West of Scotland Cancer Network

Colorectal Cancer
Managed Clinical Network

Audit Report

Colorectal Cancer Quality Performance Indicators

Clinical Audit Data:
1st April 2020 and 31st March 2021

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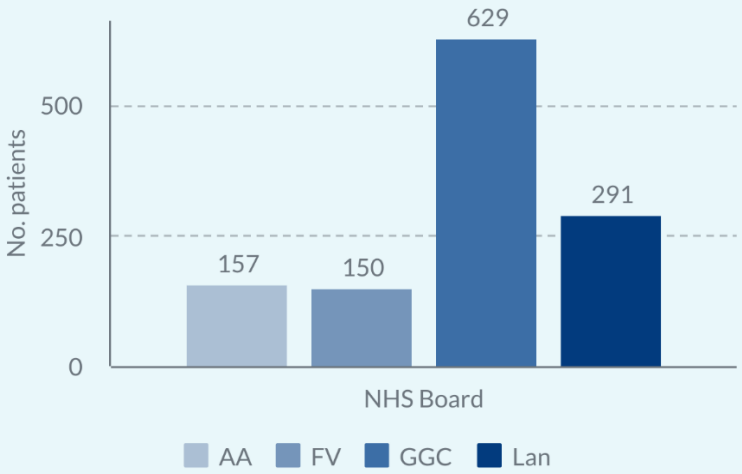
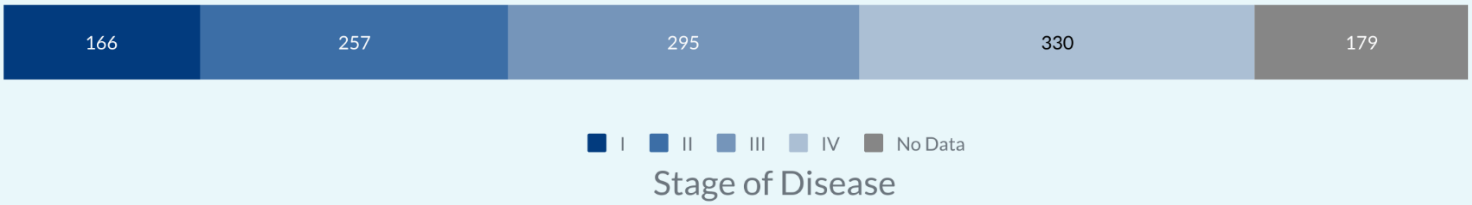
Colorectal Cancer QPI Overview

Patients diagnosed April 2020 - March 2021

Number of patients	1227
Median Age	71
Gender of patients:	
Male	60%
Female	40%

Where are patients diagnosed





Performance (%)

Target Performance 2020-21 difference from 2019-20

	Target	2020-21	Difference from 2019-20
QPI 1: Radiological Diagnosis & Staging (i)	95%	98%	
QPI 1: Radiological Diagnosis & Staging (ii)	95%	100%	
QPI 2: Pre-Operative Imaging of Colon	95%	84%	
QPI 5: Lymph Node Yield	90%	95%	
QPI 7: Surgical Margins (i)	95%	99%	
QPI 7: Surgical Margins (ii)	85%	94%	
QPI 8: Re-operation Rates	<10%	6%	
QPI 9: Anastomotic Dehiscence (i)	<5%	3%	
QPI 9: Anastomotic Dehiscence (ii)	<10%	5%	
QPI 10(i): 30 & 90 Day Mortality following Elective Surgical Resection	30: <3% / 90: <4%	30: 1% / 90: 3%	
QPI 10(ii): 30 & 90 Day Mortality following Emergency Surgical Resection	30: <15% / 90: <20%	30: 5% / 90: 8%	
QPI 12: 30 & 90 Day Mortality following Neo-adjuvant Chemoradiotherapy	30: <1% / 90: <1%	30: 0% / 90: 0%	
QPI 12: 30 & 90 Day Mortality following Radical Radiotherapy	30: <1% / 90: <1%	30: 0% / 90: 2%	
QPI 13: Clinical Trials and Research Study Access	15%	2%	

Areas for Improvement:

- Recruitment into Clinical Trials and Research Studies

Key Achievements:

- Excellent outcomes following treatment through the COVID-19 pandemic
- Development of more challenging QPIs for reporting from next year

Executive Summary

Introduction

This report presents an assessment of performance of the West of Scotland (WoS) Colorectal Cancer services relating to patients diagnosed in the twelve months between 1st April 2020 and 31st March 2021. Data was measured against v4.0 of the Colorectal Cancer Quality Performance Indicators (QPIs)[1] where possible. This was the eighth consecutive year of analysis following the initial Healthcare Improvement Scotland (HIS) publication of colorectal cancer QPIs in 2012.

In order to ensure the success of the Cancer QPIs in driving quality improvement in cancer care, QPI definitions continue to be assessed and amended to ensure they remain clinically effective and relevant. Formal reviews of the colorectal cancer QPIs took place in 2017 and 2021; these clinically led reviews involve key clinicians from each of the Regional Cancer Networks. v4.0 changes made at the review in 2021 will be implemented in this report where possible however it is not possible to report the updated QPIs 1, 5, 7, 9, 11, 12, 15 &16 as data will not be available until next year; these QPIs are reported using the previous v3.0 definitions with the exception of QPIs 11, 15 and 16, which are not reported.

Results

A summary of the Colorectal Cancer Quality Performance Indicators for the 2020/2021 audit period is presented below, with a more detailed analysis of the results set out in the main report. Data are analysed by location of diagnosis or treatment, and illustrate NHS Board performance against each target and overall regional performance for each performance indicator. As patients within NHS Greater Glasgow and Clyde are managed by different MDTs, the GGC figures are presented by the following to reflect this: North Glasgow; South Glasgow and Clyde.

Summary of QPI Result

Key	
	Above Target Result
	Below Target Result
-	Less than 5 patients included within measure

Quality Performance Indicator (QPI)	Performance by NHS Board of diagnosis/† surgery									
	Target	Year	AA	FV	NG	SG	Clyde	GGC	Lan	WoS
QPI 1(i): Proportion of patients with colon cancer who undergo CT chest, abdomen and pelvis before definitive treatment.	**95%**	2020-21	97.8%	98.4%	100.0%	96.8%	97.6%	97.9%	97.0%	97.8%
		2019-20	98.1%	98.6%	97.7%	98.0%	99.2%	98.3%	98.5%	98.4%
		2018-19	98.1%	97.4%	94.5%	95.6%	97.8%	95.9%	95.2%	96.3%
QPI 1(ii): Proportion of patients with rectal cancer who undergo CT chest, abdomen and pelvis and MRI pelvis before definitive treatment.	**95%**	2020-21	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		2019-20	96.0%	92.9%	96.7%	98.1%	95.0%	96.7%	100.0%	96.8%
		2018-19	100.0%	100.0%	97.7%	98.0%	100.0%	98.5%	100.0%	99.2%
QPI 2: Proportion of patients with colorectal cancer who undergo surgical resection who have the whole colon visualised by colonoscopy or CT colonography pre-operatively, unless the non-visualised segment of the colon is to be removed.	**95%**	2020-21	80.4%	87.7%	84.8%	83.3%	81.3%	83.0%	85.1%	83.9%
		2019-20	96.3%	96.3%	100.0%	99.4%	97.8%	99.0%	98.6%	98.2%
		2018-19	95.6%	95.9%	95.5%	100.0%	98.1%	98.2%	94.7%	96.9%
† QPI 5: Proportion of patients with colorectal cancer who undergo surgical resection where ≥ 12 lymph nodes are pathologically examined.	**90%**	2020-21	98.6%	88.5%	98.8%	97.4%	94.1%	96.7%	93.8%	95.1%
		2019-20	98.4%	94.4%	91.3%	95.6%	95.0%	94.2%	95.2%	95.0%
		2018-19	97.1%	95.7%	92.1%	95.6%	94.8%	94.3%	93.8%	94.8%
† QPI 7(i): Proportion of patients with rectal cancer who undergo surgical resection in which the circumferential margin is clear of tumour (neoadjuvant short course radiotherapy).	**95%**	2020-21	100.0%	100.0%	85.7%	100.0%	100.0%	96.6%	100.0%	98.6%
		2019-20	100.0%	88.2%	91.7%	100.0%	100.0%	98.0%	88.9%	94.4%
		2018-19	96.4%	94.7%	100.0%	92.3%	89.5%	94.7%	100.0%	95.9%

Quality Performance Indicator (QPI)	Target	Year	AA	FV	NG	SG	Clyde	GGC	Lan	WoS
† **QPI 7(ii):** Proportion of patients with rectal cancer who undergo surgical resection in which the circumferential margin is clear of tumour (neoadjuvant chemotherapy, long course radiotherapy, long course chemoradiotherapy or short course radiotherapy with long course intent).	**85%**	2020-21	85.7%	100.0%	95.5%	93.3%	89.5%	92.9%	100.0%	93.7%
		2019-20	85.7%	-	80.8%	90.9%	77.8%	83.3%	100.0%	83.7%
		2018-19	100.0%	87.5%	78.9%	93.8%	100.0%	88.9%	84.6%	88.7%
† **QPI 8:** Proportion of patients who undergo surgical resection for colorectal cancer who return to theatre to deal with complications related to the index procedure (within 30 days of surgery).	**<10%**	2020-21	10.7%	1.2%	2.9%	3.8%	6.6%	4.5%	8.6%	5.8%
		2019-20	5.8%	3.8%	4.7%	4.5%	8.3%	5.8%	6.3%	5.7%
		2018-19	3.1%	7.4%	7.4%	3.9%	4.0%	5.0%	4.6%	4.9%
† **QPI 9(i):** Proportion of patients who undergo colonic anastomosis with anastomotic leak as a post-operative complication.	**< 5%**	2020-21	8.8%	2.0%	2.6%	1.8%	4.5%	2.9%	1.8%	3.2%
		2019-20	0%	2.0%	5.7%	1.1%	7.7%	4.6%	2.2%	3.0%
		2018-19	2.4%	2.4%	2.0%	0%	0%	0.5%	2.8%	1.7%
† **QPI 9(ii):** Proportion of patients who undergo rectal anastamosis with anastomotic leak as a post-operative complication.	**< 10%**	2020-21	14.8%	3.7%	0%	2.6%	4.5%	2.6%	6.0%	5.0%
		2019-20	5.9%	0%	0%	0%	4.6%	1.8%	8.0%	3.3%
		2018-19	4.5%	5.3%	1.5%	1.4%	7.7%	2.8%	8.8%	4.4%
† **QPI 10(i):** Proportion of patients with colorectal cancer who die within 30 days of elective surgical resection.	**< 3%**	2020-21	1.6%	1.4%	0%	0.9%	1.9%	1.0%	0.9%	1.1%
		2019-20	1.8%	3.5%	0%	1.2%	0%	0.4%	0.7%	1.0%
		2018-19	0.7%	0.0%	0.7%	1.1%	0.9%	0.9%	0%	0.6%
† **QPI 10(i):** Proportion of patients with colorectal cancer who die within 90 days of elective surgical resection.	**< 4%**	2020-21	1.7%	1.4%	0%	2.7%	6.1%	3.1%	2.9%	2.7%
		2019-20	2.8%	4.7%	0.8%	1.8%	0.0%	0.9%	1.4%	1.7%
		2018-19	2.3%	1.1%	1.5%	2.3%	0.9%	1.7%	0.7%	1.5%

