Quality Performance Indicators Audit Report

Tumour Area:	Lung Cancer
Patients Diagnosed:	1st January – 31st December 2020
Published Date:	1 June 2022

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

Between 1st January and 31st December 2020 a total of 1,032 cases of lung cancer were diagnosed in the North of Scotland and recorded through audit. Overall case ascertainment was at 86.8%, which is lower than last year's 96.8%. This change is case ascertainment is in line with the national change, which is in line with the Public Health Scotland reported fall in lung cancer ascertainment of 7%.

As such QPIs based on data captured are considered to be representative of all patients diagnosed with lung cancer during the audit period.

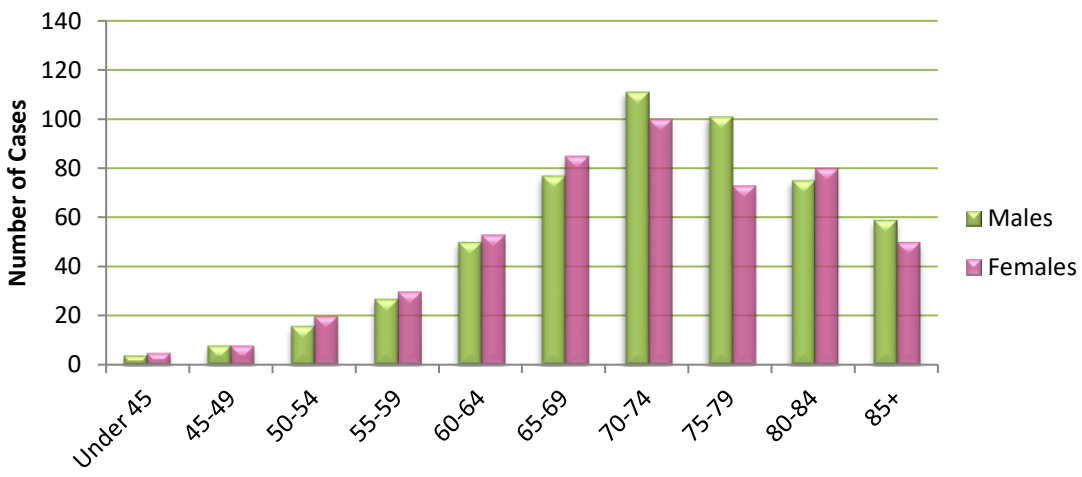
Case ascertainment and proportion of NoS total for patients diagnosed with Lung Cancer in 2020

	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NoS
No. of Patients 2020	413	209	12	18	358	22	**1032**
% of NoS total	40.0%	20.3%	1.2%	1.7%	34.7%	2.1%	**100%**
Mean ISD Cases 2015-19	483.4	230.4	10.4	13.6	433.4	17.8	**1189**
% Case ascertainment 2019	85.4%	90.7%	115.4%	132.4%	82.6%	123.6%	**86.8%**

The number of instances of data not being recorded was generally low. Similar to previous years of reporting, the notable gaps has been the absence of recording of the stage of disease, most notably whether the patient had metastatic disease, for some patients in NHS Grampian and Highland. The effects of this on the QPI results are minimal.

2. Age Distribution

The figure below shows the age distribution of patients diagnosed with lung cancer in the North of Scotland in 2020, with numbers of patients diagnosed highest in the 70-74 year age bracket for both males and females.



Age distribution of patients diagnosed with lung cancer in the North of Scotland in 2020.

3. Performance against Quality Performance Indicators (QPIs)

Definitions for the QPIs reported in this section are published by Health Improvement Scotland[1], while further information on datasets and measurability used are available from Information Services Division[2]. Data for most QPIs are presented by Board of diagnosis; however QPIs 7 and 13 (surgical mortality) are presented by Hospital of Surgery and QPI 17 (clinical trials and research access) is reported by NHS Board of residence. Please note that where QPI definitions have been amended, results are not compared with those from previous years.

**Where the number of cases per Board is between one and four, results have been excluded from charts and tables to minimise the risk of disclosure. However, all board results are included within the total for the North of Scotland.*

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.

4. 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 Commentary committees at each North of Scotland health boards.

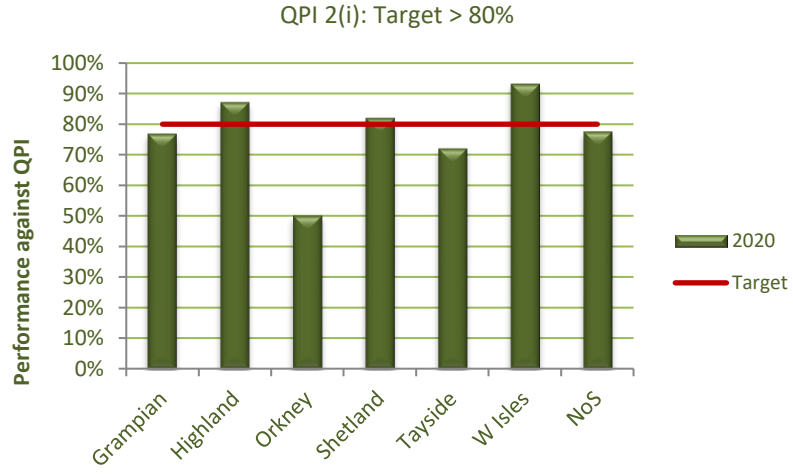
Further information is available **here**

QPI 1	Multi-Disciplinary Team (MDT) Meeting
Proportion of patients with lung cancer who are discussed at the MDT meeting.	

