Quality Performance Indicators Audit Report

Tumour Area:	Prostate Cancer
Patients Diagnosed:	1st July 2018 to 30th June 2019
Published Date:	21st January 2021
Clinical Commentary:	Mr. David Douglas, NCA Prostate Cancer Lead

1. Prostate Cancer in Scotland

With around 4,200 cases diagnosed in Scotland in 2018, prostate cancer is ranked as the most commonly diagnosed cancer in male patients in Scotland and the third most commonly diagnosed cancer in males and females after lung and breast cancers[1].

The incidence of prostate cancer has remained relatively stable over the last decade. However, differences in deprivation quintile were found in 2018, with prostate cancer incidence "27% higher in the least deprived areas compared with the most deprived (age-adjusted incidence rates of 174 and 137 per 100,000, respectively, for 2014-2018). This may be an artefact reflecting higher rates of prostate specific antigen (PSA) testing of the populations in these areas (see Morgan et al)[1] , although there may be some sort of correlation with testosterone levels[1]." It has been suggested that the 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[2].

Relative survival of patients diagnosed with prostate cancer in Scotland is increasing[3]. 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[3].

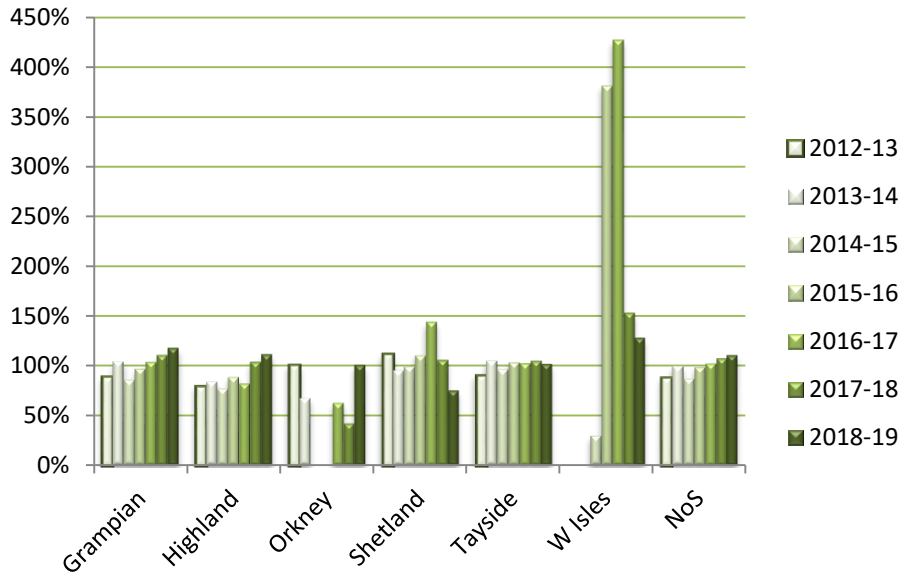
Relative survival at 1 year (%)		Relative survival at 5 years (%)	
2007-2011	% change	2007-2011	% change
96.0 %	+ 11.3 %	84.0%	+ 31.0 %

The significant increase in five-year survival rates may in part be due to the increased use of PSA testing in Scotland since 1990s. This testing has resulted in the "diagnosis of some less 'aggressive' tumours" [3].

A 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[4]. 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, it was highlighted 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[5].

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

A total of 988 cases of prostate cancer were recorded through audit as diagnosed in the North of Scotland between 1st July 2018 and 30th June 2019. Case ascertainment for the period reported in the North of Scotland was high at 109.7% 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.



