Quality Performance Indicators Audit Report

Tumour Area:	Lung Cancer
Patients Diagnosed:	1st January – 31st December 2021
Published Date:	February 2023

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

Between 1st January and 31st December 2021 a total of 1136 cases of lung cancer were diagnosed in the North of Scotland and recorded through audit. Overall case ascertainment was at 95.1% which is higher than last year's at 86.8%.

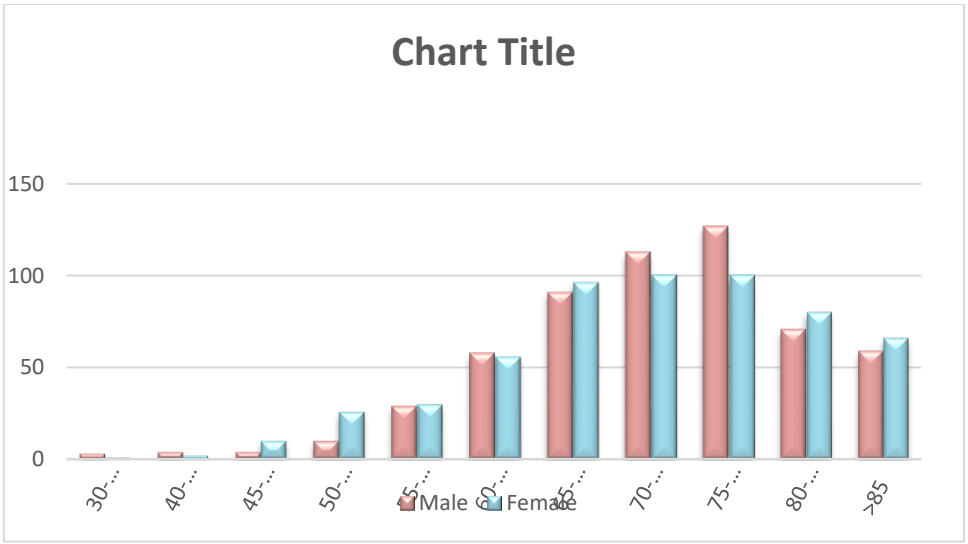
As such QPIs based on data captured are considered to be representative of all patients diagnosed with lung cancer during the audit period.

Case ascertainment and proportion of NCA total for patients diagnosed with Lung Cancer in 2021

	Grampian	Highland	Orkney	Shetland	Tayside	W Isles	NoS
No. of Patients 2021	464	237	10	12	379	34	1136
% of NoS total	40.8%	20.9%	0.9%	1.1%	33.4%	33.4%	100%
Mean ISD Cases 2016-20	493.0	235.0	11.4	13.4	423.4	18.8	1195.0
% Case ascertainment 2020	94.1%	100.9%	87.7%	89.6%	89.5%	180.9%	95.1%

2. Age Distribution

The figure below shows the age distribution of patients diagnosed with lung cancer in the North of Scotland in 2021, with numbers of patients diagnosed highest in the 75-79 year age bracket for both males and females.



Age distribution of patients diagnosed with lung cancer in the North of Scotland in 2021.

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.*

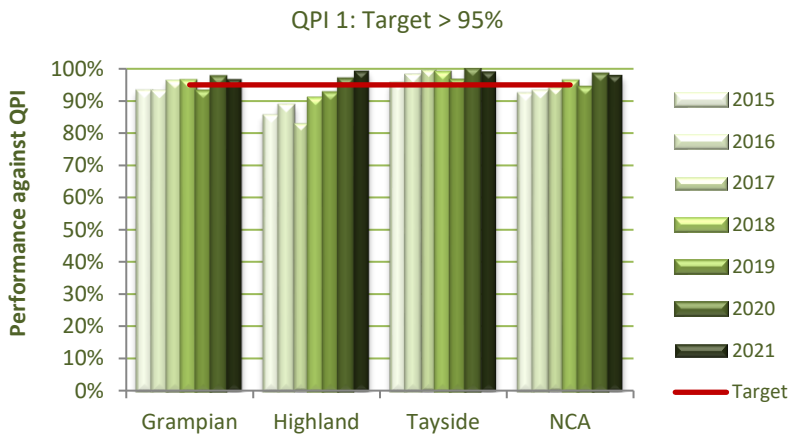
In regards to mortality following SACT, a decision has been taken nationally to move to a new generic QPI (30-day mortality for SACT) applicable across all tumour types. This new QPI will use CEPAS (Chemotherapy ePrescribing and Administration System) data to measure SACT mortality to ensure that the 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**

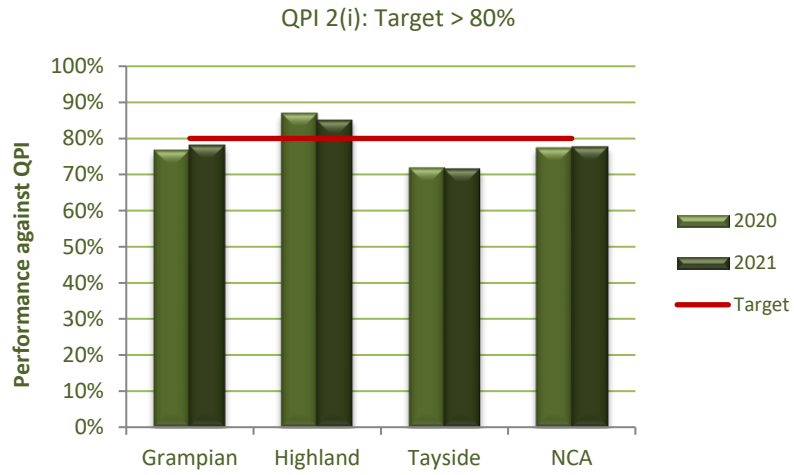
QPI 1	Multi-Disciplinary Team (MDT) Meeting
Proportion of patients with lung cancer who are discussed at the MDT meeting.	



