

West of Scotland Cancer Network

**Urological Cancer
Managed Clinical Network**



Audit Report

Renal Cancer Quality Performance Indicators

Clinical Audit Data: 1st January - 31st December 2021

Mr Nkem Umez-Eronini
MCN Clinical Lead

Karen Connor
MCN Manager

Kallely Soumine George
Information Officer

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Renal Cancer Quality Performance Indicators Overview

Patients diagnosed between 1st January - 31st December 2021

Number of patients: **487**

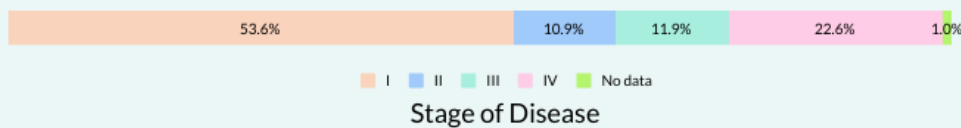
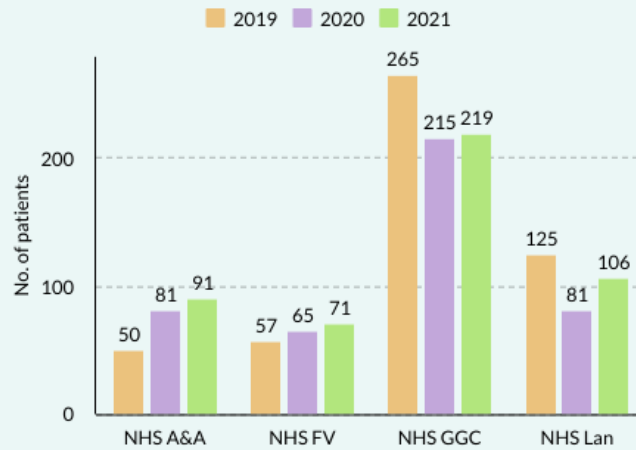
Gender of patients: Male 64.9% Female 35.1%

Mode Age group: Male 70-74 Female 60-64

1 year Net survival* 78.7% (Male) 76.7% (Female)
5 year Net survival* 60.7% (Male) 59.4% (Female)

* Net non-age standardised survival for patients diagnosed 2013-17 in Scotland

Number of cases by Board



Performance (%)

Target
Performance 2021

QPI 1: Radiological Diagnosis

95%
99%

QPI 8(i): 30-day Mortality

(a) <2% **0%** (b) <2% * (c) <2% **1%**

QPI 2: Histological Diagnosis

(i) 90% **89%** (ii) 90% **97%**

QPI 8(ii): 90-day Mortality

(a) <2% **0%** (b) <2% * (c) <2% **1%**

QPI 3: Clinical Staging - TNM

98%
99%

QPI 9: Systemic Therapy

40%
65%

QPI 4: Multi-Disciplinary Team Meeting

95%
99%

QPI 10: Prognostic Scoring in Metastatic Disease

90%
92%

QPI 7: Nephron Sparing Treatment

50%
89%

Conclusion

- QPI results indicate that the quality of Renal cancer services across the region is good. It is encouraging that targets were met for all the QPIs in the region except for Histological Diagnosis with Cryotherapy.
- Targets were met by all the Boards for the following indicators:
Radiological diagnosis prior to first treatment; Clinical Staging by TNM; Multi-Disciplinary Team meeting; Nephron sparing Treatment; 30/90-Days mortality after Cryotherapy and Systemic Therapy.



Executive Summary

Introduction

This report contains an assessment of the performance of West of Scotland (WoS) urological cancer services using clinical audit data relating to patients diagnosed with renal cancer in 2021. Data analysed and included within this report relates to cancer of the kidney and results are measured against the Renal Cancer Quality Performance Indicators (QPIs) ¹. Twelve months of data were measured against the Renal Cancer QPIs for the tenth consecutive year.

In order to ensure the success of the Cancer QPIs in driving quality improvement in cancer care, QPIs will continue to be assessed for clinical effectiveness and relevance. QPIs are reviewed every 3 years and the 3rd review of the Renal QPIs was completed at the beginning of 2022. This clinically led review aims to identify potential refinements to the current QPIs and involves key clinicians from each of the three Regional Cancer Networks.

Methodology

Further detail on the audit and analysis methodology and data quality is available in the meta data within [Appendix 1](#).

Results

A summary of the Renal Cancer QPIs 2021 clinical audit data is presented below, with a more detailed analysis of the results set out in the main report. Following formal review, QPI 11 was updated to add an exclusion for neoadjuvant SACT and QPI 13 has been amended to account for cold and selective ischaemia time, and cannot be reported this year. Data are analysed in the most part by location of diagnosis or treatment (Hospital of Surgery), and illustrate NHS Board performance against each target and overall regional (WoS) performance for each performance indicator. Results are presented graphically and the accompanying tabular format also highlights any missing data and possible effects on any of the measured outcomes.

Where the number of cases meeting the denominator criteria for any indicator is between one and four, the percentage calculation has not been shown on any associated charts or tables. This is to avoid any unwarranted variation associated with small numbers and to minimise the risk of disclosure. Any charts or tables impacted by this restricted data are denoted with a dash (-). An asterisk (*) is used to specify a denominator of zero and to distinguish between this and a 0% performance. Any commentary provided by NHS Boards relating to the impacted indicators will however be included as a record of continuous improvement.

In accordance with the regional governance process, specific NHS Board actions are identified to address issues highlighted through data analysis.

Summary of QPI Results

Colour Key		Symbol Key	
	Above QPI target	†	Analysed by Board/hospital of surgery
	Below QPI target	^	Small numbers in some Boards - percentage comparisons over a single year should be viewed with caution

Summary of the QPI results for clinical audit data. A dash (-) denotes restricted data where the denominator is less than 5. An asterisk (*) denotes data where the denominator is zero.

Renal MCN					
	AA	FV	GGC	LAN	WoSCAN
2021	91	71	219	106	487
2020	81	65	215	81	442
2019	50	57	265	125	497

Quality Performance Indicator (QPI)	Performance by NHS Board of diagnosis						
	QPI target	Year	AA	FV	GGC	LAN	WoSCAN
QPI 1: Proportion of patients with RCC receiving active treatments who undergo pre-treatments cross-sectional imaging of the chest, abdomen +/- pelvis.	95%	2021	100% (50/50)	98% (39/40)	99% (124/125)	97% (62/64)	99% (275/279)
		2020	98%	98%	100%	96%	98%
		2019	100%	100%	97%	100%	99%
QPI 2(i): Proportion of patients with RCC where surgery is not the primary treatments who have a histological diagnosis before treatments, via biopsy. Cryotherapy / Radiofrequency ablation	90%	2021	88% (7/8)	-	93% (14/15)	78% (7/9)	89% (32/36)
		2020	75%	82%	100%	100%	88%
		2019	80%	92%	100%	90%	94%
QPI 2(ii): Proportion of patients with RCC where surgery is not the primary treatments who have a histological diagnosis before treatments, via biopsy. Systemic Anti-Cancer Therapy (SACT)	90%	2021	100% (8/8)	-	100% (15/15)	89% (8/9)	97% (33/34)
		2020	100%	100%	94%	100%	97%
		2019	100%	100%	100%	90%	97%

Quality Performance Indicator (QPI)	Performance by NHS Board of diagnosis						
	QPI target	Year	AA	FV	GGC	LAN	WoSCAN
QPI 3: Proportion of patients whose RCC is staged pre-treatments using the TNM staging system	98%	2021	100% (91/91)	100% (71/71)	99% (216/219)	100% (106/106)	99% (484/487)
		2020	100%	100%	100%	100%	100%
		2019	100%	100%	100%	100%	100%
QPI 4: Proportion of patients with RCC who are discussed at the MDT before definitive treatments.	95%	2021	100% (91/91)	100% (68/68)	98% (212/216)	98% (103/105)	99% (474/480)
		2020	98%	98%	96%	99%	97%
		2019	98%	100%	95%	99%	97%
QPI 7: Proportion of patients with T1aN0M0 RCC who undergo NSS (laparoscopic partial nephrectomy or open partial nephrectomy).	50%	2021	76% (16/21)	100% (12/12)	89% (31/35)	100% (16/16)	89% (75/84)
		2020	89%	100%	83%	75%	86%
		2019	100%	93%	91%	95%	93%
QPI 8(i): Proportion of patients who die within 30 days of treatments for RCC. (a) Cryotherapy	<2%	2021	0% (0/8)	-	0% (0/15)	0% (0/9)	0% (0/36)
		2020	25%	0%	0%	0%	4%
		2019	0%	0%	5%	0%	2%
QPI 8(i): Proportion of patients who die within 30 days of treatments for RCC. (b) RFA	<2%	2021	*	*	*	*	*
		2020	*	*	*	*	*
		2019	*	*	*	*	*
* QPI 8(i): Proportion of patients who die within 30 days of treatments for RCC. (c) Surgery	<2%	2021	0% (0/23)	10% (2/21)	0% (0/138)	0% (0/34)	1% (2/216)
		2020	0%	0%	1%	0%	1%
		2019	0%	0%	0%	0%	0%