Quality Performance Indicator (QPI)	Target	Year	AA	FV	NG	SG	Clyde	GGC	Lan	WoS
† **QPI 10(ii):** Proportion of patients with colorectal cancer who die within 30 days of emergency surgical resection.	**< 15%**	2020-21	0%	0%	0%	17.6%	6.3%	7.8%	4.8%	4.8%
		2019-20	7.7%	11.1%	8.3%	14.8%	6.7%	9.9%	9.5%	9.6%
		2018-19	8.0%	0%	7.1%	4.5%	12.1%	8.7%	0.0%	5.5%
† **QPI 10(ii):** Proportion of patients with colorectal cancer who die within 90 days of emergency surgical resection.	**< 20%**	2020-21	9.1%	10.0%	0%	17.6%	6.3%	7.8%	7.1%	8.0%
		2019-20	11.5%	22.2%	8.3%	18.5%	6.7%	11.1%	11.9%	12.6%
		2018-19	12.0%	6.3%	7.1%	4.5%	18.2%	11.6%	2.9%	9.0%
***QPI 12(i):** Proportion of patients with colorectal cancer who die within 30 days of **neoadjuvant chemoradiotherapy** treatment with curative intent.	**< 1%**	2020-21	0%	-	0%	0%	0%	0%	0%	0%
		2019-20	0%	0%	0%	0%	0%	0%	0%	0%
		2018-19	0%	0%	0%	0%	0%	0%	3.8%	0.9%
***QPI 12(ii):** Proportion of patients with colorectal cancer who die within 90 days of **neoadjuvant chemoradiotherapy** treatment with curative intent.	**< 1%**	2020-21	0%	-	0%	0%	0%	0%	0%	0%
		2019-20	0%	0%	0%	0%	0%	0%	0%	0%
		2018-19	0%	0%	0%	0%	0%	0%	4.0%	0.9%
***QPI 12:** Proportion of patients with colorectal cancer who die within 30 days of **radiotherapy** treatment with curative intent.	**< 1%**	2020-21	0%	0%	0%	0%	0%	0%	-	0%
		2019-20	0%	-	0%	0%	0%	0%	0%	0%
		2018-19	-	-	-	0%	-	0%	-	0%
***QPI 12:** Proportion of patients with colorectal cancer who die within 90 days of **radiotherapy** treatment with curative intent.	**< 1%**	2020-21	0%	0%	0%	12.5%	0%	3.8%	-	2.2%
		2019-20	14.3%	-	0%	0%	0%	0%	0%	2.1%
		2018-19	-	-	-	0%	-	0%	-	0%

Quality Performance Indicator (QPI)	Target	Year	AA	FV	NG	SG	Clyde	GGC	Lan	WoS
QPI 13: Proportion of patients diagnosed with colorectal cancer who are consented for a clinical trial / research study.	**15%**	2020	0.4%	2.5%	1.8%				3.0%	1.9%
		2019	1.1%	15.5%	3.2%				5.1%	4.7%
		2018	6.3%	45.3%	2.9%				3.4%	8.8%

† QPIs 5, 7, 8, 9 and 10 are analysed by Board of surgery.

**Small numbers in some Boards - percentage comparisons over a single year should be viewed with caution.*

Conclusions

The Colorectal Cancer MCN is encouraged by the results presented in this report which demonstrate that patients with colorectal cancer in the WoS continue to receive a consistently high standard of care.

Targets were met at regional level for all but three of the QPIs reported, including radiological staging, lymph node harvest, clear surgical resection margins, occurrence of anastomotic leak, return to surgery following complications and mortality following surgery and chemotherapy. This reflects the very high quality of care provided by Colorectal Cancer MDTs across the WoS and allows the MCN to focus on the three aspects of the service that did not achieve the target performance this last year.

All 6 MDTs failed to meet the target (95%) for patients undergoing complete visualisation of the bowel prior to surgery. Changes in the measurability at Formal Review now require imaging to be undertaken within 6 months of surgery. This time constraint has resulted in some patients failing the QPI where imaging was undertaken prior to neoadjuvant therapy and consequently surgery was more than 6 months after imaging, although this is considered to be entirely clinically appropriate. There are no clinical concerns with the undertaking / timing of pre-operative imaging and the way that this QPI is measured is currently being reviewed.

Recruitment to clinical trials was very disappointing. During the reporting period trials were open across the pre-operative, adjuvant and palliative settings along with other straight forward translational studies. It is through recruitment to trials that we can continue to improve clinical outcomes and this is an expected area of excellence in a large cancer centre such as the Beatson West of Scotland Cancer Centre.

There are a number of occasions where individual MDTs have failed to attain the performance target on specific QPIs: circumferential margins in North Glasgow; colonic and rectal cancer anastomotic leak rates in Ayrshire and Arran; mortality following elective surgery in Clyde; and mortality following emergency surgery in South Glasgow. Clinical review of cases did not raise any causes for concern for these but performance against these areas will continue to be reviewed.

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 provided detailed comments indicating valid clinical reasons, or in some cases patient choice or co-morbidities, have influenced patient management. Actions identified are summarised below.

Action Required:

- **NHS Forth Valley to provide feedback to MCN on the conclusions of the meeting between colorectal surgeons and pathologists to discuss lymph node yield in patients undergoing curative surgical resection.**

- **MCN to facilitate discussion of performance against QPIs 8 & 9 at the Advisory Board meeting.**

- **MCN to continue to promote recruitment of patients into clinical trials, as appropriate, and to raise awareness of trials across the wider MCN membership, as opportunities allow.**

- **MCN to explore options for increasing numbers of clinical trials nursing staff and dedicated time for clinicians to improve recruitment into clinical trials with SCRN.**

The MCN will actively take forward regional actions identified and NHS Boards are asked to develop local Action/Improvement 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 within two months of publication of this report.** Please note actions have been categorised into groupings (for example surgery, oncology, pathology or data capture) for internal management purposes to allow regional trends to be identified and co-ordinate regional actions across multiple tumour groups where appropriate.

Progress against these 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.

Additionally, progress will be reported annually to the Regional Cancer Advisory Group (RCAG) by NHS Board Territorial Lead Cancer Clinicians and MCN Clinical Leads, and nationally on a three-yearly basis to Healthcare Improvement Scotland as part of the governance processes set out in CEL 06 (2012).

1. Introduction

This report presents an assessment of performance of West of Scotland (WoS) Colorectal Cancer services relating to patients diagnosed in the twelve months between 1 April 2020 and 31 March 2021. These audit data underpin much of the regional development/service improvement work of the Managed Clinical Network (MCN) and regular reporting of activity and performance is a fundamental requirement of an MCN to assure the quality of care delivered across the region.

In order to ensure the success of the National Cancer QPIs in driving quality improvement in cancer care across NHS Scotland it is critical that QPIs continue to be clinically relevant and focus on areas which will result in improvements to the quality of patient care. A programme of formal review of all QPIs was implemented whereby all tumour specific QPIs were reviewed following three years of comparative reporting. Formal reviews of the Colorectal cancer QPIs was undertaken in 2016 and 2020, with the revised QPIs (v3.0) published in May 2017 and v4.0 definitions published in July 2021[1].

2. Background

Colorectal cancer services are organised around MDTs serving 2.5 million people[2] in four NHS Boards across the West of Scotland. The colorectal cancer MCN continues to support and develop the clinical service for approximately 1700 colorectal cancer patients per annum. The effective management of these patients throughout the region continues to rely on co-ordinated delivery of treatment and care that requires close collaboration of professions from a range of specialties. Currently, there are six local Multi-Disciplinary Team (MDT) meetings held across the West of Scotland (WoS); these MDTs and their constituent hospital units are detailed in the table below.

MDT	Constituent Hospital(s)
Ayrshire (AA)	University Hospital Crosshouse, University Hospital Ayr
Clyde	Royal Alexandra Hospital, Inverclyde Royal Hospital, Vale of Leven
North Glasgow (NG)	Glasgow Royal Infirmary, Stobhill Hospital
South Glasgow (SG)	Queen Elizabeth University Hospital, New Victoria Hospital, Gartnavel General Hospital
Forth Valley (FV)	Forth Valley Royal Hospital
Lanarkshire (LAN)	University Hospital Hairmyres, University Hospital Wishaw, University Hospital Monklands

2.1 National Context

Colorectal cancer is the third most common cancer, in both males and females, in Scotland with around 4,000 new diagnoses nationally each year[3]. From 2009 to 2019, the incidence of colorectal cancer decreased by 15%[3]. Despite this, actual numbers are predicted to increase by a quarter over the coming decade due to the aging population[4]. Over half of colorectal cancer is likely to be preventable in the UK with diet, alcohol consumption and smoking being among the most common risk factors[3].

Overall cancer mortality rates show that colorectal cancer is the second most common cause of cancer deaths. From 2009 to 2019, mortality rates relating to colorectal cancer in Scotland have decreased by 7.5% in males but increased by 0.2% in females[5]. Latest figures show an improvement in age standardised net survival for colorectal cancer with 59.4% of men and women diagnosed between 2013 and 2017 surviving at least five years after diagnosis, compared to a 46.4% of men and 49.9% of women for those diagnosed between 1993 and 1997[6].

Early diagnosis of colorectal cancer is very important in maximising options for treatment and increasing the likelihood of cure. The Scottish Bowel Screening Programme was introduced to increase early detection of cancer and therefore lead to further improvements in survival[7].The programme is designed to facilitate the early detection and cure of asymptomatic cancers as well as reduce the overall incidence of colorectal cancer through the removal of precancerous polyps.

2.2 West of Scotland Context

A total of 1227 cases of colorectal cancer were diagnosed and identified by audit in the WoS between the 1st April 2020 and 31st March 2021. The number of patients diagnosed within each NHS Board is presented in Figure 1. As the largest WoS Board, 51% of all new cases of colorectal cancer were diagnosed in NHS Greater Glasgow and Clyde (GGC) which is in line with population estimates for this board. There was a 23% decline in numbers of patients being diagnosed with colorectal cancer in the West of Scotland in 2020-21 compared with 2019-20. This is likely to be largely due to the impact of the COVID-19 pandemic, with the first lockdown coinciding with the start of this audit period. There is emerging evidence of considerable declines in numbers of patients being diagnosed with cancer in 2020, particularly during April – June 2020, across a range of different cancer types. For colorectal cancer, in addition to the decreases in symptomatic patients presenting during the first lockdown period, the cessation of the bowel screening programme from 20 March to 12 October 2020 will have further exacerbated the reduction in diagnoses of colorectal cancer during this audit period.

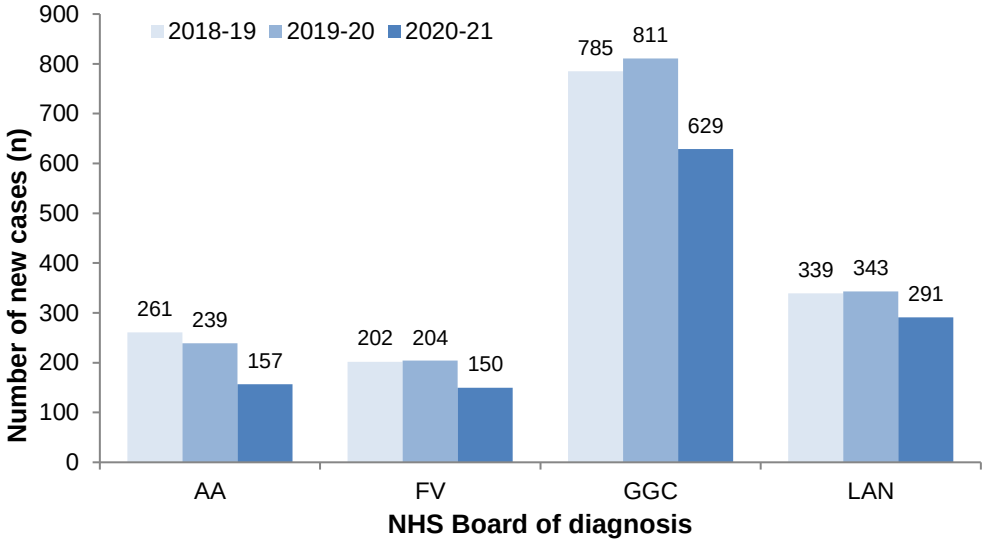


Figure 1: Number of new cases diagnosed with colorectal cancer by NHS Board of diagnosis between 1st April 2018 and 31st March 2021.