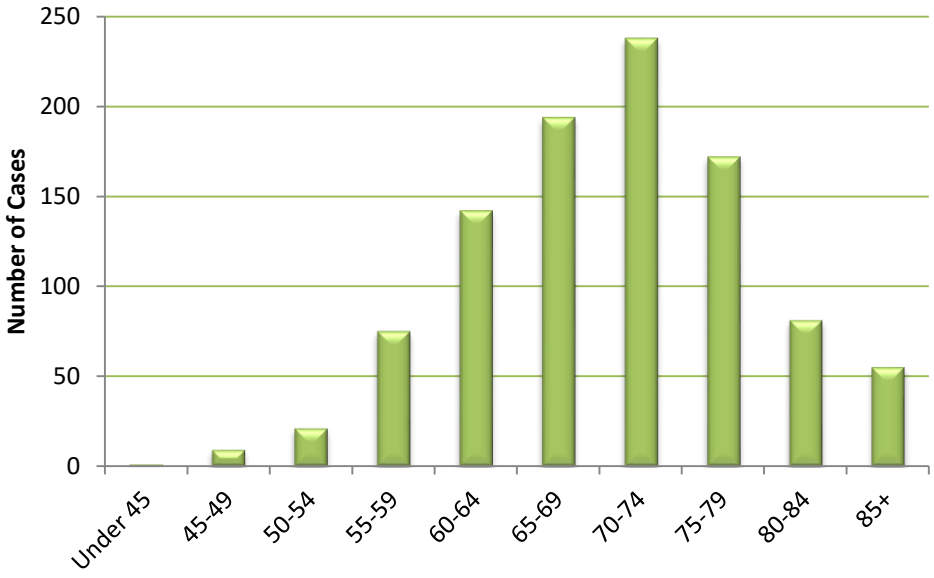
Case ascertainment by NHS Board for patients diagnosed with prostate cancer in 2012-2019.

	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NoS
Number of Patients 2018-2019	457	209	3	16	288	15	988
% of NoS total	46.3%	21.2%	0.3%	1.6%	29.1%	1.5%	100%
Mean ISD Cases 2014-2018	390.6	188.6	3	21.4	285.2	11.8	900.6
% Case ascertainment 2018-19	117%	110.8%	100%	74.8%	101%	127.1%	109.7%

Audit data were considered sufficiently complete to allow QPI calculations. However, across five of the six North of Scotland Health Boards, there are areas of incomplete clinical TNM recording, particularly clinical M staging. For QPIs 2, 4 and 7 clinical TNM staging data is required to derive results. Improvements in the capture of TNM data was noted in the previous year of reporting (2017-18 data), however the results for 2018-19 have shown an increased number of missing data. The absence of these data for some patients in the North of Scotland has resulted in QPI results not being calculated from information on all patients.

3. Age Distribution

The age distribution of patients diagnosed with prostate cancer in the North of Scotland in 2018-19 is shown below. Incidences of prostate cancer peak in the 70-74 age group.



Age distribution of patients diagnosed with prostate cancer in 2018-19.

4. Performance against Quality Performance Indicators (QPIs)

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

Following the formal review process of Prostate Cancer QPIs: - QPI 7(ii) has an additional exclusion criteria (Patients receiving ARTA (Androgen Receptor – Targeted Agent) treatment), however this will not be measured against until 2021, the current year of reporting (2018-19) is based on the previous measurability criteria but includes the revised target of 40% (reduced from 70%). QPIs 8 and 11 have undergone changes with QPI 8 having been radically revised and these will not be reported on until 2021. Furthermore, two new QPIs have been added (QPI 14: Diagnostic Pre-biopsy MRI and QPI 15: Low Burden Metastatic Disease), the results of which will be included in the 2021 report.

Finally, in 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.

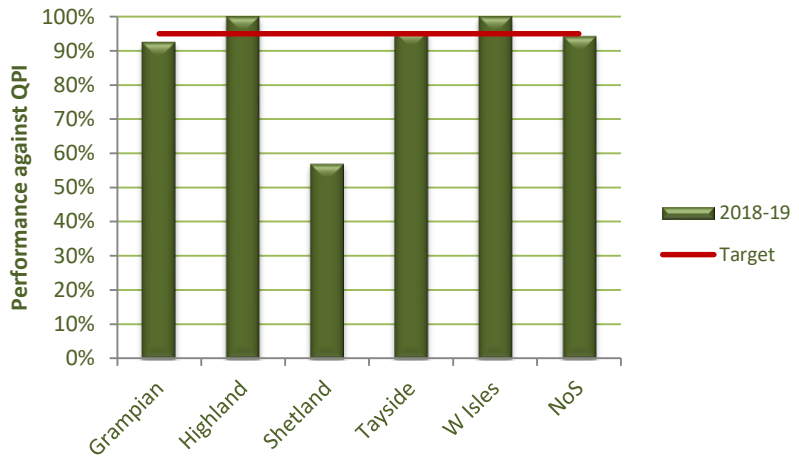
This new QPI will use CEPAS (Chemotherapy ePrescribing and Administration System) data to measure SACT mortality to ensure that the QPI focuses on the prevalent population rather than the incident population. The measurability for this QPI is still under development to ensure consistency across the country and it is anticipated that performance against this measure will be reported in the next audit cycle (the target will be revised from <5% to <10% when it is reported using CEPAS due to the increased clinical cohort who will be receiving appropriate palliative chemotherapy). In the meantime all deaths within 30 days of SACT will continue to be reviewed at NHS Board level.