Quality Performance Indicator (QPI)	Performance by NHS Board of diagnosis						
	QPI target	Year	AA	FV	GGC	LAN	WoSCAN
QPI 8(ii): Proportion of patients who die within 90 days of treatments for RCC. (a) Cryotherapy	<2%	2021	0% (0/6)	-	0% (0/14)	0% (0/8)	0% (0/32)
		2020	25%	10%	0%	0%	9%
		2019	0%	0%	6%	0%	2%
QPI 8(ii): Proportion of patients who die within 90 days of treatments for RCC. b) RFA	<2%	2021	*	*	*	*	*
		2020	*	*	*	*	*
		2019	*	*	*	*	*
* QPI 8(ii): Proportion of patients who die within 90 days of treatments for RCC. (c) Surgery	<2%	2021	0% (0/23)	10% (2/21)	1% (1/135)	0% (0/34)	1% (3/213)
		2020	0%	0%	1%	3%	1%
		2019	0%	0%	1%	0%	1%
QPI 9: Proportion of patients presenting with advanced and/or metastatic RCC who receive initial SACT within 12 months of diagnosis. <i>Patients diagnosed 1st January 2020 - 31st December 2020.</i>	40%	2021	85% (11/13)	40% (2/5)	62% (21/34)	63% (5/8)	65% (39/60)
		2020	33%	75%	74%	50%	62%
		2019	67%	57%	56%	78%	62%
QPI 10: Prognostic Scoring in Metastatic Disease - Patients with metastatic Renal Cell Carcinoma (RCC) should be assigned a valid prognostic score following diagnosis.	90%	2021	100% (17/17)	93% (13/14)	87% (45/52)	96% (23/24)	92% (98/107)
		2020	83%	100%	88%	100%	90%
		2019	73%	90%	77%	78%	78%
QPI 12: Volume of Cases per Surgeon - Number of renal surgical resections performed by each surgeon in a given year (SMR01 data).	Min-imum of 15	2021	2 MET	1 MET	4 MET 1 NOT MET	2 MET	9 MET 1 NOT MET
		2020	0 MET 2 NOT MET	1 MET	4 MET 2 NOT MET	2 MET 1 NOT MET	7 MET 5 NOT MET
		2019	2 MET	1 MET	5 MET 2 NOT MET	2 MET 1 NOT MET	10 MET 3 NOT MET

*QPI analysed by Location of Surgery

Conclusions and Actions Required

Overall WoS results from the 10th year of Renal Cancer QPI analysis demonstrates that NHS Boards have performed well in achieving the QPI targets in this reporting period. Some variance in performance does exist across the region 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.

Notwithstanding the exemplar overall regional performance, in line with local governance arrangements, boards have welcomed the opportunity to review their clinical practice on a case by case basis where the QPI target was not achieved and consider whether improvement actions are required.

The MCN will actively take forward regional actions identified and NHS Boards are asked to develop local Action/Improvements Plans in response to the findings presented in the report. A summary of actions for each NHS Board has been included within the Action Plan templates in [Appendix 3](#).

Completed Action Plans should be returned to WoSCAN in a timely manner to allow the plans to be reviewed at the Regional Cancer Oversight Group.

Progress against the plans will be monitored by the MCN Advisory Board and any service or clinical issue which the Advisory Board considers not to have been adequately addressed will be escalated to the NHS Board Territorial Lead Cancer Clinician and Regional Lead Cancer Clinician.

Action Required:

QPI 8: 30/90 Day Mortality (Surgery):

- MCN to monitor NHS Forth Valley mortality going forward to ensure their outlier status is due to small denominator numbers, rather than any other underlying issues.

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In order to ensure the success of the Cancer QPIs in driving quality improvement in cancer care, QPIs will continue to be assessed for clinical effectiveness and relevance. QPIs are reviewed every 3 years and the 3rd review of the Renal QPIs was completed at the beginning of 2022 with Version 5.0 published in June 2022. This clinically led review aims to identify potential refinements to the current QPIs and involves key clinicians from each of the Regional Cancer Networks.

2. Background

Four NHS Boards across the WoS serve the 2.5 million population⁶. From this population, on average 462 people were diagnosed with renal cancer annually between 2017 and 2021 in WoS.

As of February 2019, all renal cancers are referred to the Regional Renal MDT which includes representation from all four boards across a range of clinical specialties with a particular interest in renal cancer.

2.1 National Context

Renal cancer is the eighth most common cancer in Scotland with 994 cases diagnosed in Scotland in 2020³. These account for 3.3% of cancer diagnoses in Scotland in 2020³. It is the fifth most common cancer in Scotland for males and the tenth most common cancer for females.

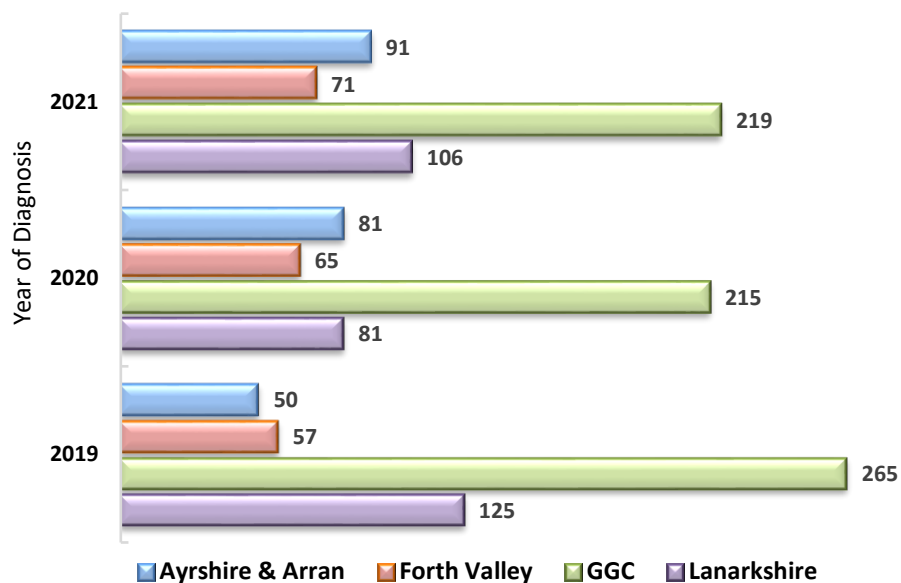
Data shows that for renal cancer patients diagnosed between 2013-2017^{4,5}, 1 year relative survival was 78.7% for males and 76.7% for females. 5 year relative survival is marginally higher in males than females at 60.7% and 59.4% respectively.

Survival rates are age-standardised to allow fair comparison over time. Major advances in surgical, chemotherapy and radiotherapy treatments for cancer have contributed to the high survival rates observed^{4,5}.

2.2 West of Scotland Context

487 cases of renal cancer were recorded through audit as diagnosed in the WoS in 2021. As the largest health board^Z in WoS, 45% (219) of all new cases of renal cancers were diagnosed in NHSGGC. There has been a 10% increase in 2021 audit cases in WoSCAN from the previous year.

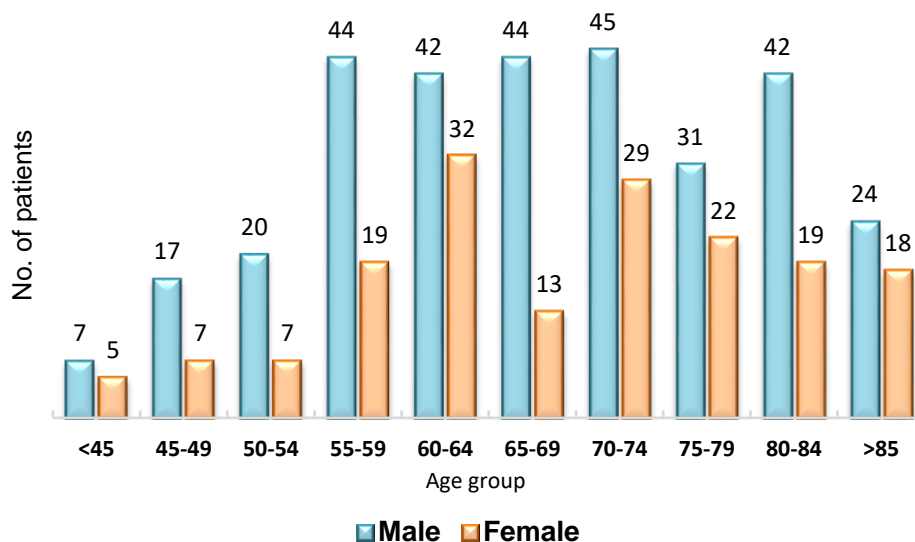
Fig 1: Number of patients diagnosed with Renal cancer within each WoS NHS Board, 2019 – 2021.



