Quality Performance Indicators Audit Report

Tumour Area:	Prostate Cancer
Patients Diagnosed:	1st July 2017 to 30th June 2018
Published Date:	26th November 2020
Clinical Commentary:	Mr. David Douglas NCA Prostate Cancer clinical lead

1. Prostate Cancer in Scotland

With over 3,500 cases diagnosed in Scotland in 2017, prostate cancer is ranked as the most commonly diagnosed cancer in male patients in Scotland and the fourth most commonly diagnosed cancer in males and females after lung, breast and colorectal cancers[1].

Following a previous trend for increasing incidence rates for prostate cancer in Scotland, the incidence of prostate cancer remained relatively stable over the last decade[1]. While part of the historic increase in incidence of prostate cancer may reflect a genuine increase in risk, much of the increase since the mid-1990s seems likely to reflect increased detection of latent disease through increasing use of the prostate-specific antigen (PSA) test[2]. However, it is now suggested that this increased use of PSA testing may have resulted in prostate cancer diagnoses which otherwise might not have been detected within the patient's lifetime (i.e. overdiagnosis) and thereby the overtreatment of prostate cancer[3].

Relative survival of patients diagnosed with prostate cancer in Scotland is increasing[4]. The table below shows the percentage change in one-year and five-year age-standardised survival rates for patients diagnosed in 1987-1991 compared to those diagnosed in 2007-2011.

Relative age-standardised survival for prostate cancer in Scotland at 1 year and 5 years showing percentage change from 1987-1991 to 2007-2011[4].

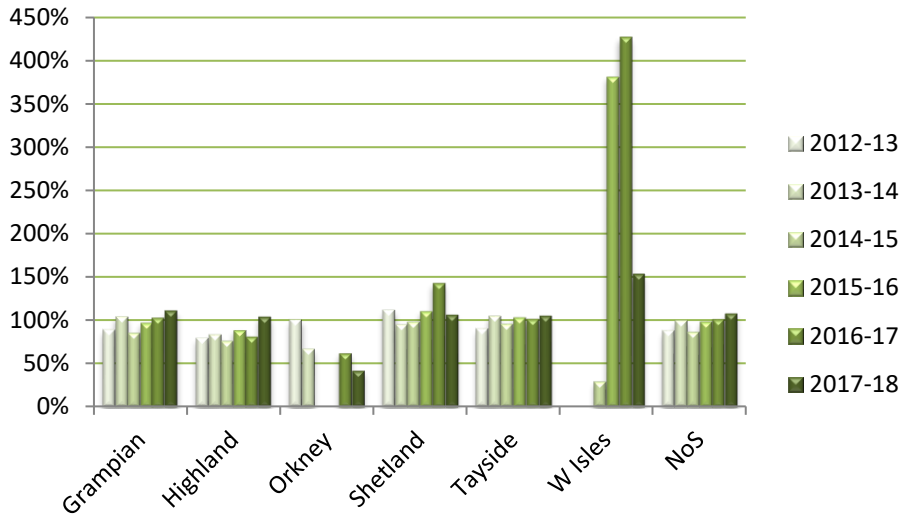
Relative survival at 1 year (%)		Relative survival at 5 years (%)	
2007-2011	% change	2007-2011	% change
96.0 %	+ 11.3 %	84.0%	+ 31.0 %

The significant increase in five-year survival rates may in part be due to the increased use of PSA testing in Scotland since 1990s. As the PSA test enables some invasive prostate cancers to be detected earlier[5], this leads to an increase in survival time even in cases where a patient's life is not necessarily extended by treatment.

A recent study in the USA by the National Cancer Institute found that men who underwent annual prostate cancer screening had a higher incidence of prostate cancer than the control group but had the same rate of deaths from the disease[6]. Another European study, the European Randomised Study of Screening for Prostate Cancer (ERSPC), also showed that men in the screening group had a higher incidence of prostate cancer but, in contrast, this study showed that the men who were screened had a lower rate of death from prostate cancer[5]. However, the study showed that screening had no effect on all-cause mortality and concluded that more evidence was required on the balance of benefits and risks of prostate-cancer screening before recommendations could be made[6].

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

A total of 925 cases of prostate cancer were recorded through audit as diagnosed in the North of Scotland between 1st July 2017 and 30th June 2018. Case ascertainment for the period reported in the North of Scotland was high at 107.0% indicating that the audit data capture was excellent. Case ascertainment for each Board across the North of Scotland is illustrated below. Fluctuations in case ascertainment are expected in the island boards as a result of chance variation due to the small numbers of patients diagnosed.

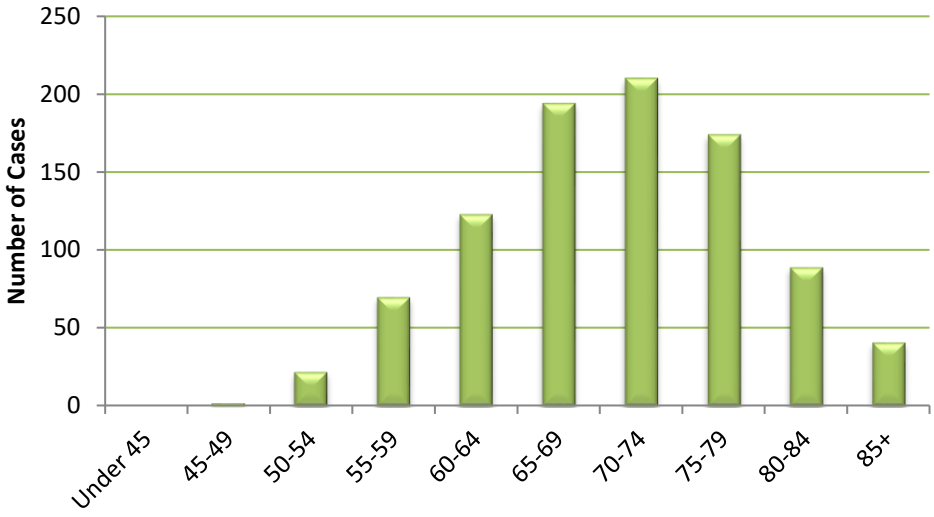


	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NoS
Number of Patients 2017-2018	409	190	1	24	287	14	925
ISD Cases 2013-2017	371.2	183.8	2.4	22.8	275.4	9.2	864.8
% Case ascertainment 2017-18	110.2%	103.4%	41.7%	105.3%	104.2%	152.2%	107.0%