	Performance (%)	Numerator	Denominator
Grampian	**96.6%**	448	464
Highland	**99.2%**	235	237
Orkney	**100.0%**	10	10
Shetland	**91.7%**	11	12
Tayside	**98.9%**	375	379
W Isles	**94.1%**	32	34
NCA	**97.8%**	**1111**	**1136**

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

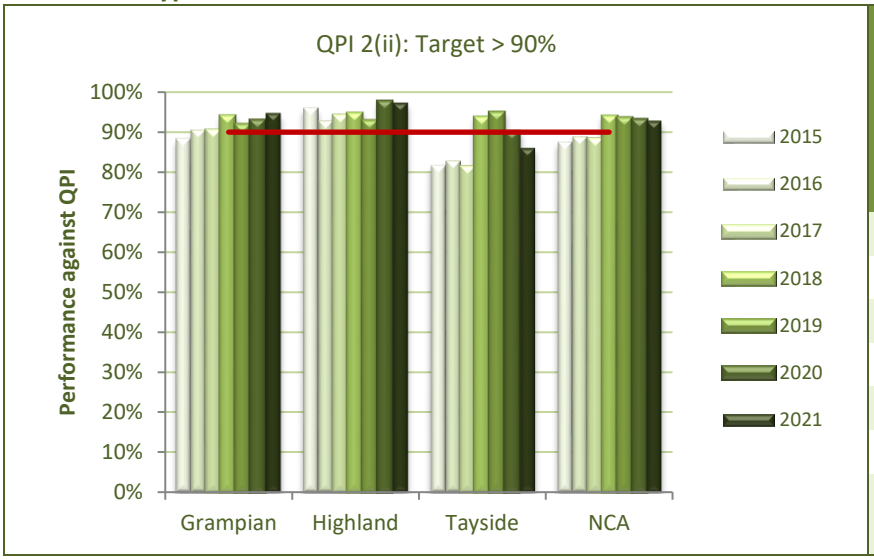
Specification (i) Patients with lung cancer who have a pathological diagnosis (including following surgical resection).



	Performance (%)	Numerator	Denominator
Grampian	**78.3%**	252	322
Highland	**85.2%**	150	176
Orkney	**100.0%**	9	9
Shetland	**66.7%**	6	9
Tayside	**71.7%**	180	251
W Isles	**78.3%**	18	23
NCA	**77.8%**	**615**	**790**

This QPI has been audited; the majority of cases where this QPI has not been met have been due to patient specific reasons why biopsy's for sampling were not possible or not best treatment.

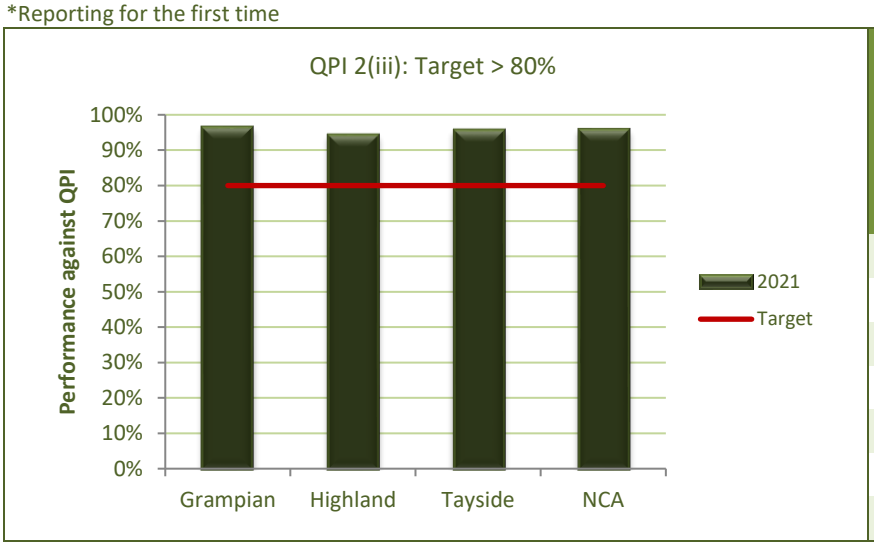
Specification (ii) Patients with a pathological diagnosis of non-small cell lung cancer (NSCLC) who have a tumour subtype identified.



	Performance (%)	Numerator	Denominator
Grampian	**94.6%**	246	260
Highland	**97.2%**	137	141
Orkney	**87.5%**	7	8
Shetland	**100.0%**	6	6
Tayside	**85.9%**	146	170
W Isles	**94.4%**	17	18
NCA	**92.7%**	**559**	**603**

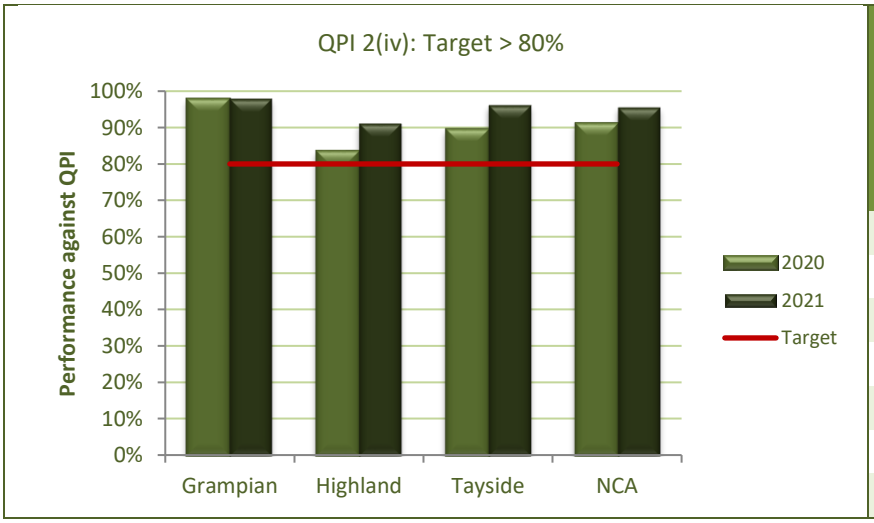
Specification (iii) Patients with a pathological diagnosis of non-squamous NSCLC who have oncogenic mutation profiling undertaken.

*Reporting for the first time



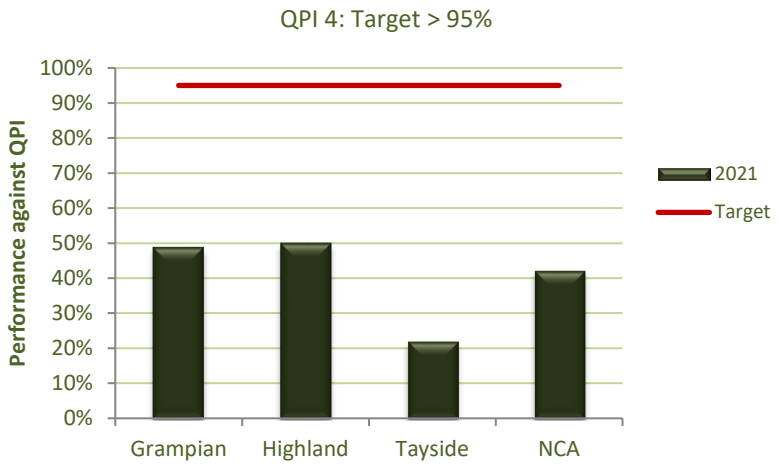
	Performance (%)	Numerator	Denominator
Grampian	**96.2%**	128	133
Highland	**94.1%**	80	85
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**95.5%**	85	89
W Isles	**100%**	13	13
NCA	**95.7%**	**310**	**324**

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



	Performance (%)	Numerator	Denominator
Grampian	**97.8%**	178	182
Highland	**91.1%**	102	112
Orkney	**100.0%**	5	5
Shetland*	-	-	-
Tayside	**96.1%**	122	127
W Isles	**93.8%**	15	16
NCA	**95.5%**	**425**	**445**

QPI 4	PET CT in patients being treated with curative intent.
Proportion of patients with NSCLC who are being treated with curative intent (radical radiotherapy, radical chemoradiotherapy or surgical resection) who undergo PET CT prior to start of treatment, where the report is available within 10 days of radiology request.	