Year	Ayrshire & Arran	Forth Valley	GGC	Lan	WoS
2021	91	71	219	106	487
2020	81	65	215	81	442
2019	50	57	265	125	497

The distribution of new cases of renal cancer is illustrated in Figure 2 by age group and sex. There were more male cases (64.9%) of renal cancer diagnosed in 2021 compared to female cases (35.1%) in the WoS.

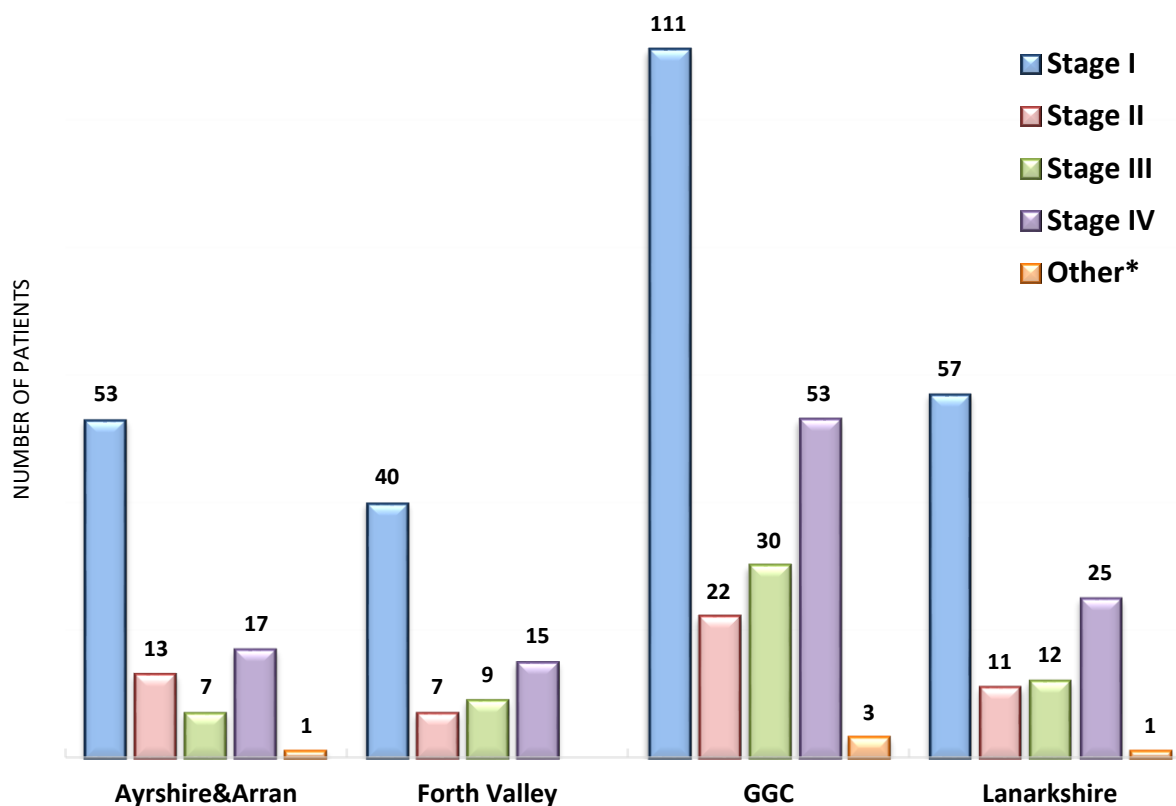
Fig 2: Number of patients diagnosed with renal cancer in WoS within each 5-year age group, 2021.



Age		<45	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	>85	Total
Male	N	7	17	20	44	42	44	45	31	42	24	316
	%	2.2%	5.4%	6.3%	13.9%	13.3%	13.9%	14.2%	9.8%	13.3%	7.6%	
Female	N	5	7	7	19	32	13	29	22	19	18	171
	%	2.9%	4.1%	4.1%	11.1%	18.7%	7.6%	17.0%	12.9%	11.1%	10.5%	

Figure 3 shows the distribution of renal cancers by clinical stage, indicating the predominance of early stage disease with 53.6% of renal tumours presenting at stage I, followed by stage IV (22.6%).

Fig 3: Number of patients diagnosed with Renal cancer in WoS by Stage, 2021.



*Other (1%) includes Not Recorded, Not Applicable and Not Assessable

	Hospital of Diagnosis									
	A&A		FV		GGC		Lan		Total	
Stage	n	%	n	%	n	%	n	%	n	%
Stage I	53	58.2%	40	56.3%	111	50.7%	57	53.8%	261	53.6%
Stage II	13	14.3%	7	9.9%	22	10.0%	11	10.4%	53	10.9%
Stage III	7	7.7%	9	12.7%	30	13.7%	12	11.3%	58	11.9%
Stage IV	17	18.7%	15	21.1%	53	24.2%	25	23.6%	110	22.6%
Not Applicable	1	1.1%	0	0.0%	0	0.0%	0	0.0%	1	0.2%
Not Assessable	0	0.0%	0	0.0%	1	0.5%	1	0.9%	2	0.4%
Not Recorded	0	0.0%	0	0.0%	2	0.9%	0	0.0%	2	0.4%
Total	91		71		219		106		487	

3. Methodology

Further detail on the audit and analysis methodology and data quality is available in the meta data within [Appendix 1](#).

4. Results and Actions Required

Results of the analysis of Renal Cancer QPIs are set out in the following sections. Data are presented by location of diagnosis or treatment and illustrate NHS Board performance against each target and overall regional performance for each performance indicator.

Results are presented graphically and the accompanying tables also highlight any missing data and its possible effect on any of the measured outcomes for the current year of analysis. Where the number of cases meeting the denominator criteria for any indicator is between one and four, the percentage calculation has not been shown on any associated charts or tables. This is to avoid any unwarranted variation associated with small numbers and to minimise the risk of disclosure. Any charts or tables impacted by this restricted data are denoted with a dash (-). An asterisk (*) is used to specify a denominator of zero and to distinguish between this and a 0% performance. Any commentary provided by NHS Boards relating to the impacted indicators will however be included as a record of continuous improvement.

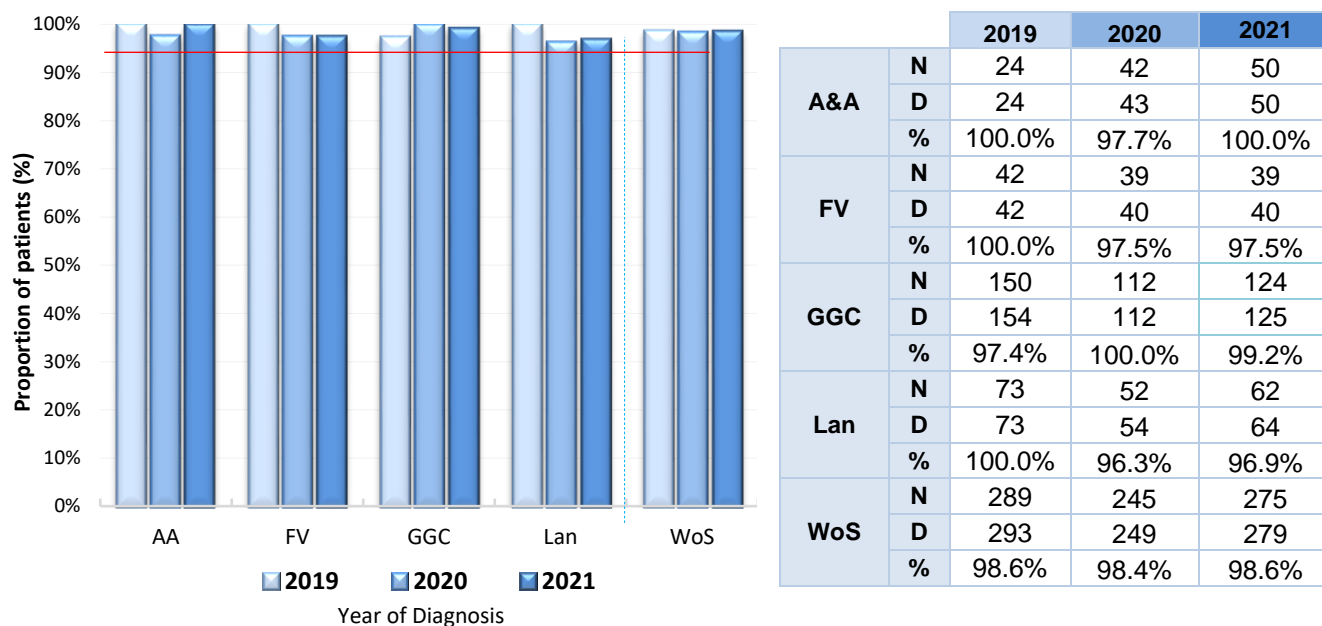
Where required, specific regional and NHS Board actions have been identified to address issues highlighted through the data analysis.

