North, South East and West of Scotland Cancer Networks

Sarcoma National Managed Clinical Network

Audit Report

Sarcoma Quality Performance Indicators

Clinical Audit Data:
01 April 2018 to 31 March 2019

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Executive Summary

Introduction

This report contains an assessment of the performance of Scotland wide Sarcoma services using clinical audit data relating to patients diagnosed with sarcoma in the twelve months between 1st April 2018 and 31st March 2019.

Twelve months of data were measured against v3.0 of the Sarcoma Quality Performance Indicators (QPIs) which were implemented for patients diagnosed on or after 01 April 2017. This was the fifth consecutive year of analysis following the initial Healthcare Improvement Scotland (HIS) publication of Sarcoma QPIs in 2014.

In order to ensure the success of the National Cancer QPIs in driving quality improvement in cancer care across NHS Scotland, a process of formal review was carried out after Year 3 of comparative reporting with tumour-specific Regional Clinical Leads undertaking a key role in determining the extent of the review required for each tumour type. The revised Sarcoma QPIs[1] were published in June 2018 and, as stated above, are valid for patients diagnosed on or after 01 April 2017.

Background

Sarcomas are a rare group of cancers that arise from connective tissue, including: bone, cartilage, muscle, blood vessels, nerves and fat[5] which are broadly divided into bone, soft tissue sarcomas and gastrointestinal stromal tumours (GIST). In 2018/19 the audit identified 334 patients diagnosed with a new primary invasive sarcoma. Sarcomas account for around 1% of all new cancer diagnoses in the UK[5]. In Scotland bone and connective tissue cancers are ranked 24th most common cancer, accounting for only 0.6% of all cancers diagnosed in Scotland in 2017[3].

Unlike many other cancers, sarcomas can affect people of any age. From 2012 to 2014 in the UK 47% of all bone sarcomas occurred in people under the age of 45, whilst 57% of soft tissue sarcomas occurred in the under 65's in 2010[4].

Over the last decade, bone sarcoma incidence rates have remained stable in the UK, whilst incidence of soft tissue sarcoma has increased overall since the late 1990s. This likely reflects improved diagnosis and data recording rather than a true increase in incidence[4].

Methodology

The clinical audit data presented in this report was collected by clinical audit staff in each NHS Board in accordance with an agreed dataset and definitions. The data was entered locally into the electronic Cancer Audit Support Environment (eCASE): a secure centralised web-based database. Data relating to patients diagnosed between 01 April 2018 and 31 March 2019 was downloaded from eCASE on 25 September 2019. Analysis was performed centrally by the West of Scotland Cancer Network (WoSCAN) Information Team.

Cancer patients under the age of 16 are treated in specialist children's' centres in Aberdeen, Edinburgh and Glasgow, separately from the adult services. Although QPI audit data are collected for patients under 16, this group is excluded from published QPI figures due to the very low numbers. However regions may report these separately to their clinical groups for internal management purposes.

Results

Results for each QPI are shown in detail in the main report and illustrate regional or national performance against each target. Where numbers are small national results are presented to avoid any unwarranted variation associated with small numbers and to minimise the risk of disclosure. Results are presented graphically and the accompanying data table also highlights any missing data and its possible effect on any of the measured outcomes.

The summary of results over page shows the national percentage performance against each QPI target.

National - Performance Summary Report

Quality Performance Indicator (QPI)	QPI target	WoSCAN		NCA		SCAN		Scotland	
QPI 1 – Histological Diagnosis Proportion of patients with extremity sarcoma who have a histological diagnosis before undergoing a planned surgical resection.	**90%**	**93.1%**		**90.0%**		**88.9%**		**91.2%**	
		27	29	9	10	16	18	52	57
QPI 2 – Multi-Disciplinary Team (MDT) Meeting Proportion of patients with extremity sarcoma who are discussed at a MDT meeting before definitive treatment.	**95%**	**90.6%**		**84.6%**		**84.2%**		**87.5%**	
		29	32	11	13	16	19	56	64
QPI 3(i) – Clinical Staging Proportion of patients with extremity soft tissue who undergo staging CT where the results are available prior to definitive treatment.	**95%**	**95.2%**		**91.7%**		**71.4%**		**87.2%**	
		20	21	11	12	10	14	41	47
QPI 3(ii) – Clinical Staging Proportion of patients whose extremity soft tissue sarcoma is staged using the TNM staging system prior.	**95%**	**85.7%**		**33.3%**		**57.1%**		**63.8%**	
		18	21	4	12	8	14	30	47
QPI 4 – Surgical Margins (Hospital of Surgery) Proportion of patients with extremity sarcoma, who undergo surgical resection where R0* resection is achieved.	**85%**	**82.1%**		**88.9%**		**75.0%**		**80.7%**	
		23	28	8	9	15	20	46	57
QPI 6 – Limb Sparing Surgery Proportion of patients with extremity sarcoma who undergo a primary limb-sparing surgery.	**85%**	**89.7%**		**100%**		**95.0%**		**93.2%**	
		26	29	10	10	19	20	55	59
QPI 7 – Primary Flap Reconstruction Proportion of patients with extremity sarcoma who undergo successful primary flap reconstruction following surgical resection.	**85%**	**100%**		**-**		**-**		**100%**	
		16	16	-	-	-	-	23	23
QPI 8 – Post Operative Radiotherapy Proportion of patients with an extremity sarcoma who receive post operative radiotherapy within 3 months of surgery.	**90%**	**80.0%**		**-**		**-**		**71.4%**	
		8	10	-	-	-	-	10	14
QPI 9(i) – Multi-Agent Chemotherapy for Osteosarcoma Proportion of patients with osteosarcoma who receive multi-agent chemotherapy.	**90%**	**-**		**-**		**n/a**		**-**	
		-	-	-	-	0	0	-	-