Audit data were considered sufficiently complete to allow QPI calculations. While difficulties with recording of clinical TNM in NHS Grampian resulted in incomplete datasets there have been significant improvements in the collection of these data in recent years. For QPIs 2, 4 and 7 clinical TNM staging data is required to derive results. The absence of these data for some patients in NHS Grampian has resulted in QPI results not being calculated from information on all patients. In addition, data on continence was missing for all NHS Highland and NHS Tayside patients, having a considerable effect on the results for QPI 8.

3. Age Distribution

The age distribution of patients diagnosed with prostate cancer in the North of Scotland in 2017-18 is shown below. Incidences of prostate cancer peak in the 70-74 age group.



4. Performance against Quality Performance Indicators (QPIs)

Definitions for the QPIs reported in this section are published by Health Improvement Scotland[7], while further information on datasets and measurability used are available from Public Health Scotland. Data for most QPIs are presented by Board of diagnosis, however QPIs 5 and 8 are presented by Hospital of Surgery and QPI 6 is presented by surgeon. In addition, QPI 11, clinical trials and research study access, is reported by patients NHS Board of Residence.

5. Governance and Risk

Governance is defined as the combination of structures and processes at all levels to ensure quality performance and improvement 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

The North Cancer Alliance governance structure provides assurance to the six North of Scotland NHS boards that QPI risks are being addressed as an alliance.

An assessment of clinical risk for each QPI is made by the tumour-specific Clinical Director and Pathway Board manager upon the availability of data. This is discussed collaboratively within the tumour-specific Pathway Board, achieving consensus on clinical risk status assigned.

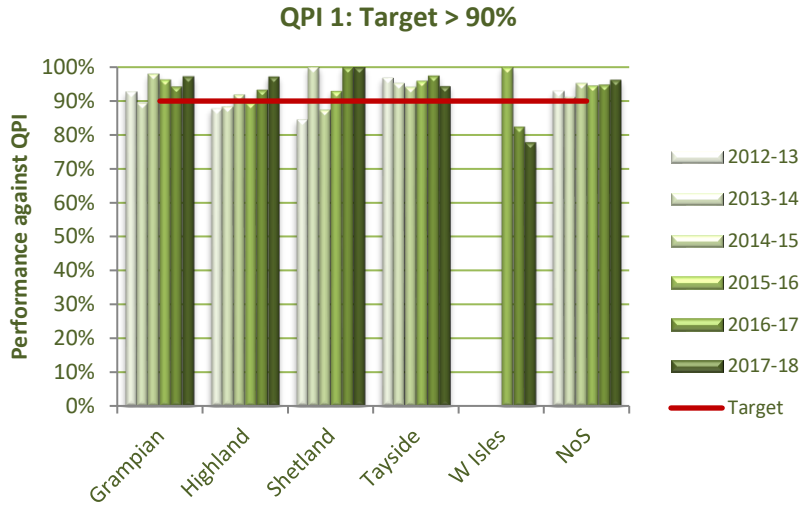
This assessment of clinical risk is then discussed and agreed with the NCA Clinical Director and Regional Cancer Manager who take independent oversight of current QPI performance, mitigation and actions proposed. The NCA Clinical Director or Manager may propose that the risk status requires oversight from the North Cancer Clinical Leadership Group (NCCLG).

NCCLG are presented with all available evidence and actions so they have all the information to define the risk in a collaborative way. NCCLG confirm the risk status of each QPI and ensure QPIs requiring escalation can be directed through the NCA governance structure.

- **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 NCCLG 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.
- **Manage –** The risk is currently being managed through an action plan developed in liaison with the tumour-specific Clinical Director / Pathway Board members. It is likely risks that have previously been escalated will be assigned this risk status until there is evidence of an improvement in QPI compliance.

The full governance document on risk should be referred to in conjunction with this summary, which is available on the NCA website[9].

QPI 1	Biopsy Procedure
Proportion of patients with prostate cancer who undergo trans-rectal ultrasound guided (TRUS) prostate biopsy for histological diagnosis where a minimum of 10 cores are received by pathology.	

