West of Scotland Cancer Network
Lung Cancer
Managed Clinical Network

Audit Report

Lung Quality Performance Indicators

Clinical Audit Data:
01 January 2023 to 31 December 2023

Dr Joris van der Horst
Consultant Respiratory Physician
MCN Clinical Lead

Gillian Petty
MCN Manager

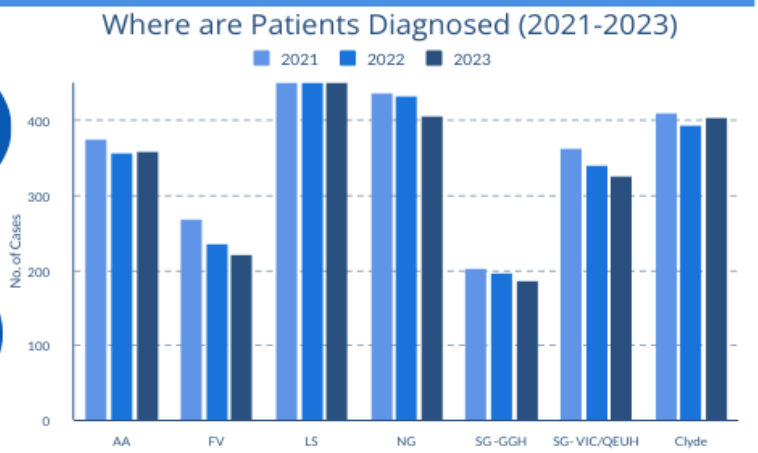
Julie McMahon
Information Analyst

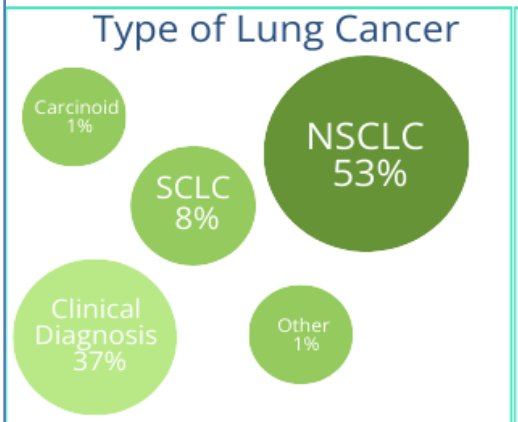
Lung Cancer Quality Performance Indicators

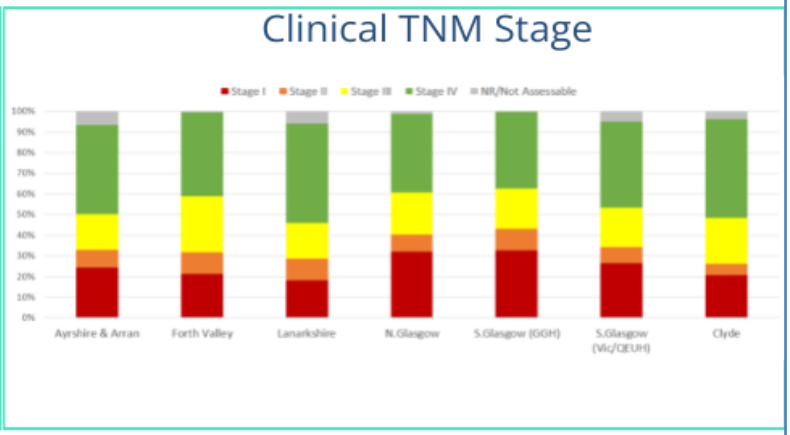
Patients Diagnosed: January 2023 - December 2023

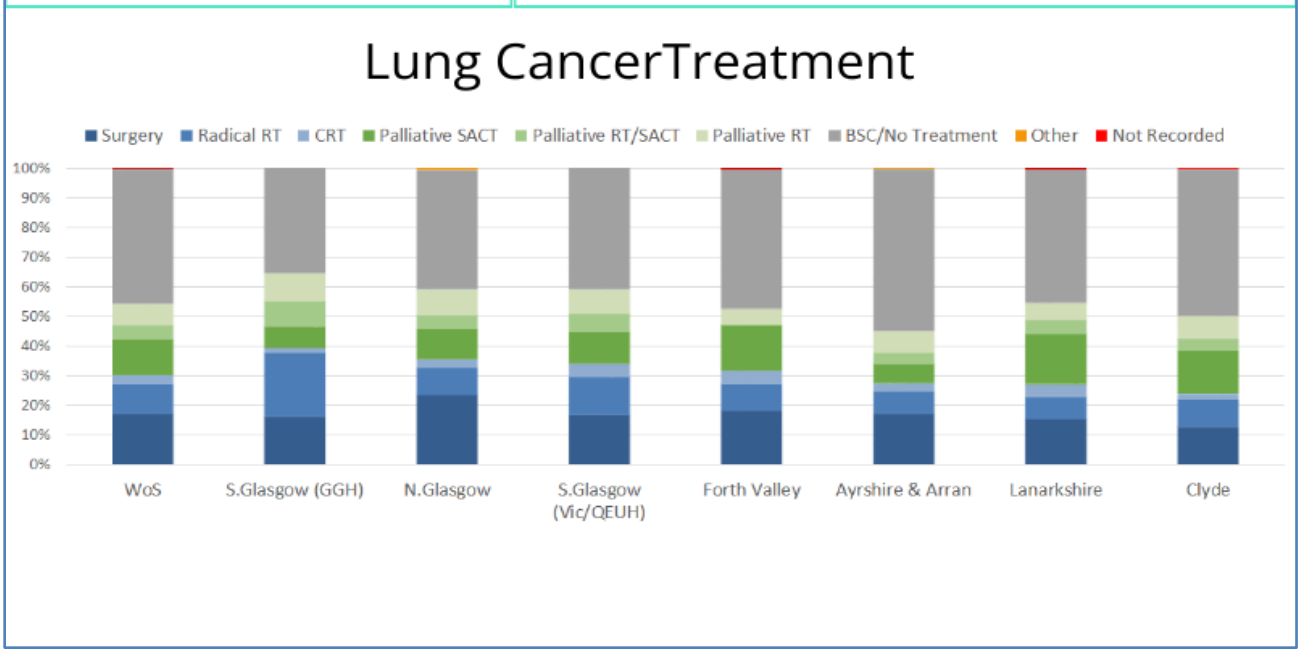
Number of Patients Diagnosed
2413
Male: 1106 (46%)
Female: 1307 (54%)

