6.7%	1	15
Highland	0%	0	6	16.7%	1	6
Orkney	-	0	0	-	0	0
Shetland	-	0	0	-	0	0
Tayside	0%	0	5	0%	0	5
W Isles*	-	-	-	-	-	-
NoS	0%	0	27	7.4%	2	27

Chemotherapy	30 Day Mortality (Target < 3%)			90 Day Mortality (Target < 5%)		
	Performance (%)	Numerator	Denominator	Performance (%)	Numerator	Denominator
Grampian	4.5%	1	22	4.5%	1	22
Highland	0%	0	5	0%	0	5
Orkney	-	0	0	-	0	0
Shetland	-	0	0	-	0	0
Tayside*	-	-	-	-	-	-
W Isles*	-	-	-	-	-	-
NoS	3.2%	1	31	3.2%	1	31

Clinical Commentary	Patients who die while undergoing treatment with curative intent continue to be discussed at board level. One specification was beyond the 3% tolerance for 30-day mortality, for patients undergoing chemotherapy representing one patient who died within 30-days due to a cardiac arrest. One specification was beyond the 5% tolerance for 90-day mortality, with two deaths for patients undergoing radical radiotherapy resulting in a 7.4% mortality rate. All patient deaths were discussed at their respective board meetings, with one patient having rapidly progressive disease and the other with progressive metastatic disease.
Actions	<ol style="list-style-type: none"> 1. NCUPB to confirm that mortality reviews are routinely undertaken at board level for all patients who die within 90-days of treatment. 2. Mortality reviews to be discussed as part of the next NCUPB meeting in November 2019.
Risk Status	Mitigate

QPI 12	Clinical Trial and Research Study Access
Proportion of patients with bladder cancer who are consented for a clinical trial or / research study. Results presented are for patients enrolled into trails in 2017 and have been provided by the Scottish Cancer Research Network (SCRN).	



Clinical Commentary	Recruitment to clinical trials across the North of Scotland continues to be a challenge in all tumour groups. Work is required to ensure bladder cancer patients are considered for clinical trials across boards in the North of Scotland. A list of available trials in the North of Scotland is available at the end of this report.
Actions	<ol style="list-style-type: none"> 1. All clinicians should consider opening relevant clinical trials in their tumour areas. When this is not possible patient referrals to other sites for access to clinical trials should be considered. 2. NCA to circulate a list of clinical trials for bladder cancer available in the North.
Risk Status	Mitigate

References

1. Information Services Division. Cancer in Scotland, April 2018. https://www.isdscotland.org/Health-Topics/Cancer/Publications/2018-10-30/Cancer_in_Scotland_summary_m.pdf
2. NHS National Services Scotland. Cancer Survival in Scotland, 1987-2011. 2015. <https://isdscotland.scot.nhs.uk/Health-Topics/Cancer/Publications/2015-03-03/2015-03-03-CancerSurvival-Report.pdf>
3. Scottish Cancer Taskforce, 2016. Bladder Cancer Clinical Performance Indicators, Version 3.0. Health Improvement Scotland. <http://www.healthcareimprovementscotland.org/his/idoc.ashx?docid=778ca5b1-30e0-4ada-8291-376d253331ca&version=-1>
4. <http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Audit/>
5. https://www.nrhcc.scot/uploads/tiny_mce/NCA/NCA%20Governance/NCA-GOV-QPI-Process-Explained.pdf

Appendix 1: Clinical Trials and Research Studies open to recruitment in the North of Scotland in 2017

Trial	Principle Investigator	Patients Consented
ATLANTIS	Judith Grant (Grampian)	y
CANC 5167	Ghulam Nabi (Tayside)	y
Open label phase II trial with a pan-FGFR Tyrosine Kinase Inhibitor	Paddy Niblock (Tayside)	y
SAUL	Neil McPhail (Highland)	y
The PHOTO Trial	Sarfraz Ahmed (Grampian) Ghulam Nabi (Tayside)	y
POUT	Neil McPhail (Highland) Emma Brown (Tayside)	n