Colorectal cancer occurs most frequently later in life. Figure 2 illustrates the number of new cases in 2020-21 by age and gender. There are approximately 5 males diagnosed for every 4 females and the incidence of colorectal cancer is higher in males in most age groups. As women live longer than men, the total number of cases diagnosed in women aged 85 years or more is greater than for males.

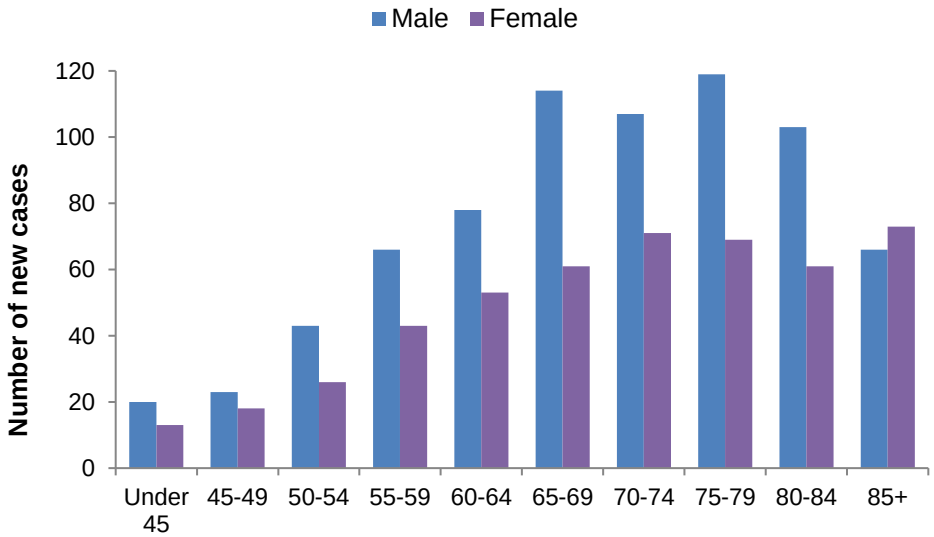


Figure 2: Number of new cases diagnosed with colorectal cancer in the West of Scotland between 1st April 2020 and 31st March 2021 by age and gender.

Patient Profile

Figure 3 shows the Scottish Index of Multiple Deprivation (SIMD) 2020 quintiles for patients diagnosed with colorectal cancer; with 1 equating to the most deprived postcodes and 5 equating to the least deprived.

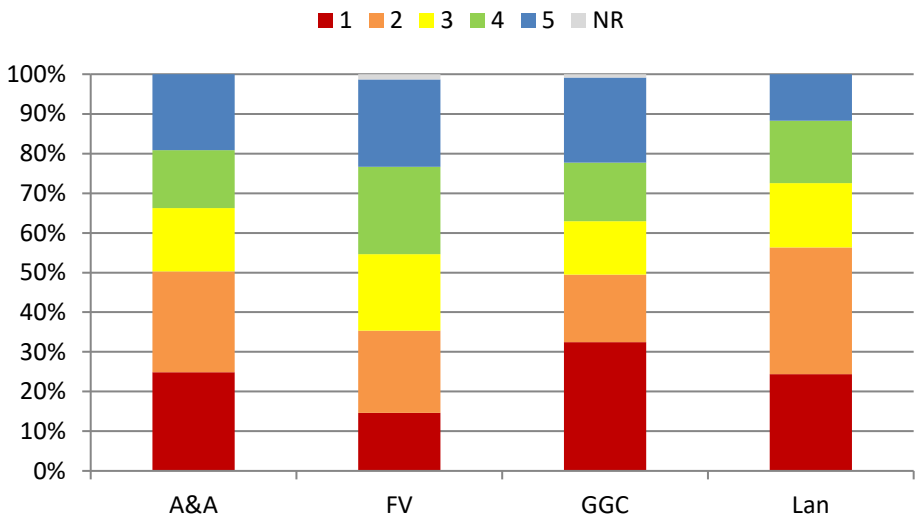


Figure 3: SIMD percentile for colorectal patients diagnosed in WoSCAN Boards in 2020-21

Tumour Stage at Diagnosis

Staging is the assessment of the extent of disease and TNM 8 staging was used to stage colorectal cancers diagnosed in 2020-21. Figure 4 shows the distribution of colorectal cancer by final TNM stage. There appears to have been a change in the stage distribution of patients presenting with colorectal cancer in 2020-21 compared with previous years with a 30% decline in the numbers of patients diagnosed with Stage 1 – Stage III disease in 2020/21 compared with the previous year but only a 7% decline in the numbers of patients with Stage IV disease. A similar shift towards diagnosis of patients with more advanced disease has been observed for a number of tumour groups during the COVID-19 pandemic.

It was not possible to assign an overall stage for 179 patients (15%); while for some this will be due to a lack of clear recording of the T, N and M stage, for others it may not be possible to fully stage patients (e.g. patients may be too frail for investigations, patients having polypectomy for early stage disease). An audit undertaken by the South Glasgow MDT for patients without full TNM staging in 2019-20 found that none of the 38 patients had curative treatment; 32 were subsequently able to be staged from CT imaging (although stage was not specified in the radiology reports), while 3 did not have a conclusive diagnosis following imaging and 3 did not have CT imaging (patients were unfit or declined imaging). This suggests that recording of staging could be improved considerably by actively discussing and agreeing TNM stage at the MDT meeting based on available information; NHS Forth Valley and NHS Lanarkshire plan to improve recording through the MDT. In addition, the new MDT recording system will hopefully prompt recording of TNM at MDT and may also enable the recording of the reason why TNM could not be identified. It is hoped that these measures will result in improved recording in future years.

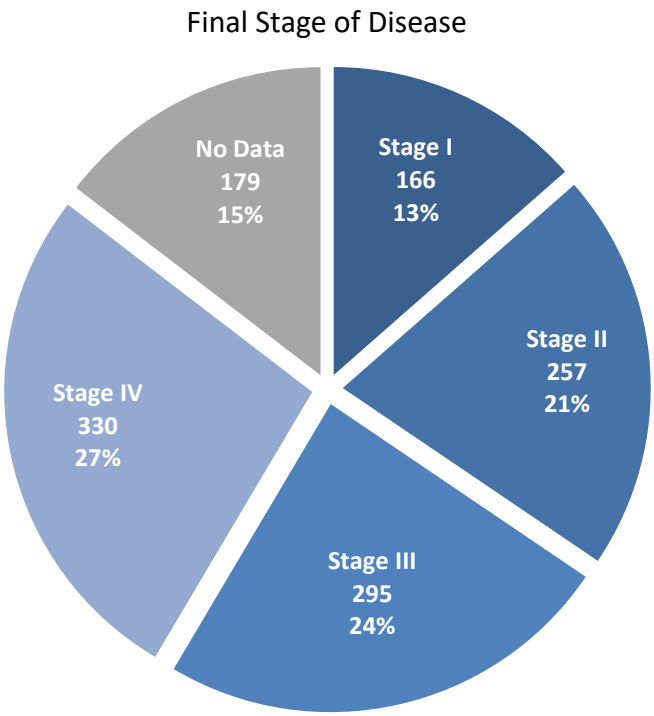


Figure 4: Final TNM Stage of colorectal cancer for patients diagnosed in 2020-21

Colorectal Cancer Treatment

Figure 5 shows the type of treatment colorectal cancer patients receive across WoSCAN during their first episode of care following diagnosis. Overall in WoSCAN 66% of patients received surgery for their colorectal cancer, most of these patients received surgery alone, however around a third had surgery in combination with chemotherapy or radiotherapy. There was a slight decrease in the proportion of patients having surgery during this audit period (71% of patients had surgery in 2019-20), this is likely to be due to the higher proportion of patients presenting with more advanced disease during 2020-21.

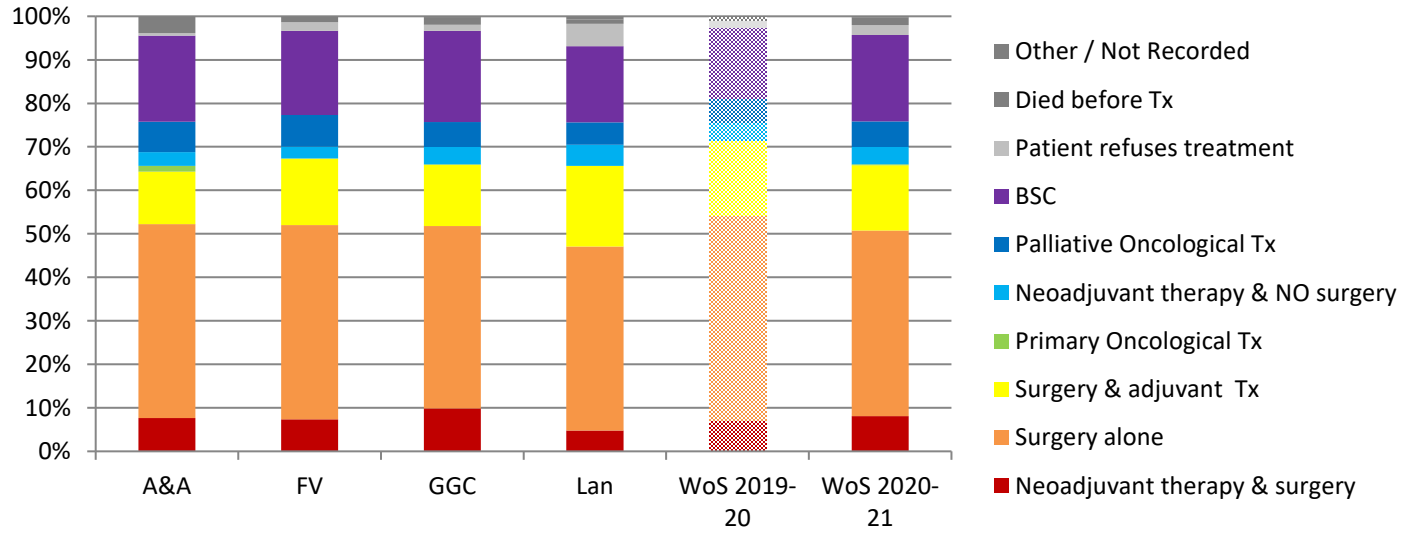


Figure 5: Type of treatment for patient diagnosed with colorectal cancer diagnosed in WoSCAN in 2020-21.

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 Action Required

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

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 tables impacted by this restricted data are denoted with a dash (-). An asterisk (*) is used to specify a denominator of zero. Any commentary provided by NHS Boards relating to the impacted indicators will however be included as a record of continuous improvement.

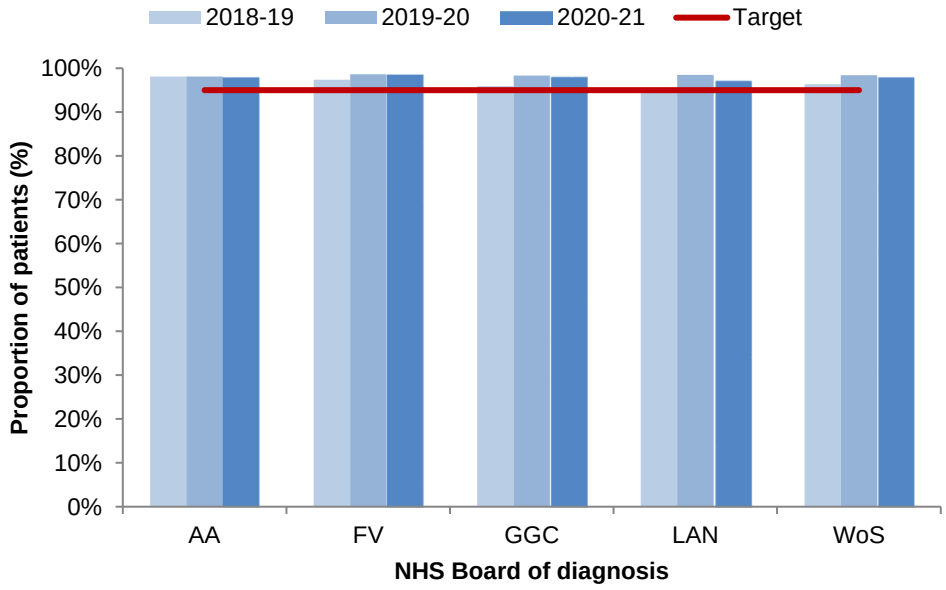
Specific regional and NHS Board actions have been identified to address issues highlighted through the data analysis.