Median Age at Diagnosis
Male:73
Female:73



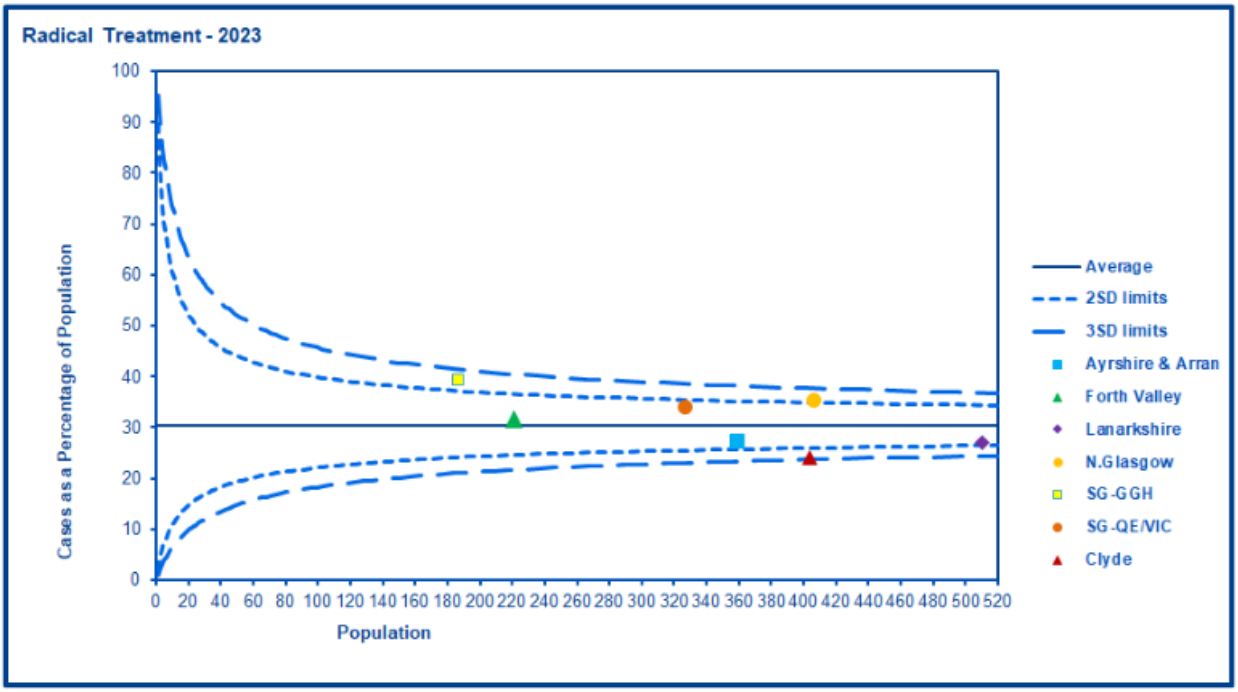


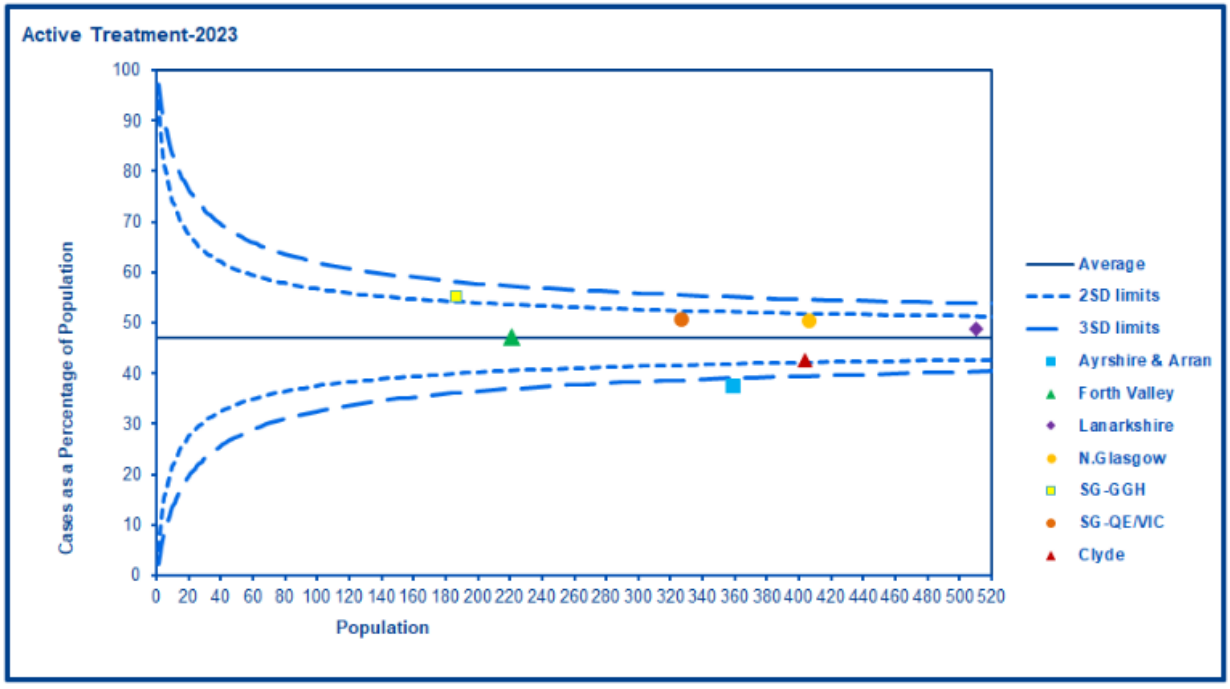




Radical and Active Treatment for Lung Cancer

Treatment rate data was plotted in a funnel chart to take account of variation in denominator numbers between NHS Boards. Reassuringly all Boards were within the control limits and no outliers were identified in terms of radical or active treatment. NHS FV demonstrated considerable improvement in treatment rates compared to 2022.





Executive Summary

This report contains an assessment of the performance of West of Scotland (WoS) lung cancer services using clinical audit data relating to patients diagnosed with lung cancer between 01 January and 31 December 2023.

Cancer audit has underpinned much of the regional development and service improvement work of the MCN and the regular reporting of activity and performance have been fundamental in assuring the quality of care delivered across the region. With the development of QPIs, this has now become a national programme to drive continuous improvement and ensure equity of care for patients across Scotland.

Overall WoS results are reassuring and demonstrate the high standard of care provided for lung cancer patients across the West of Scotland. Of the 28 lung cancer QPI measures, 25 were met at a regional level demonstrating the high quality of lung cancer services across the WoS. Targets were consistently met for MDT discussion (QPI 1), Pathological diagnosis (QPI 2ii, iii, iv), Surgical resection in NSCLC (QPI 6), Lymph Node Assessment (QPI 7), Radiotherapy in Inoperable Lung Cancer (QPI 8), SACT in NSCLC patients (QPI 11i) and 30 day Mortality for Surgery and Radical Radiotherapy (QPI13).

NHS Forth Valley were highlighted in last year's audit report as being an outlier with regards to treatment rate QPIs (QPIs 6, 8, 14) and QPI 16 Brain imaging. It is reassuring to see that their performance against all these QPIs has improved considerably in 2023.

Some of the QPI targets set have remained challenging for NHS Boards to achieve These continue to be around PET CT for patients being treated with curative intent (QPI 4) and pre-treatment diagnosis (QPI 15).

Some variance in performance does exist across the regions and, as per the agreed Regional governance process, each NHS Board was asked to complete a Performance Summary Report, providing a documented response where performance was below the QPI target. NHS Boards have provided detailed comments indicating valid clinical reasons or that, in some cases, patient choice or co-morbidities have influenced patient management. Note that QPI measures that have been met by all NHS Boards are included in the summary results table but not within the body of the report.

There are a number of actions required as a consequence of this assessment of performance against the agreed criteria.

Action Required:

QPI 4: PET CT in patients being treated with curative intent.

- MCN/PET Centre to audit the impact of the optimal pathway on reducing wait times for PET reports.

QPI 5: Invasive Investigation of Intrathoracic Staging

- NHSGGC Clyde sector to explore EBUS access and capacity v patient numbers in more detail compared to other GGC sectors, and establish if there is scope to expand this to ensure equity across the Board.
- NHS Lanarkshire in conjunction with the MCN to review reasons for lower rates of sampling within the Board in addition to number of operators and nodal yield to better understand reasons for non compliance with this QPI.

A summary of actions has been included within the Action Plan Report accompanying this report and templates have been provided to Boards.

Completed Action Plans should be returned to WoSCAN in a timely manner to facilitate further scrutiny at regional level and to allow co-ordinated regional action where appropriate.

3 Year Summary of Lung Cancer QPI Results

	Key
	Above Target Result
	Below Target Result

Quality Performance Indicator (QPI)	Performance by NHS Board									
	Target	Year	AA	FV	Lan	NG	SG - GGH	SG –VIC QEUH	Clyde	WoS
QPI 1: Proportion of patients with lung cancer who are discussed at MDT meeting.	**95%**	2023	100% (359/359)	98% (217/221)	99% (505/510)	98% (397/406)	99% (185/187)	99% (321/326)	99% (400/404)	99% (2384/2413
		2022	100% (356/356)	98% (233/237)	99.8% (536/537)	99.8% (433/434)	99% (196/198)	99% (337/341)	99% (392/395)	99% (2483/2498)
		2021	99.7% (375/376)	98% (264/269)	99.6% (470/472)	98% (430/438)	99% (202/203)	97% (353/363)	98% (401/410)	99% (2495/2531)
QPI 2(i): Proportion of patients with lung cancer who have a pathological diagnosis.	**80%**	2023	83% (169/204)	83% (119/144)	84% (279/334)	87% (242/277)	74% (99/134)	80% (180/224)	80% (202/252)	82% (1290/1569)
		2022	79% (182/228)	76% (106/140)	80% (281/353)	91% (243/268)	75% (99/132)	78% (176/226)	79% (214/270)	81% (1301/1617)
		2021	76% (197/259)	78% (132/169)	84% (246/294)	83% (228/275)	77% (103/134)	75% (179/238)	81% (210/261)	79% (1295/1630)
QPI 2(ii): Proportion of patients with a pathological diagnosis of non small cell lung cancer (NSCLC) who have tumour subtype identified.	**90%**	2023	96% (175/183)	91% (106/116)	95% (271/284)	95% (227/239)	95% (87/92)	94% (158/168)	92% (176/192)	94% (1200/1274)
		2022	96% (173/181)	91% (91/100)	97% (270/278)	94% (240/256)	90% (87/97)	94% (152/162)	92% (178/193)	94% (1191/1267)
		2021	95% (175/184)	93% (116/125)	95% (241/255)	92% (207/226)	93% (88/95)	90% (162/180)	95% (192/203)	93% (1181/1268)
QPI 2(iii): Proportion of patients with a pathological diagnosis of non-squamous non small cell lung cancer (NSCLC) who have oncogenic mutation profiling undertaken	**80%**	2023	89% (66/74)	92% (43/47)	96% (114/119)	94% (80/85)	97% (37/38)	94% (63/67)	97% (96/99)	94% (499/529)
		2022	89% (63/71)	92% (55/60)	95% (106/112)	94% (101/107)	100% (46/46)	99% (68/69)	88% (70/80)	93% (509/545)
		2021	94% (72/77)	89% (62/70)	94% (107/114)	100.0% (89/89)	95% (38/40)	95% (71/75)	95% (77/81)	95% (516/546)

(-) dash denotes a denominator of less than 5. Figures have been removed to ensure confidentiality.