QPI 1: Radiological diagnosis prior to first treatment

Although pathological assessment is required for definitive diagnosis of renal cell carcinoma, radiology is an accurate diagnostic tool in almost all cases of renal cancer and is the first line of investigation¹. Patients with renal cell carcinoma should undergo computerised tomography (CT) with contrast to assess the extent of local and distant metastatic disease¹. Magnetic resonance imaging (MRI) is also an alternative option for patients who require further imaging or have allergies to intravenous (IV) contrast media.

QPI 1	Patients with renal cancer should have cross sectional imaging for staging of Renal Cell Carcinoma (RCC).
Description:	Proportion of patients with RCC receiving active treatment who undergo pre-treatment cross-sectional imaging of the chest, abdomen +/- pelvis.
Numerator:	Number of patients receiving active treatment with a diagnosis of RCC who undergo cross-sectional imaging (CT or MRI) of the chest, abdomen +/- pelvis (with contrast) before first treatment.
Denominator:	All patients receiving active treatment with a diagnosis of RCC.
Exclusions:	No exclusions
Target:	95%

Fig 4: Proportion of patients with RCC diagnosed that underwent pre-treatment cross-sectional imaging of the chest, abdomen +/- pelvis before first treatment, 2019 – 21.



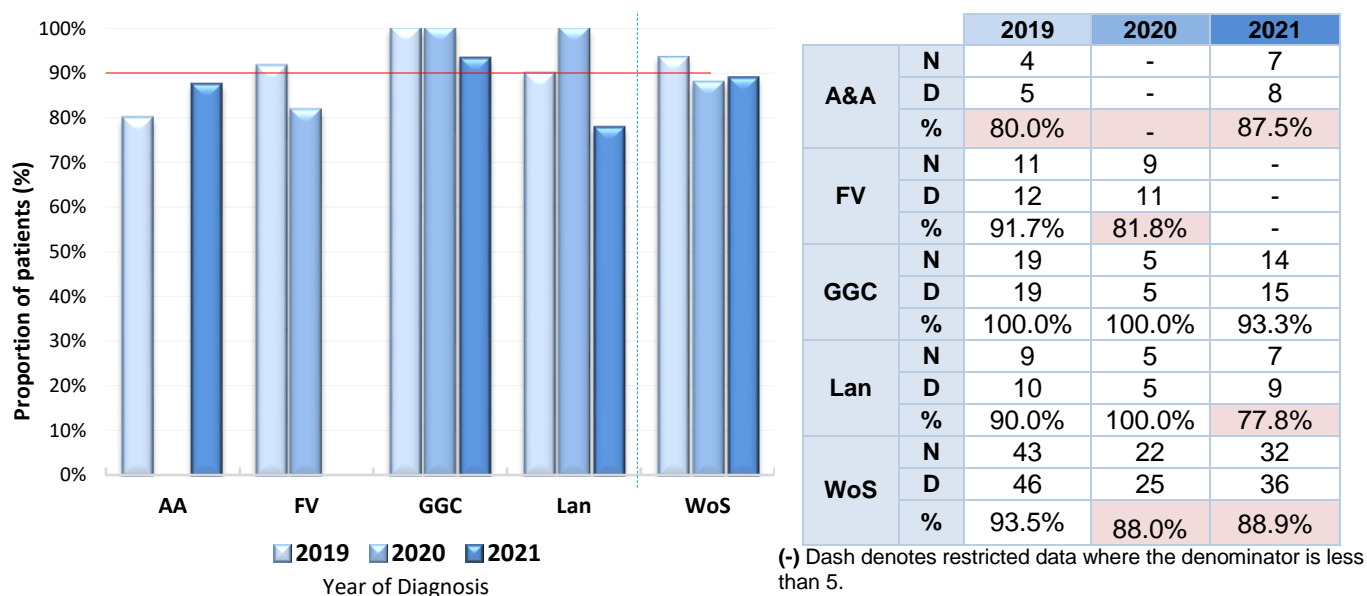
Overall 98.6% of patients with a diagnosis of RCC undergoing active treatment underwent pre-treatment cross-sectional imaging of the chest, abdomen +/- pelvis before first treatment, which exceeds the 95% QPI target. All Boards met the target with NHS Ayrshire & Arran achieving 100%.

QPI 2: Histological diagnosis prior to treatment

It is important to confirm a diagnosis of RCC prior to any minimally invasive therapies such as radiofrequency ablation (RFA), cryotherapy, stereotactic ablative radiotherapy (SABR) or systemic anti-cancer therapy (SACT) to avoid treatment of non-malignant lesions¹. Additionally if SACT is being considered it must be known that there is a definitive diagnosis of RCC as other types of renal cancer may not respond to these treatments¹.

QPI 2	Patients with renal cancer not undergoing surgery should have a histological diagnosis prior to commencing treatment.
Description:	Proportion of patients with RCC where surgery is not the primary treatment who have a histological diagnosis before treatment, via biopsy.
Numerator:	Number of patients with RCC who have a histological diagnosis (confirmed by biopsy) before first treatment with; (i) Cryotherapy or radiofrequency ablation (RFA) (ii) Systemic Anti-Cancer Treatment (SACT)
Denominator:	All patients with RCC undergoing first treatment with; (i) Cryotherapy or RFA (ii) SACT
Exclusions:	(i) Patients with inherited genetic renal cancer (ii) No exclusions
Target:	90%

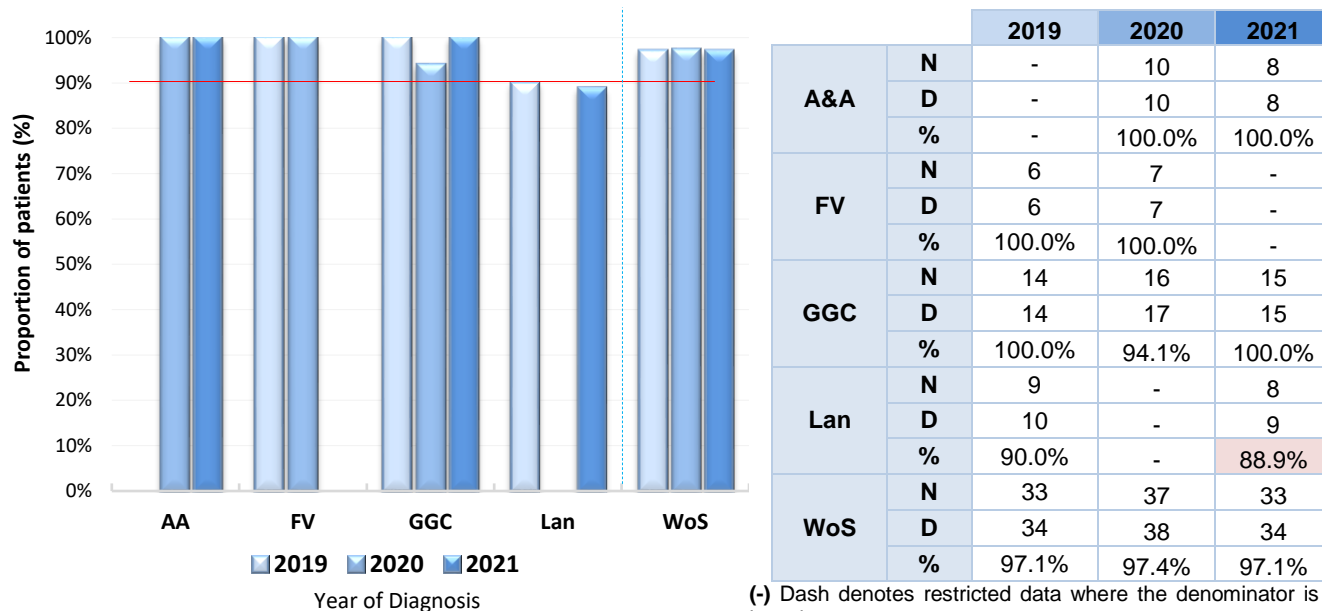
Fig 5: Proportion of patients with RCC who have a histological diagnosis (confirmed by biopsy) before first treatment with cryotherapy or RFA, 2019 – 21.



Overall performance in the WoS was 88.9% against the 90% target with 32 of 36 patients having a histological diagnosis prior to starting treatment with cryotherapy or RFA. NHS Forth Valley and NHS GGC achieved the target. However, failure to meet this target by the other 2 Boards was a result of the small numbers in the denominator.

NHS Ayrshire & Arran and NHS Lanarkshire reviewed the failed cases and noted that biopsy was not performed due to the largely cystic nature of the tumour, patients' refusal or one instance of where biopsy pathology was negative prior to treatment.

Fig 6: Proportion of patients with RCC diagnosed who have a histological diagnosis (confirmed by biopsy) before first treatment with SACT, 2019 – 20.