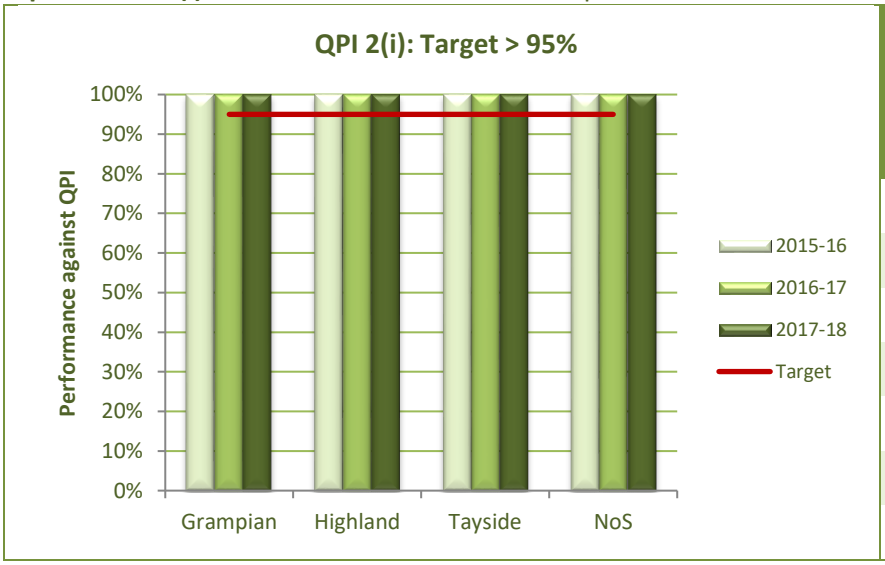


	Performance (%)	Numerator	Denominator
Grampian	**97.3%**	253	260
Highland	**97.2%**	104	107
Orkney	-	0	0
Shetland	**100%**	14	14
Tayside	**94.4%**	134	142
W Isles	**77.8%**	7	9
NoS	**96.2%**	**512**	**532**

Clinical Commentary	The North of Scotland met this 90% target with performance improving on previous years. As part of the formal QPI review, this QPI is to be archived and replaced with a new measure on patients receiving a pre-biopsy MRI, reflecting changes in clinical practice implemented across Scotland.
Actions	No action required
Risk Status	Tolerate

QPI 2	Radiological Staging
Proportion of patients with intermediate or high risk prostate cancer undergoing radical treatment who have had Magnetic Resonance Imaging (MRI) and bone scan staging.	

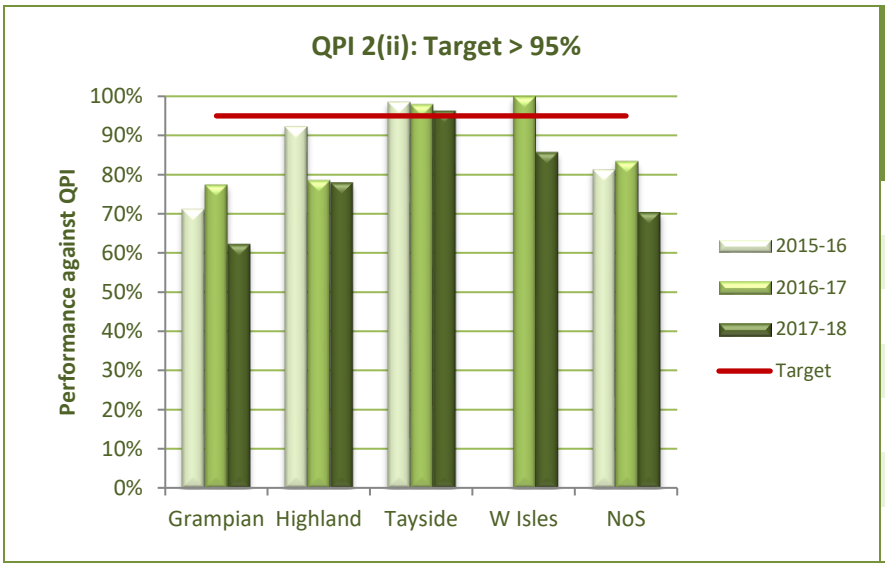
Specification (i) Patients with intermediate risk prostate cancer who undergo MRI.



	Performance (%)	Numerator	Denominator
Grampian	**100%**	35	35
Highland	**100%**	21	21
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**100%**	7	7
W Isles	-	0	0
NoS	**100%**	**64**	**64**

Specification (ii) Patients with high risk prostate cancer who undergo MRI and bone scan.

Note: Definitions for "high risk" prostate cancer have been reviewed nationally following these results and changes to classification will be implemented in future years of QPI reporting.

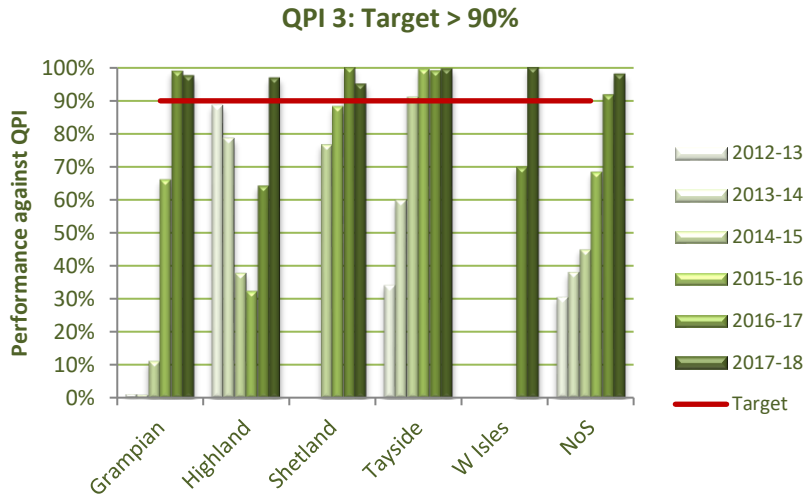


	Performance (%)	Numerator	Denominator
Grampian	**62.4%**	88	141
Highland	**78.0%**	46	59
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**96.2%**	25	26
W Isles	**85.7%**	6	7
NoS	**70.5%**	**167**	**237**