5. Governance and Risk

QPI performance is overseen by the North Cancer Alliance and its constituent groups, with an assessment of clinical risk and action planning undertaken collaboratively and reporting at board and regional level. Actions will be overseen by the Pathway Boards and reported concurrently into the NCA governance groups and the Clinical Governance committees at each North of Scotland health boards.

Further information is available **here.**

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

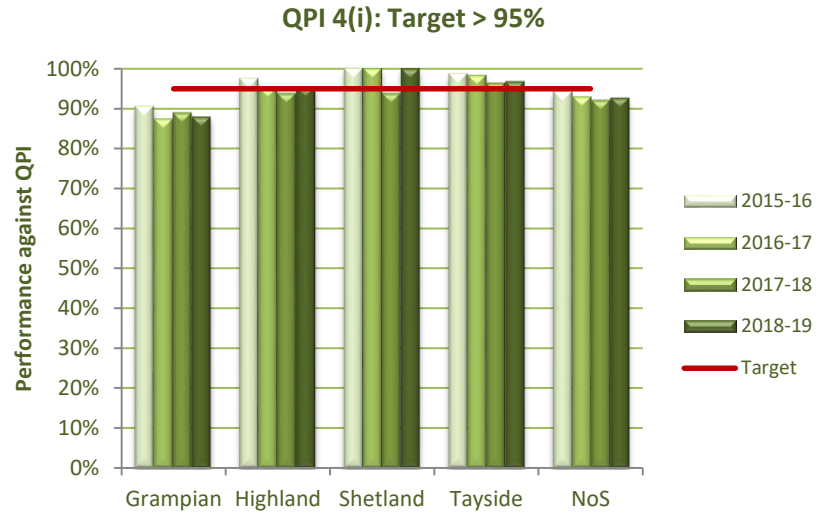


	Performance (%)	Numerator	Denominator
Grampian	**92.5%**	99	107
Highland	**100%**	51	51
Orkney	-	0	0
Shetland	**57.1%**	4	7
Tayside	**95.5%**	84	88
W Isles	**100%**	5	5
NoS	**94.2%**	**243**	**258**

Clinical Commentary	The North of Scotland narrowly missed this QPI target and reasons for patients who were not staged used MRI and bone scanning have been provided. One of the barriers is ensuring patient staging details are captured at MDT meeting so they can be included within the audit; improvements are ongoing at NHS Grampian to ensure patient staging following MRI and bone scanning are recorded at MDT meeting.
Actions	1. NCA Urology Pathway Board to monitor this QPI and escalate as required. 2. NCA Urology Pathway Board to review pathways for patients to MRI.
Risk Status	Mitigate