	Performance (%)	Numerator	Denominator
Grampian	**97.3%**	402	413
Highland	**96.7%**	202	209
Orkney	**100.0%**	13	13
Shetland	**100.0%**	18	18
Tayside	**99.7%**	357	358
W Isles	**100.0%**	22	22
NoS	**98.2%**	**1014**	**1033**

QPI 2	Pathological diagnosis
Proportion of patients who have a pathological diagnosis of lung cancer.	

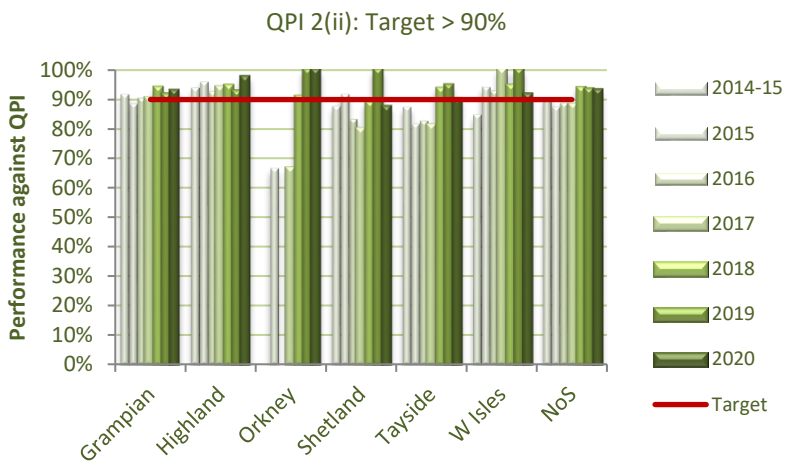
Specification (i) Patients with lung cancer who have a pathological diagnosis (including following surgical resection).



	Performance (%)	Numerator	Denominator
Grampian	**76.7%**	207	270
Highland	**86.9%**	139	160
Orkney	**50.0%**	4	8
Shetland	**81.8%**	9	11
Tayside	**71.8%**	181	252
W Isles	**92.9%**	13	14
NoS	**77.3%**	**553**	**715**

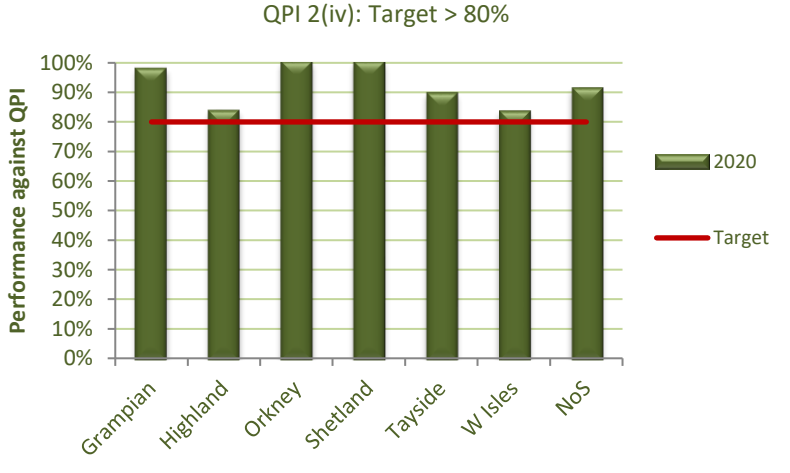
For some patients the first treatment was supportive care, and this was delivered before pursuing the diagnosis of pathological lung cancer is considered appropriate.
The restriction of the Covid-19 pandemic, and in keeping with national discussions at the time, also meant some health boards proceeded with treatments prior to tissue biopsy.

Specification (ii) Patients with a pathological diagnosis of non small cell lung cancer (NSCLC) who have a tumour subtype identified.



	Performance (%)	Numerator	Denominator
Grampian	**92.9%**	184	198
Highland	**97.6%**	124	127
Orkney	**100.0%**	5	5
Shetland	**87.5%**	7	8
Tayside	**90.1%**	155	172
W Isles	**91.7%**	11	12
NoS	**93.1%**	**486**	**522**

Specification (iv) Patients with a pathological diagnosis of NSCLC who have PD-L1 testing undertaken.