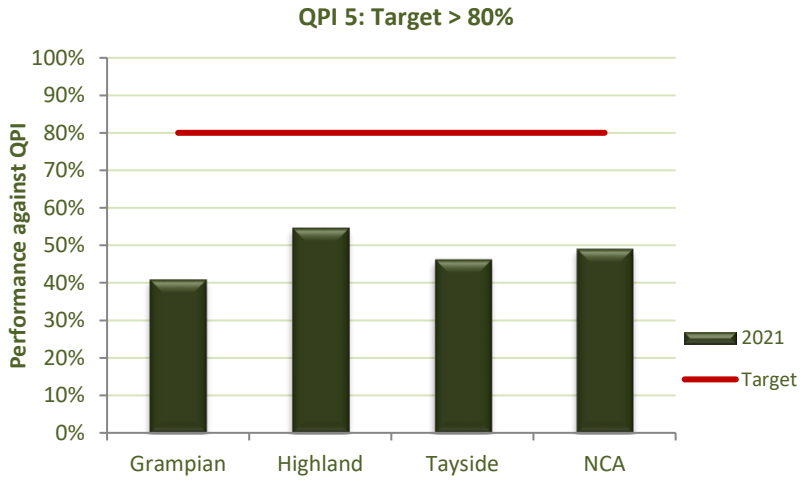
	Performance (%)	Numerator	Denominator
Grampian	48.8%	40	82
Highland	50.0%	18	36
Orkney	40%	2	5
Shetland*	-	-	-
Tayside	22.0%	11	50
W Isles	100.0%	5	5
NCA	42.0%	76	181

**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.*

This QPI has been audited; in all cases where it was appropriate patients are receiving a PET scan; however having a report within 10 days of a PET request is an ambitious target for all organisations in Scotland. This is due to pressures on imaging departments, and access to PET scans is a challenge across Scotland

QPI 5	Invasive investigation of intrathoracic nodal staging
Proportion of patients with NSCLC undergoing treatment with curative intent who have a PET CT scan that shows enlarged or positive hilar / mediastinal / supraclavicular fossa (SCF) nodes, that have invasive nodal staging (assessment / sampling) performed and nodes sampled.	

*Reporting for the first time



	Performance (%)	Numerator	Denominator
Grampian	40.9%	9	22
Highland	54.5%	6	11
Orkney*	-	-	-
Shetland	-	0	0
Tayside	46.2%	6	13
W Isles*	-	-	-
NCA	49.0%	25	51

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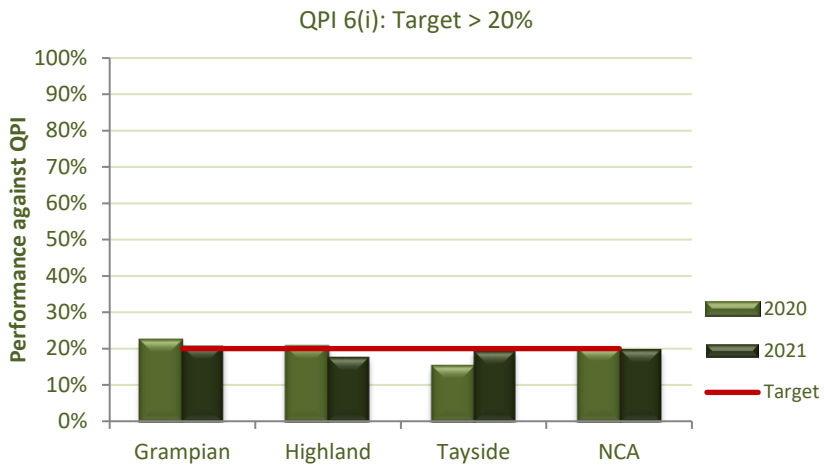
This QPI has been audited. In most cases where this QPI was not met, there were attempts at nodal sampling which were unsuccessful. It was also reported that on occasion by the time all staging information was available and a treatment plan agreed, further tests for nodal sampling which would not have changed therapy, but would have introduced delay, which was not in the patient's best interest.

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

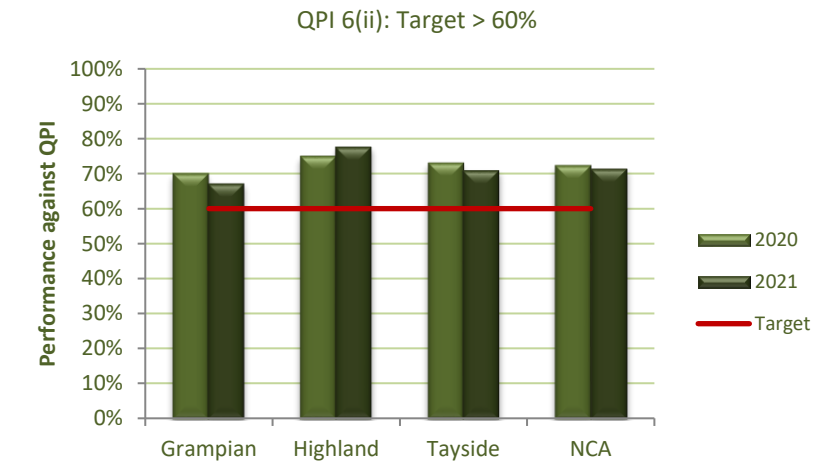
Specification (i) Patients with NSCLC who undergo surgical resection.



	Performance (%)	Numerator	Denominator
Grampian	**20.8%**	54	260
Highland	**17.7%**	25	141
Orkney	**50.0%**	4	8
Shetland	**33.3%**	2	6
Tayside	**19.4%**	33	170
W Isles	**11.1%**	2	18
NCA	**19.9%**	**120**	**603**

This QPI was audited and no patients were denied appropriate surgical resection.