The overall WoS performance was 97.1%, achieving the target of 90% on three consecutive years. NHS Ayrshire & Arran, NHS Forth Valley and NHS GGC met the target with 100%. NHS Lanarkshire narrowly missed the target. However, failure to meet this target by the Board was a result of the small number in the denominator.

NHS Lanarkshire reviewed the case, and provided detailed clinical reasons with no changes to current practice or improvement actions indicated.

QPI 3: Clinical Staging by TNM

Patients with RCC should be staged using the Tumour, Nodes and Metastases (TNM) staging system. The TNM stage of disease will aid in determining prognosis, choice of therapy and follow up¹. It is vital that data is recorded for the cT, cN and cM stage as all three data fields are required to enable stage of disease at presentation to be determined. This will also facilitate analysis of additional performance indicators which are based on disease stage.

QPI 3:	The TNM staging system should be used to stage patients with RCC.
Description:	Proportion of patients whose RCC is staged pre-treatment using the TNM staging system.
Numerator:	Number of patients diagnosed with RCC who were clinically staged using TNM staging system before first treatment.
Denominator:	All patients diagnosed with RCC
Exclusions:	No exclusions
Target:	98%

Fig 7: Proportion of patients whose RCC is staged prior to treatment using the TNM staging system, 2019 – 21.

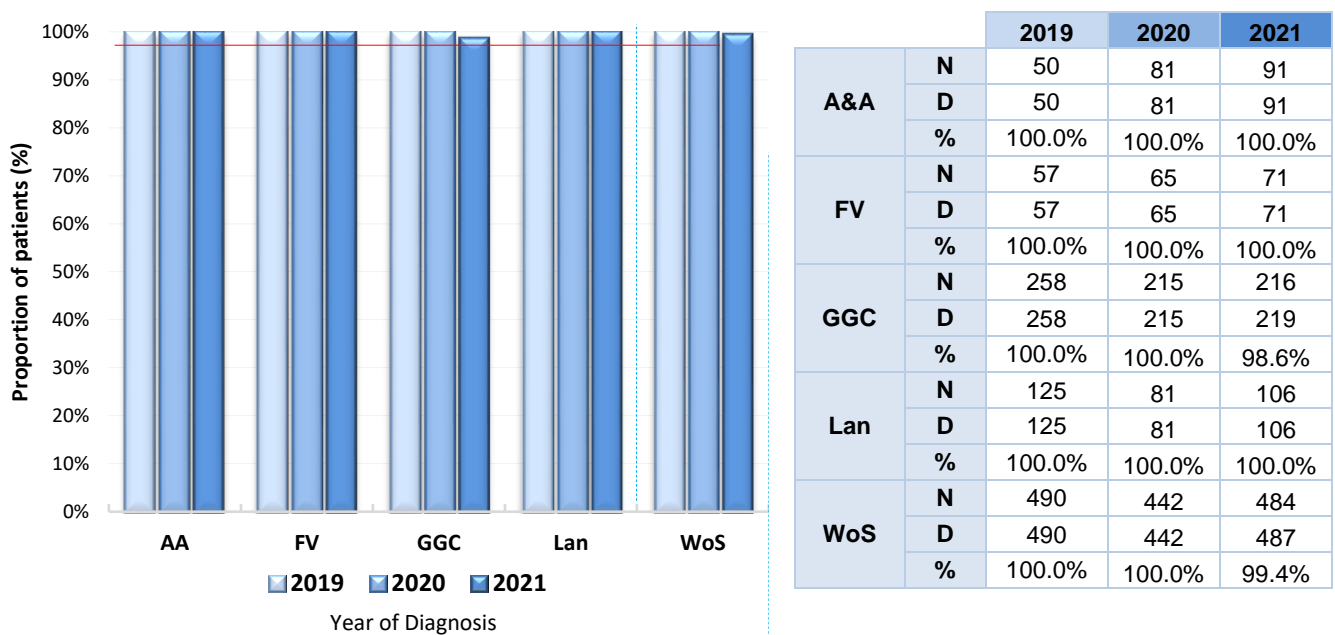


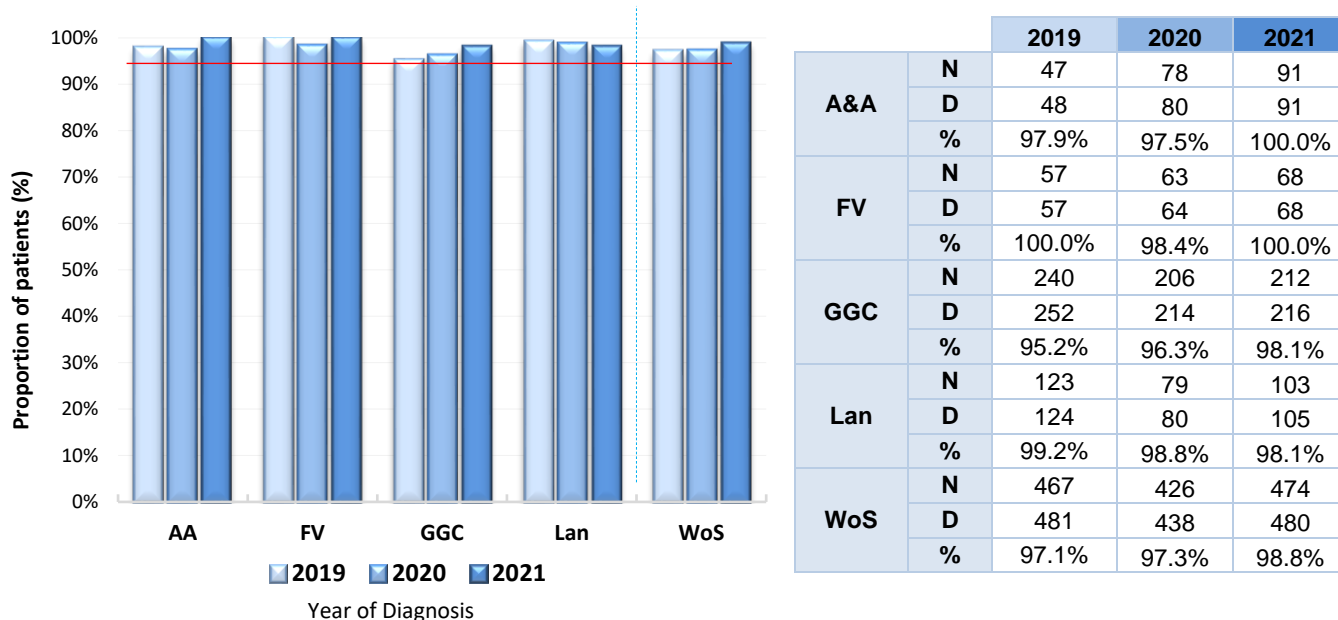
Figure 7 demonstrates excellent results across all Boards with all units consistently achieving the QPI target year on year; overall regional performance in the WoS in 2021 was noted as 99.4%.

QPI 4: Multi-Disciplinary Team (MDT) Meeting

Evidence suggests that patients with cancer managed by a multidisciplinary team have a better outcome. There is also evidence that the multidisciplinary management of patients increases their overall satisfaction with their care¹. Discussion prior to definitive treatment decisions being made provides reassurance that patients are being managed appropriately¹.

QPI 4:	Patients with Renal Cell Carcinoma (RCC) should be discussed by a multidisciplinary team (MDT) prior to definitive treatment.
Description:	Proportion of patients with RCC who are discussed by an MDT prior to definitive treatment.
Numerator:	Number of patients with RCC who are discussed by an MDT prior to definitive treatment.
Denominator:	All patients with RCC.
Exclusions:	Patients who died before first treatment
Target:	95%

Fig 8: Proportion of patients with RCC who are discussed at MDT prior to definitive treatment, 2019 – 21.