	Performance (%)	Numerator	Denominator
Grampian	**97.7%**	129	132
Highland	**83.5%**	76	91
Orkney*	-	-	-
Shetland	**100.0%**	7	7
Tayside	**89.4%**	127	142
W Isles	**83.3%**	5	6
NoS	**91.1%**	**347**	**381**

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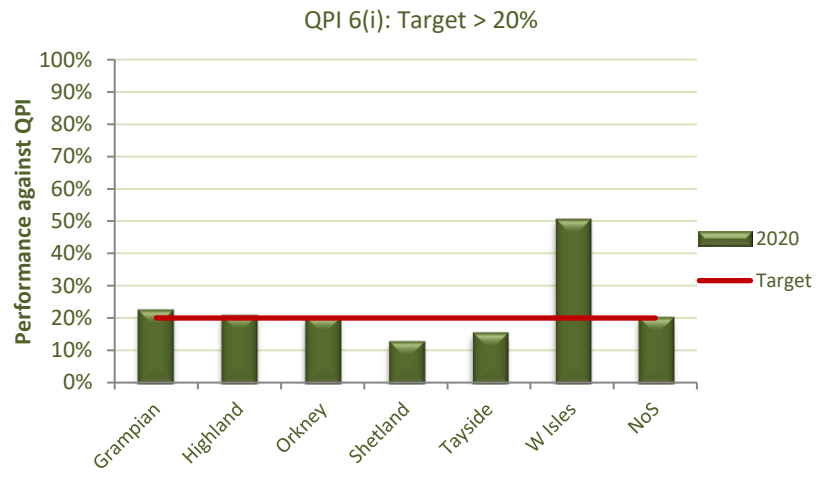
In the first year of reporting this QPI; this QPI was audited by NHS Highland, and some issues with data collection were found. This has been noted by the board and will be corrected in future QPI reports.

QPI 6	Surgical resection in non small cell lung cancer
Proportion of patients who undergo surgical resection for NSCLC.	

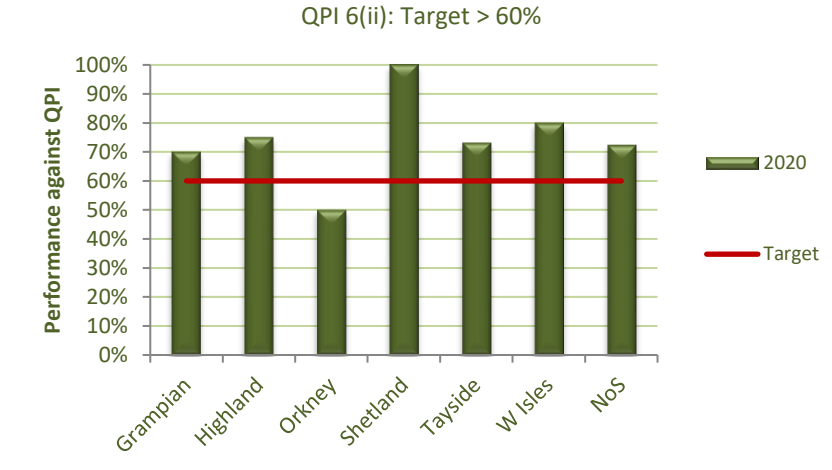
Specification (i) Patients with NSCLC who undergo surgical resection.



	Performance (%)	Numerator	Denominator
Grampian	**22.2%**	44	198
Highland	**20.5%**	26	127
Orkney	**20.0%**	1	5
Shetland	**12.5%**	1	8
Tayside	**15.1%**	26	172
W Isles	**50.0%**	6	12
NoS	**19.9%**	**104**	**522**

North of Scotland boards narrowly missed this target overall. Covid-19 restrictions meant surgical availability was reduced for a while in some boards and alternative radical options were considered for some patient.
Upon review no patients were found who had inappropriately been denied surgery. This QPI will continue to be monitored going forward.

Specification (ii) Patients with stage I - II NSCLC who undergo surgical resection.



	Performance (%)	Numerator	Denominator
Grampian	**70.0%**	35	50
Highland	**75.0%**	21	28
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**73.1%**	19	26
W Isles*	**80.0%**	4	5
NoS	**72.3%**	**81**	**112**

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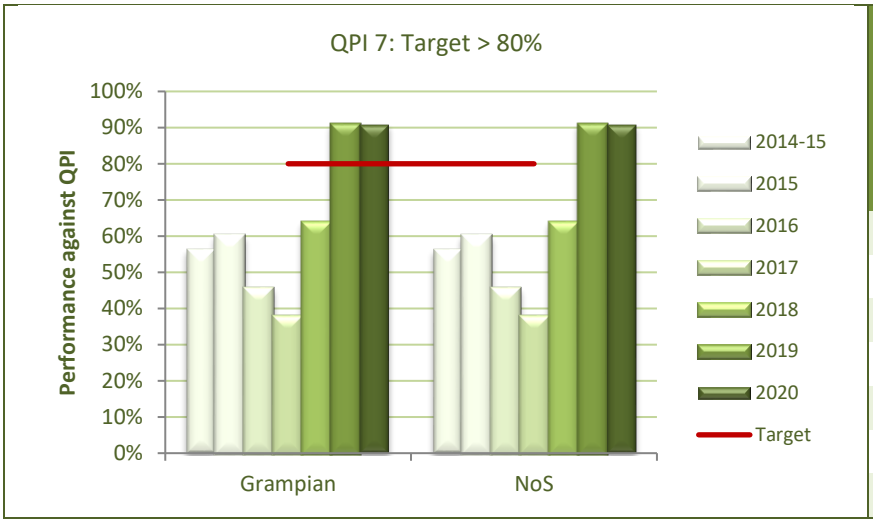
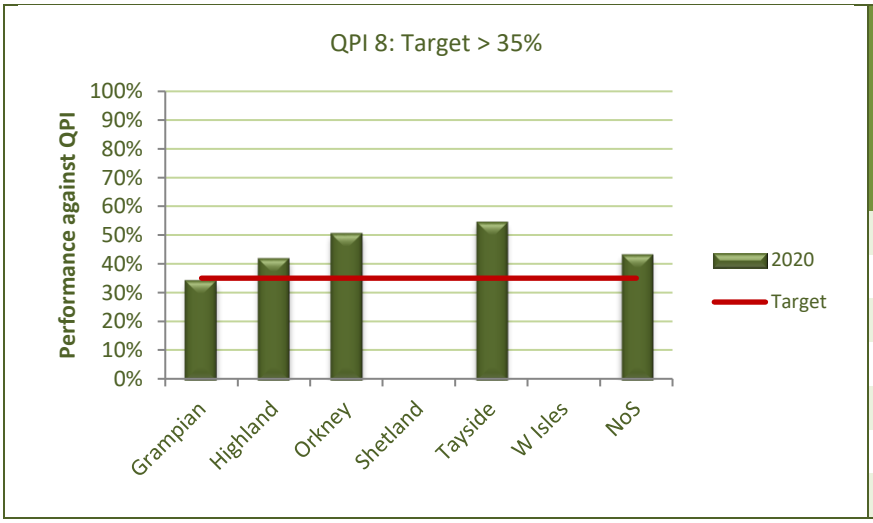
QPI 7	Lymph node assessment
Proportion of patients with NSCLC undergoing surgery who have adequate sampling of lymph nodes (at least 1 node from at least 3 N2 stations) performed at time of surgical resection or at previous mediastinoscopy.	