Clinical Commentary	This QPI was met for all patients with intermediate risk prostate cancer. However the target was not met for patients with high risk prostate cancer in the North, except for patients in NHS Tayside and NHS Western Isles. This is due to a fundamental difference in the interpretation of intermediate and high risk prostate cancer, specifically the difference in the stratification of cT2c prostate cancer. Some boards class cT2c as intermediate risk where as other classifications

	put cT2c disease in the high risk category. The current QPI definition currently classes this as high risk, therefore requiring MRI and bone scan for these patients. However, this definition has been amended as part of the QPI formal review to exclude patients with cT2c disease from this QPI, and in future years of reporting, this should result in improved results for the North of Scotland boards, reflecting current clinical practice. *[Audit note: For some NHS Grampian patients it was not possible to know if they should be included within this QPI as staging was not recorded].*
Actions	1. NCA Urology Pathway Board to discuss MDT improvements including recording of clinical TNM. 2. NCA to highlight resources available for Urology MDT discussions to North of Scotland boards and support work to improve efficiency of North of Scotland Urology MDTs. 3. Through the review of the North Cancer prostate clinical management guideline (CMG), criteria for the classification of intermediate and high risk prostate cancer for patients with T2c disease has been agreed for the North. 4. NCA has undertaken audit on cT2c patients, and provided to QPI Formal Review panel in support of these patients being excluded from specification (ii) of this QPI, improving the compliance of the North against this target.
Risk Status	Mitigate

QPI 3	Pathology Reporting
Proportion of patients who undergo needle biopsy where the pathology report contains a full set of data (defined by the Scottish Urological Pathologists dataset).	

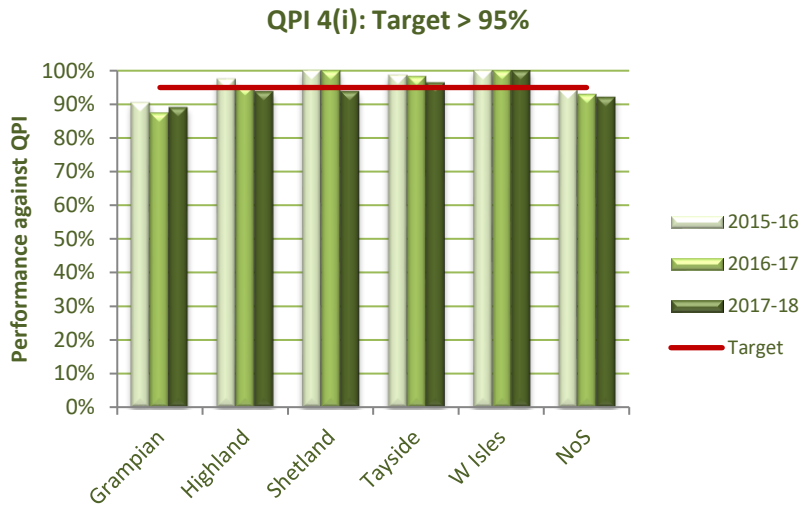


	Performance (%)	Numerator	Denominator
Grampian	**97.6%**	290	297
Highland	**96.9%**	155	160
Orkney	-	0	0
Shetland	**95.0%**	19	20
Tayside	**99.6%**	223	224
W Isles	**100%**	11	11
NoS	**98.0%**	**698**	**712**

Clinical Commentary	This QPI was met by all boards in the North of Scotland, including improvement in results for NHS Highland and NHS Western Isles. This is due to changes previously made in pathology reporting at NHS Highland. Due to achievement of this QPI across Scotland, this QPI is to be archived.
Actions	No action required
Risk Status	Tolerate

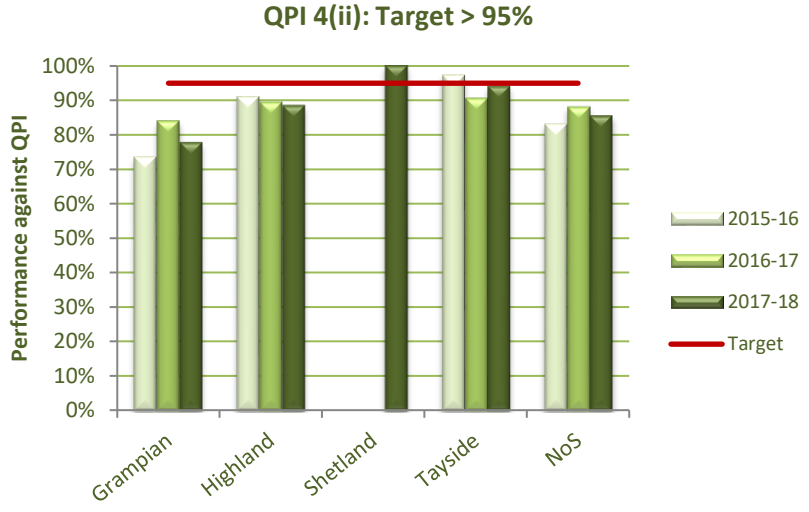
QPI 4	Multi-Disciplinary Team (MDT) Meeting
Proportion of patients with prostate cancer who are discussed at MDT meeting before definitive treatment.	