Quality Performance Indicator (QPI)	Performance by NHS Board									
	Target	Year	AA	FV	Lan	NG	SG - GGH	SG –VIC QEUH	Clyde	WoS
QPI 2(iv): Proportion of patients with a pathological diagnosis of NSCLC who have PD-L1 testing undertaken.	**80%**	2023	89% (91/102)	94% (75/80)	97% (172/177)	96% (124/129)	94% (51/54)	95% (92/97)	97% (134/138)	85% (739/777)
		2022	89% (100/114)	93% (78/84)	96% (169/176)	95% (152/160)	100% (56/56)	97% (92/95)	92% (109/118)	94% (756/802)
		2021	92% (107/117)	91% (87/96)	95% (163/172)	99% (143/144)	97% (58/60)	93% (110/118)	94% (125/133)	94% (793/840)
QPI 4: Proportion of patients with non small cell lung cancer (NSCLC) who receive curative treatment (radical radiotherapy, radical chemoradiotherapy or surgical resection) that undergo PET CT prior to start of treatment, where the report is available within 10 days of radiology request.	**95%**	2023	28% (21/76)	11% (6/54)	7% (8/112)	30% (36/122)	22% (10/46)	27% (21/77)	20% (14/71)	21% (116/558)
		2022	1% (1/75)	20% (5/25)	3% (3/105)	29% (34/118)	31% (11/36)	28% (19/68)	10% (9/95)	16% (82/522)
		2021	1% (1/70)	9% (4/46)	2% (2/88)	36% (38/107)	40% (18/45)	34% (24/70)	8% (7/91)	18% (94/517)
QPI 5: 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.	**80%**	2023	91% (20/22)	89% (25/28)	63% (24/38)	96% (45/47)	88% (22/25)	88% (28/32)	79% (22/28)	85% (186/220)
		2022	91% (21/23)	57% (8/14)	81% (13/16)	87% (40/46)	80% (12/15)	62% (18/29)	64% (21/33)	76% (133/176)
		2021	65% (11/17)	62% (8/13)	78% (21/27)	84% (31/37)	71% (12/17)	67% (16/24)	50% (15/30)	69% (114/165)
QPI 6(i): Proportion of patients with NSCLC who undergo surgical resection.	**20%**	2023	31% (57/183)	33% (38/116)	27% (74/275)	39% (92/238)	31% (28/91)	29% (49/168)	25% (47/191)	31% (385/1262)
		2022	27% (48/181)	13% (13/100)	30% (82/278)	33% (83/255)	23% (22/97)	32% (51/160)	32% (61/192)	29% (360/1263)
		2021	27% (49/184)	18% (23/125)	23% (58/255)	30% (67/225)	31% (29/95)	23% (41/180)	28% (57/201)	26% (324/1265)
QPI 6(ii): Proportion of patients with stage I – II NSCLC who undergo surgical resection.	**60%**	2023	78% (53/68)	86% (31/36)	70% (60/86)	78% (80/102)	75% (27/36)	70% (42/60)	83% (38/46)	76% (331/434)
		2022	66% (37/56)	71% (10/14)	73% (57/78)	76% (67/88)	67% (20/30)	76% (41/54)	76% (40/53)	73% (272/373)
		2021	80% (43/54)	70% (19/27)	65% (42/65)	76% (59/78)	80% (24/30)	63% (32/51)	73% (47/64)	72% (266/369)

(-) dash denotes a denominator of less than 5. Figures have been removed to ensure confidentiality.

Quality Performance Indicator (QPI)	Performance by NHS Board									
	Target	Year	AA	FV	Lan	NG	SG - GGH	SG –VIC QEUH	Clyde	WoS
QPI 7: Proportion of patients with NSCLC undergoing surgery who have adequate sampling of lymph nodes performed at time of surgical resection or at previous mediastinoscopy.	**80%**	2023	90% (37/41)	100% (34/34)	92.4% (61/66)	92% (73/79)	92% (24/26)	87% (33/38)	91% (32/35)	92% (294/319)
		2022	97% (32/33)	100% (12/12)	98% (63/64)	96% (64/67)	100% (15/15)	95% (37/39)	81% (38/47)	94% (261/277)
		2021	81% (29/36)	95% (19/20)	98% (47/48)	94% (51/54)	86% (24/28)	87% (27/31)	91% (39/43)	91% (236/260)
QPI 8: Proportion of patients with stage I-IIIA lung cancer not undergoing surgery who receive radiotherapy with radical intent (54Gy or greater) ± chemotherapy, or SABR.	**35%**	2023	37% (29/78)	44% (20/45)	48% (47/98)	40% (41/103)	64% (37/58)	51% (38/74)	40% (37/92)	45% (249/548)
		2022	38% (28/74)	24% (12/50)	24% (22/90)	44% (51/116)	57% (29/51)	30% (26/86)	50% (48/96)	38% (216/563)
		2021	44% (32/72)	53% (35/66)	39% (31/80)	42% (42/99)	51% (29/57)	42% (44/106)	50% (46/92)	45% (259/572)
QPI 9: Proportion of patients with stage IIIA PS 0-1 NSCLC not undergoing surgery who receive radical radiotherapy, to 54Gy or greater, and concurrent or sequential chemotherapy.	**50%**	2023	-	-	60% (6/10)	71% (5/7)	-	67% (4/6)	-	61% (25/41)
		2022	71% (5/7)	-	-	89% (8/9)	n/a (0)	n/a (0)	36% (4/11)	59% (19/32)
		2021	60% (3/5)	33% (3/9)	71% (5/7)	50% (5/10)	-	60% (3/5)	38% (3/8)	50% (24/48)
QPI 10: Proportion of patients with limited stage SCLC treated with radical intent who receive both platinum-based chemotherapy, and radiotherapy to 40Gy or greater.	**70%**	2023	-	-	-	40% (2/5)	n/a (0)	-	-	71% (12/17)
		2022	-	-	-	n/a (0)	-	100% (6/6)	-	93% (14/15)
		2021	n/a	-	-	-	n/a	-	-	90% (9/10)
QPI 11(i): Proportion of patients with NSCLC who receive systemic anti cancer therapy (SACT)	**35%**	2023	36% (38/107)	56% (31/55)	55% (99/179)	37% (50/136)	40% (21/52)	44% (45/103)	49% (61/124)	46% (345/756)
		2022	42% (48/114)	55% (38/69)	54% (92/171)	39% (62/158)	42% (26/62)	37% (34/93)	40% (47/119)	44% (347/786)
		2021	36% (45/125)	49% (45/92)	43% (76/179)	43% (63/145)	42% (24/57)	38% (49/128)	31% (41/131)	40% (343/857)

(-) dash denotes a denominator of less than 5. Figures have been removed to ensure confidentiality.

Quality Performance Indicator (QPI)	Performance by NHS Board									
	Target	Year	AA	FV	Lan	NG	SG - GGH	SG –VIC QEUH	Clyde	WoS
QPI 11(ii): Proportion of patients with stage IIIB - IV NSCLC that have an oncogenic driver mutation who receive targeted therapy.	**80%**	2023	-	100% (5/5)	91% (10/11)	83% (5/6)	-	100% (5/5)	64% (7/11)	87% (39/45)
		2022	100% (5/5)	-	88% (7/8)	91% (10/11)	-	-	80% (4/5)	91% (32/35)
		2021	-	-	100% (7/7)	80% (4/5)	-	-	-	78% (21/27)
QPI 11(iii): Proportion of patients with stage IIIB – IV NSCLC with performance status 0-2 not undergoing surgery that are oncogene mutation negative who receive immunotherapy.	**40%**	2023	38% (12/32)	40% (8/20)	65% (40/62)	29% (12/42)	40% (8/20)	59% (19/32)	55% (29/53)	49% (128/261)
		2022	46% (13/28)	65% (20/31)	65% (39/60)	33% (14/43)	48% (13/27)	58% (19/33)	47% (18/38)	52% (136/260)
		2021	17% (8/48)	64% (21/33)	54% (27/50)	42% (22/53)	47.3% (26/55)		48% (19/40)	44% (123/279)
QPI 12(i): Proportion of patients with SCLC who receive chemotherapy ± radiotherapy.	**70%**	2023	57% (8/14)	92% (11/12)	82% (31/38)	65% (22/34)	100% (12/12)	81% (25/31)	73% (22/30)	77% (131/171)
		2022	68% (23/34)	75% (12/16)	78% (36/46)	78% (28/36)	71% (12/17)	82% (31/38)	73% (24/33)	76% (166/220)
		2021	78% (21/27)	100% (15/15)	81% (34/42)	77% (33/43)	94% (15/16)	85% (22/26)	63% (20/32)	80% (160/201)
QPI 12(ii): Proportion of patients with SCLC not undergoing treatment with curative intent who receive palliative chemotherapy.	**50%**	2023	46% (5/11)	89% (8/9)	78% (25/32)	61% (19/31)	100% (12/12)	79% (19/24)	70% (19/27)	73% (107/146)
		2022	61% (17/28)	73% (11/15)	73% (30/41)	73% (19/26)	71% (10/14)	74% (20/27)	67% (18/27)	70% (125/178)
		2021	76% (19/25)	100% (10/10)	80% (32/40)	74% (26/35)	93% (14/15)	82% (18/22)	59% (17/29)	77% (136/176)
QPI 13: 30 day mortality (surgery). Proportion of patients with lung cancer who die within 30 days of surgery for lung cancer.	**< 5%**	2023	0% (0/61)	0% (0/40)	0% (0/78)	1% (1/94)	0% (0/30)	0% (0/55)	6% (3/51)	1% (4/409)
		2022	2% (1/53)	0% (0/13)	0% (0/85)	0% (0/86)	0% (0/23)	0% (0/55)	0% (0/66)	0.3% (1/381)
		2021	2% (1/53)	0% (0/25)	0% (0/61)	3% (2/68)	0% (0/29)	0% (0/47)	2% (1/61)	1% (4/344)

(-) dash denotes a denominator of less than 5. Figures have been removed to ensure confidentiality.