QPI 1: Radiological Diagnosis and Staging

Accurate staging is necessary to detect metastatic disease, guide treatment and avoid inappropriate surgery. All patients with colorectal cancer should be staged by contrast enhanced CT of the chest, abdomen and pelvis, to estimate the stage of disease, unless the use of intravenous iodinated contrast is contraindicated. MRI of the rectum is recommended for local staging of patients with rectal cancer. To reflect this, QPI 1 is split so colon cancer and rectal cancer are reported separately.

QPI 1:	Patients with colorectal cancer should be evaluated with appropriate imaging to detect extent of disease and guide treatment decision making.
Numerator:	(i) Number of patients with colon cancer who undergo CT chest, abdomen and pelvis before definitive treatment. (ii) All patients with rectal cancer undergoing definitive treatment who undergo CT chest, abdomen and pelvis and MRI pelvis before definitive treatment.
Denominator:	(i) All patients with colon cancer. (ii) All patients with rectal cancer undergoing definitive treatment (chemoradiotherapy or surgical resection).
Exclusions:	(i) Patients who refuse investigation, patients who undergo emergency surgery, patients undergoing supportive care only, patients who undergo palliative treatment (chemotherapy, radiotherapy or surgery) and patients who died before first treatment. (ii) Patients who refuse investigation, patients who undergo emergency surgery, patients with a contraindication to MRI, patients who undergo Transanal Endoscopic Microsurgery (TEM), patients who undergo Transanal Resection of Tumour (TART), patients who undergo palliative treatment (chemotherapy, radiotherapy or surgery) and patients who died before treatment.
Target:	95%

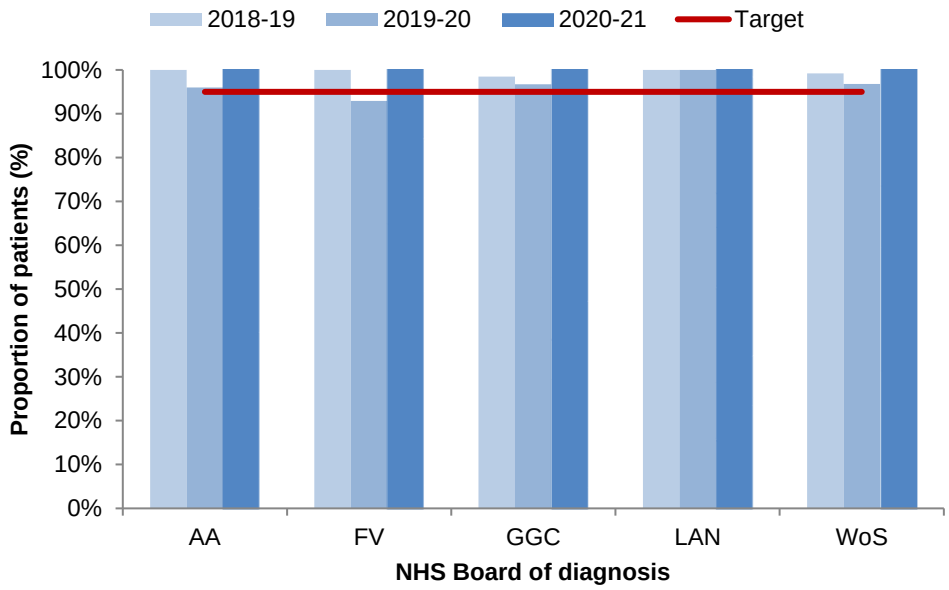
Specification (i) – patients with colon cancer



Board / Area	Performance (%)	Numerator	Denominator
AA	97.8%	45	46
FV	98.4%	63	64
NG	100%	57	57
SG	96.8%	91	94
Clyde	97.6%	83	85
GGC	97.9%	231	236
Lan	97.0%	96	99
WoS	**97.8%**	**435**	**445**

The overall performance against QPI 1(i) for the WoS was 97.8%, with all Boards meeting the 95% target.

Specification (ii) – patients with rectal cancer



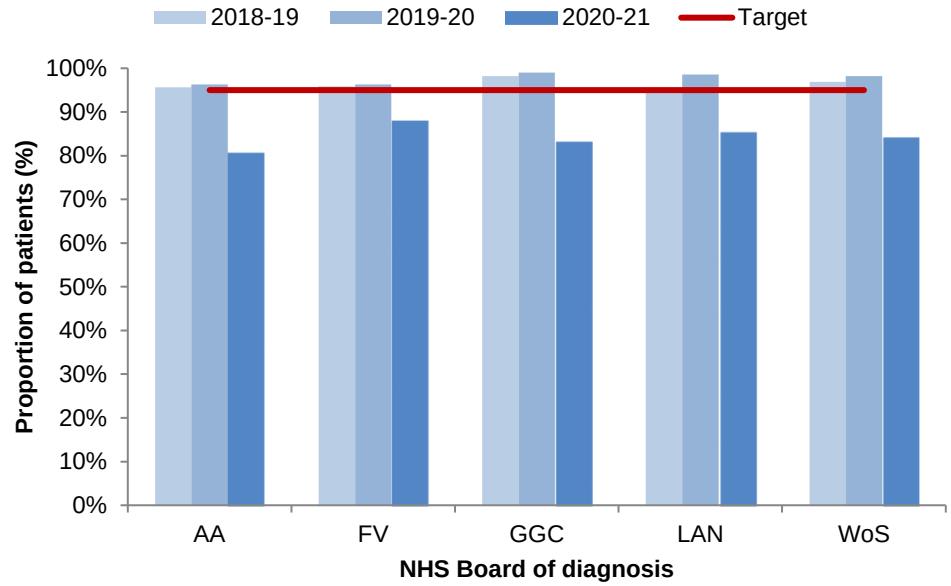
Board / Area	Performance (%)	Numerator	Denominator
AA	100%	19	19
FV	100%	20	20
NG	100%	23	23
SG	100%	28	28
Clyde	100%	39	39
GGC	100%	90	90
Lan	100%	43	43
WoS	**100%**	**172**	**172**

For QPI 1(ii), the 95% target was met at a regional level and by all NHS Boards in 2020-21 with 100% performance.

QPI 2: Pre-Operative Imaging of the Colon

Where colorectal cancer is suspected clinically, the whole of the large bowel should be examined to confirm a diagnosis of cancer. CT colonography can be used as a sensitive and safe alternative to colonoscopy.

QPI 2:	Patients with colorectal cancer undergoing elective surgical resection should have the whole colon visualised pre-operatively
Numerator:	Number of patients who undergo elective surgical resection for colorectal cancer who have the whole colon visualised by colonoscopy or CT colonography before surgery, unless the non visualised segment of the colon is to be removed.
Denominator:	All patients who undergo elective surgical resection for colorectal cancer.
Exclusions:	Patients who undergo palliative surgery. Patients who have incomplete bowel imaging due to obstructing tumour
Target:	95%



Board / Area	Performance (%)	Numerator	Denominator
AA	80.4%	41	51
FV	87.7%	64	73
NG	84.8%	56	66
SG	83.3%	85	102
Clyde	81.3%	74	91
GGC	83.0%	215	259
Lan	85.1%	86	101
WoS	**83.9%**	**406**	**484**

Performance against QPI has dropped in the last year due to changes in the timescale within which imaging is required. Consequently this QPI has not been met at a regional level or by any of the NHS Boards in the West of Scotland with regional performance at 83.9%, well below the target of 95%.

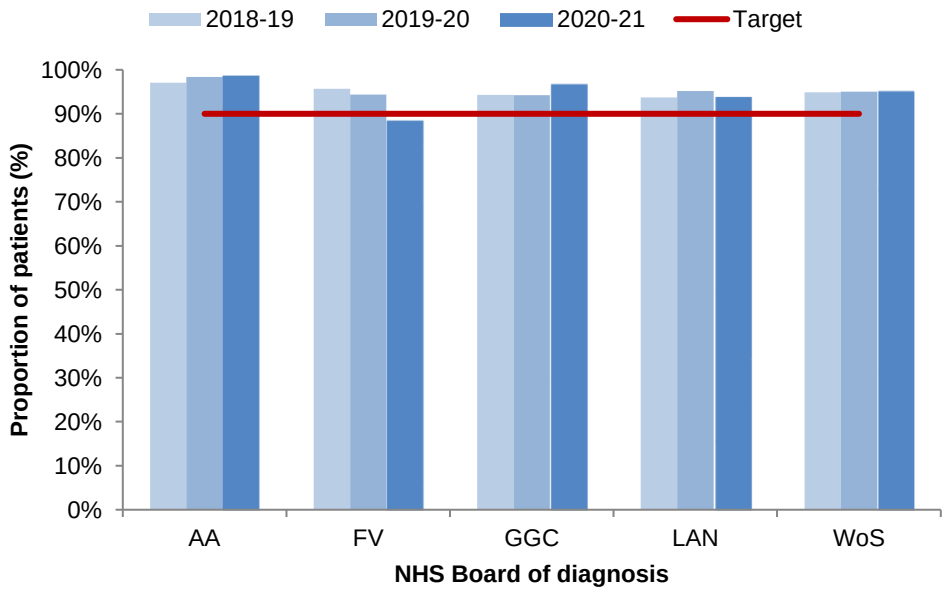
The QPI definition was changed at formal review to require imaging to be undertaken within 6 months of surgery, this has had the unintended consequence of some patients who had neo-adjuvant therapy prior to surgery failing the QPI as surgery was undertaken more than 6 months after they had the colon visualised. If the 2020-21 cohort were analysed using the previous definition (excluding the requirement for imaging to have been within 6 months of surgery) then performance would have been considerably better at 94.8%, just under the 95% target. It is anticipated that the QPI definitions will revert to that previously used in subsequent years.

The majority of patients not having their whole colon visualised prior to elective surgery had an incomplete colonoscopy. NHS Ayrshire and Arran noted that for some patients this was a result of poor bowel preparation while a number of NHS Boards noted that some procedures needed to be terminated due to looping and patient discomfort, or patient requesting the procedure to be stopped. In addition some patients were not able to tolerate bowel preparation.

QPI 5: Lymph Node Yield

Maximising the number of lymph nodes resected and analysed enables reliable staging which influences treatment decision making.

QPI 5:	For patients undergoing resection for colorectal cancer the number of lymph nodes examined should be maximised.
Numerator:	Number of patients with colorectal cancer who undergo curative surgical resection where ≥12 lymph nodes are pathologically examined.
Denominator:	All patients with colorectal cancer who undergo curative surgical resection (with or without neo-adjuvant short course radiotherapy).
Exclusions:	Patients with rectal cancer who undergo long course neo-adjuvant chemoradiotherapy or radiotherapy; patients who undergo transanal endoscopic microsurgery (TEM) or transanal resection of tumour (TART).
Target:	90%



Board / Area	Performance (%)	Numerator	Denominator
AA	98.6%	68	69
FV	88.5%	69	78
NG	98.8%	84	85
SG	97.4%	111	114
Clyde	94.1%	95	101
GGC	96.7%	290	300
Lan	93.8%	120	128
WoS	**95.1%**	**547**	**575**

All Boards met the QPI target of 90% with the exception of NHS Forth Valley. The overall performance for the WoS was 95.1%, a slight improvement on the previous year's performance. In NHS Forth Valley, nine patients had under 12 lymph nodes examined, with 6 of these having 11 lymph nodes examined. In one patient the preoperative pathology was of a benign polyp, and the operation was not intended to be radical. A meeting between colorectal surgeons and pathologists is planned in NHS Forth Valley to consider whether any changes in practice are required to improve lymph node yield.