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



	Performance (%)	Numerator	Denominator
Grampian	**67.3%**	35	52
Highland	**77.8%**	21	27
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**71.1%**	27	38
W Isles*	-	-	-
NCA	**71.5%**	**88**	**123**

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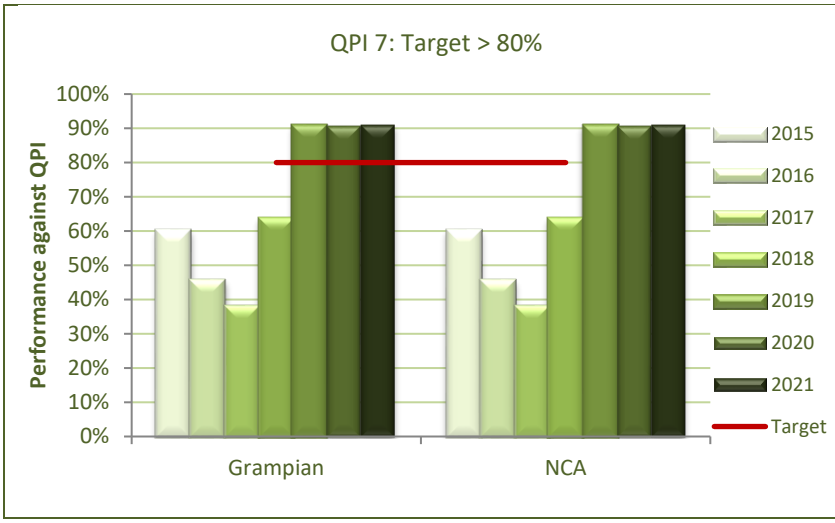
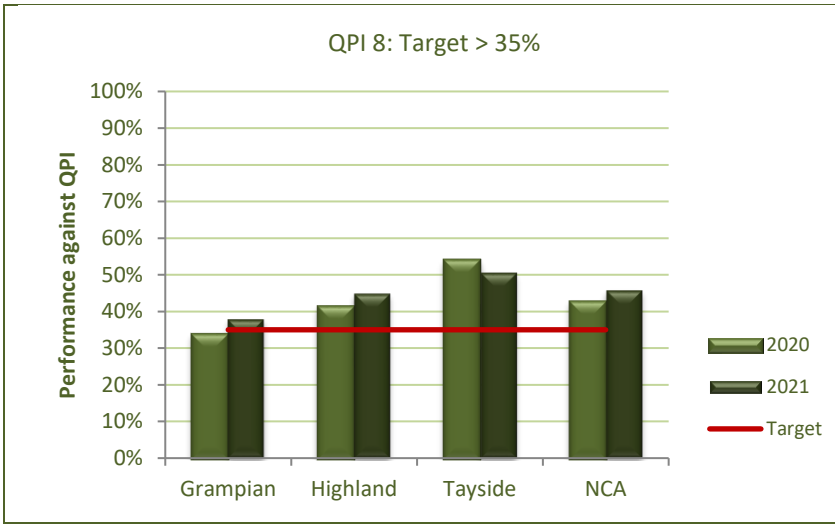
QPI 7	Lymph node assessment
Proportion of patients with NSCLC undergoing surgery who have adequate sampling of lymph nodes (at least 1 node from at least 3 N2 stations) performed at time of surgical resection or at previous mediastinoscopy.	



	Performance (%)	Numerator	Denominator
Grampian	**91.1%**	51	56
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	-	0	0
W Isles	-	0	0
NCA	**91.1%**	**51**	**56**

Improvement has been shown in the QPI and it has now been met for the third year in a row.

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	**37.8%**	31	82
Highland	**44.7%**	17	38
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**50.5%**	56	111
W Isles*	-	-	-
NCA	**45.6%**	**110**	**241**

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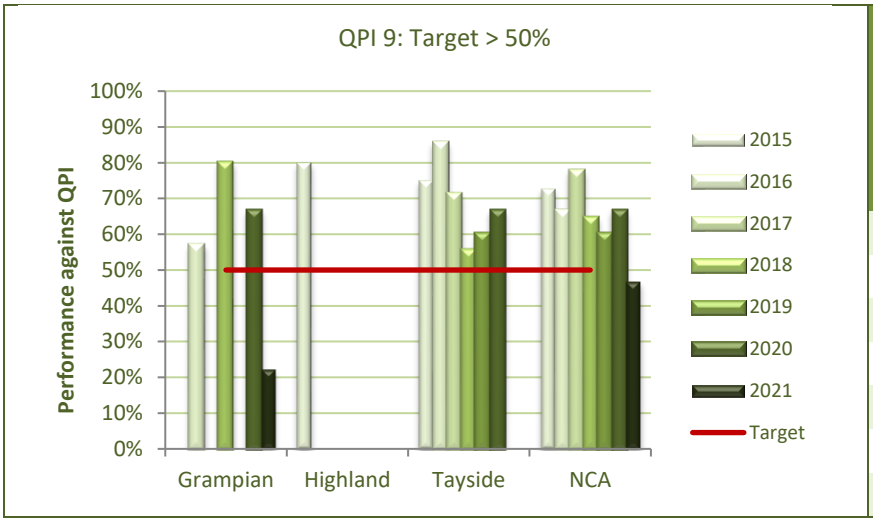
QPI 9	Chemoradiotherapy in locally advanced non-small cell lung cancer
Proportion of patients with stage IIIA NSCLC, with performance status 0-1 not undergoing surgery who receive radical radiotherapy, to 54Gy or greater, and concurrent or sequential chemotherapy.	