Quality Performance Indicator (QPI)	Performance by NHS Board									
	Target	Year	AA	FV	Lan	NG	SG - GGH	SG –VIC QEUH	Clyde	WoS
QPI 13: 90 day mortality (surgery). Proportion of patients with lung cancer who die within 90 days of surgery for lung cancer.	**< 5%**	2023	2% (1/57)	8% (3/40)	0% (0/76)	1% (1/92)	0% (0/30)	2% (1/54)	6% (3/50)	2% (9/399)
		2022	4% (2/51)	0% (0/13)	0% (0/83)	2% (2/86)	0% (0/23)	2% (1/50)	0% (0/65)	1% (5/371)
		2021	4% (2/52)	4% (1/25)	2% (1/61)	3% (2/68)	4% (1/28)	0% (0/47)	2% (1/59)	2% (8/340)
QPI 13: 30 day mortality (radical radiotherapy). Proportion of patients with lung cancer who die within 30 days of radical radiotherapy for lung cancer.	**< 5%**	2023	0% (0/28)	5% (1/20)	3% (1/39)	0% (0/38)	0% (0/40)	0% (0/43)	0% (0/37)	1% (2/245)
		2022	0% (0/29)	8% (1/13)	0% (0/26)	0% (0/49)	0% (0/34)	0% (0/30)	0% (0/51)	0.4% (1/232)
		2021	0% (0/29)	3% (1/37)	3% (1/33)	0% (0/45)	0% (0/32)	0% (0/46)	2% (1/57)	1% (3/279)
QPI 13: 90 day mortality (radical radiotherapy). Proportion of patients with lung cancer who die within 90 days of radical radiotherapy for lung cancer	**< 5%**	2023	0% (0/28)	11% (2/18)	11% (4/35)	3% (1/36)	0% (0/40)	2% (1/42)	6% (2/35)	4% (10/234)
		2022	7% (2/27)	23% (3/13)	4% (1/26)	0% (0/47)	6% (2/32)	4% (1/28)	6% (3/48)	5% (12/221)
		2021	4% (1/28)	3% (1/36)	9% (3/33)	0% (0/44)	3% (1/32)	2% (1/43)	2% (1/57)	3% (8/273)
QPI 13: 30 day mortality (radical chemoradiotherapy). Proportion of patients with lung cancer who die within 30 days of radical chemoradiotherapy for lung cancer.	**< 5%**	2023	0% (0/9)	0% (0/9)	5% (1/21)	0% (0/11)	-	0% (0/15)	0% (0/9)	4% (3/77)
		2022	0% (0/13)	0% (0/9)	0% (0/11)	7% (2/28)	-	0% (0/20)	0% (0/12)	2% (2/96)
		2021	0% (0/6)	0% (0/9)	0% (0/13)	0% (0/22)	20% (1/5)	0% (0/10)	0% (0/8)	1% (1/73)
QPI 13: 90 day mortality (radical chemoradiotherapy). Proportion of patients lung cancer who die within 90 days of radical chemoradiotherapy for lung cancer.	**< 5%**	2023	0% (0/8)	0% (0/9)	5% (1/21)	0% (0/10)	-	13% (2/15)	13% (1/8)	8% (6/74)
		2022	0% (0/12)	0% (0/9)	0% (0/10)	7% (2/28)	-	0% (0/18)	0% (0/11)	3% (3/91)
		2021	0% (0/6)	0% (0/9)	8% (1/12)	5% (1/22)	20% (1/5)	0% (0/10)	25% (2/8)	7% (5/72)

(-) dash denotes a denominator of less than 5. Figures have been removed to ensure confidentiality.

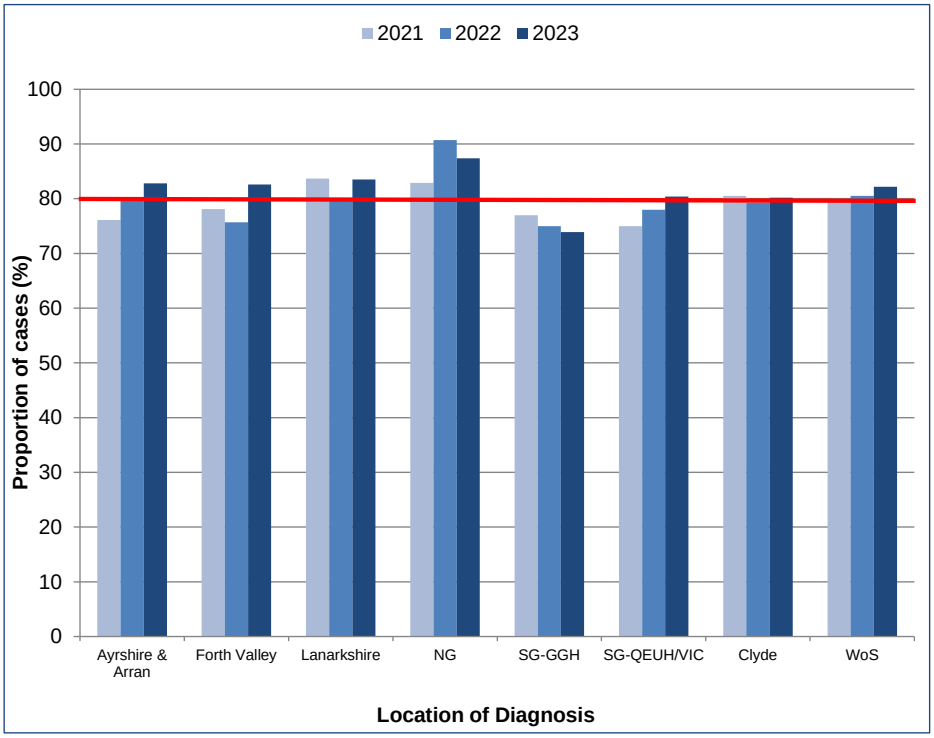
Quality Performance Indicator (QPI)	Performance by NHS Board									
	Target	Year	AA	FV	Lan	NG	SG - GGH	SG –VIC QEUH	Clyde	WoS
QPI 14: SABR in inoperable stage I lung cancer. Proportion of patients with stage I lung cancer not undergoing surgery who receive SABR.	**35%**	2023	34% (13/38)	50% (11/22)	42% (15/36)	29% (16/56)	40% (14/35)	29% (12/41)	33% (13/40)	35% (94/268)
		2022	31% (9/29)	15% (3/20)	28% (11/39)	44% (27/61)	49% (16/33)	27% (15/56)	44% (20/46)	36% (101/284)
		2021	47% (15/32)	36% (11/31)	24% (9/37)	35% (18/52)	48% (16/33)	36% (20/56)	38% (18/47)	37% (107/288)
QPI 15(i): Pre-treatment Diagnosis. Proportion of patients who receive curative treatment that have a histological/cytological diagnosis prior to surgery.	**75%**	2023	51% (31/61)	82% (32/39)	96% (74/77)	77% (71/92)	97% (29/30)	78% (42/54)	58% (29/50)	76% (308/403)
		2022	50% (26/52)	69% (9/13)	77% (65/84)	73% (63/86)	96% (22/23)	59% (33/56)	61% (40/66)	68% (258/380)
		2021	70% (37/53)	60% (15/25)	82% (50/61)	74% (50/68)	93% (27/29)	65% (30/46)	62% (38/61)	72% (247/343)
QPI 15(ii): Pre-treatment Diagnosis. Proportion of patients who receive curative treatment that have a histological/cytological diagnosis prior to radical radiotherapy.	**75%**	2023	59% (16/27)	53% (10/19)	61% (23/38)	69% (24/35)	45% (18/40)	57% (24/42)	56% (20/36)	57% (135/237)
		2022	73% (22/30)	83% (10/12)	76% (19/25)	51% (23/45)	47% (15/32)	52% (14/27)	61% (30/49)	61% (133/220)
		2021	55% (17/31)	62% (21/34)	79% (26/33)	66% (29/44)	46% (12/26)	56% (25/45)	64% (35/55)	62% (165/268)
QPI 16: Brain Imaging. Proportion of patients with N2 disease who receive curative treatment that undergo contrast enhanced CT or contrast enhanced MRI prior to start of definitive treatment.	**95%**	2023	67% (6/9)	71% (10/14)	93% (14/15)	100% (15/15)	86% (6/7)	93% (14/15)	100% (12/12)	89% (77/87)
		2022	69% (9/13)	25% (2/8)	89% (8/9)	100% (16/16)	100% (7/7)	92% (11/12)	94% (16/17)	84% (69/82)
		2021	50% (5/10)	75% (6/8)	100% (16/16)	93% (14/15)	90% (9/10)	92% (11/12)	100% (17/17)	89% (78/88)

(-) dash denotes a denominator of less than 5. Figures have been removed to ensure confidentiality.