Action required:

- **NHS Forth Valley to provide feedback to MCN on the conclusions of the meeting between colorectal surgeons and pathologists to discuss lymph node yield in patients undergoing curative surgical resection.**

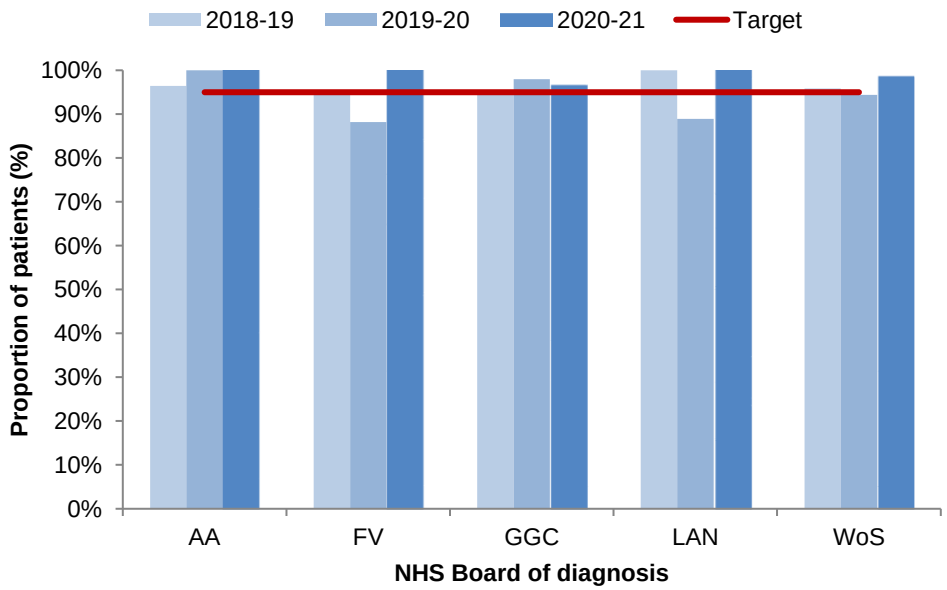
QPI 7: Surgical Margins

The circumferential margin is an independent risk factor for the development of distant metastases and mortality. It is recognised that local recurrence of rectal cancer can be accurately predicted by pathological assessment of circumferential margin involvement in these tumours.

This indicator is a measure of the quality of both pre-operative assessment and resection.

QPI 7:		Rectal cancers undergoing surgical resection should be adequately excised.
Numerator:	(i)	Number of patients with rectal cancer who undergo elective primary surgical resection or immediate/early surgical resection following neo-adjuvant short course radiotherapy in which the circumferential margin is clear of tumour.
	(ii)	Number of patients with rectal cancer who undergo elective surgical resection following neo-adjuvant chemotherapy, long course radiotherapy, long course chemoradiotherapy or short course radiotherapy with long course intent in which the circumferential margin is clear of tumour.
Denominator:	(i)	All patients with rectal cancer who undergo elective primary surgical resection or immediate/early surgical resection following neo-adjuvant short course radiotherapy.
	(ii)	All patients with rectal cancer who undergo elective surgical resection following neo-adjuvant chemotherapy, long course radiotherapy, long course chemoradiotherapy or short course radiotherapy with long course intent (delay to surgery).
Exclusions:	(i)	Patients who undergo transanal endoscopic microsurgery (TEM) or transanal resection of tumour (TART).
	(ii)	Patients who undergo transanal endoscopic microsurgery (TEM) or transanal resection of tumour (TART).
Target:	(i)	95%
	(ii)	85%

Specification (i)

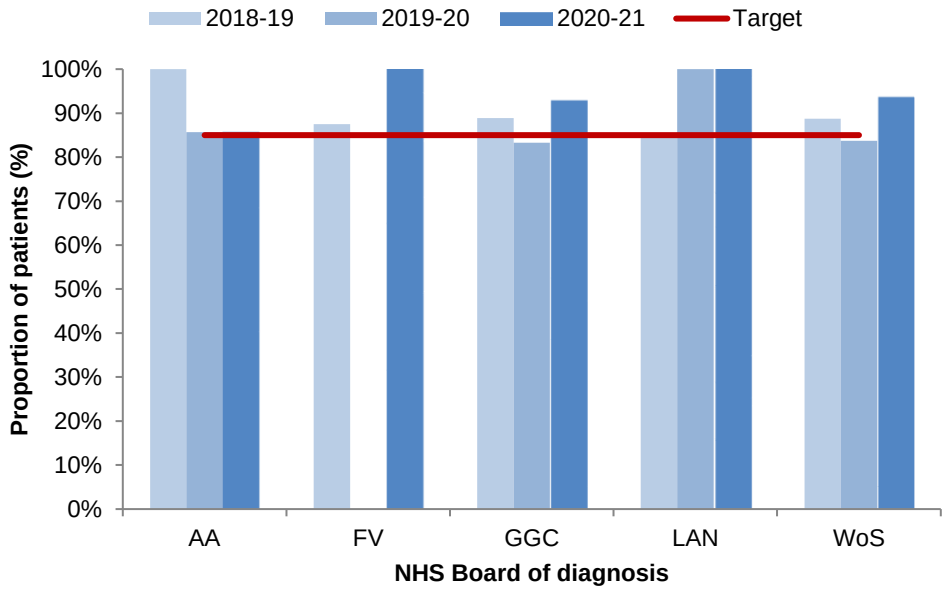


Board / Area	Performance (%)	Numerator	Denominator
AA	100%	10	10
FV	100%	11	11
NG	85.7%	6	7
SG	100%	10	10
Clyde	100%	12	12
GGC	96.6%	28	29
Lan	100%	21	21
WoS	**98.6%**	**70**	**71**

All NHS Boards in the WoS met the 95% target and consequently the QPI target was met at a regional level with 98.6% of patients having clear circumferential margins, an improvement on figures from previous years. Within NHSGGC the target was not met in the North Glasgow sector although numbers of patients were very small and the QPI not met due to the outcome of a single patient. Within NHSGGC, North Glasgow undertake the vast majority of 'beyond TME' surgery; these complex cases typically result in a much higher proportion of involved margins. The single patient not meeting the QPI within North Glasgow was a tertiary case and referred to North Glasgow from another MDT within the region. As such performance against this measure within North Glasgow is a result of the nature of the complex surgery undertaken within the unit rather than the quality of treatment provided.

Following reporting of the 2019-20 performance against this QPI the MCN undertook an education event focussing on pre operative treatment strategies with the aim of increasing performance against this QPI in August 2021. It is hoped that by increasing awareness of pre-operative treatment options this QPI will continue to be met across the region in future years.

Specification (ii)



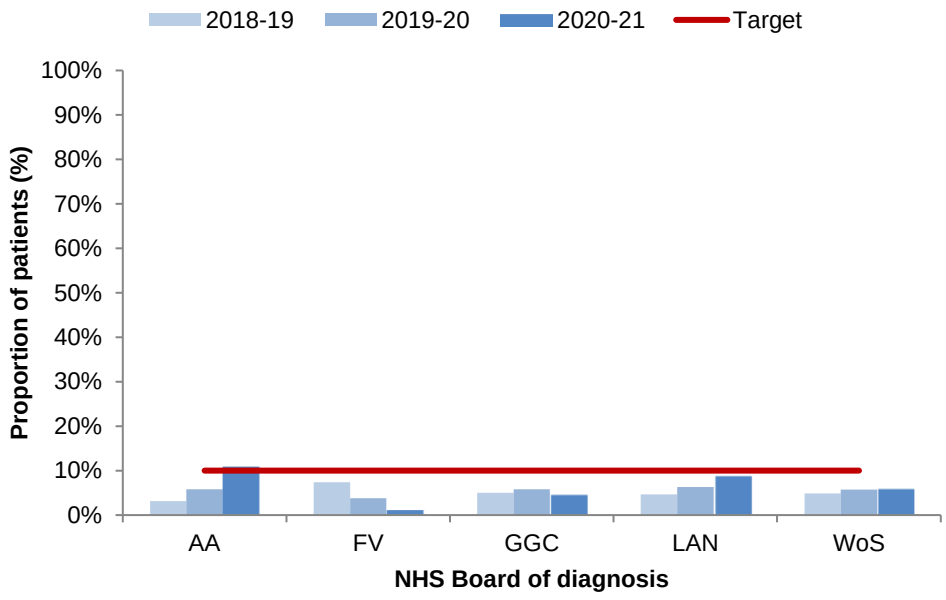
Board / Area	Performance (%)	Numerator	Denominator
AA	85.7%	6	7
FV	100%	5	5
NG	95.5%	21	22
SG	93.3%	14	15
Clyde	89.5%	17	19
GGC	92.9%	52	56
Lan	100%	11	11
WoS	**93.7%**	**74**	**79**

For QPI 7(ii), all NHS Boards in the WoS met the 85% target with overall regional performance of 93.7%; an improvement on performance in 2019-20.

QPI 8: Re-operation Rates

It is important to minimise morbidity and mortality related to the treatment of colorectal cancer. Re-operation rates may offer a sensitive and relevant marker of surgical quality.

QPI 8:	For patients undergoing surgery for colorectal cancer re-operation rates should be minimised.
Numerator:	Number of patients with colorectal cancer who undergo surgical resection who return to theatre following initial procedure (within 30 days of surgery) to deal with complications related to the index procedure.
Denominator:	All patients with colorectal cancer who undergo surgical resection.
Exclusions:	No exclusions.
Target:	<10%



Board / Area	Performance (%)	Numerator	Denominator
AA	10.7%	9	84
FV	1.2%	1	83
NG	2.9%	3	102
SG	3.8%	5	132
Clyde	6.6%	8	121
GGC	4.5%	16	355
Lan	8.6%	13	151
WoS	**5.8%**	**39**	**673**

All Boards were within the 10% target within the exception of NHS Ayrshire & Arran where the target was narrowly missed; the performance for the WoS region was 5.8%, similar to performance in previous years.

Within NHS Ayrshire & Arran all patients who were returned to surgery had their cases clinically reviewed; of these 7 of the patients were returned to surgery due to anastomotic leaks and no clinical concerns were raised. Re-operation rates in NHS Ayrshire & Arran have previously been similar to those in other NHS Boards; never-the-less discussion of performance against this QPI, and associated QPI 9 performance, at the regional Advisory Board meeting is considered appropriate.