	Performance (%)	Numerator	Denominator
Grampian	**90.7%**	39	43
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	-	0	0
W Isles	-	0	0
NoS	**90.7%**	**39**	**43**

The North of Scotland continues to achieve this QPI after focused improvement work in Grampian.

QPI 8	Radical Radiotherapy
Proportion of patients with stage I - IIIA lung cancer not undergoing surgery who receive radiotherapy with radical intent (54Gy or greater) ± chemotherapy, or SABR.	



	Performance (%)	Numerator	Denominator
Grampian	**33.8%**	23	68
Highland	**41.4%**	12	29
Orkney*	-	-	-
Shetland	**0.0%**	0	5
Tayside	**53.9%**	48	89
W Isles*	-	-	-
NoS	**42.6%**	**84**	**197**

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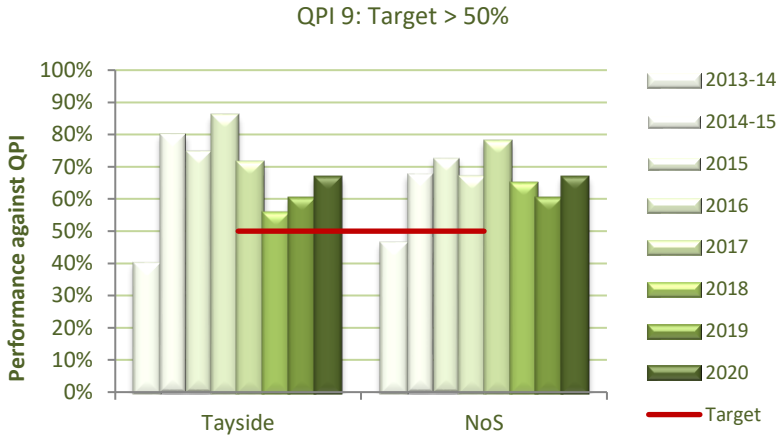
This is the first year reporting this QPI; in several cases there were patient specific reasons for not delivering radical radiotherapy, and these have been documented by the boards.

QPI 9	Chemoradiotherapy in locally advanced non small cell lung cancer
Proportion of patients with stage IIIA NSCLC, with performance status 0-1 not undergoing surgery who receive radical radiotherapy, to 54Gy or greater, and concurrent or sequential chemotherapy.	



	Performance (%)	Numerator	Denominator
Grampian*	-	-	-
Highland*	-	-	-
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**66.7%**	4	6
W Isles	-	0	0
NoS	**66.7%**	**6**	**9**

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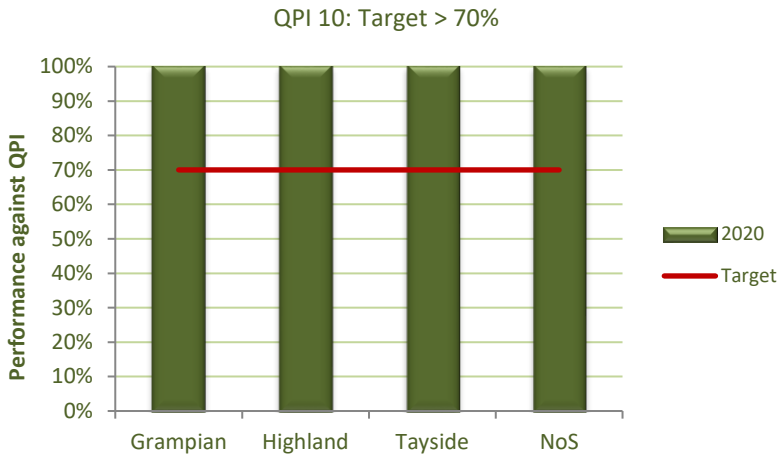
The North of Scotland met this QPI overall. NHS Grampian will undertake an audit review into the patients who did not meet this QPI target, as there is a query around staging in some patient cases. This will be discussed at a future NCA Lung Cancer Pathway Board meeting.