Specification (i) Patients with non-metastatic prostate cancer discussed before treatment



	Performance (%)	Numerator	Denominator
Grampian	**89.0%**	259	291
Highland	**93.8%**	122	130
Orkney	-	0	0
Shetland	**93.8%**	15	16
Tayside	**96.4%**	132	137
W Isles	**100%**	10	10
NoS	**92.1%**	**538**	**584**

Specification (ii) Patients with metastatic prostate cancer discussed within 4 weeks of commencing treatment

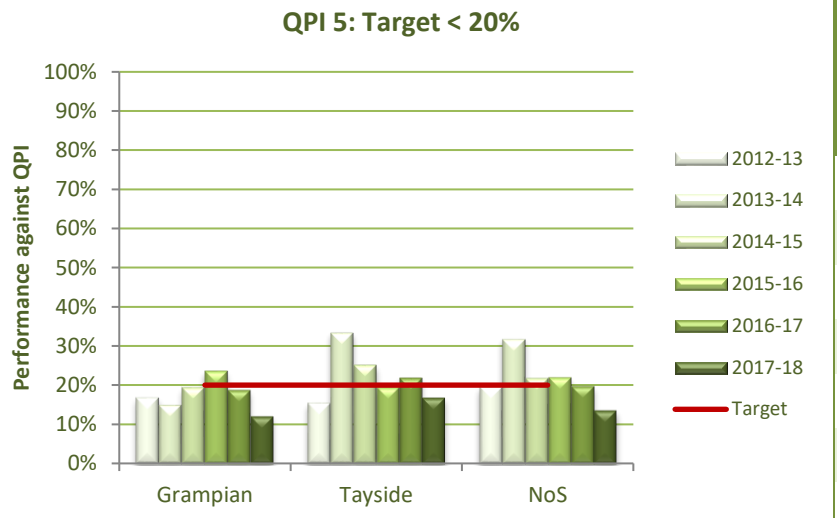


	Performance (%)	Numerator	Denominator
Grampian	**77.8%**	70	90
Highland	**88.5%**	46	52
Orkney	-	0	0
Shetland	**100%**	8	8
Tayside	**94.0%**	47	50
W Isles	-	0	0
NoS	**85.5%**	**171**	**200**

Clinical Commentary	The North of Scotland did not meet this QPI and this continues to be a key challenge in the North. For some non-metastatic patients, treatment was required before MDT due to a variety of factors including disease progression, requirement for hormone therapy or prostate cancer being an incidental finding in investigating other cancers. There were some non-metastatic patients who did not meet the target who should have been discussed at MDT prior to treatment. This is also true for patients with metastatic prostate cancer who are required to have MDT discussion within four weeks of starting treatment. This QPI requires some adjustments in the inclusion and exclusion criteria to reflect current practice in hormone therapy being used as definitive treatment, and the

	North of Scotland boards require to agree the timing of MDT discussion for patients with prostate cancer who undergo this treatment. As part of the formal review process, it has been proposed to amend the timeframe of this QPI to 6 weeks reflecting current practice across Scotland. *[Audit note: for some NHS Grampian patients it was not possible to know if they should be included within this QPI as staging was not recorded]*
Actions	1. All NHS Boards to circulate this Prostate Cancer Audit Report to all MDT members to stress the importance of timely MDT discussion of all patients. 2. NCA Urology Pathway Board to undertake review of timelines for treatment and ensure regional consensus is achieved and embedded within clinical management guidelines and patient pathways. 3. NCA Urology Pathway Board to map regional Urology MDT resource and escalate any variance in MDT resources available within the North of Scotland. 4. NCA Urology Pathway Board to support regional collaboration and service development activities. 5. North of Scotland boards to ensure clinical TNM is recorded at MDT to support inclusion of eligible patients in this QPI.
Risk Status	Mitigate

QPI 5	Surgical Margins
Proportion of patients with pathologically confirmed, organ confined (stage pT2) prostate cancer who undergo radical prostatectomy in which tumour is present at the margin.	



	Performance (%)	Numerator	Denominator
Grampian	**12.0%**	9	75
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	**16.7%**	6	36
W Isles	-	0	0
NoS	**13.5%**	**15**	**111**

Clinical Commentary	The North of Scotland achieved this QPI. As per last year's report, the results of this QPI continue to be monitored in light of different surgical approaches being used across the North of Scotland.
Actions	No action required
Risk Status	Tolerate

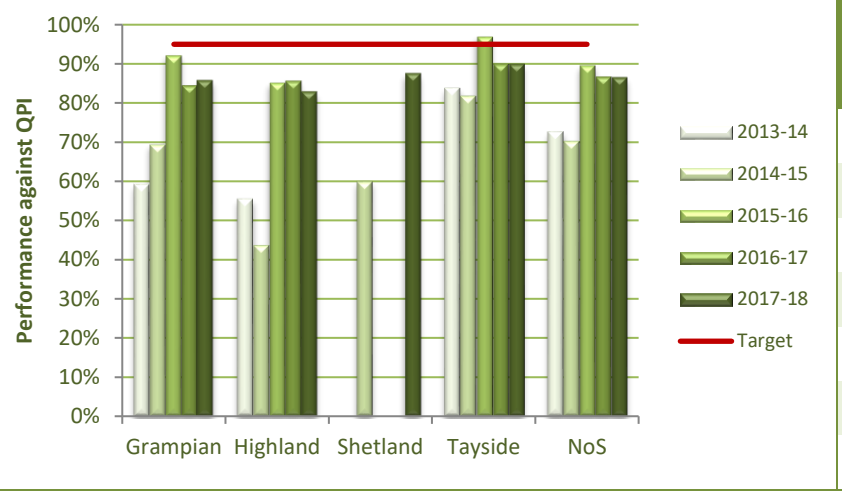
QPI 6	Volume of Cases per Surgeon
Number of radical prostatectomy procedures performed by each surgeon over a 1 year period.	