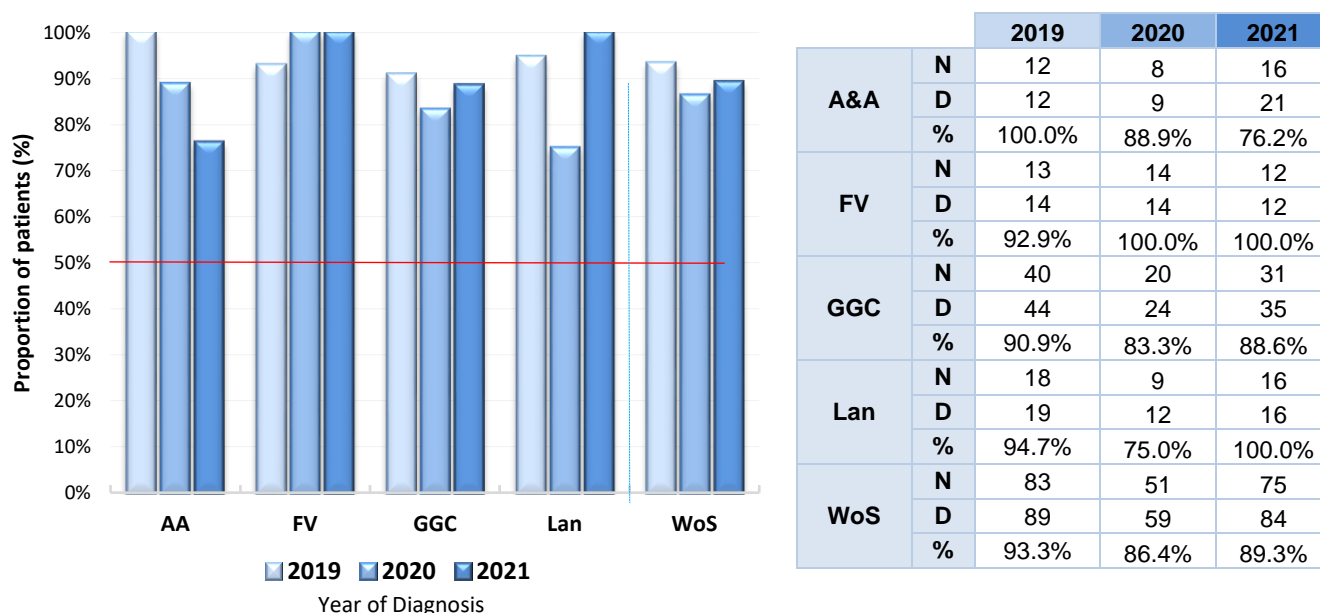
The 95% target for QPI 4 was achieved for patients diagnosed with RCC in 2021 in WoS. Of the 480 patients diagnosed, 474 were discussed at MDT prior to starting treatment. All Boards achieved the target for three consecutive years. NHS Ayrshire & Arran and NHS Forth Valley achieved the target with 100%. As of February 2019, all renal cancers are referred to the Regional Renal MDT which includes representation from all four Boards across a range of clinical specialties with a particular interest in renal cancer.

QPI 7: Nephron sparing treatment

Nephron sparing surgery (NSS) is appropriate surgical treatment for patients with early stage disease (T1aN0M0) and clinical trials have indicated comparable long-term survival with radical treatment¹. The advantages of NSS are improved renal function and lesser chance of post-operative cardiovascular complications¹. It is however recognised that some patients may opt to have laparoscopic radical nephrectomy, rather than open nephron sparing surgery, due to the shorter recovery time and the decreased risk of post-operative complications.

QPI 7:	Patients with T1a renal cancer should receive Nephron Sparing Treatment.
Description:	Proportion of patients with T1aN0M0 RCC who undergo nephron sparing treatment (cryotherapy, RFA or robotic/laparoscopic/open partial nephrectomy).
Numerator:	Number of patients with T1a N0M0 RCC undergoing NSS (laparoscopic partial nephrectomy or open procedure partial nephrectomy).
Denominator:	All patients with T1aN0M0 RCC
Exclusions:	Patients who decline treatment; Patients who receive RFA/Cryotherapy; Patients receiving supportive care only (not for active treatment); Patients receiving active surveillance (no active treatment); Patients who died before treatment
Target:	50%

Fig 9: Proportion of patients with T1a RCC who received nephron sparing treatment, 2019 – 21



Of the 84 patients with T1a RCC, 75 received nephron sparing treatment. This equates to 89.3% and successfully achieves the 50% QPI target. As demonstrated in Figure 9 all Boards met the target with NHS Forth Valley and NHS Lanarkshire achieving 100%.

This QPI was updated as part of the national Formal Review process, to include SABR within the definition of nephron sparing treatment. Due to a new data item being required to capture information on SABR, performance against the updated measure will be reported next year.

QPI 8: 30/90 Day Mortality

Treatment related mortality is a marker of the quality and safety of the whole service provided by the Multi-Disciplinary Team (MDT) ¹. However, all causes of death have been used in this indicator as the recording of cause of death by the certifying medical practitioner is not always as specific as the recording of a cancer diagnosis¹. Treatment types included in analysis are cryotherapy, radiofrequency ablation (RFA) and surgery.

QPI 8:	(i) 30-day and (ii) 90-day mortality for RCC - a) Cryotherapy, b) RFA, c) Surgery
Description:	Proportion of patients who die within 30 or 90 days of treatment for RCC.
Numerator:	Number of patients with RCC who undergo minimally invasive (Cryotherapy or RFA) or operative treatment who die within 30 or 90 days of treatment.
Denominator:	All patients with RCC who undergo minimally invasive (Cryotherapy or RFA) or operative treatment.
Exclusions:	Patients who undergo emergency surgery (nephrectomy).
Target:	< 2% for patients receiving cryotherapy, RFA or surgery.

Table 2: Proportion of patients who died within 30 days of Cryotherapy or Surgery by NHS Board, 2019 – 21

		Cryotherapy						Surgery					
		30 Day mortality			90 Day mortality			30 Day mortality			90 Day mortality		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
AA	N	0	-	0	0	-	0	0	0	0	0	0	0
	D	5	-	8	5	-	6	8	18	23	8	18	23
	%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FV	N	0	0	-	0	1	-	0	0	2	0	0	2
	D	12	11	-	12	10	-	18	14	21	18	14	21
	%	0.0%	0.0%	-	0.0%	10%	-	0.0%	0.0%	9.5%	0.0%	0.0%	9.5%
GGC	N	1	0	0	1	-	0	0	1	0	1	2	1
	D	19	5	15	18	-	14	158	132	138	154	130	135
	%	5.3%	0.0%	0.0%	5.6%	0.0%	0.0%	0.0%	0.8%	0.0%	0.6%	1.5%	0.7%
Lan	N	0	-	0	0	-	0	0	0	0	0	1	0
	D	9	-	9	9	-	8	36	30	34	35	30	34
	%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%
WoS	N	1	1	0	1	2	0	0	1	2	1	3	3
	D	45	24	36	44	22	32	220	194	216	215	192	213
	%	2.2%	4.2%	0.0%	2.3%	9.1%	0.0%	0.0%	0.5%	0.9%	0.5%	1.6%	0.9%

(-) Dash denotes restricted data where the denominator is less than 5.

Small numbers are noted for some Boards within this QPI and comparison of results should be made with caution.

Across the WoS, there was no deaths within 30 days and 90 days of cryotherapy in patients diagnosed with RCC in 2021. It should be noted that cryotherapy for renal cancer is provided in NHS GGC for all WoS Boards, however data for this QPI is reported by Board of diagnosis.

Across the WoS, two deaths were reported within 30 days of surgery in patients diagnosed with RCC in 2021. Three deaths occurred in WoS within 90 days which represents 0.9% surgical mortality across the WoS and is within the QPI target of less than 2%.

All deaths were reviewed and feedback provided by Boards indicating that treatment for renal cancer was unlikely to have been a factor in these deaths. NHS Forth Valley provided detailed clinical comments after reviewing the cases that did not meet the target. They also noted that the relatively lower numbers of nephrectomy carried out specifically for RCC significantly influences the QPI proportions reported for the Board.

There were no patients treated with RFA in WoS in 2021.

Action Required:

- MCN to monitor NHS Forth Valley mortality going forward to ensure their outlier status is due to small denominator numbers, rather than any other underlying issues.