QPI 10	Chemoradiotherapy in limited stage small cell lung cancer
Proportion of patients with limited stage (stage I – IIIA) SCLC treated with radical intent who receive both platinum-based chemotherapy, and radiotherapy to 40Gy or greater.	



	Performance (%)	Numerator	Denominator
Grampian*	-	-	-
Highland*	-	-	-
Orkney	-	0	0
Shetland	-	0	0
Tayside*	-	-	-
W Isles	-	0	0
NoS	**100.0%**	**7**	**7**

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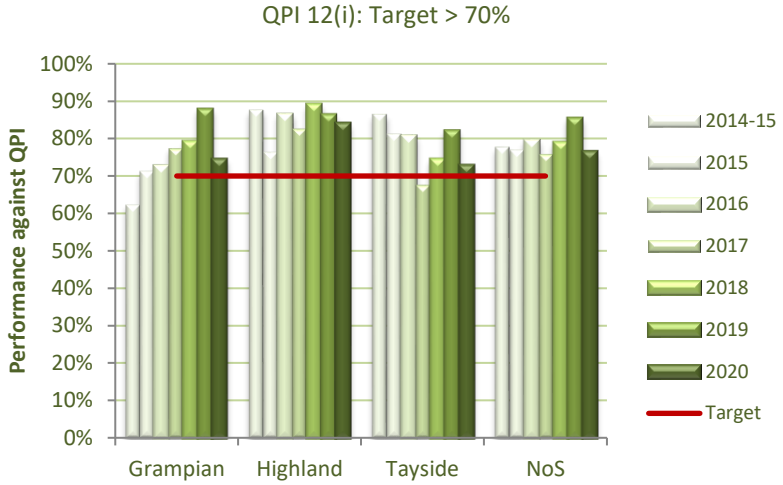
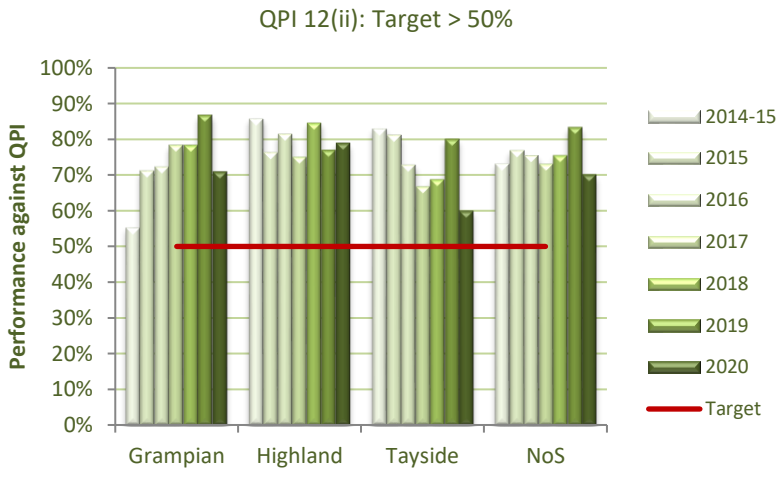
QPI 12	Chemotherapy in small cell lung cancer
Proportion of patients with SCLC who receive first line chemotherapy ± radiotherapy.	

Specification (i) Patients with SCLC who receive chemotherapy ± radiotherapy.



	Performance (%)	Numerator	Denominator
Grampian	**74.4%**	29	39
Highland	**84.0%**	21	25
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**72.7%**	16	22
W Isles*	-	-	-
NoS	**76.4%**	**68**	**89**

Specification (ii) Patients with SCLC not undergoing treatment with curative intent who receive palliative chemotherapy.



	Performance (%)	Numerator	Denominator
Grampian	**71.0%**	22	31
Highland	**78.9%**	15	19
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**60.0%**	9	15
W Isles*	-	-	-
NoS	**70.1%**	**47**	**67**