Target: > 50 procedures	Surgeon	Number of Prostatectomy Procedures 2017-18
NHS Grampian	A	99
	B	34
	C	6
NHS Tayside	D	43
	E	2

Clinical Commentary	In the North of Scotland, only 1 out of the 5 surgeons undertaking radical prostatectomy procedures surpassed the 50 procedure target. Surgeon D did not meet the target due to unscheduled leave for a period of four months. Surgeon C assisted with robotic prostatectomies at NHS Grampian and due to experience with robotic pelvic skills, this has helped support patients in the care provided. For NHS Tayside, Surgeon E was supporting the service during a period of unscheduled leave for Surgeon D. *Note: The database used to measure performance against this QPI comes from in patients records (SMR01) rather than the Cancer Audit data specifically collected to report other QPIs.*
Actions	1. NCA Urology Pathway Board to input into the regional work on low volume cancer surgery in the North of Scotland. 2. NCA Urology Pathway Board to consider implementation of regional MDT arrangements as part of low volume cancer surgery programme. 3. NCA Urology Pathway Board to monitor Volume of Cases per surgeon and per centre for escalation if required. 4. NCA Urology Pathway Board to input into the NCA Surgery Sub Group and the strategic development of sustainable surgery services for cancer.
Risk Status	Manage

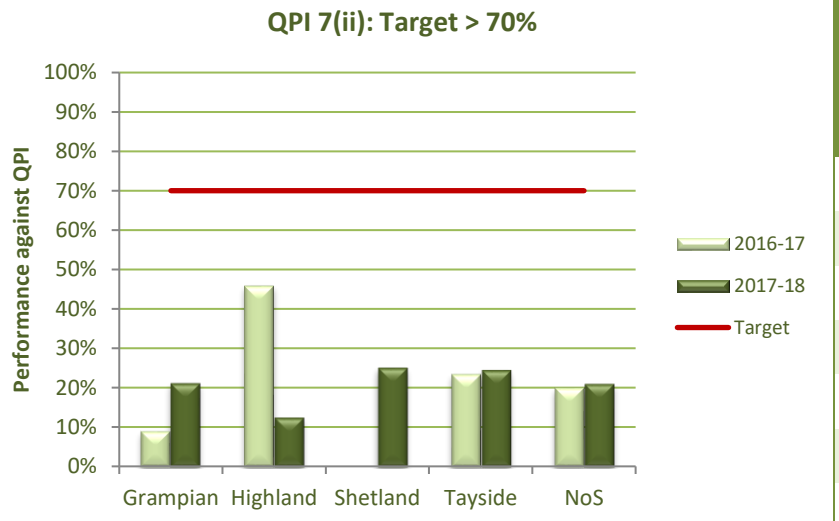
QPI 7	Hormone Therapy and Docetaxel Chemotherapy
Proportion of patients with metastatic prostate cancer (TanyNanyM1) who undergo immediate management with hormone therapy, and docetaxel chemotherapy.	

Specification (i) Patients who receive immediate hormone therapy



	Performance (%)	Numerator	Denominator
Grampian	**85.7%**	78	91
Highland	**82.8%**	24	29
Orkney	-	0	0
Shetland	**87.5%**	7	8
Tayside	**89.8%**	44	49
W Isles	-	0	0
NoS	**86.4%**	**153**	**177**

Specification (ii) Patients who receive immediate hormone therapy and docetaxel chemotherapy.



	Performance (%)	Numerator	Denominator
Grampian	**21.1%**	16	76
Highland	**12.5%**	3	24
Orkney	-	0	0
Shetland	**25.0%**	2	8
Tayside	**24.5%**	12	49
W Isles	-	0	0
NoS	**21.0%**	**33**	**157**

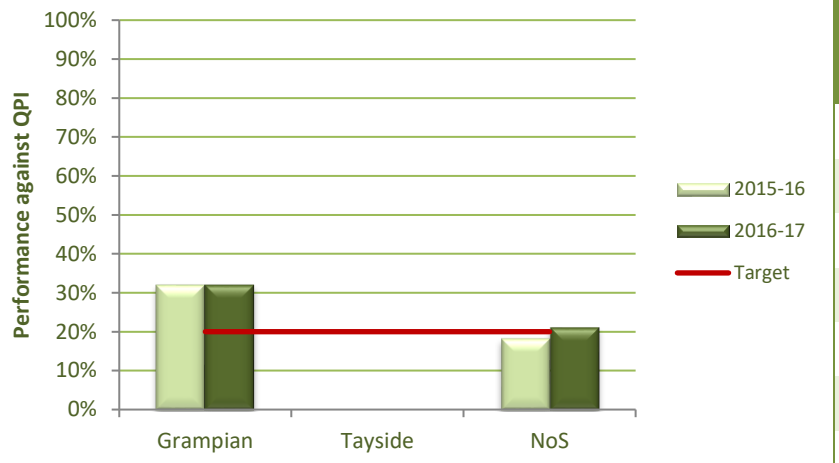
Clinical Commentary	Performance in the North has fluctuated over recent years. For specification (i) the patients who failed this QPI did so because there was not an MDT discussion within 31 days of starting immediate hormone therapy, often they were discussed after this time period and represent failures against this QPI. The patient pathway needs to be reviewed to ensure timely discussion at MDT for all patients with prostate cancer, including those who undergo immediate hormone therapy, to ensure we can meet the requirements of this QPI. Specification (ii) has been reviewed as part of the formal review process with a new 40% target proposed. This reflects a more realistic tolerance within this QPI target for the patient cohort who have metastatic disease and are unfit for chemotherapy.

	[Audit note: for some NHS Grampian patients it was not possible to know if they should be included within this QPI as staging was not recorded.}
Actions	1. NCA Urology Pathway Board to review prostate cancer patient pathways and clinical management guidelines to ensure timely discussion at MDT for patients started on immediate hormone therapy. 2. NCA Urology Pathway Board to support regional collaboration and service development activities. 3. NCA Urology Pathway Board to ensure that North of Scotland Urology MDTs record clinical TNM to support inclusion of eligible patients in this QPI.
Risk Status	Mitigate

QPI 8	Post Surgical Incontinence
Proportion of prostate cancer patients who undergo radical prostatectomy with post surgical incontinence approximately 1 year after surgery. This QPI is reporting one year in arrears and as such results presented below are for patients diagnosed in 2016-17.	