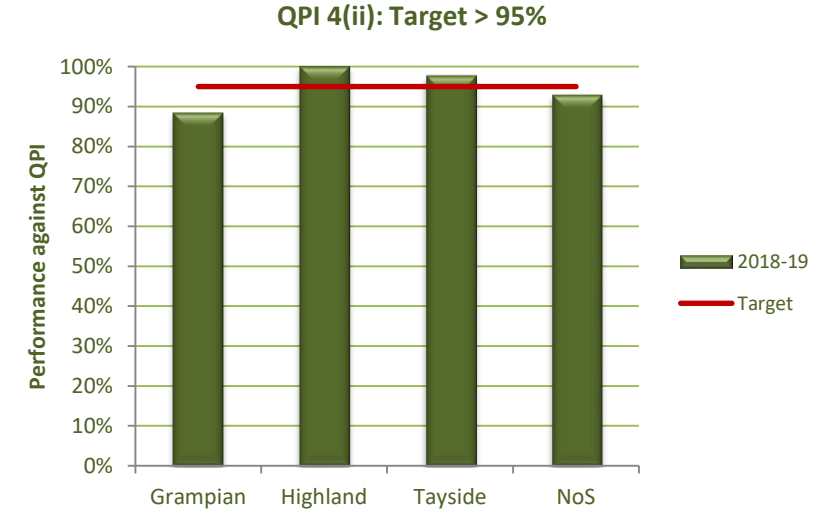
QPI 4	Multi-Disciplinary Team (MDT) Meeting
Proportion of patients with prostate cancer who are discussed at MDT meeting before definitive treatment.	

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



	Performance (%)	Numerator	Denominator
Grampian	**87.9%**	284	323
Highland	**95.4%**	166	174
Orkney	-	0	0
Shetland	**100%**	11	11
Tayside	**96.7%**	207	214
W Isles*	-	-	-
NoS	**92.6%**	**671**	**725**

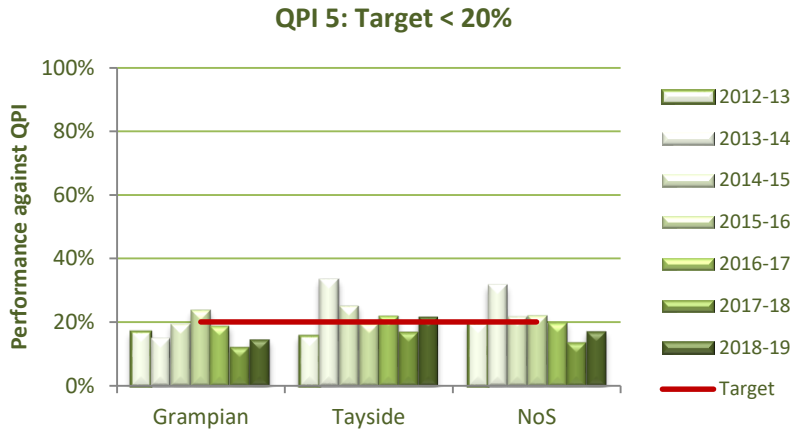
Specification (ii) Patients with metastatic prostate cancer discussed within 6 weeks of commencing treatment



	Performance (%)	Numerator	Denominator
Grampian	**88.4%**	99	112
Highland	**100%**	34	34
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**97.7%**	43	44
W Isles*	-	-	-
NoS	**92.9%**	**182**	**196**

Clinical Commentary	This QPI target continues to be missed and improvements relating to MDT pathways are underway at NHS Grampian to ensure patients are discussed at MDT meeting as per the desired timescales for patients with both non-metastatic and metastatic disease.
Actions	1. NCA to escalate this QPI to NHS Grampian for oversight of MDT improvements required to improve performance against this QPI and ensure >95% of Prostate Cancer patients are discussed at MDT within the required timescales. 2. NCA to facilitate clinical meeting to discuss actions for improvement in Spring 2021.
Risk Status	Escalate

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	**14.6%**	13	89
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	**21.6%**	11	51
W Isles	-	0	0
NoS	**17.1%**	**24**	**140**

Clinical Commentary	The North of Scotland continues to achieve this target however NHS Tayside narrowly missed this target and so attention will be paid in future years of reporting to understand if there are any areas that require further action. Future service improvements are expected through the delivery of a robotically-assisted surgery programme in the North of Scotland.
Actions	1. NCA Urology Pathway Board to monitor performance in this QPI and escalate as required.
Risk Status	Tolerate