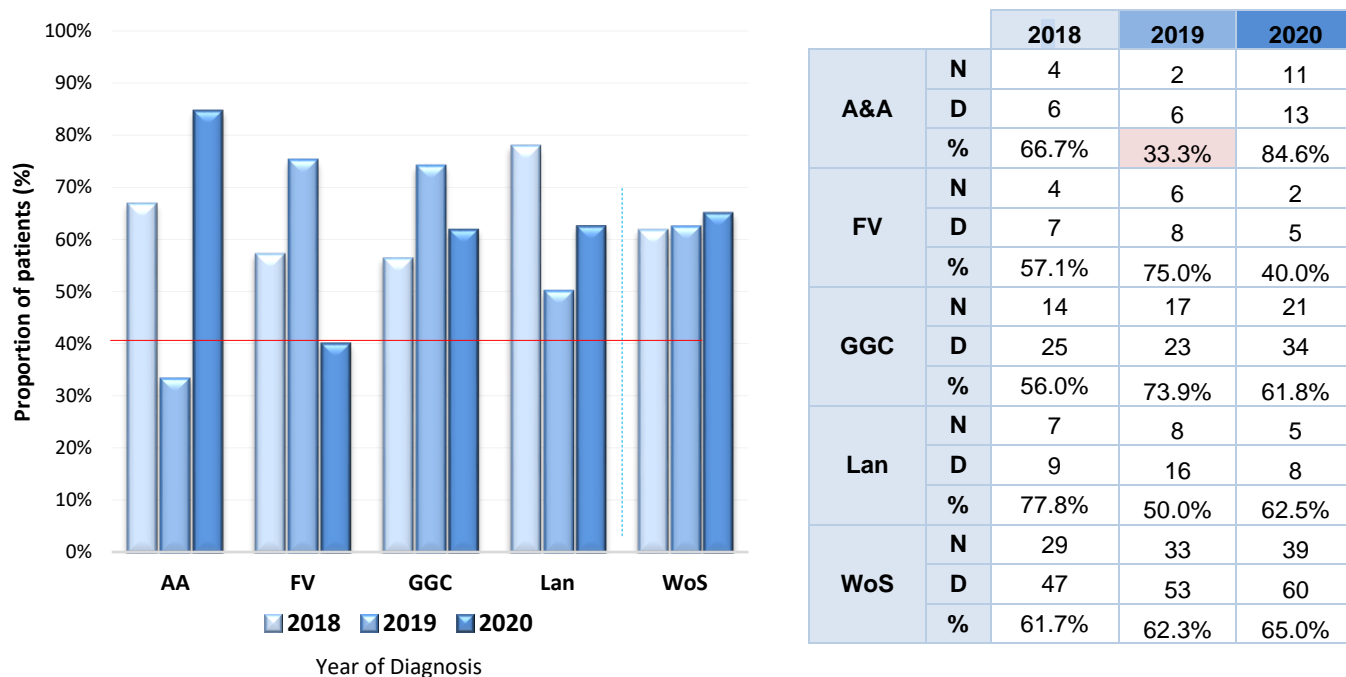
QPI 9: Systemic Therapy

Patients with advanced and/or metastatic renal cell carcinoma (RCC) should receive systemic therapy between diagnosis and death¹. To ensure accurate reporting of this QPI, i.e. that all patients are included where a year has elapsed since their diagnosis, the data below relates to patients diagnosed in the twelve months from 1st January 2020 to 31st December 2020.

This particular clinical cohort is often not clinically suitable to receive SACT for the reasons outlined in the QPI. Results are reviewed and compared across Scotland, every 3 years by Public Health Scotland, to ensure there is no sub-optimal care being delivered.

QPI 9:	Patients with advanced and/or metastatic renal cell carcinoma (RCC) should receive systemic therapy between diagnosis and death.
Description:	Proportion of patients presenting with advanced and/or metastatic RCC who receive systemic anti-cancer therapy (SACT) for RCC within 12 months of diagnosis.
Numerator:	Number of patients with RCC which is advanced and / or metastatic at time of diagnosis where at least 12 months have elapsed since diagnosis, irrespective of whether or not they have died, who receive first treatment with SACT, within 12 months of diagnosis.
Denominator:	All patients with RCC which is advanced and / or metastatic at time of diagnosis where at least 12 months have elapsed since diagnosis irrespective of whether or not they have died.
Exclusions:	Patients with a performance status of 2, 3 or 4 at time of diagnosis; Patients who declined systemic treatment; Patients enrolled in a clinical trial.
Target:	40%

Fig 10: Proportion of patients diagnosed with metastatic RCC who receive first treatment with SACT within 12 months of diagnosis, by NHS Board, 2018 - 20



Overall WoS performance was 65.0% against the 40% QPI target. All NHS Boards met the 40% target. Small numbers are noted for some Boards within this QPI and comparison of results should be made with caution.

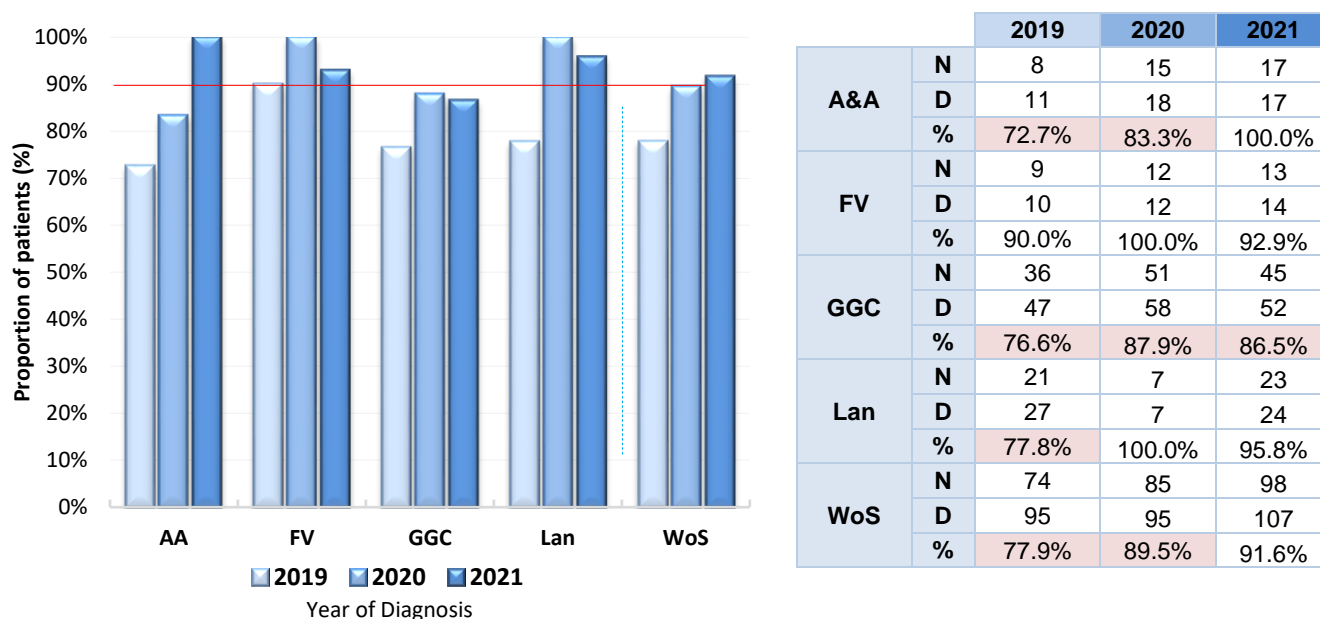
QPI 10: Prognostic Scoring in Metastatic Disease

Various models exist to predict the survival and prognosis for patients with metastatic RCC. These are key in making decisions about the most appropriate treatment plan for patients, particularly with the use of targeted therapies¹.

QPI 10:	Patients with metastatic Renal Cell Carcinoma (RCC) should be assigned a valid prognostic score following diagnosis.
Description:	Proportion of patients with metastatic RCC who are assigned a valid prognostic score* following diagnosis.
Numerator:	Number of patients with metastatic RCC who are assigned a valid prognostic score following diagnosis.
Denominator:	All patients diagnosed with metastatic RCC.
Exclusions:	No exclusions
Target:	90%

* Valid prognostic scoring should be assigned using the International Metastatic RCC Database Consortium (IMDC)/Heng scoring tool.

Fig 10: Proportion of patients diagnosed with metastatic RCC who receive first treatment with SACT within 12 months of diagnosis, by NHS Board, 2019 - 2021



Overall WoS performance was 91.6% against the 90% QPI target. All Boards except NHS GGC met the target. However, results for this QPI should be interpreted with caution due to small numbers. Over the last three years, there was an observed improvement in this QPI. NHS Ayrshire & Arran achieved the target with 100%.

NHS GGC commented that prognostic score was not recorded in 7 cases. The main reasons for non-compliance included patients died before Renal MDT discussion or oncology assessment and prognostic score was not assessable or was not recorded at MDT. NHS GGC noted that the current system of recording the prognostic score during the MDT is not optimised and plans are in place to move to a new regional MDT platform. The new MDT system, once fully implemented, will facilitate the data capture.

QPI 12: Volume of cases per surgeon

Renal surgical resection should be performed by surgeons who perform the procedure routinely. The literature demonstrates that there is a relationship between increasing surgical volume and lower complication rates for surgeons undertaking partial nephrectomy for renal cell carcinoma¹.

At formal review the target for the number of *renal surgical resections performed by each surgeon in a given year was increased from a minimum of 12 to 15 procedures. SMR01 data is used to measure performance for this QPI (rather than QPI audit data).

* Renal surgical resection includes nephrectomy, partial nephrectomy and nephroureterectomy

Description:	Number of renal surgical resections performed by each surgeon in a given year.
Exclusions:	No exclusions
Target:	Minimum 15 procedures per surgeon in a 1-year period.

Table 1: The number of renal surgical resections performed in each NHS Board in 2021, the total number of surgeons recorded as having carried out procedures and the number of surgeons meeting QPI target

	No. of Operating Surgeons	No. of Procedures	No. of Surgeons Meeting Target
AA*	2	42	2
FV*	1	30	1
GGC*	5	196	4
Lan*	2	41	2
WoS	10	309	9

*Board adjusted figures as per comments

The data shown are the Board adjusted figures as per the detailed information returned by each Board. This data also includes renal surgical resections for non-cancer diagnoses.

NHS GGC commented that the surgeon not meeting the target was operating as lead surgeon only in the last third of 2021 and would comfortably meet the target on a pro-rata basis.

5. Next Steps

The MCN will actively take forward regional actions identified and NHS Boards are asked to develop local Action/Improvements Plans in response to the findings presented in the report. A summary of actions for each NHS Board has been included within the Action Plan templates in [Appendix 3](#).