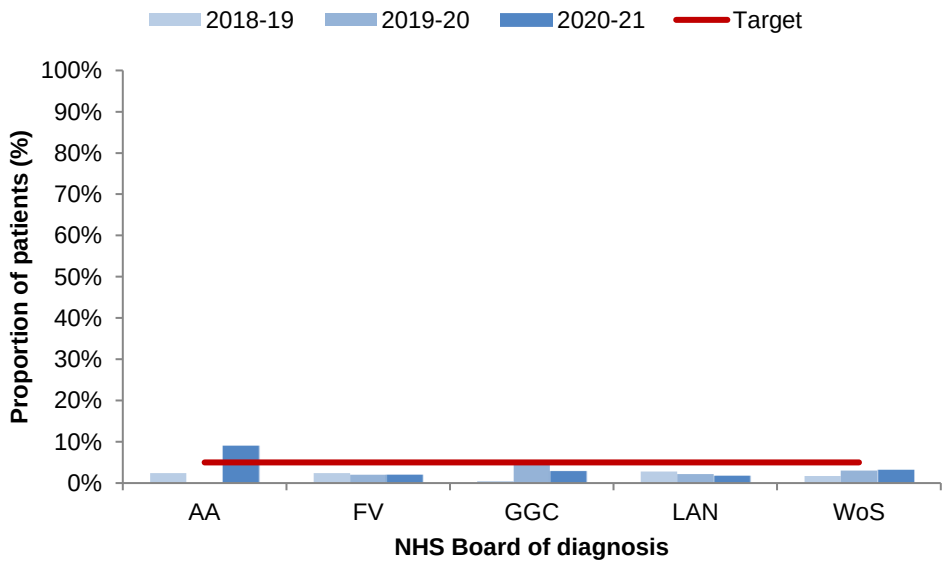
Action Required:

- **MCN to facilitate discussion of performance against QPI 8 at the Advisory Board meeting.**

QPI 9: Anastomotic Dehiscence

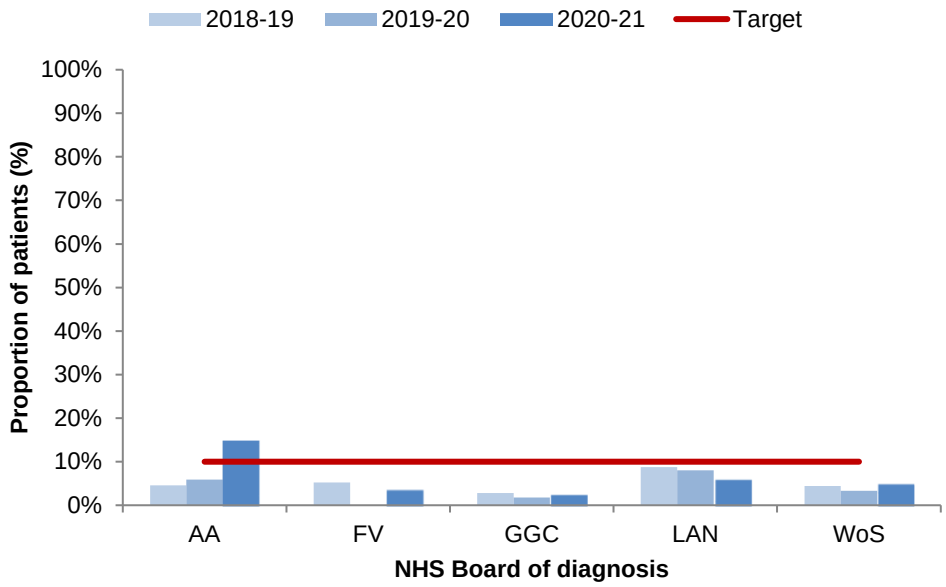
Anastomotic dehiscence is a major cause of morbidity and a measure of the quality of surgical care. Anastomotic leakage is an important and potentially fatal complication of colorectal cancer surgery, and measures to minimise it should be taken.

QPI 9:	For patients who undergo surgical resection for colorectal cancer anastomotic dehiscence should be minimised.	
Numerator:	(i)	Number of patients with colorectal cancer who undergo a surgical procedure involving anastomosis of the colon having anastomotic leak requiring intervention (radiological or surgical).
	(ii)	Number of patients with colorectal cancer who undergo a surgical procedure involving anastomosis of the rectum (including anterior resection with total mesorectal excision (TME)) having anastomotic leak requiring intervention (radiological or surgical).
Denominator:	(i)	All patients with colorectal cancer who undergo a surgical procedure involving anastomosis of the colon.
	(ii)	All patients with rectal cancer who undergo a surgical procedure involving anastomosis of the rectum (including anterior resection with TME).
Exclusions:	No exclusions.	
Target:	(i)	<5%
	(ii)	<10%



Board / Area	Performance (%)	Numerator	Denominator
AA	8.8%	3	34
FV	2.0%	1	50
NG	2.6%	1	39
SG	1.8%	1	57
Clyde	4.5%	2	44
GGC	2.9%	4	140
Lan	1.8%	1	55
WoS	**3.2%**	**9**	**279**

For QPI 9(i), all Boards were within the 5% target with the exception of NHS Ayrshire & Arran. The overall performance for the WoS was 3.2%. All patients having an anastomotic leak within NHS Ayrshire & Arran have been clinically reviewed and patients having an anastomotic leak were not identified as being treated by a specific clinician or a particular surgical procedure. A trial of Indocyanine green (ICG) fluorescence laparoscopy is planned for University Hospital Crosshouse in early 2022; it is anticipated that this will result in reduced rate of anastomotic leakage in future.



Board / Area	Performance (%)	Numerator	Denominator
AA	14.8%	4	27
FV	3.7%	1	27
NG	0%	0	34
SG	2.6%	1	39
Clyde	4.5%	2	44
GGC	2.6%	3	117
Lan	6.0%	3	50
WoS	**5.0%**	**11**	**221**

For QPI 9(ii) all Boards were within the 10% target with the exception of NHS Ayrshire & Arran. The overall performance for the WoS was 5.0%, comfortably meeting the target of less than 10%.

All patients having an anastomotic leak within NHS Ayrshire & Arran have been clinically reviewed and discussed with the responsible clinicians through the MDT process. Patients having an anastomotic leak were not identified as being treated by a specific clinician. A trial of ICG fluorescence laparoscopy is planned for University Hospital Crosshouse in early 2022; it is anticipated that this will result in reduced rate of anastomotic leakage. Never-the-less, due to the failure of NHS Ayrshire & Arran to meet both specifications of QPI 9 and also QPI 8, which is related, discussion of performance against these QPIs at a regional level is considered beneficial.

Improvements in the anastomiotic leak rates of NHS Lanarkshire are noted for both colon and rectal cancer over recent years; this is likely to be due to the work in the Board to improve the quality of surgery, including introducing of the routine use of ICG fluorescence imaging across within the Board.

Action Required:

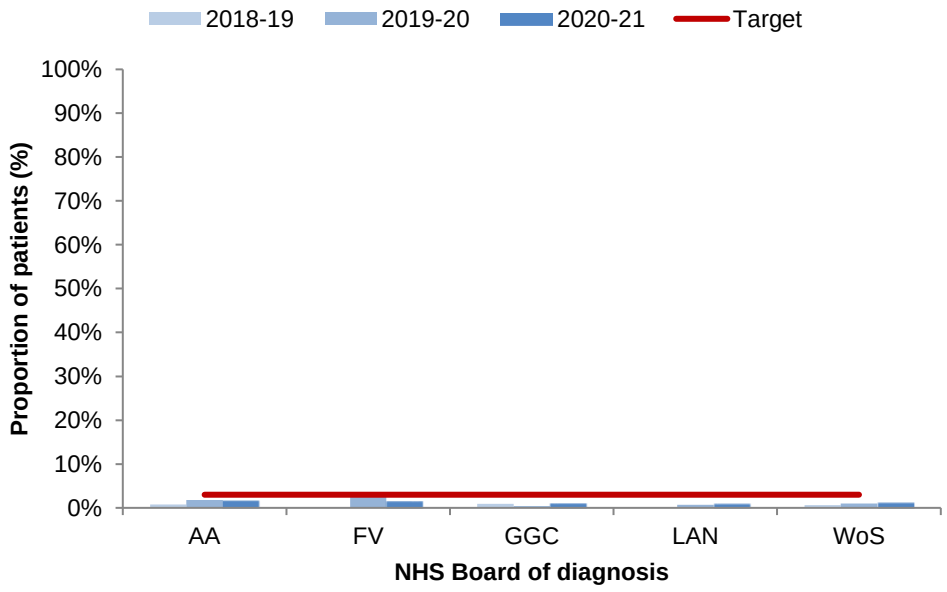
- **MCN to facilitate discussion of performance against QPI 9 at the Advisory Board meeting.**

QPI 10: 30 and 90 Day Mortality Following Surgical Resection

Treatment related mortality is a marker of the quality and safety of the whole service provided by the Multi Disciplinary Team (MDT). Outcomes of treatment, including treatment-related morbidity and mortality should be regularly assessed.

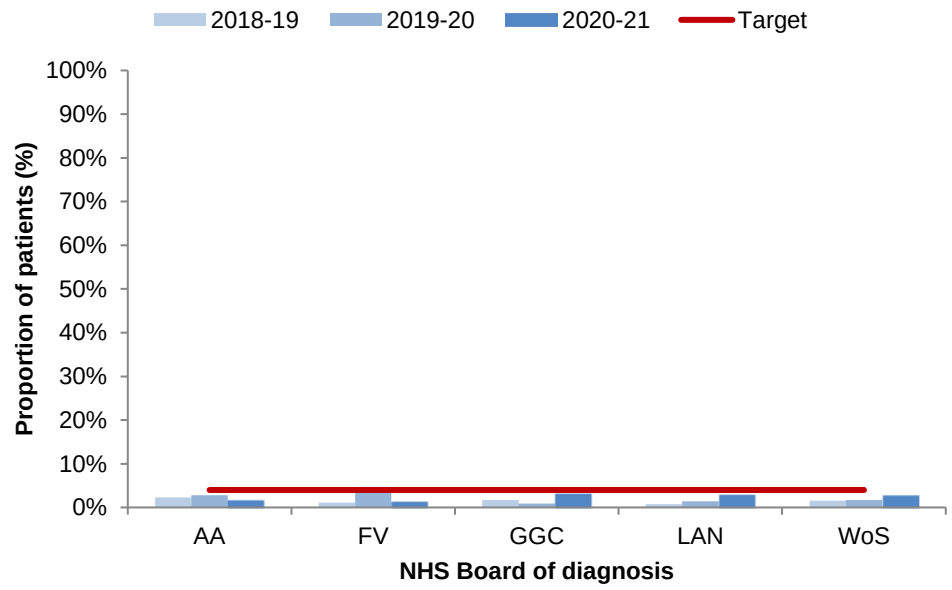
QPI 10:	Mortality after surgical resection for colorectal cancer.		
Numerator:	(i) Number of patients with colorectal cancer who undergo elective surgical resection who die within 30 or 90 days of surgery. (ii) Number of patients with colorectal cancer who undergo emergency surgical resection who die within 30 or 90 days of surgery.		
Denominator:	(i) All patients with colorectal cancer who undergo elective surgical resection. (ii) All patients with colorectal cancer who undergo emergency surgical resection.		
Exclusions:	No exclusions.		
Target:	**(i)**	**Elective surgery:**	30 day <3% 90 day <4%
	(ii)	**Emergency surgery:**	30 day <15% 90 day <20%

Elective Surgery – 30 day mortality



Board / Area	Performance (%)	Numerator	Denominator
AA	1.6%	1	62
FV	1.4%	1	73
NG	0%	0	84
SG	0.9%	1	114
Clyde	1.9%	2	103
GGC	1.0%	3	301
Lan	0.9%	1	109
WoS	**1.1%**	**6**	**545**

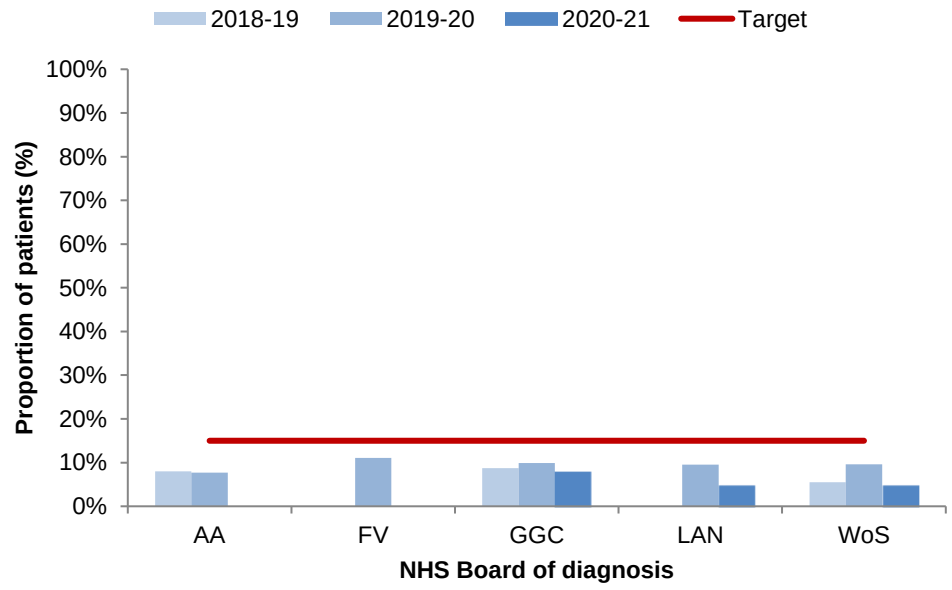
Elective Surgery – 90 day mortality



Board / Area	Performance (%)	Numerator	Denominator
AA	1.7%	1	60
FV	1.4%	1	71
NG	0%	0	77
SG	2.7%	3	111
Clyde	6.1%	6	99
GGC	3.1%	9	287
Lan	2.9%	3	105
WoS	**2.7%**	**14**	**523**