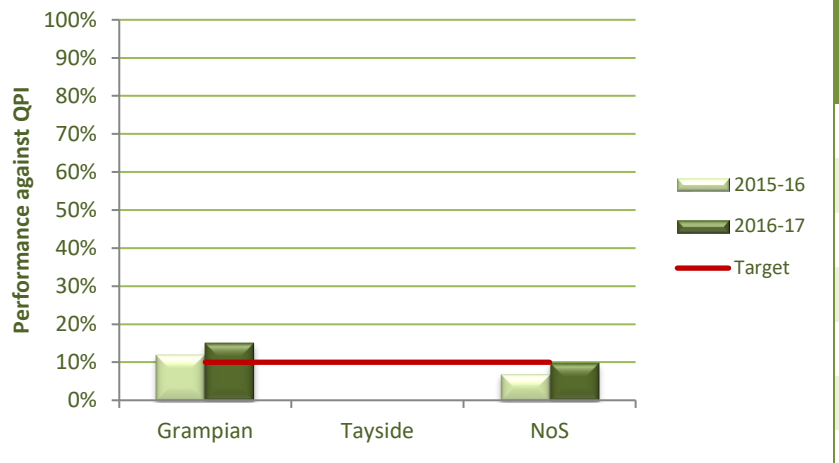
Note: This QPI has been revised to improve data collection across Scotland.

Specification (i) Patients who use incontinence pads.



	Performance (%)	Numerator	Denominator
Grampian	**32.0%**	32	100
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	**0%**	0	52
W Isles	-	0	0
NoS	**21.1%**	**32**	**152**

Specification (ii) Patients who use more than 1 incontinence pad per day.

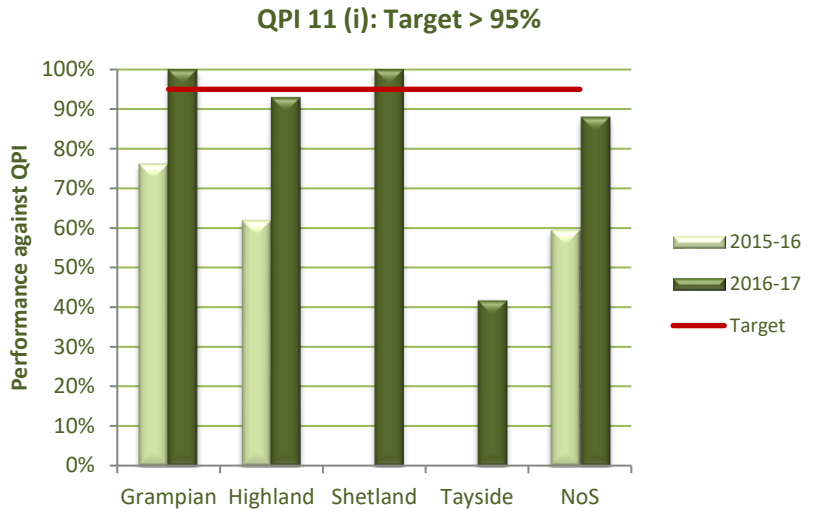


	Performance (%)	Numerator	Denominator
Grampian	**15.0%**	15	100
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	**0%**	0	52
W Isles	-	0	0
NoS	**9.9%**	**15**	**152**

Clinical Commentary	Data collection of this QPI has been difficult across the North of Scotland and therefore it is difficult to assess the validity of the results. This has been the case across Scotland and as a result, it has been agreed to review how data for this QPI is collected within audit systems, and a new QPI will replace this for 2018/19 patients. *[Audit note: No patients in NHS Highland or NHS Tayside had incontinence recorded 10-14 months after surgery using a validated tool. Therefore incontinence levels will be recorded as 0 for these patients. As NHS Highland patients had surgery in Grampian then this will also mean that Grampian figures under-record incontinence.]*
Actions	No action required
Risk Status	Mitigate

QPI 11	Early Management of Active Surveillance
Proportion of men with prostate cancer under active surveillance who undergo multiparametric MRI within 6 months, and prostate re-biopsy within 14 months of diagnosis. This QPI is reporting one year in arrears and as such figures reported here are for patients diagnosed in 2016-17.	

Specification (i) Patients who have undergone multi-parametric MRI within 6 months of diagnosis.

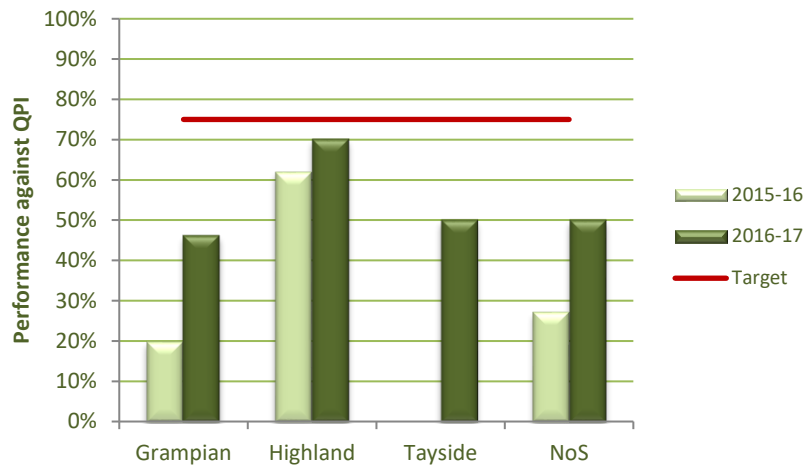


	Performance (%)	Numerator	Denominator
Grampian	**100%**	43	43
Highland	**92.9%**	13	14
Orkney	-	0	0
Shetland	**100%**	5	5
Tayside	**41.7%**	5	12
W Isles*	-	-	-
NoS	**88.0%**	**66**	**75**