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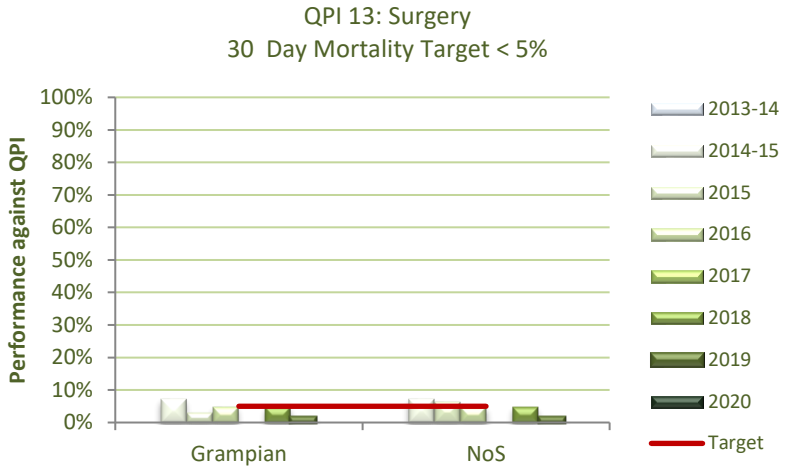
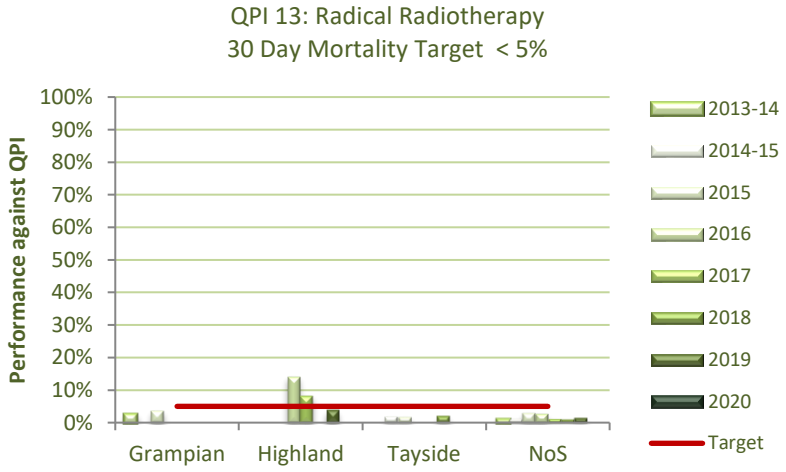
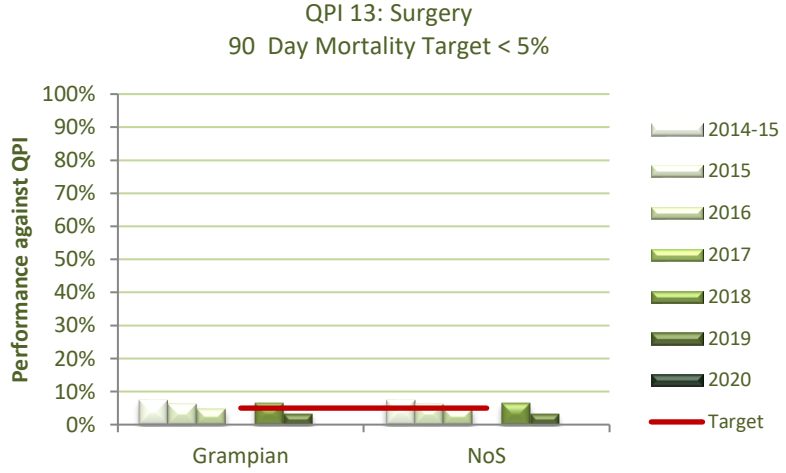
QPI 13	Mortality following treatment for lung cancer
Proportion of patients with lung cancer who receive treatment with curative intent who die within 30 or 90 days of treatment.	



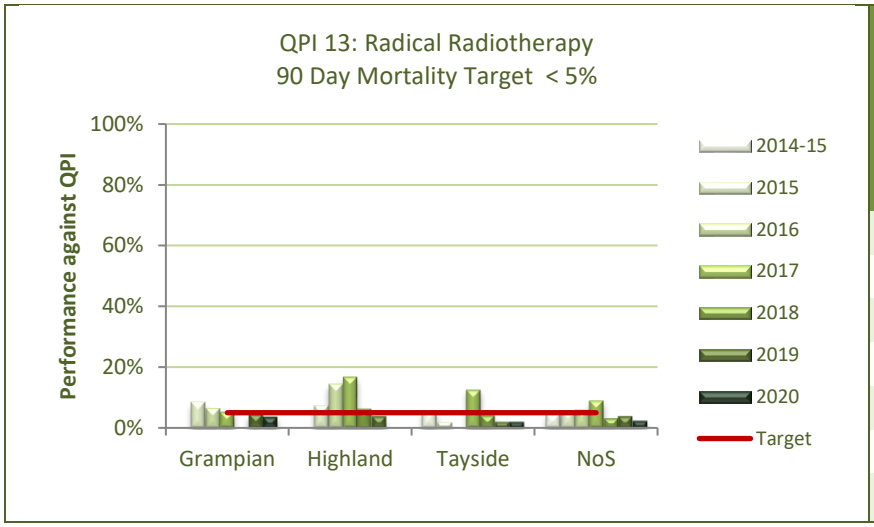
	Performance (%)	Numerator	Denominator
Grampian	**0.0%**	0	55
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	-	0	0
W Isles	-	0	0
NoS	**0.0%**	**0**	**55**



	Performance (%)	Numerator	Denominator
Grampian	**0.0%**	0	28
Highland	**0.0%**	0	6
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**0.0%**	0	52
W Isles	-	0	0
NoS	**0.0%**	**0**	**88**



	Performance (%)	Numerator	Denominator
Grampian	**0.0%**	0	55
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	-	0	0
W Isles	-	0	0
NoS	**0.0%**	**0**	**55**



	Performance (%)	Numerator	Denominator
Grampian	**3.6%**	1	28
Highland	**0.0%**	0	6
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**2.0%**	1	51
W Isles	-	0	0
NoS	**2.3%**	**2**	**87**