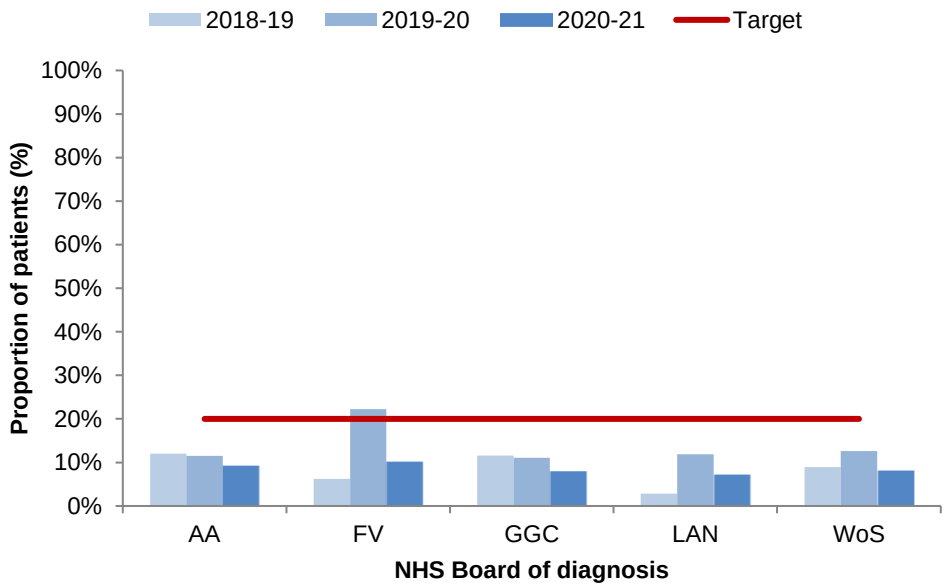
For QPI 10(i), all Boards met the targets for 30 and 90 day mortality. Across the WoS figures following elective surgery was 1.1% for 30 day mortality and 2.7% for 90 day mortality, meeting the targets at a regional level. Within NHSGGC the Clyde sector did not meet the target for 90 day mortality. All patients who died within 90 days of elective surgery had their cases clinically reviewed and no specific patterns were identified; the Clyde sector will keep post-surgical mortality under review.

Emergency Surgery – 30 day mortality



Board / Area	Performance (%)	Numerator	Denominator
AA	0%	0	22
FV	0%	0	10
NG	0%	0	18
SG	17.6%	3	17
Clyde	6.3%	1	16
GGC	7.8%	4	51
Lan	4.8%	2	42
WoS	**4.8%**	**6**	**125**

Emergency Surgery – 90 day mortality



Board / Area	Performance (%)	Numerator	Denominator
AA	9.1%	2	22
FV	10.0%	1	10
NG	0%	0	18
SG	17.6%	3	17
Clyde	6.3%	1	16
GGC	7.8%	4	51
Lan	7.1%	3	42
WoS	**8.0%**	**10**	**125**

For QPI 10(ii), all Boards met the <15% target for mortality within 30 days of emergency resection and <20% target for mortality within 90 days of emergency resection. Regional results indicate that 30 day mortality was 4.8% and 90 day mortality was 8.0%. Within NHSGGC, the 30 day mortality target was not met within the South Glasgow sector, the three patients who died within 30 days of emergency surgery had their cases clinically reviewed and no specific patterns were identified; numbers of patients not meeting this QPI were very small and the South Glasgow MDT will keep post-surgical mortality under review.

QPI 12: 30 and 90 Day Mortality Following Chemotherapy or Radiotherapy

Treatment related mortality is a marker of the quality and safety of the whole service provided by the Multi Disciplinary Team (MDT).

QPI 12:	Mortality after chemotherapy or radiotherapy for colorectal cancer.
Numerator:	(i) Number of patients with colorectal cancer who undergo neo-adjuvant chemoradiotherapy, radiotherapy or adjuvant chemotherapy with curative intent who die within 30 or 90 days of treatment **(ii)** Number of patients with colorectal cancer who undergo palliative chemotherapy who die within 30 days of treatment.
Denominator:	(i) All patients with colorectal cancer who undergo neo-adjuvant chemoradiotherapy, radiotherapy or adjuvant chemotherapy with curative intent. (ii) All patients with colorectal cancer who undergo palliative chemotherapy.
Exclusions:	No exclusions.
Target:	(i) Curative: <1% (ii) Palliative: <10%

With regards to mortality following SACT, a decision has been taken nationally to move to a new generic QPI (30-day mortality for SACT) applicable across all tumour types. This new QPI will use CEPAS (Chemotherapy ePrescribing and Administration System) data to measure SACT mortality to ensure that the QPI focuses on the prevalent population rather than the incident population. The measurability for this QPI is still under development to ensure consistency across the country and it is anticipated that performance against this measure will be reported in the next audit cycle. In the meantime all deaths within 30 days of SACT will continue to be reviewed as standard practice in line with local procedures at a NHS Board level. As such only results for mortality following neoadjuvant chemoradiotherapy and radical radiotherapy are presented within this report.

Neoadjuvant chemoradiotherapy

Board / Area	30 Day Mortality					90 Day Mortality				
	2020 -21 Performance	Numerator	Denominator	2019 -20 Performance	2018 -19 Performance	2020 -21 Performance	Numerator	Denominator	2019 -20 Performance	2018 -19 Performance
AA	0%	0	10	0%	0%	0%	0	10	0%	0%
FV	-	-	-	0%	0%	-	-	-	0%	0%
NG	0%	0	12	0%	0%	0%	0	11	0%	0%
SG	0%	0	18	0%	0%	0%	0	18	0%	0%
Clyde	0%	0	20	0%	0%	0%	0	19	0%	0%
GGC	0%	0	50	0%	0%	0%	0	48	0%	0%
Lan	0%	0	18	0%	3.8%	0%	0	17	0%	4.0%
WoS	**0%**	**0**	**82**	0%	0.9%	**0%**	**0**	**78**	0%	0.9%

No patients in the WoS died within 30 or 90 days of receiving neoadjuvant chemoradiotherapy, resulting in a performance of 0% which was within the QPI target of less than 1%.

Radical radiotherapy

Board / Area	30 Day Mortality					90 Day Mortality				
	2020-21 Performance	Numerator	Denominator	2019 -20 Performance	2018 -19 Performance	2020-21 Performance	Numerator	Denominator	2019 -20 Performance	2018-19 Performance
AA	0%	0	8	0%	-	0%	0	8	14.3%	-
FV	0%	0	8	-	-	0%	0	8	-	-
NG	0%	0	6	0%	-	0%	0	6	0%	-
SG	0%	0	8	0%	0%	12.5%	1	8	0%	0%
Clyde	0%	0	12	0%	-	0%	0	12	0%	-
GGC	0%	0	26	0%	0%	3.8%	1	26	0%	0%
Lan	-	-	-	0%	-	-	-	-	0%	-
WoS	**0%**	**0**	**46**	**0%**	**0%**	**2.2%**	**1**	**46**	**2.1%**	**0%**

No patients in the WoS died within 30 days of receiving radiotherapy with curative intent, resulting in a performance of 0% which was within the QPI target of less than 1%. One patient died within 90 days of

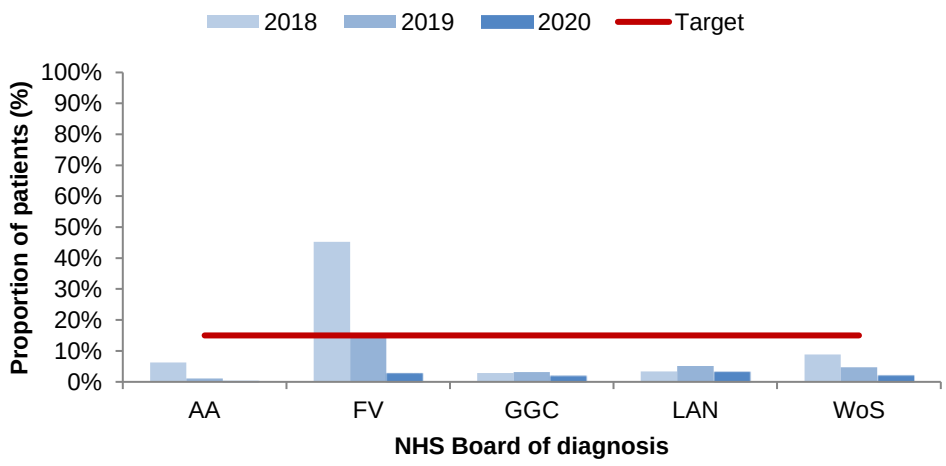
radiotherapy treatment, resulting in the QPI target of 1% for this measure not being met by either NHSGGC or at a regional level. All deaths following radiotherapy treatment are discussed at a mortality and morbidity meeting at the Beatson West of Scotland Cancer Centre (BWoSCC). The one patient that died within 90 days of treatment died as a result of disease progression rather than as a result of the radiotherapy treatment.

QPI 13: Clinical Trials and Research Study Access

Clinical trials are necessary to demonstrate the efficacy of new therapies and other interventions. Evidence suggests improved patient outcomes from participation in clinical trials[1].Clinicians are therefore encouraged to enter patients into well-designed trials and to collect longer-term follow-up data. High accrual activity into clinical trials is used as a goal of an exemplary clinical research site[1].

QPI 13:	All patients should be considered for participation in available clinical trials/research studies, wherever eligible.
Description:	Proportion of patients with colorectal cancer who are consented for a clinical trial/research study.
Numerator:	Number of patients with colorectal cancer consented for a clinical trial/research study.
Denominator:	All patients diagnosed with colorectal cancer.
Exclusions:	No exclusions.
Target:	15%

The clinical trials QPI is measured utilising Scottish Cancer Research Network (SCRN) data and ISD incidence data, as is the methodology currently utilised by the Chief Scientist Office (CSO) and the National Cancer Research Institute (NCRI). The denominator for this QPI is identified by using a 5-year average of Scottish Cancer Registry data (2015-2019).



Board / Area	Performance (%)	Numerator	Denominator
AA	0.4%	1	273
FV	2.5%	5	200
GGC	1.8%	15	844
Lan	3.0%	11	361
WoS	**1.9%**	**32**	**1678**

In the WoS there were 32 patients consented for clinical trials or research studies. The performance for the WoS was 1.9% with no NHS Boards meeting the 15% target.

A list of active colorectal clinical trials in 2020 is shown below.

- A Phase I trial of LY3143921 hydrate in solid tumours: A Phase I trial of oral CCT245737
- A Phase Ib open label Study to assess NUC-3373 in patients with colorectal cancer
- Add-Aspirin Trial
- FOCUS-4: Molecular selection of therapy in colorectal cancer
- Integrating Medically Actionable Genomics Into Early-phase trials (IMAGINE)
- Microbiome as diagnostic and predictive screening tool in CRC
- PLATO - PersonaLising Anal cancer radioTherapy dOse

- Scottish Colorectal Cancer Genetic Susceptibility study 3 (SOCCS3)
- SN38-SPL9111 in advanced solid tumours
- Solid Tumors-0027/0134-UCB Pharma

This is a generic QPI which applies to all tumour groups and the target of 15% is challenging. Never-the-less there is room for improvements in consenting patients for clinical trials and clinicians in the WoS are keen to increase both the range of trials open for recruitment within the WoS Boards and the numbers of patients recruited into these trials.