6. Acknowledgments

This report has been prepared using clinical audit data provided by the following NHS Boards in the WoSCAN area:

NHS Ayrshire & Arran
NHS Forth Valley
NHS Greater Glasgow and Clyde
NHS Lanarkshire

We would like to thank all members and active participants in the cancer network for their continued support of the MCN, and the many hospitals that are committed to making the audit succeed. We also acknowledge the efforts of the clinical effectiveness staff, nurses, and other service users for their work in ensuring the data are available to enable analysis to take place each year. Without their considerable efforts this level of progress would not be possible.

7. Glossary

NHS AA	NHS Ayrshire & Arran
CNS	Clinical Nurse Specialist
CT	Computed tomography
eCASE	Electronic Cancer Audit Support Environment
NHS FV	NHS Forth Valley
NHS LAN	NHS Lanarkshire
MCN	Managed Clinical Network - Linked groups of health professionals and organisations from primary, secondary and tertiary care, working in a co-ordinated manner, unconstrained by existing professional and NHS Board boundaries, to ensure equitable provision of high quality clinically effective services.*
MDT(s)	Multidisciplinary Team(s) - A Multidisciplinary Team is a group of professionals from one or more clinical disciplines who together make decisions regarding recommended treatments of individual patients.**
NHSGGC	NHS Greater Glasgow and Clyde
QPI(s)	Quality Performance Indicator(s)
RCOG	Regional Cancer Oversight Group
SMR01	General / Acute Inpatient and Day Case
TNM	Tumour, Nodes, Metastases (staging system)
WoS	West of Scotland
WoSCAN	West of Scotland Cancer Network

Sources:

* www.woscan.scot.nhs.uk

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8. References

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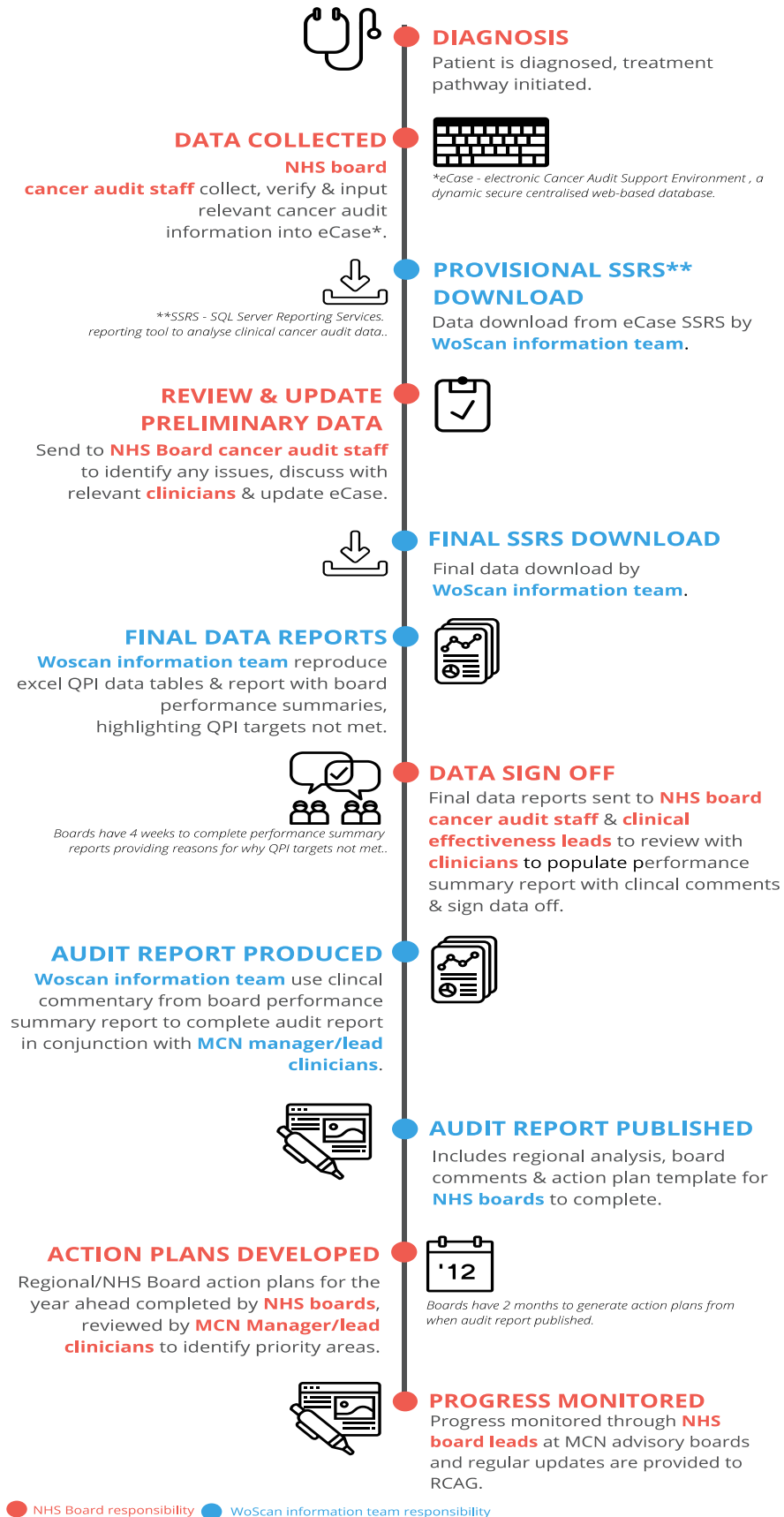
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Appendix 1: Meta Data

Report Title	Cancer Audit Report: Renal Cancer Quality Performance Indicators																												
Time Period	Patients diagnosed between 1st January - 31st December 2021																												
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 31 October 2022.																												
Methodology	<p>Analysis was performed centrally for the region by the WoSCAN Information Team. The timescales agreed took into account the patient pathway to ensure that a complete treatments record was available for the majority of patients.</p> <p>Initial results were provided to Boards to check for inaccuracies, inconsistencies or obvious gaps and a subsequent download taken upon which final analysis was carried out.</p> <p>The final data analysis was disseminated for NHS Board verification in line with the regional audit governance process to ensure that the data was an accurate representation of service in each area. Please see info graphic in appendix 2 for a more detailed look at the reporting process.</p>																												
Data Quality	<p>Audit data completeness can be assessed by estimating the proportion of expected patients that have been identified through audit compared to the number reported by the National Cancer registry (provided by ISD, National Services Division); this is known as case ascertainment. Figures should only be used as a guide as it is not possible to compare the same exact cohort from each data source. Note that a 5 year average is taken for cancer registry cases to take account of annual fluctuations in incidence within NHS Boards.</p> <table border="1"> <thead> <tr> <th></th> <th>Ayrshire & Arran</th> <th>Forth Valley</th> <th>GGC</th> <th>Lanarkshire</th> <th>WoS</th> </tr> </thead> <tbody> <tr> <td>Cases from audit</td> <td>91</td> <td>71</td> <td>219</td> <td>106</td> <td>487</td> </tr> <tr> <td>Cases from ISD (2016-20)</td> <td>69</td> <td>57</td> <td>266</td> <td>106</td> <td>498</td> </tr> <tr> <td>Case ascertainment</td> <td>131.9%</td> <td>124.6%</td> <td>82.3%</td> <td>100.0%</td> <td>97.8%</td> </tr> </tbody> </table>						Ayrshire & Arran	Forth Valley	GGC	Lanarkshire	WoS	Cases from audit	91	71	219	106	487	Cases from ISD (2016-20)	69	57	266	106	498	Case ascertainment	131.9%	124.6%	82.3%	100.0%	97.8%
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Appendix 2: Cancer Audit Timeline



Appendix 3: NHS Board Action Plans

A summary of actions for each NHS Board has been included within the following Action Plan templates. Completed Action Plans should be returned to WoSCAN within two months of publication of this report.

Renal Cancer QPI Action / Improvements Plan

Area:	NHS Ayrshire & Arran
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>

Renal Cancer QPI Action / Improvements Plan

Area:	NHS Forth Valley
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>

Renal Cancer QPI Action / Improvements Plan

Area:	NHS Lanarkshire
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>

Renal Cancer QPI Action / Improvements Plan

Area:	NHS Greater Glasgow & Clyde
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>

Renal Cancer QPI Action / Improvements Plan

Area:	MCN
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

QPI No.	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see Key)
			Start	End			
	<i>Ensure actions mirror those detailed in Audit Report.</i>	<i>Detail specific actions that will be taken by the NHS Board.</i>	<i>Insert date</i>	<i>Insert date</i>	<i>Insert name of responsible lead for each specific action.</i>	<i>Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.</i>	<i>Insert No. from key above.</i>
QPI 8 - 30/90 Day Mortality (Surgery):	MCN to monitor NHS Forth Valley mortality going forward to ensure their outlier status is due to small denominator numbers, rather than any other underlying issues.						