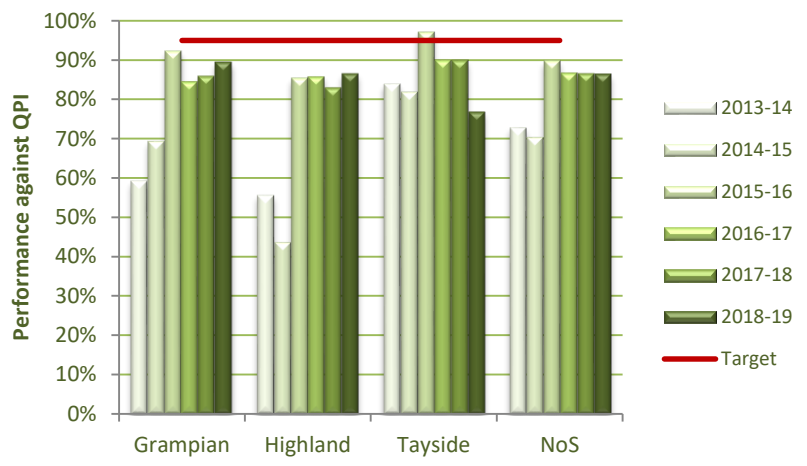
QPI 6	Volume of Cases per Surgeon
Number of radical prostatectomy procedures performed by each surgeon over a 1 year period.	

Target: > 50 procedures	Surgeon	Number of Prostatectomy Procedures 2018-19
NHS Grampian	A	94
	B	5
	C	44
	D	8
	E	1
NHS Tayside	F	79

Clinical Commentary	Two out of six surgeons met this target in the North of Scotland. Surgeon D has since left NHS Grampian, while Surgeon E was recently employed at NHS Grampian and assisted on one procedure for this patient cohort.
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. North of Scotland Medical Directors group are providing the strategic development of sustainable surgery services for cancer, including prostate.
Risk Status	Manage

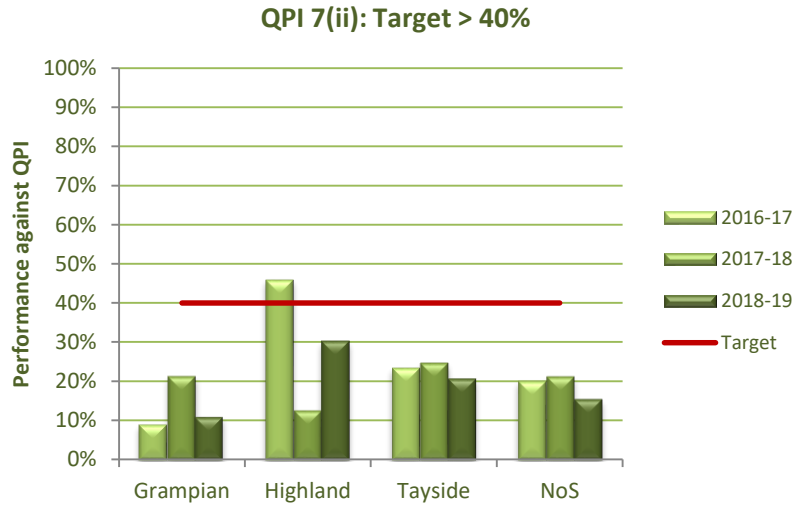
QPI 7	Hormone Therapy and Docetaxel Chemotherapy
Proportion of patients with metastatic prostate cancer (TanyNanyM1) who undergo immediate management with hormone therapy, and docetaxel chemotherapy.	

Specification (i) Patients who receive immediate hormone therapy



	Performance (%)	Numerator	Denominator
Grampian	**89.3%**	100	112
Highland	**86.4%**	19	22
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**76.7%**	33	43
W Isles*	-	-	-
NoS	**86.3%**	**158**	**183**

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



	Performance (%)	Numerator	Denominator
Grampian	**10.9%**	12	110
Highland	**30%**	6	20
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**20.5%**	8	39
W Isles*	-	-	-
NoS	**15.4%**	**27**	**175**

Clinical Commentary	Performance against this QPI continues to remain below the standard for a number of reasons. For specification (i), there is a challenge in getting patients discussed at MDT after the commencement of hormone treatments within the required four-week timescales. MDT improvements are required across the North of Scotland to achieve this target and ensure all patients are discussed at MDT within the timescales. Specification (ii) has a new 40% target but performance in the North of Scotland has decreased. This reflects the large majority of patients who are unfit for chemotherapy, or where there is a delay to the start of chemotherapy. Patients must start docetaxel chemotherapy within 90 days of hormone therapy but these timescales remain challenging to meet due to individual patient factors. It is recognised this is a challenge across Scotland with SCAN performance at 17.2% and WoSCAN at 18.7%.