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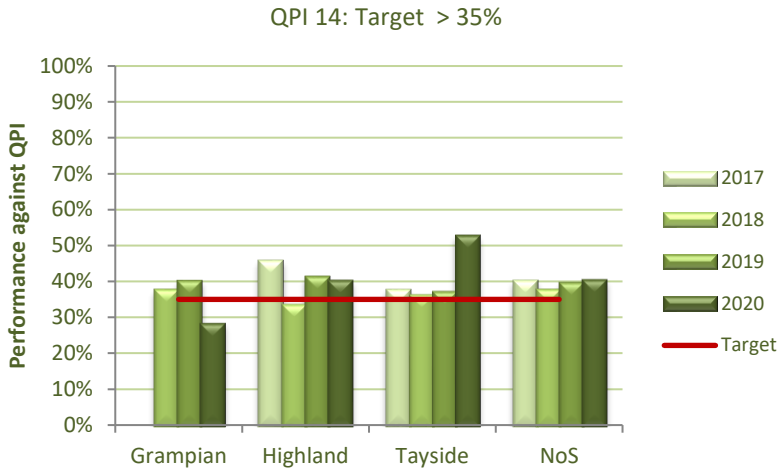
All patients who died 30 and 90-days after treatment have been reviewed at board level.

QPI 14	Stereotactic Ablative Radiotherapy (SABR) in inoperable stage I lung cancer
Proportion of patients with stage I lung cancer not undergoing surgery who receive SABR.	



	Performance (%)	Numerator	Denominator
Grampian	**28.1%**	9	32
Highland	**40.0%**	4	10
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**52.4%**	22	42
W Isles	-	0	0
NoS	**40.2%**	**35**	**87**

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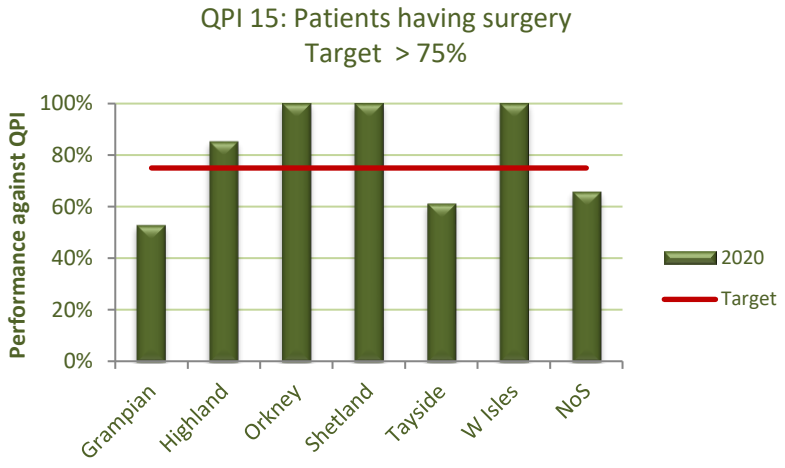
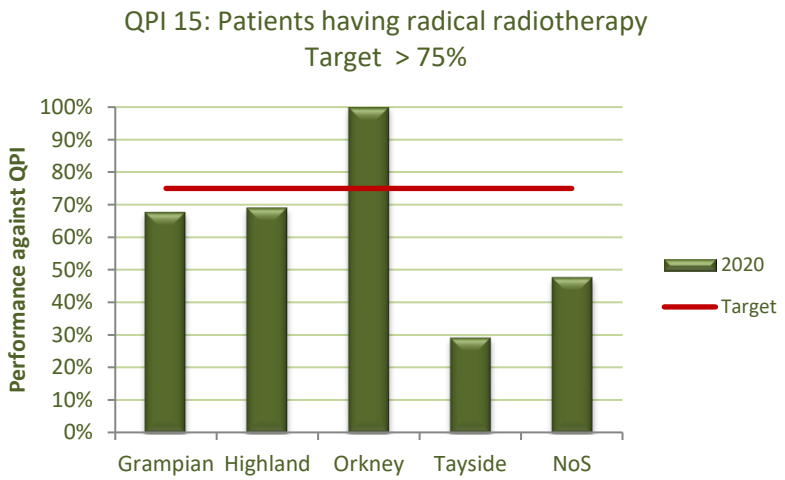
The North of Scotland overall met this target. Cases where patients did not receive SABR have been reviewed at Board level; these cases were due to patient fitness for treatment.

QPI 15	Pre-treatment diagnosis
Proportion of patients who receive curative treatment (radical radiotherapy or surgical resection) that have a cytological / histological diagnosis prior to definitive treatment.	



	Performance (%)	Numerator	Denominator
Grampian	**52.9%**	27	51
Highland	**85.2%**	23	27
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**61.3%**	19	31
W Isles	**100.0%**	6	6
NoS	**65.8%**	**77**	**117**



	Performance (%)	Numerator	Denominator
Grampian	**67.9%**	19	28
Highland	**69.2%**	9	13
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**29.4%**	15	51
W Isles	-	0	0
NoS	**47.9%**	**45**	**94**