Performance against this QPI was affected by the COVID-19 pandemic in 2020. Individual trial sponsors advised that recruitment should be suspended due to the COVID-19 pandemic and all trial activity was stopped on the 13th March 2020. As the year progressed, Principal Investigators of the trials worked with the senior trials management group to undertake a risk assessment for each individual trial and get updated approval before being able to re-open to recruitment; many suspended clinical trials were re-opened between June and October 2020. However some patients were reluctant to attend hospital during the lockdown period, further impacting on recruitment once trials were reopened. Additionally, no new clinical trials were considered at the Clinical Trial Executive Committee during the lockdown period in 2020.

It is very disappointing that trial recruitment, which has always been suboptimal in colorectal cancer, continues to decline. More effective treatments or treatments with lower toxicity can only be identified by performing clinical trials and an excellent surrogate measure of a good centre is their ability to build clinical trial recruitment into day to day practice.

The ADD ASPIRIN trial recruits from four tumour groups including colorectal cancer and should be straight forward to recruit to but NHSGGC have not been able to offer this trial to all eligible patients because of a lack of network nursing staff. NHSGGC also recruited poorly to FOCUS 4 (the flagship NCRI first line study) and continue to underperform in PLATO (the NCRI flagship platform trial for anal cancer).

Lower GI radiotherapy trial recruitment has been affected by a number of barriers, including delays in opening radiotherapy trials and lack of a centralised clinic for this group of patients however PRIME RT has recently opened in NHSGGC and it is anticipated that an improvement in recruitment will be seen in this area.

Whilst it is the case that trials are often complex and targeted to specific sub groups such that it is difficult to recruit large numbers in any one given trial, there are also considerable barriers to recruitment when patients are eligible. Recruiting and managing clinical trial patients at standard clinics is extremely time consuming and this may be contributing to lack of engagement from clinicians in identifying and recruiting patients, particularly with recent consultant vacancies at the BWoSCC. This is currently exacerbated by the pressures seen in our day units because of the COVID-19 pandemic but will never improve without very substantial investment; particularly in research nurses.

NHS Ayrshire & Arran are currently actively engaged in the roll out to recruitment for PRIME and FOLFOX studies while NHS Forth Valley are exploring ways to participate in surgical trials suitable for colorectal cancer patients.

Actions:

- **MCN to continue to promote recruitment of patients into clinical trials, as appropriate, and to raise awareness of trials across the wider MCN membership, as opportunities allow.**

- **MCN to explore options for increasing numbers of clinical trials nursing staff and dedicated time for clinicians to improve recruitment into clinical trials with SCRN.**

5. Next Steps

The MCN will actively take forward regional actions identified and NHS Boards are asked to develop local Action/Improvement 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.

Abbreviations

AA	Ayrshire & Arran
ACaDMe	Acute Cancer Deaths and Mental Health
BWoSCC	Beatson West of Scotland Cancer Centre
CNS	Clinical Nurse Specialist
CRM	Circumferential margin
DVT	Deep Venous Thrombosis
DPD	Dihydropyrimidine dehydrogenase
eCASE	Electronic Cancer Audit Support Environment
FV	Forth Valley
GGC	Greater Glasgow and Clyde
GGH	Gartnavel General Hospital
GRI	Glasgow Royal Infirmary
ISD	Information Services Division
LAN	Lanarkshire
M&M	Mortality and Morbidity
MCN	Managed Clinical Network
MDT	Multidisciplinary Team
NG	North Glasgow
NICE	National Institute for Health and Clinical Excellence
QEUH	Queen Elizabeth University Hospital
QPI	Quality Performance Indicator
RCAG	Regional Cancer Advisory Group
SG	South Glasgow
STOB	Stobhill Hospital
TNM	Tumour Node Metastases
VIC	Victoria Infirmary
WIG	Western Infirmary Glasgow
WoS	West of Scotland
WoSCAN	West of Scotland Cancer Network

References

1. Healthcare Improvement Scotland. Colorectal Cancer Quality Performance Indicators, December 2012 (updated July 2021 v4.0). Available at: http://www.healthcareimprovementscotland.org/our_work/cancer_care_improvement/cancer_qpis/quality_performance_indicators.aspx

2. National Records of Scotland. Mid-2020 Population Estimates Scolfna, June 2021. https://www.nrscotland.gov.uk/statistics-and-data/statistics/stats-at-a-glance/infographics-and-visualisations

3. Cancer Incidence and Prevalence in Scotland (to December 2019) (publichealthscotland.scot)

4. Information Services Division. Cancer Incidence Projections for Scotland 2013-2027. August 2015. Available at: http://www.isdscotland.scot.nhs.uk/Health-Topics/Cancer/Publications/2015-08-18/2015-08-18-Cancer-Incidence-Projections-Report.pdf

5. Cancer mortality in Scotland 2019 - Cancer mortality - Publications - Public Health Scotland

6. Cancer survival statistics - People diagnosed with cancer between 2013 and 2017 - Cancer survival statistics - Publications - Public Health Scotland

7. NHS National Services Division. National Bowel Screening Programme. December 2013. Available at: https://www.nhsinform.scot/healthy-living/screening/bowel/bowel-screening

Appendix 1: Meta Data

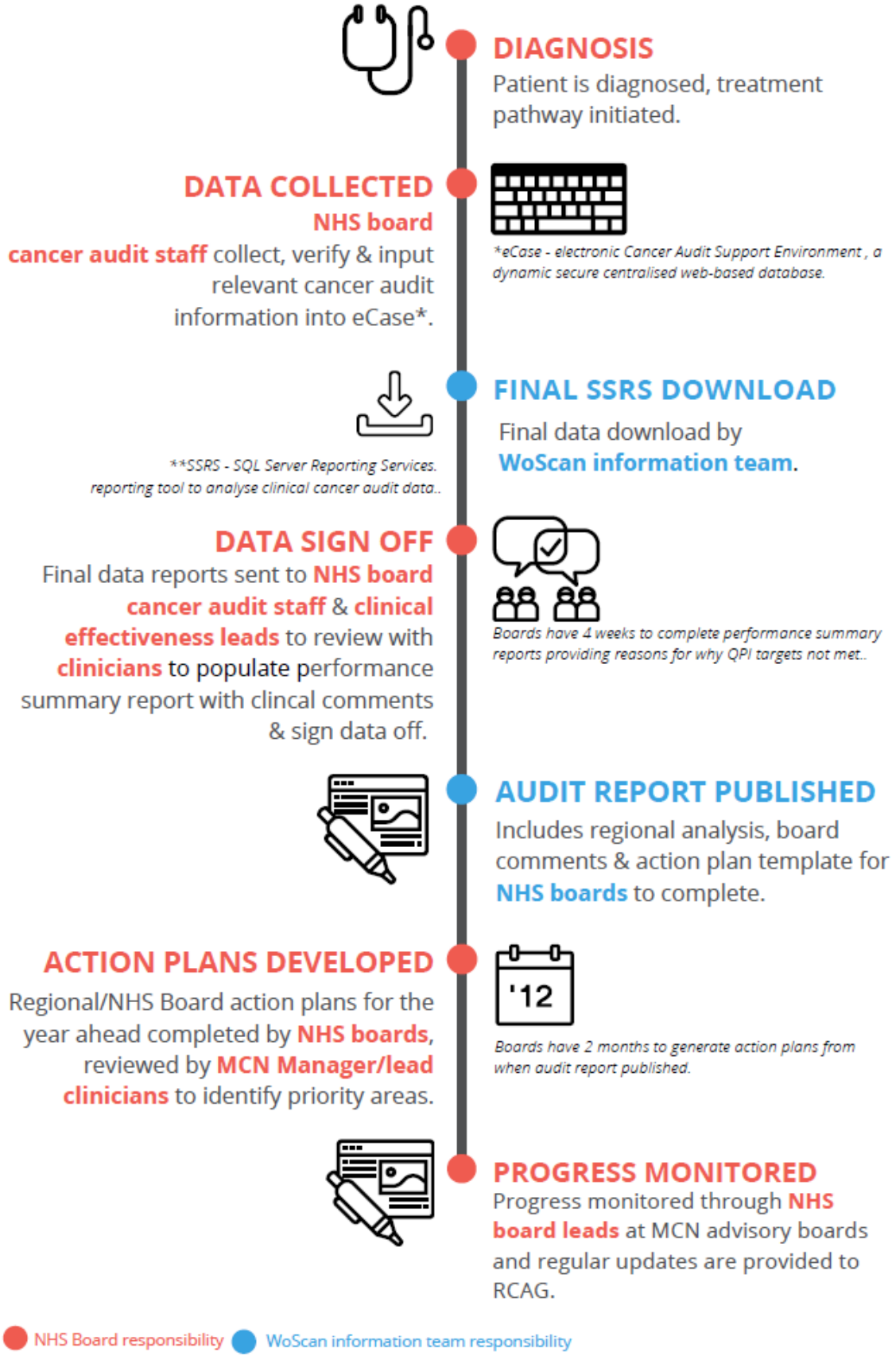
<table>
<tr><td>Report Title</td><td>Audit Report: Colorectal Cancer Quality Performance Indicators</td></tr>
<tr><td>Time Period</td><td>Patients diagnosed between 01 April 2020 to 31 March 2021</td></tr>
<tr><td>Data Source</td><td>Electronic Cancer Audit Support Environment (eCASE). A secure centralised web-based database which holds cancer audit information in Scotland.</td></tr>
<tr><td>Data extraction date</td><td>2200 hrs on 10 November 2021</td></tr>
<tr><td>Methodology</td><td>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 treatment record was available for the majority of patients.

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.

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.</td></tr>
<tr><td>Data Quality</td><td>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.

<table>
<tr><th>Health Board of diagnosis</th><th>2020-21 Audit Data</th><th>Cases from Cancer registry (2015-2019)</th><th>Case Ascertainment</th></tr>
<tr><td>Ayrshire & Arran</td><td>157</td><td>273</td><td>57.5%</td></tr>
<tr><td>FV</td><td>150</td><td>200</td><td>75.0%</td></tr>
<tr><td>GGC</td><td>629</td><td>844</td><td>74.5%</td></tr>
<tr><td>Lanarkshire</td><td>291</td><td>361</td><td>80.6%</td></tr>
<tr><td>WoS Total</td><td>1227</td><td>1678</td><td>73.1%</td></tr>
</table>
</td></tr>
</table>

Appendix 2: **WoSCAN QPI Reporting Process**



Appendix 3: NHS Board Action Plans

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

Action / Improvement Plan

NHS Board:	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)

No	**Action Required**	**NHS Board Action Taken**	**Timescales**		**Lead**	**Progress/Action Status**	**Status (see key)**
			Start	**End**			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*
5	NHS Forth Valley to provide feedback to MCN on the conclusions of the meeting between colorectal surgeons and pathologists to discuss lymph node yield in patients undergoing curative surgical resection (category: pathology)						

Action / Improvement Plan

NHS Board:	Colorectal Cancer 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)

No	**Action Required**	**NHS Board Action Taken**	**Timescales**		**Lead**	**Progress/Action Status**	**Status (see key)**
			Start	**End**			
	Ensure actions mirror those detailed in Audit Report.	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*
8 & 9	MCN to facilitate discussion of performance against QPIs 8 & 9 at the Advisory Board meeting (category: performance review)						
13	MCN to continue to promote recruitment of patients into clinical trials, as appropriate, and to raise awareness of trials across the wider MCN membership, as opportunities allow (category: clinical trials)						
13	MCN to explore options for increasing numbers of clinical trials nursing staff and dedicated time for clinicians to improve recruitment into clinical trials with SCRN (category: clinical trials)						