QPI 2: Pathological Diagnosis

Title:	(i): Patients with lung cancer who have a pathological diagnosis.
Numerator:	Number of patients with lung cancer who have a pathological diagnosis (including following surgical resection).
Denominator:	All patients with lung cancer.
Exclusions:	Patients who decline investigations or surgical resection Patients with Performance status 3 or 4
Target:	80% or above

Figure 1: The proportion of patients who have a pathological diagnosis of lung cancer.



2023	Performance (%)	Numerator	Denominator
AA	82.8%	169	204
FV	82.6%	119	144
LAN	83.5%	279	334
NG	87.4%	242	277
SG-GGH	73.9%	99	134
SG-QEUH/VIC	80.4%	180	224
Clyde	80.2%	202	252
WoS	82.2%	1290	1569

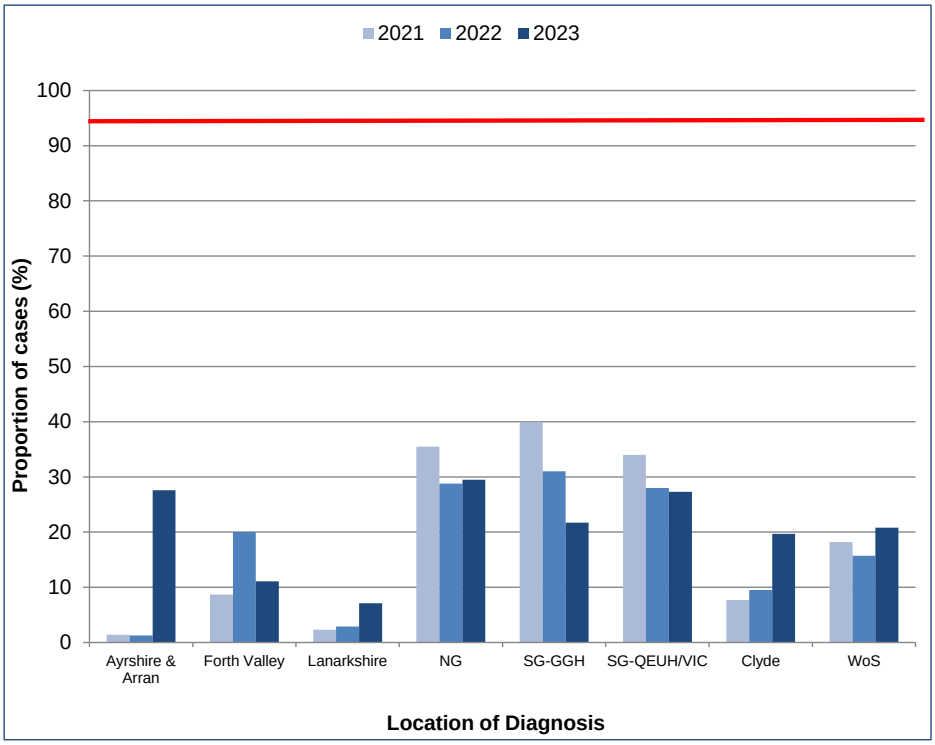
Results for this QPI indicate that the vast majority of patients with lung cancer had a pathological diagnosis, with the QPI target being met at a regional level. NHSGGC South GGH Sector were the only unit to not archive the 80% QPI target with performance of 73.9%.

NHSGGC reported that all cases were reviewed and reasons provided for cases not meeting the QPI included cases where a biopsy of the primary lung lesion was felt to be too high risk due to comorbidities such as poor lung function, patients that were not fit for treatment and where it would have been inappropriate to pursue a tissue diagnosis. In four cases a percutaneous biopsy, as the only potential route to a tissue diagnosis, was technically not feasible. Five patients did have tissue sampling from lymph nodes to exclude spread which was negative, but biopsy of the primary lesion was felt not feasible.

QPI 4: PET CT in patients being treated with curative intent.

Title:	Proportion of patients with non small cell lung cancer (NSCLC) who receive curative treatment (radical radiotherapy, radical chemoradiotherapy or surgical resection) that undergo PET CT prior to start of treatment, where the report is available within 10 days of radiology request.
Numerator:	Number of patients with NSCLC who receive curative treatment (radical radiotherapy, radical chemoradiotherapy or surgical resection) that undergo PET CT prior to start of treatment where the report is available within 10 days of radiology request.
Denominator:	All patients with NSCLC who receive curative treatment (radical radiotherapy, radical chemoradiotherapy or surgical resection) that undergo PET CT prior to start of treatment.
Exclusions:	No exclusions.
Target:	95% or above.

Figure 2: The proportion patients with NSCLC who receive curative treatment (radical radiotherapy, radical chemoradiotherapy or surgical resection) that undergo PET CT prior to start of treatment, where the report is available within 10 days of radiology request.



2023	Performance (%)	Numerator	Denominator
AA	27.6%	21	76
FV	11.1%	6	54
LAN	7.1%	8	112
NG	29.5%	36	122
SG-GGH	21.7%	10	46
SG-QEUH/VIC	27.3%	21	77
Clyde	19.7%	14	71
WoS	20.8%	116	558

Review of patients not meeting this QPI indicates that patients did have appropriate imaging but this was reported more than 10 days after the radiology request, largely due to reporting capacity within radiology services. It is anticipated that these results will improve over the next few years due to the recent roll out of the optimal pathway to all WoS boards not just NHSGGC North Sector. The aim of the optimal pathway is to significantly reduce the time from request to scan with reporting of these scans being prioritised.

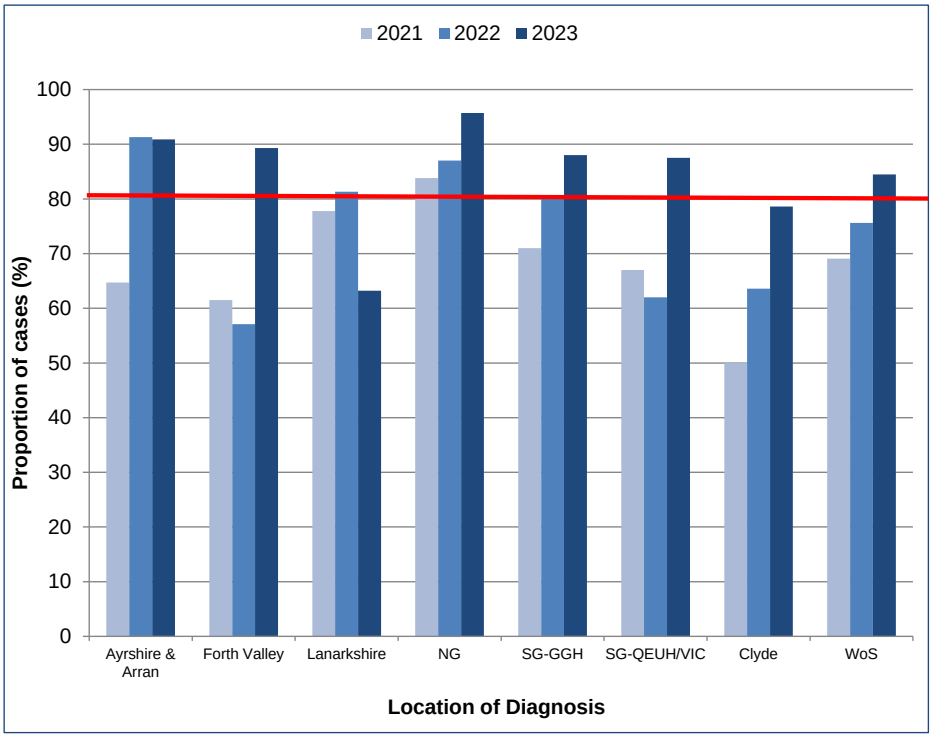
Action Required:

- MCN/PET Centre to audit the impact of the optimal pathway on reducing wait times for PET reports.

QPI 5: Invasive Investigation of Intrathoracic Staging.

Title:	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.
Numerator:	Number 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.
Denominator:	All patients with NSCLC undergoing treatment with curative intent who have a PET CT scan that shows enlarged or positive hilar (N1/N3), mediastinal (N2/N3) or SCF nodes (N3).
Exclusions:	Patients with stage IV (M1, M1a, M1b or M1c) disease. Patients who decline investigation.
Target:	80% or above.