	Performance (%)	Numerator	Denominator
Grampian	**22.2%**	2	9
Highland*	-	-	-
Orkney*	-	-	-
Shetland	-	0	0
Tayside*	-	-	-
W Isles*	-	-	-
NCA	**46.7%**	**7**	**15**

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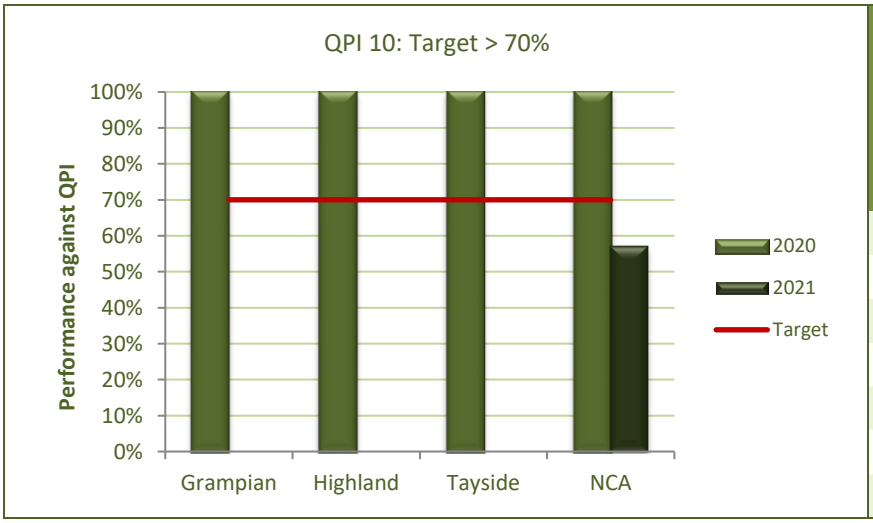
This QPI has been audited, and where it was not met it was found there were patient specific reasons why chemotherapy was not best treatment.

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
NCA	**57.1%**	**4**	**7**

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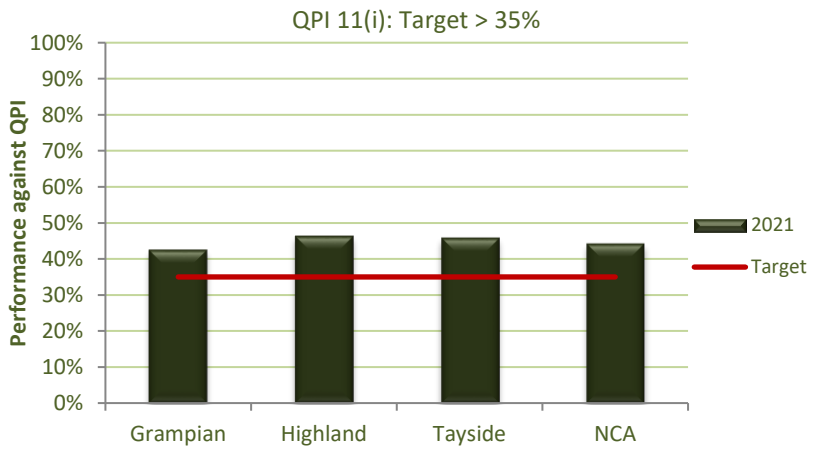
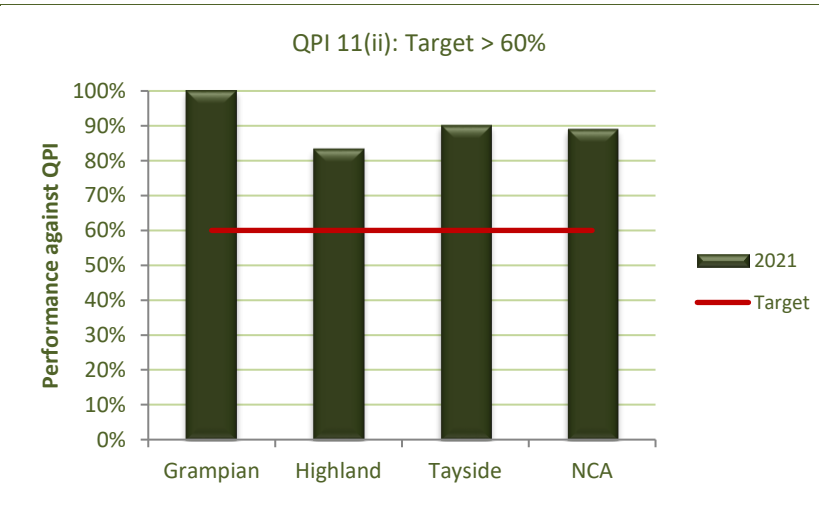
QPI 11(i)	Systemic anti-cancer therapy in non-small lung cancer
Proportion of patients with NSCLC not undergoing surgery who receive SACT.	



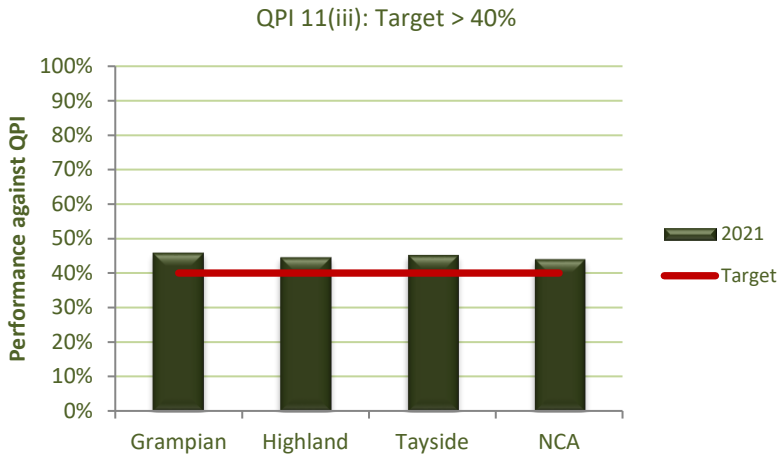
	Performance (%)	Numerator	Denominator
Grampian	42.4%	75	177
Highland	46.2%	49	106
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	45.7%	58	127
W Isles	33.3%	4	12
NCA	44.1%	189	429

QPI 11(ii)	Systemic anti-cancer therapy in non-small lung cancer
Proportion of patients with stage IIIB - IV NSCLC, with performance status 0-2 not undergoing surgery that have on oncogenic driver mutation who receive targeted therapy.	



	Performance (%)	Numerator	Denominator
Grampian	100.0%	10	10
Highland	83.3%	5	6
Orkney	-	0	0
Shetland	-	0	0
Tayside	90.0%	9	10
W Isles*	-	-	-
NCA	88.9%	24	27

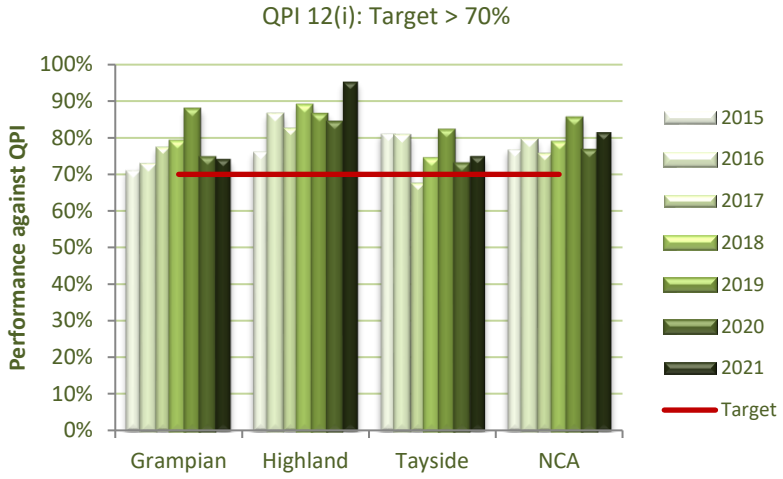
QPI 11(iii)	Systemic anti-cancer therapy in non-small lung cancer
Proportion of patients with stage IIIB - IV NSCLC, with performance status 0-2 not undergoing surgery that are oncogene mutation negative who receive immunotherapy.	