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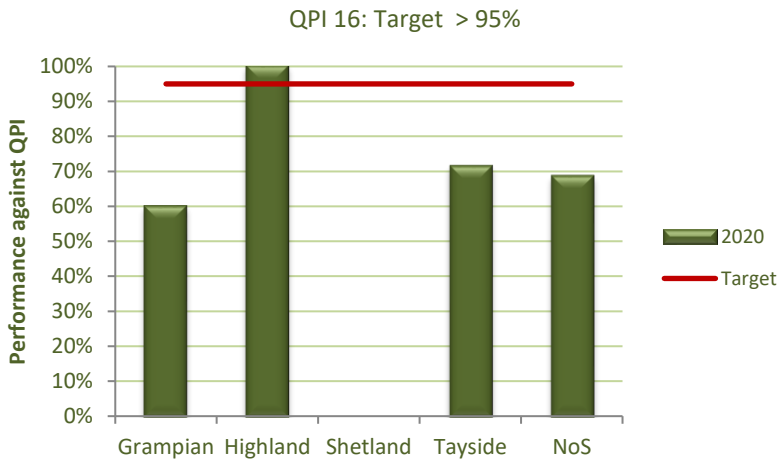
In several cases there were patient specific reasons for not pursuing a pre-operative diagnosis, and these have been documented by boards.

QPI 16	Brain Imaging
Proportion of patients with N2 disease who receive curative treatment (radical radiotherapy, radical chemoradiotherapy or surgical resection) that undergo contrast enhanced CT or contrast enhanced MRI prior to start of definitive treatment.	



	Performance (%)	Numerator	Denominator
Grampian	**60.0%**	6	10
Highland*	-	-	-
Orkney	-	0	0
Shetland*	-	-	-
Tayside	**71.4%**	15	21
W Isles	-	0	0
NoS	**68.6%**	**24**	**35**

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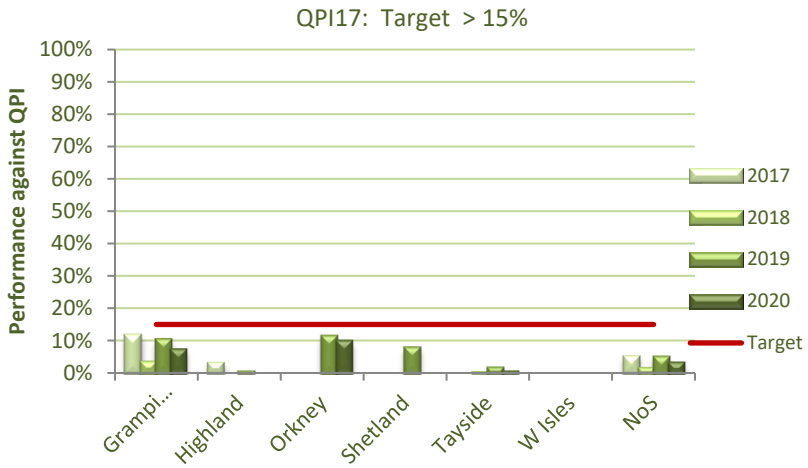
There were patient specific reasons for why some patients were not given a CT prior to start of treatment; however this will be raised with board MDTs for discussion.
Boards have found they are more likely to use CT than MRI due to pressures on MRI capacity.

QPI 17 Clinical Trial and Research Study Access

Proportion of patients with lung cancer who are consented for a clinical trial / research study.
Figures show patients consented for clinical trials or research studies during 2020.



	Performance (%)	Numerator	Denominator
Grampian	**7.0%**	34	483.4
Highland	**0.0%**	0	230.4
Orkney	**9.6%**	1	10.4
Shetland	**0.0%**	0	13.6
Tayside	**0.5%**	2	433.4
W Isles	**0.0%**	0	17.8
NoS	**3.1%**	**37**	**1189**

Due to the COVID-19 pandemic recruitment to clinical trials has decreased since 2019. This is partly due to all clinical trials across the UK being closed to recruitment on 13th March 2020. Trials began to reopen in a phased manner shortly after the closure based on local health board risk assessments. The cancer portfolio has since reopened the majority of trials and has been able to open new trials in all health boards. Impacts of COVID-19 on research staff have also effected the running of trials such as staff deployment to wards and COVID research. Also the impact of a reduced number of patients being diagnosed and coming into the cancer centres has had an impact on recruitment.

References

1. Scottish Cancer Taskforce, 2021. Lung Cancer Clinical Performance Indicators, Version 4.1. Health Improvement Scotland. https://www.healthcareimprovementscotland.org/his/idoc.ashx?docid=5d331ba1-a2b4-4950-9f9a-0cd9c98f9373&version=-1

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

Appendix 1: Clinical Trials and Research studies open to recruitment in the North of Scotland in 2020

Trial	Principle Investigator	Patients consented
ARROW	Gillian Price (Grampian)	N
CA209-73L	Claire Stilwell (Grampian)	N
CONFIRM	Gillian Price (Grampian) Angela Scott (Tayside) Carol MacGregor (Highland)	Y
DARWIN1	Gillian Price (Grampian)	Y
DARWIN2	Gillian Price (Grampian)	N
LEAP-006	Gillian Price (Grampian)	Y
LEAP-008	Gillian Price (Grampian)	N
ORION	Hannah Lord (Tayside)	Y
National Lung Matrix	Gillian Price (Grampian)	
NIVO PASS	Gillian Price (Grampian)	N
SMP2	Gillian Price (Grampian)	N
SYSTEMS-2	Claire Stilwell (Grampian)	Y
TRACERx	Gillian Price (Grampian)	Y