Figure 3: The 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.



2023	Performance (%)	Numerator	Denominator
AA	90.9%	20	22
FV	89.3%	25	28
LAN	63.2%	24	38
NG	95.7%	45	47
SG-GGH	88.0%	22	25
SG-QEUH/ VIC	87.5%	28	32
Clyde	78.6%	22	28
WoS	84.5%	186	220

Overall performance against this QPI is showing regional year on year improvement with performance in the WoS rising from 69% in 2021 to 85% in 2023. However a notable decline in performance is evident within NHS Lanarkshire with a Board performance of 63% in 2023.

Although NHS Lanarkshire noted that they would highlight to clinical teams/MDT the importance of sampling prior to treatment, the MCN is keen to better understand the reasons for lower rates of sampling in the Board compared to other WoS units. A national EBUS audit is currently underway to examine unit and operator rates of sampling and quality of procedures. The outcome of the audit will be reviewed and progressed via the MCN Advisory Board in due course.

NHSGGC Clyde sector commented that all patients were reviewed and all were managed appropriately. Clyde also highlighted less EBUS capacity for the sector compared with other areas of NHSGGC, with only one EBUS list per week to serve RAH/VOL and Oban patients.

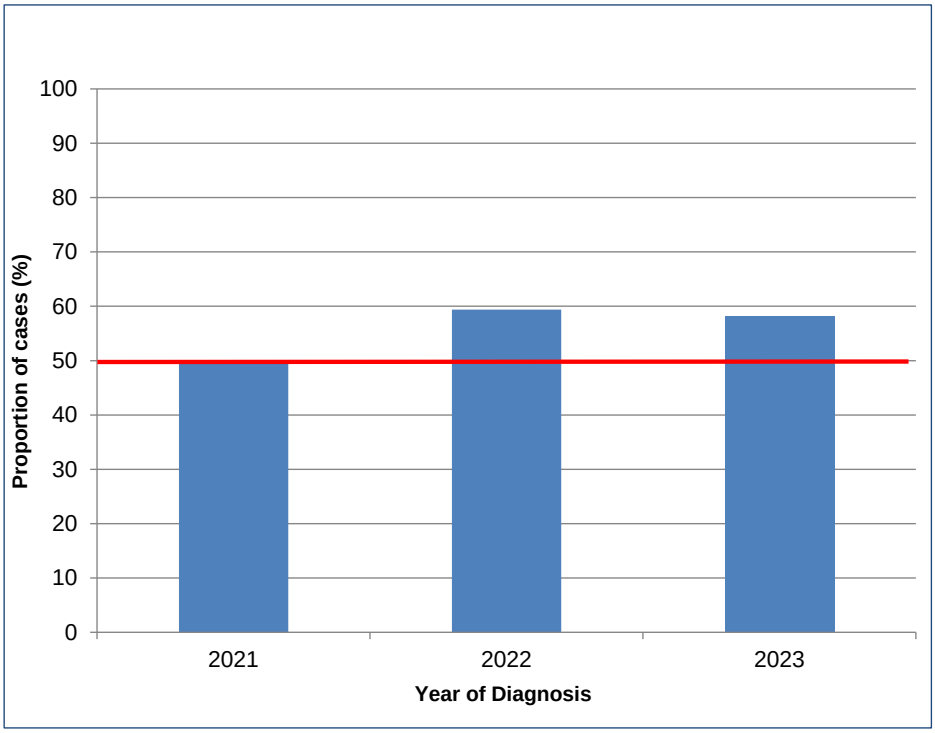
Action Required:

- NHSGGC Clyde sector to explore EBUS access and capacity v patient numbers in more detail compared to other GGC sectors, and establish if there is scope to expand this to ensure equity across the Board.
- NHS Lanarkshire in conjunction with the MCN to review reasons for lower rates of sampling within the Board in addition to number of operators and nodal yield to better understand reasons for non compliance with this QPI.

QPI 9: Chemoradiotherapy in locally advanced NSCLC

Title:	Patients with locally advanced non small cell lung cancer (NSCLC) not undergoing surgery should receive potentially curative radiotherapy and concurrent or sequential chemotherapy
Numerator:	All patients with stage IIIa NSCLC with performance status 0-1 not undergoing surgery who receive chemoradiotherapy (radical radiotherapy ≥54Gy and concurrent or sequential chemotherapy).
Denominator:	All patients with stage IIIa NSCLC with performance status 0-1 not undergoing surgery who receive radical radiotherapy ≥54Gy.
Exclusions:	Patients who decline chemotherapy treatment. Patients who die prior to treatment. Patients receiving Continuous Hyperfractionated Radiotherapy.
Target:	50%

Figure 4: The proportion of patients with stage IIIa NSCLC with PS 0-1 not undergoing surgery who receive chemoradiotherapy.



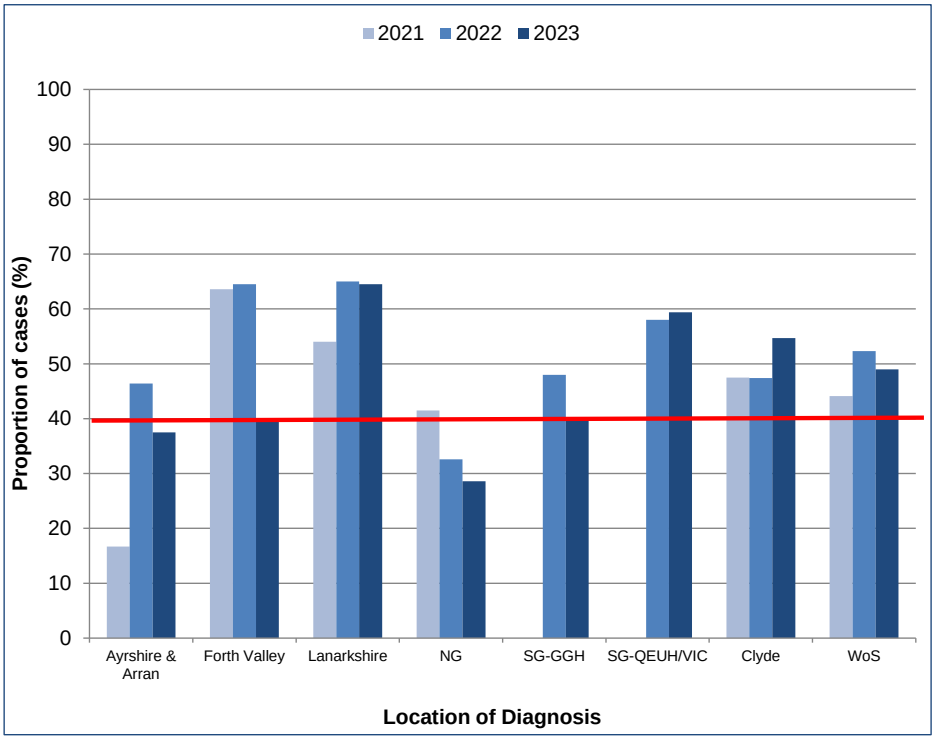
	Performance (%)	Numerator	Denominator
2021	50%	24	48
2022	59%	19	32
2023	58%	25	43

Due to the smaller numbers included within this QPI cumulative WoS results are presented in Figure 4. NHSGGC Clyde sector were the only unit who did not meet the target. NHSGGC commented that all cases were reviewed by the MDT and the Board concluded that all were treated appropriately. Reasons provided for cases not meeting the QPI included cases where the patients were not fit for SACT, patients with contraindicated comorbidity and patients who received radical radiotherapy.

QPI 11: Systemic anti-cancer therapy in non-small cell lung cancer.

Title:	(iii) Patients with stage IIIB – IV NSCLC with performance status 0-2 not undergoing surgery that are oncogene mutation negative who receive immunotherapy.
Numerator:	Number of patients with stage IIIB – IV NSCLC, with performance status 0-2 not undergoing surgery that are oncogene mutation negative who receive immunotherapy.
Denominator:	All patients with stage IIIB – IV NSCLC, with performance status 0-2 not undergoing surgery that are oncogene mutation negative.
Exclusions:	Patients who decline SACT. Patients who die prior to treatment. Patients who are participating in clinical trials.
Target:	40%

Figure 5: The proportion of patients with stage IIIB – IV NSCLC, with performance status 0-2 not undergoing surgery that are oncogene mutation negative who receive immunotherapy.