Clinical Commentary	Pathways in the North of Scotland have changed to ensure a pre-biopsy MRI is undertaken for patients which will in future years allow us to meet the specifications of this QPI. As this is reporting on data from 2016/17 patients, the product of this pathway change will not be reflected in QPIs until future years reporting. Performance for specification (i) has improved, however the North of Scotland, missed the 95% target. Patients who failed to have a multi-parametric MRI within 6 months of diagnosis have been reviewed and the updated pathways for patients on Active Surveillance will be embedded in reviewed clinical management guidelines to ensure compliance with this QPI.
Actions	1. NCA Urology Pathway Board to review prostate cancer patient pathways and clinical management guidelines to ensure these requirements for Active Surveillance patients are embedded in service requirements in the North. 2. NCA Urology Pathway Board to support regional collaboration and service development activities.
Risk Status	Mitigate

Specification (ii) Patients who have undergone prostate re-biopsy within 14 months of diagnosis.

As part of the formal review of the prostate cancer QPIs, specification (ii) has been archived reflecting the change in clinical practice moving away from re-biopsy to mpMRI for patients under Active Surveillance.



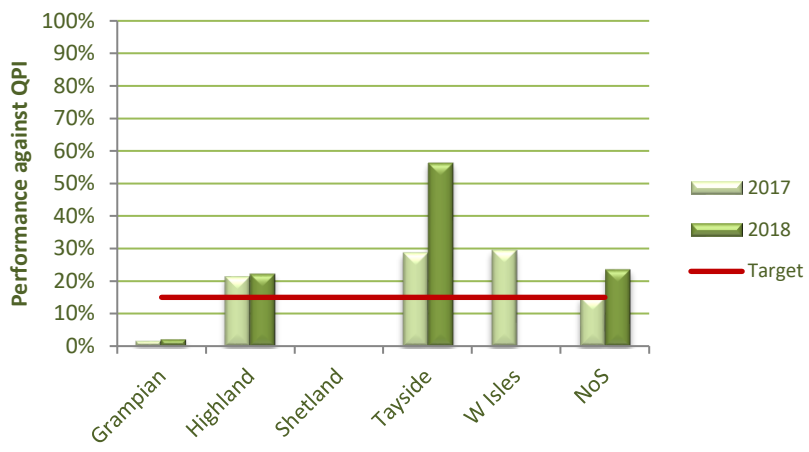
	Performance (%)	Numerator	Denominator
Grampian	**46.2%**	18	39
Highland	**70.0%**	7	10
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**50.0%**	6	12
W Isles*	-	-	-
NoS	**50.0%**	**33**	**66**

QPI 12	30 Day Mortality following Chemotherapy

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.

QPI 13	Clinical Trials and Research Study Access
Proportion of patients with prostate cancer who are consented for a clinical trial / research study. Figures shown are for patients consented for clinical trials or research studies during 2018.	



	Performance (%)	Numerator	Denominator
Grampian	**2.2%**	8	371
Highland	**22.3%**	41	184
Orkney*	**-**	-	-
Shetland	**0%**	0	23
Tayside	**56.3%**	155	275
W Isles	**0%**	0	9
NoS	**23.7%**	**205**	**865**

Clinical Commentary	The 15% target for this QPI was achieved for prostate cancer patients who consented to clinical trials in 2018. In addition, the STAMPEDE trial is running a sub-study at Raigmore that recruited 6 patients during 2018. These numbers are not included in the QPI figures as the patients have already been recruited to the main study. The genetics musketeer study GENPROS recruited 1 patient in 2018 unfortunately the postcode for this patient is not available to include in the health board geographical distribution.
Actions	1. All clinicians should consider opening relevant clinical trials in their tumour areas. When this is not possible patient referrals to other sites for access to clinical trials should be considered. 2. NCA has circulated a list of open clinical trials to the NCA Urology Pathway Board.
Risk Status	Mitigate

References

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9. North Cancer Alliance: QPI Process Explained (August 2020) https://www.nhsscotlandnorth.scot/uploads/tinymce/NCA/NCA%20Governance/NCA_GOV_QPI2_Process_Explained_Final%20(June%202020).pdf

Appendix 1: Clinical trials and research studies open within the North of Scotland in 2018.

Trial	Principle Investigator	Patients consented into trial in 2018
ADD ASPIRIN	Russell Mullen (Highland) Trevor McGoldrick (Grampian)	y
ATLAS: JNJ56021927 (ARN509)	Judith Grant (Grampian)	y
Biomarker development in prostate cancer: a sub-study of STAMPEDE	Neil McPhail (Highland)	y
Evaluation of the MCM5 ELISA in the diagnosis of Prostate Cancer	Ghulam Nabi (Tayside)	y
GENPROS	Zosia Miedzybrodska (Grampian) Jonathan Berg (Tayside)	y
MULTIPROS study	Ghulam Nabi (Tayside)	y
STAMPEDE	Neil McPhail (Highland)	y
UK Genetic Prostate Cancer Study	Nicholas Cohen (Grampian) Ghulam Nabi (Tayside)	y
TITAN JNJ-56021927	Ghulam Nabi (Tayside)	
Open Label Study of Relugolix in Men with Advanced Prostate Cancer	Graham MacDonald (Grampian)	
TriCREST	Neil McPhail (Highland)	