	Performance (%)	Numerator	Denominator
Grampian	45.8%	27	59
Highland	44.4%	20	45
Orkney*	-	-	-
Shetland	-	0	0
Tayside	45.2%	14	31
W Isles	20.0%	1	5
NCA	44.0%	62	141

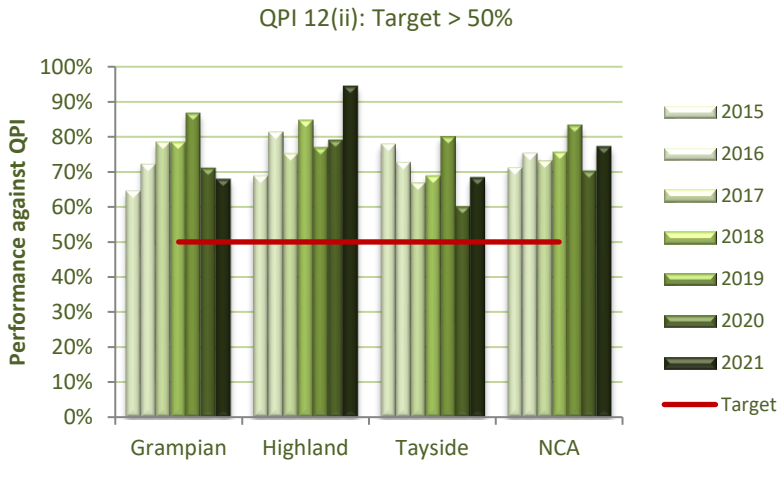
QPI 12	Chemotherapy in small cell lung cancer
Proportion of patients with SCLC who receive first line chemotherapy ± radiotherapy.	

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



	Performance (%)	Numerator	Denominator
Grampian	74.2%	23	31
Highland	95.2%	20	21
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	75.0%	18	24
W Isles*	-	-	-
NoS	81.5%	66	81

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



	Performance (%)	Numerator	Denominator
Grampian	**68.0%**	17	25
Highland	**94.4%**	17	18
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**68.4%**	13	19
W Isles*	-	-	-
NCA	**77.3%**	**51**	**66**

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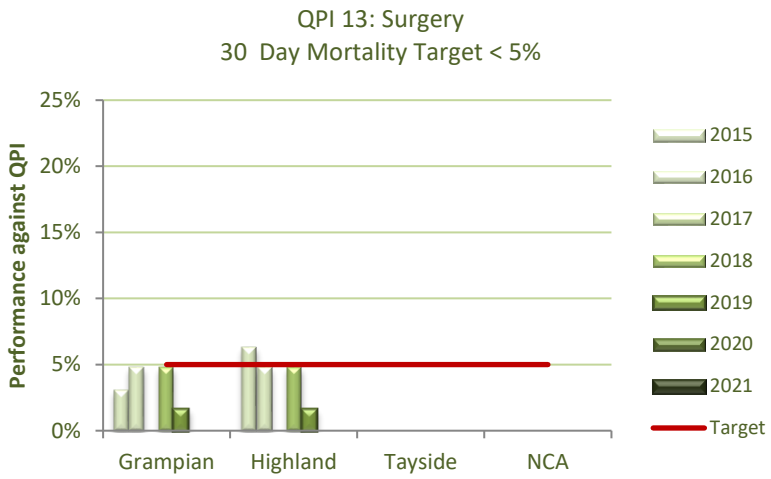
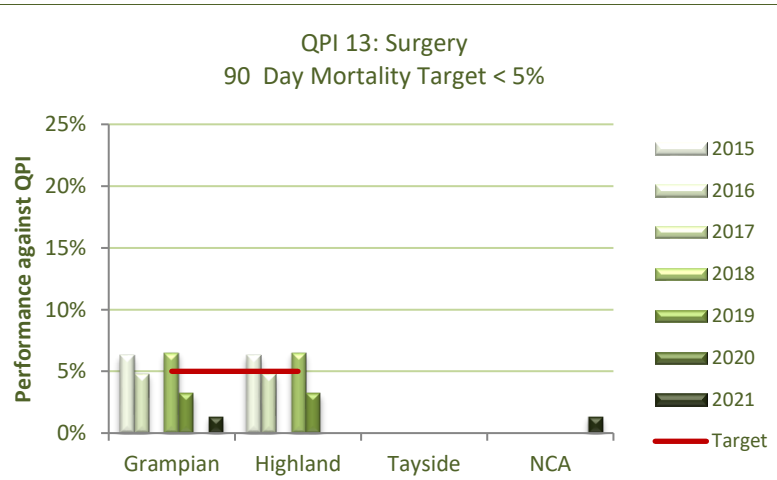
QPI 13	Mortality following treatment for lung cancer
Proportion of patients with lung cancer who receive treatment with curative intent who die within 30 or 90 days of treatment	

Specification (i) Patients with lung cancer who receive treatment with curative intent who die within 30 days of treatment (surgery).



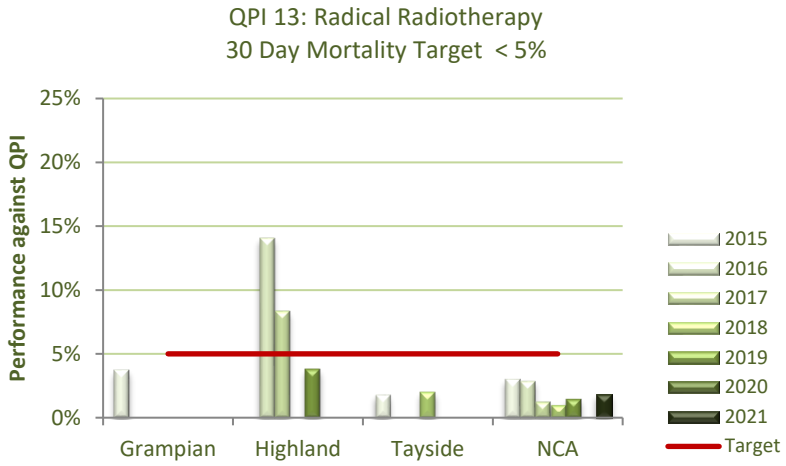
	Performance (%)	Numerator	Denominator
Grampian	**0.0%**	0	77
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	-	0	0
W Isles	-	0	0
NCA	**0.0%**	**0**	**77**

Specification (i) Patients with lung cancer who receive treatment with curative intent who die within 90 days of treatment (surgery).