2023	Performance (%)	Numerator	Denominator
AA	37.5%	12	32
FV	40.0%	8	20
LAN	64.5%	40	62
NG	28.6%	12	42
SG-GGH	40.0%	8	20
SG-QEUH/VIC	59.4%	19	32
Clyde	54.7%	29	53
WoS	49.0%	128	261

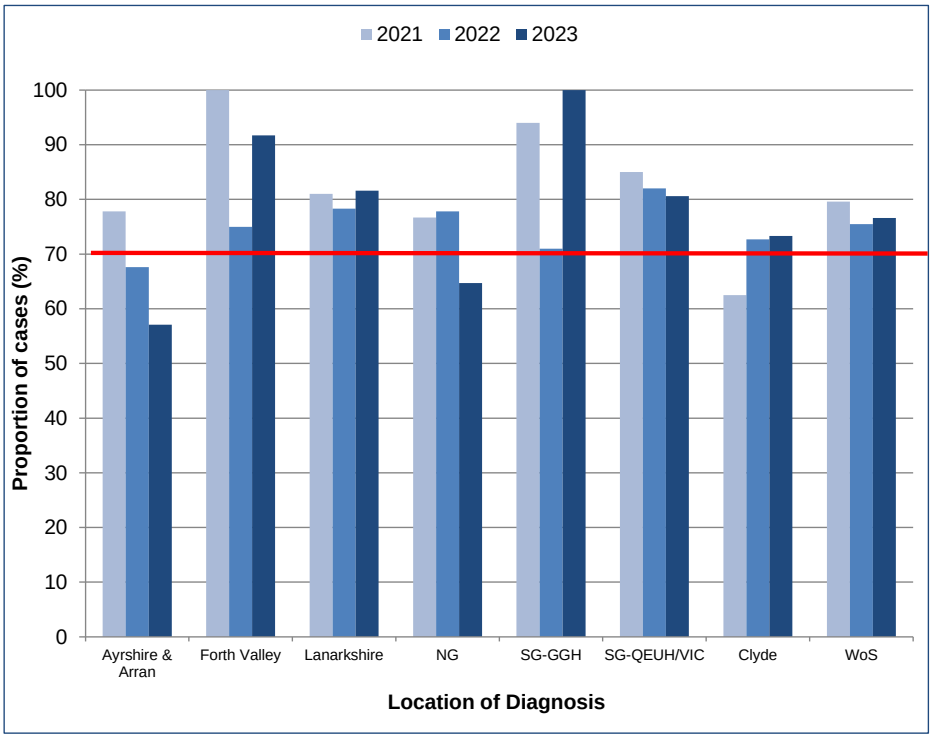
Overall, 49% of patients with NSCLC not undergoing surgery in the WoS, received systemic anti-cancer therapy. NHS AA and NHSGGC North sector did not meet the QPI. Review of the cases not meeting the QPI concluded that those patients were either not fit for SACT or had contraindicated comorbidities.

It is proposed that the definition for QPI 11 is revised at the upcoming formal review of lung cancer QPIs to ensure that it is in line with current SMC guidance. The existing QPI definition requires patients to have a performance status of 0-2 whilst current SMC guidance is that patients should be performance status 0-1.

QPI 12: Chemotherapy in SCLC

Title:	(i) Patients SCLC should receive chemotherapy.
Numerator:	All patients with SCLC who receive first line chemotherapy ± radiotherapy.
Denominator:	All patients with SCLC.
Exclusions:	Patients who refuse chemotherapy. Patients who die prior to treatment. Patients who are participating in clinical trials.
Target:	70%

Figure 6: The proportion of patients with SCLC who receive first line chemotherapy ± radiotherapy.



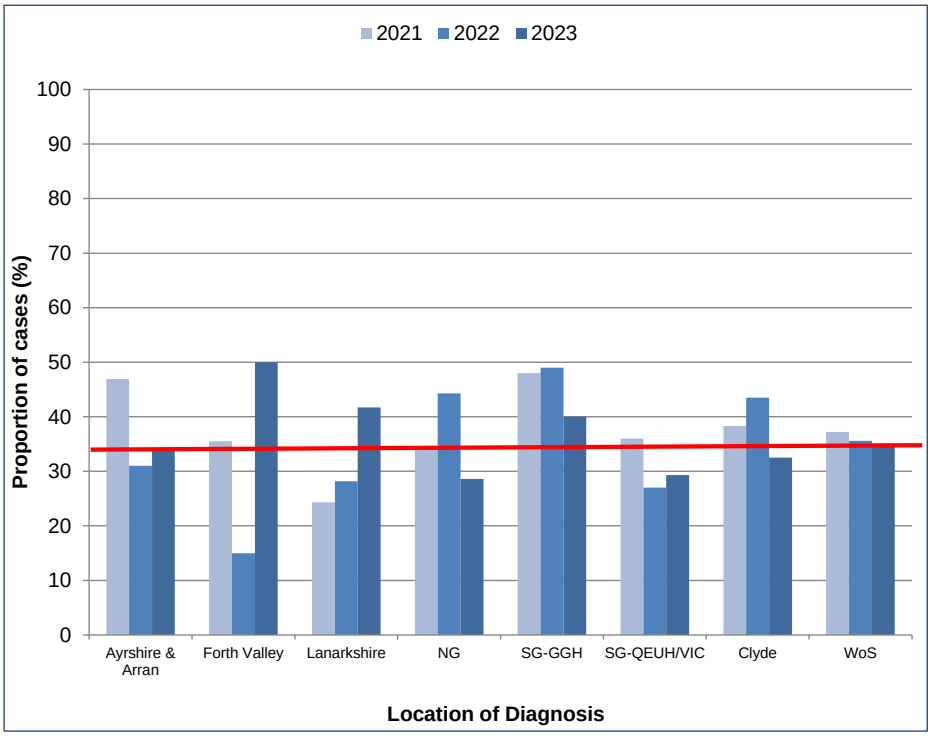
2023	Performance (%)	Numerator	Denominator
AA	57.1%	8	14
FV	91.7%	11	12
LAN	81.6%	31	38
NG	64.7%	22	34
SG-GGH	100%	12	12
SG-QEUH/VIC	80.6%	25	31
Clyde	73.3%	22	30
WoS	76.6%	131	171

Overall in WoS, of the 76.6% of patients diagnosed with SCLC received first line chemotherapy ± radiotherapy which exceeds the 70% QPI target. All units with the exception of NHS AA and NHSGGC North sector met the QPI target. Feedback from the units indicated that the majority of cases were deemed not fit enough for chemotherapy or were contraindicated and for supportive care only.

QPI 14: Stereotactic Ablative Radiotherapy (SABR) in inoperable stage I lung cancer.

Title:	Patients with inoperable stage I lung cancer should receive SABR.
Numerator:	Number of patients with stage I lung cancer not undergoing surgery who receive SABR.
Denominator:	All patients with stage I lung cancer not undergoing surgery.
Exclusions:	Patients with SCLC, Patients who refuse SABR, Patients who die prior to treatment.
Target:	35%

Figure 7: The proportion of patients with stage I lung cancer not undergoing surgery who receive SABR.



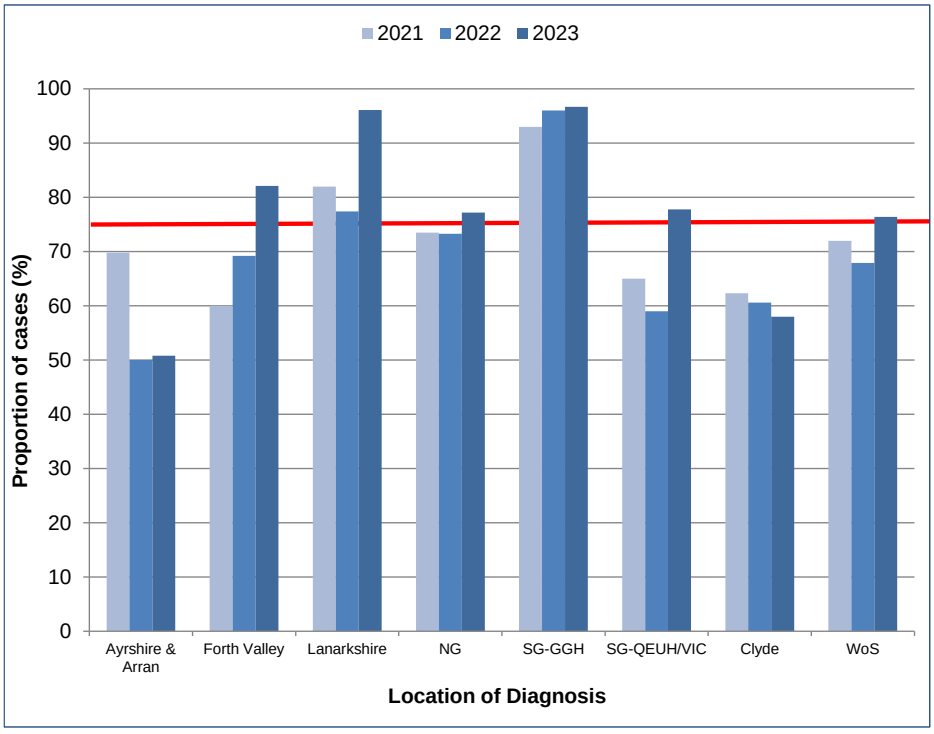
2023	Performance (%)	Numerator	Denominator
AA	34.2%	13	38
FV	50.0%	11	22
LAN	41.7%	15	36
NG	28.6%	16	56
SG-GGH	40.0%	14	35
SG-QEUH/ VIC	29.3%	12	41
Clyde	32.5%	13	40
WoS	35.1%	94	268

Overall 35% of patients in the WoS with stage I lung cancer not undergoing surgery received SABR. Three of the seven units met the 35% QPI target. Board feedback indicated that the majority of cases were not fit for treatment and received supportive care or were on a watch and wait plan for slow growing lesions.