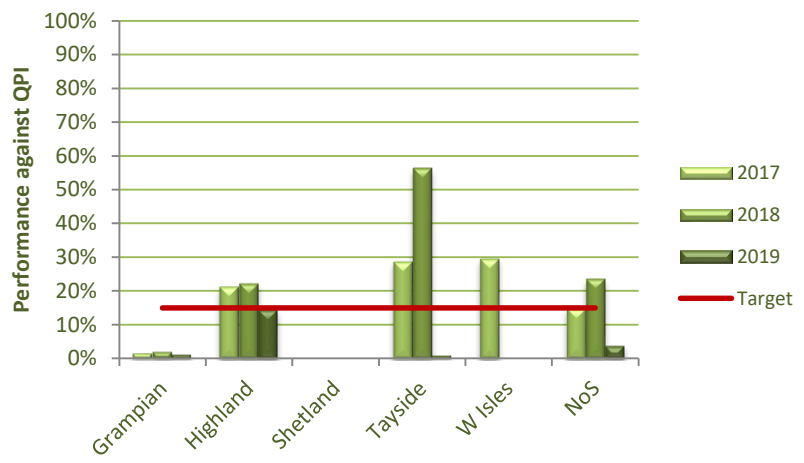
Actions	1. North of Scotland boards to consider MDT arrangements to ensure patients commencing hormones are discussed at MDT within the required timescales. 2. NCA Urology Pathway Board to monitor future performance in this QPI nationally and escalate as required. 3. NCA Urology Pathway Board to facilitate review of metastatic prostate cancer pathways and consider where delays for patients undergoing hormones occur, and agree actions required for improvement.
Risk Status	Mitigate

QPI 8	**Post Surgical Incontinence**
The Formal Review has confirmed new arrangements for measurement of this QPI and therefore it will be reported for patients diagnosed in 2019/20.	

QPI 11	**Early Management of Active Surveillance**
The Formal Review has confirmed new arrangements for measurement of this QPI and therefore it will be reported for patients diagnosed in 2019/20.	

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 2019.	



	Performance (%)	Numerator	Denominator
Grampian	**1.3%**	5	391
Highland	**14.3%**	27	189
Orkney*	**-**	-	-
Shetland	**0%**	0	21
Tayside	**1.1%**	3	285
W Isles	**0%**	0	12
NoS	**3.9%**	**35**	**901**

Clinical Commentary	As well as having trials available to patients with a confirmed cancer diagnosis, trials are available to patients pre-diagnosis. In 2019 the MULTPROS Study was available to patients with suspected prostate cancer to determine if cancer detection can be improved with MRI and guided biopsy. In 2019 MULTIPROS consented 151 men, 141 from Tayside, 7 from Fife and 3 from Grampian.
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.
Risk Status	Tolerate

References

1. Public Health Scotland. Cancer Incidence in Scotland (to December 2018), 2020. Available at: https://beta.isdscotland.org/media/4312/2020-04-28-cancer-incidence-report.pdf

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6. Scottish Cancer Taskforce, 2020. Prostate Cancer Clinical Performance Indicators, Version 4.0. Health Improvement Scotland. http://www.healthcareimprovementscotland.org/his/idoc.ashx?docid=f627daf4-5639-4406-a44b-795a89712f2c&version=-1

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

Appendix 1: Clinical trials and research studies open within the North of Scotland in 2019.

Trial	Principle Investigator	Patients consented into trial in 2019
ADD ASPIRIN	Russell Mullen (Highland) Trevor McGoldrick (Grampian) Douglas Adamson (Tayside)	Y
GENPROS	Zosia Miedzybrodska (Grampian) Jonathan Berg (Tayside)	N
STAMPEDE	Neil McPhail (Highland)	Y
UK Genetic Prostate Cancer Study	Nicholas Cohen (Grampian) Ghulam Nabi (Tayside)	Y