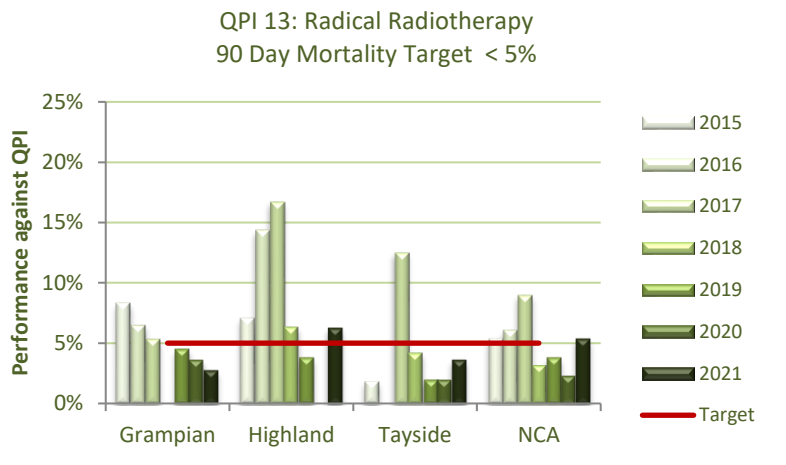
	Performance (%)	Numerator	Denominator
Grampian	**1.3%**	1	75
Highland	-	0	0
Orkney	-	0	0
Shetland	-	0	0
Tayside	-	0	0
W Isles	-	0	0
NCA	**1.3%**	**1**	**75**

Specification (ii) Proportion of patients with lung cancer who receive treatment with curative intent who die within 30 days of treatment (radical radiotherapy).



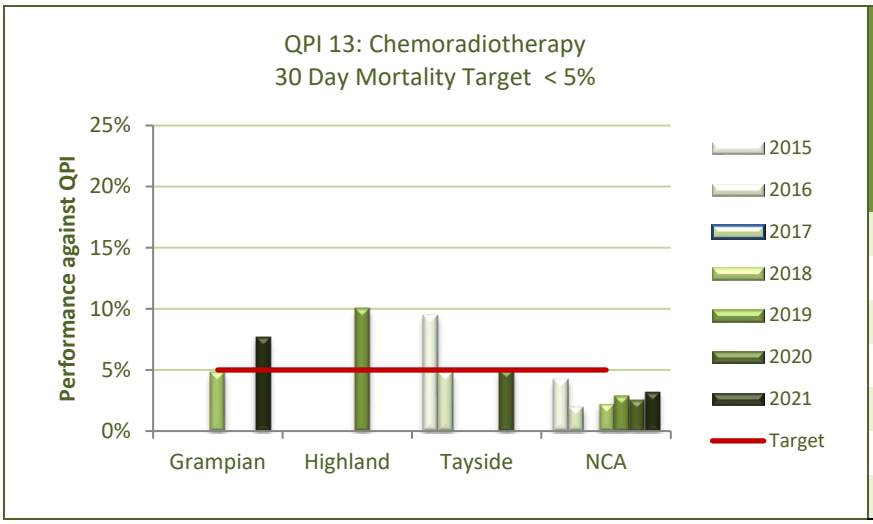
	Performance (%)	Numerator	Denominator
Grampian	**0.0%**	**0**	**36**
Highland	**0.0%**	**0**	**16**
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**0.0%**	**0**	**55**
W Isles*	-	-	-
NCA	**1.8%**	**2**	**112**

Specification (ii) Proportion of patients with lung cancer who receive treatment with curative intent who die within 90 days of treatment (radical radiotherapy).



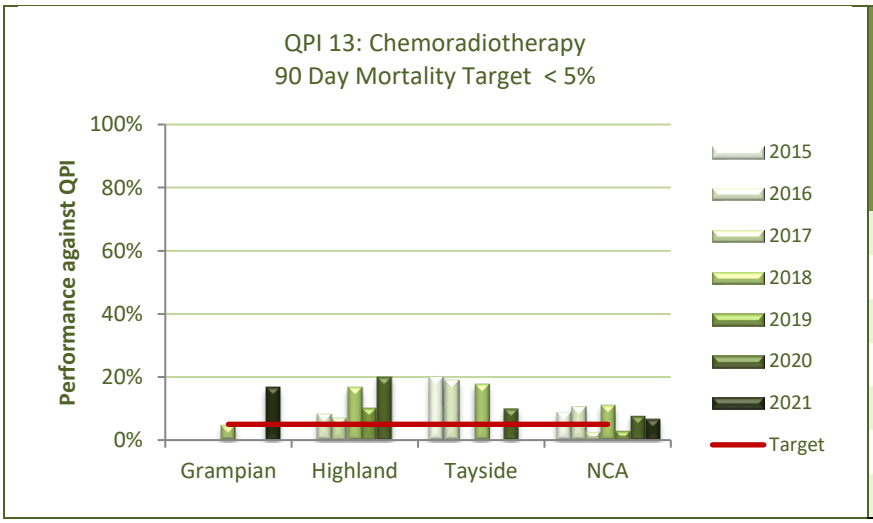
	Performance (%)	Numerator	Denominator
Grampian	**2.8%**	1	36
Highland	**6.3%**	1	16
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**3.6%**	2	55
W Isles*	-	-	-
NCA	**5.4%**	**6**	**112**

Specification (iii) Proportion of patients with lung cancer who receive treatment with curative intent who die within 30 days of treatment (chemoradiotherapy).