QPI 15: Pre Treatment Diagnosis.

Title:	Where possible patients should have a cytological/histological diagnosis prior to definitive treatment.
Numerator:	Number of patients who received curative treatment that have a cytological/ histological diagnosis prior to starting definitive treatment. (surgery, radiotherapy, chemoradiotherapy)
Denominator:	All patients with lung cancer who receive curative treatment.
Exclusions:	Patients who refuse investigation.
Target:	75%

Figure 8: The proportion of patients who received curative treatment that have a cytological /histological diagnosis prior to surgery.

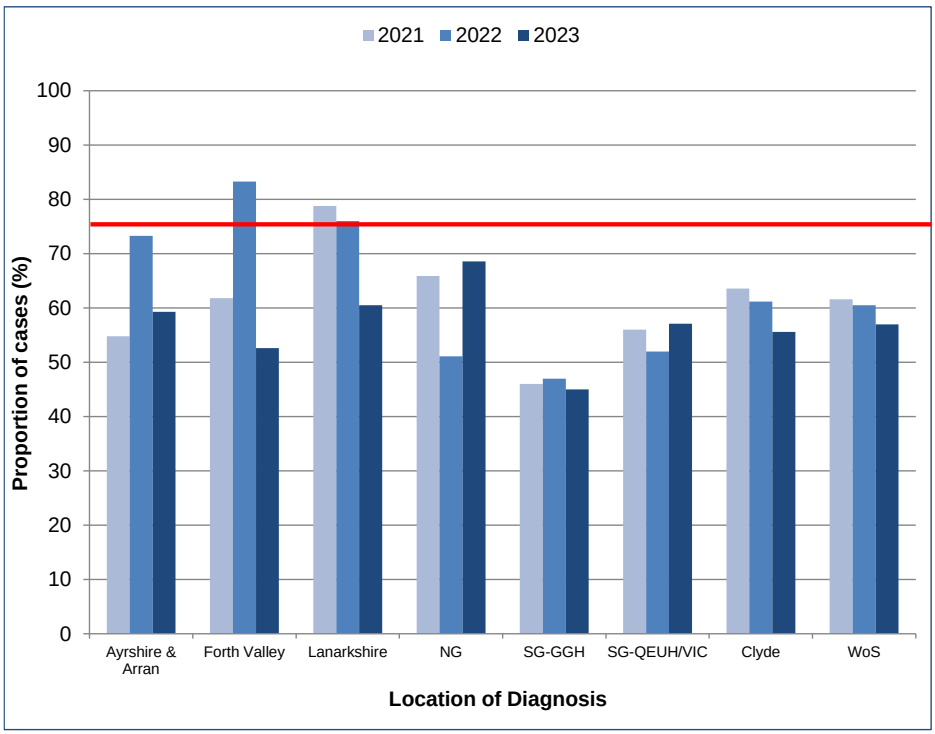


2023	Performance (%)	Numerator	Denominator
AA	50.8%	31	61
FV	82.1%	32	39
LAN	96.1%	74	77
NG	77.2%	71	92
SG-GGH	96.7%	29	30
SG-QEUH/ VIC	77.8%	42	54
Clyde	58.0%	29	50
WoS	76.4%	308	403

Performance across WoS was 75% which meets the QPI target. Six of the seven units also showed improvement on previous year's results.

NHS Ayrshire & Arran and NHSGGC Clyde sector reviewed all cases and reasons provided for cases not meeting the QPI included; cases that were contraindicated, comorbidity/risk, negative pathology with at least one attempt at biopsy and cases where biopsy was technically not possible.

Figure 9: The proportion of patients who received curative treatment that have a cytological /histological diagnosis prior to starting radical radiotherapy.



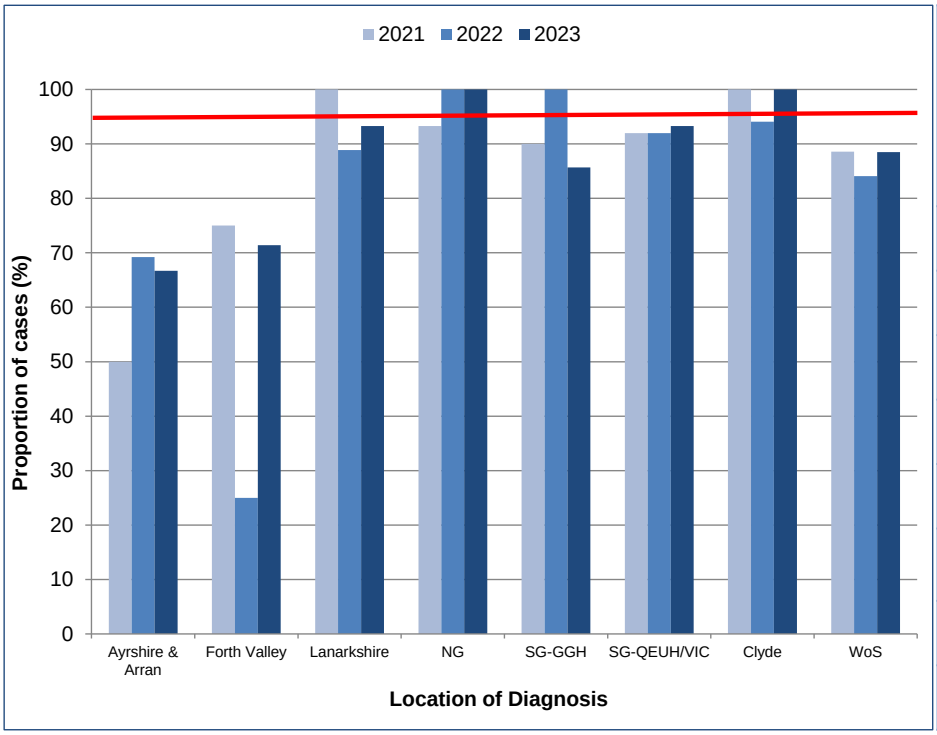
2023	Performance (%)	Numerator	Denominator
AA	59.3%	16	27
FV	52.6%	10	19
LAN	60.5%	23	38
NG	68.6%	24	35
SG-GGH	45.0%	18	40
SG-QEUH/ VIC	57.1%	24	42
Clyde	55.6%	20	36
WoS	57.0%	135	237

Performance across WoS was 57% with no unit achieving the 75% QPI target. Feedback suggests that cases that do not have a histological/cytological diagnosis prior to radiotherapy are mainly early stage lesions in comorbid patients not deemed fit enough or technically suitable for CT biopsy or transbronchial lung biopsy (TBLB). Variation across the region may also relate to differences in practice in relation to performing CT guided biopsies for peripheral lesions.

QPI 16: Brain Imaging.

Title:	Patients with N2 disease who are undergoing curative treatment should have brain imaging performed prior to commencing definitive treatment.
Numerator:	Number of patients with N2 disease who receive curative treatment that undergo contrast enhanced CT or contrast enhanced MRI prior to start of definitive treatment.
Denominator:	All patients with N2 disease who receive curative treatment.
Exclusions:	Patients who decline brain imaging, patients with small cell lung cancer (SCLC).
Target:	95%

Figure 10: The proportion of patients with N2 disease who receive curative treatment that undergo contrast enhanced CT or contrast enhanced MRI prior to start of treatment.



2023	Performance (%)	Numerator	Denominator
AA	66.7%	6	9
FV	71.4%	10	14
LAN	93.3%	14	15
NG	100%	15	15
SG-GGH	85.7%	6	7
SG-QEUH/VIC	93.3%	14	15
Clyde	100%	12	12
WoS	88.5%	77	87

All Boards reviewed cases not meeting the QPI criteria and the majority of patients not meeting this QPI did have imaging carried out but after treatment had commenced. Forth Valley showed significant improvement on the previous year's results rising from 25% in 2022 to 75% in 2023.

It is recommended that all Boards add a brain imaging prompt to their MDT form. This will also be incorporated into the Regional MDT system which will be rolled out across the region in the near future.

Appendix 1: Meta Data

Report Title	Cancer Audit Report: Lung Cancer Quality Performance Indicators
Time Period	Patients diagnosed between 01 January 2023 and 31 December 2023
Data Source	Cancer Audit Support Environment (eCASE). A secure centralised web-based database which holds cancer audit information in Scotland.
Data extraction date	2200 hrs on 14th August 2024
Data Quality	Lung Cancer

Health Board of diagnosis	(01/01/2023-31/12/2023) Audit	Cancer Reg 2018-22*	Case Ascertainment
Ayrshire & Arran	359	400	89.8%
GGC	1323	1485	89.1%
Forth Valley	221	309	71.5%
Lanarkshire	510	590	86.4%
WoS Total	2413	2784	86.7%