	Performance (%)	Numerator	Denominator
Grampian	**7.7%**	1	13
Highland	**0.0%**	0	4
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**0.0%**	0	10
W Isles*	-	-	-
NCA	**3.2%**	**1**	**31**

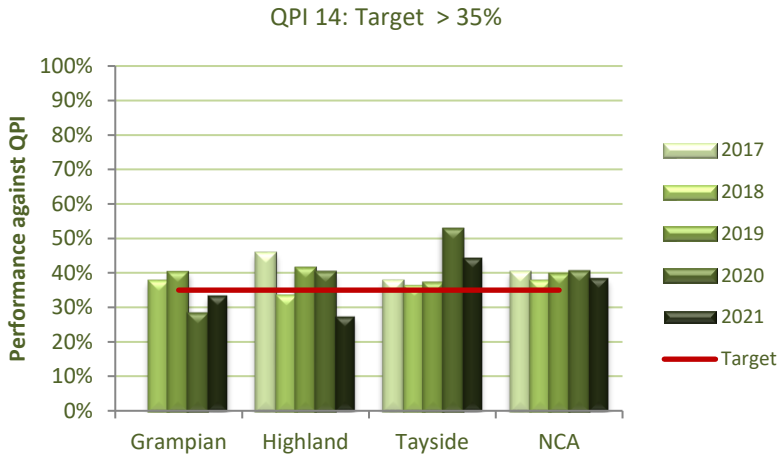
Specification (iii) Proportion of patients with lung cancer who receive treatment with curative intent who die within 90 days of treatment (Chemoradiotherapy).



	Performance (%)	Numerator	Denominator
Grampian	16.7%	2	12
Highland*	-	-	-
Orkney*	-	-	-
Shetland	-	0	0
Tayside	0.0%	0	10
W Isles*	-	-	-
NCA	**6.7%**	**2**	**30**

**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.*

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.	

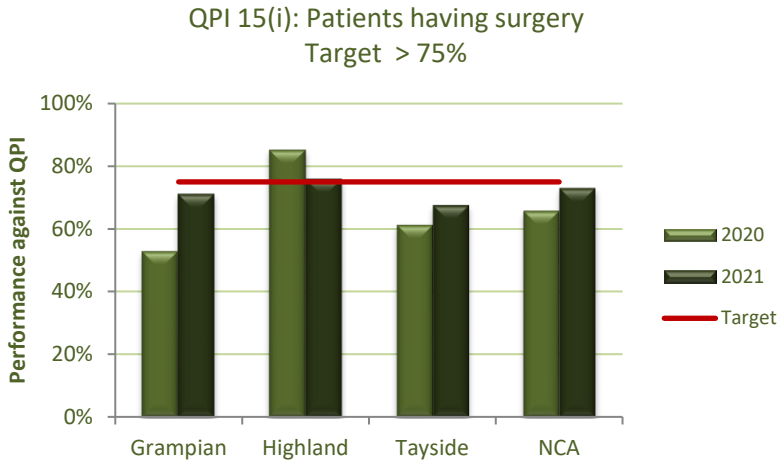


	Performance (%)	Numerator	Denominator
Grampian	**33.3%**	12	36
Highland	**27.3%**	3	11
Orkney	-	0	0
Shetland	-	0	0
Tayside	**44.2%**	23	52
W Isles	-	0	0
NCA	**38.4%**	**38**	**99**

**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.*

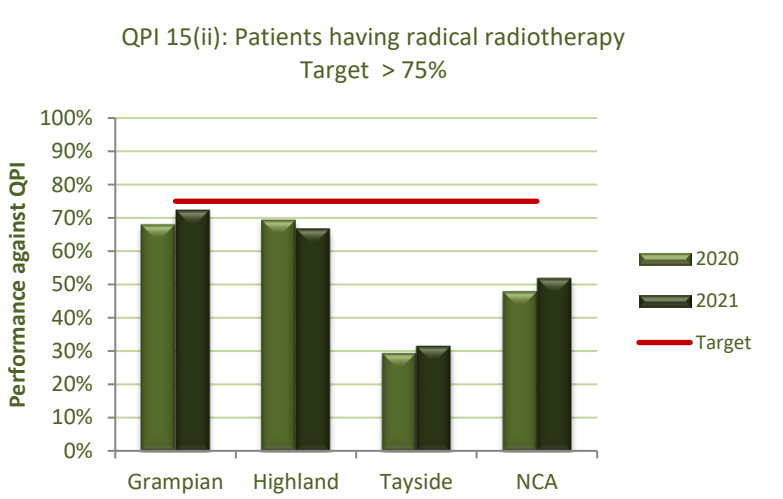
This QPI has been audited, and where it was not met there were patient specific reason why this was not best treatment.

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	**71.2%**	42	59
Highland	**76.0%**	19	25
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**67.6%**	23	34
W Isles*	-	-	-
NCA	**73.0%**	**92**	**126**

This QPI has been audited; where it was not met there were patient specific reasons why sampling was not attempted, or why attempted sampling was unsuccessful.

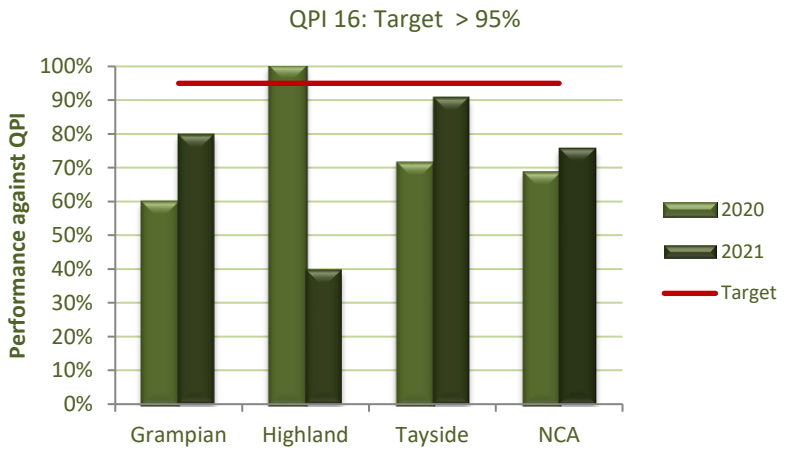


	Performance (%)	Numerator	Denominator
Grampian	**72.2%**	26	36
Highland	**66.7%**	10	15
Orkney*	-	-	-
Shetland*	-	-	-
Tayside	**31.5%**	17	54
W Isles*	-	-	-
NCA	**51.8%**	**57**	**110**

**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.*

This QPI has also been audited; and it was again found that where it was not met there were patient specific reasons why sampling was not attempted, or why attempted sampling was unsuccessful.

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	**80.0%**	12	15
Highland*	**40.0%**	2	5
Orkney*	-	-	-
Shetland	-	0	0
Tayside	**90.9%**	10	11
W Isles*	-	-	-
NCA	**75.8%**	**25**	**33**

**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.*

Overall this is improving. There were small numbers who did not meet the target which has been audited, and the MDTs are again reiterating the need to highlight this when patients are discussed.

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.

This QPI has been removed and will be reported nationally outside the regional framework.

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/