Quality Performance Indicator (QPI)	QPI target	WoSCAN		NCA		SCAN		Scotland	
QPI 9(i) – Multi-Agent Chemotherapy for Ewings sarcoma Proportion of patients with ewings sarcoma who receive multi-agent chemotherapy.	**90%**	**-**		**n/a**		**-**		**-**	
		-	-	0	0	-	-	-	-
QPI 11a – 30 Day Mortality – Surgery Proportion of patients with sarcoma who undergo surgical resection who die within 30 days of surgical treatment.	**< 10%**	**0.0%**		**0.0%**		**0.0%**		**0.0%**	
		0	94	0	17	0	11	0	122
QPI 11b – 30 Day Mortality – Radical Radiotherapy Proportion of patients with sarcoma who undergo radical radiotherapy with curative intent who die within 30 days of treatment.	**< 10%**	**n/a**		**-**		**n/a**		**-**	
		0	0	-	-	0	0	-	-
QPI 11c – 30 Day Mortality – Neo-adjuvant Chemotherapy Proportion of patients with sarcoma who undergo neo-adjuvant chemotherapy with curative intent who die within 30 days.	**< 10%**	**0.0%**		**0.0%**		**-**		**0.0%**	
		0	9	0	7	-	-	0	19
QPI 11d – 30 Day Mortality – Neo-adjuvant Radiotherapy Proportion of patients with sarcoma who undergo neo-adjuvant radiotherapy with curative intent who die within 30 days.	**< 10%**	**-**		**-**		**0.0%**		**0.0%**	
		-	-	-	-	0	6	0	10
QPI 11e – 30 Day Mortality – Adjuvant Chemotherapy Proportion of patients with sarcoma who undergo adjuvant chemotherapy with curative intent who die within 30 days.	**< 10%**	**-**		**-**		**-**		**0.0%**	
		-	-	-	-	-	-	0	8
QPI 11f – 30 Day Mortality – Adjuvant Radiotherapy Proportion of patients with sarcoma who undergo adjuvant radiotherapy with curative intent who die within 30 days.	**< 10%**	**0.0%**		**0.0%**		**0.0%**		**0.0%**	
		0	15	0	5	0	6	0	26
QPI 11g – 30 Day Mortality – Chemoradiotherapy Proportion of patients with sarcoma who undergo chemoradiotherapy with curative intent who die within 30 days.	**< 10%**	**-**		**-**		**n/a**		**0.0%**	
		-	-	-	-	0	0	0	5
QPI 11h – 30 Day Mortality – Biological Therapy Proportion of patients with sarcoma who undergo biological therapy with curative intent who die within 30 days.	**< 10%**	**0.0%**		**-**		**-**		**0.0%**	
		0	9	-	-	-	-	0	17

Quality Performance Indicator (QPI)	QPI target	WoSCAN		NCA		SCAN		Scotland	
QPI 11(ii)a – 30 Day Mortality – Palliative Radiotherapy Proportion of patients with sarcoma who undergo palliative radiotherapy die within 30 days of treatment.	**<15%**	**-**		**20.0%**		**-**		**8.3%**	
		-	-	1	5	-	-	1	12
QPI 11(ii)a – 30 Day Mortality – Palliative Chemotherapy Proportion of patients with sarcoma who undergo palliative chemotherapy die within 30 days of treatment.	**<15%**	**0.0%**		**16.7%**		**0.0%**		**5.0%**	
		0	7	1	6	0	7	1	20

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

	Meets/exceeds QPI target
	Does not meet QPI target
>	Indicates increase on previous year's figure
<	Indicates decrease from previous year's figure
=	Indicates no change from previous year

Figures below percentage performance denote the numerator and denominator values.

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

Conclusions and Action Required

The development of national QPIs for sarcoma cancers has helped drive continuous quality improvement in patient care whilst ensuring that activity is focussed on those areas that are most important in terms of improving survival and patient experience. In addition, the introduction of QPIs and the associated governance structure has facilitated regular monitoring and reporting of data to ensure equitable care across the country.

It is evident that many of the QPI targets set have been challenging for centres to achieve and a number of areas for improvement have been highlighted. It should however be noted that given the rarity of sarcoma, numbers included within the measurement of the majority of indicators are small and therefore percentages should be compared with caution.

Data capture has improved over the five year period which provides a good foundation from which to measure service improvement.

All regions met QPI targets for limb sparing surgery, primary flap reconstruction, multi agent chemotherapy for Ewings sarcoma and 30 day mortality following curative treatment and palliative radiotherapy.

Results for QPIs 5 and 10 relating to GIST tumours have not been included as data definition and measurability issues have been identified in these measures. ISD, Information Managers and the MCN are working to resolve these to ensure these QPIs can be measured consistently across the country.

Action required:

QPI 5:- Molecular Staging of Gastrointestinal Stromal Tumours (GISTs)

- MCN to further explore with ISD and Information Managers the data recording and measurability issues raised via the ISD Query Log to ensure national agreement on how to measure this indicator going forward.
- Glasgow centre to share any learning from the ongoing GIST imatinib audit with other Scottish centres to ensure the accurate capture of GIST patients going forward.

QPI 8:- Post Operative Radiotherapy

- NHS Grampian and NHS Tayside to report back to the MCN the findings of the audit to identify discrepancies in numbers.

QPI 11:- 30 day Mortality Following Palliative Chemotherapy/Radiotherapy

- NCA should discuss cases where patients died within 30 days of palliative chemotherapy and radiotherapy at Morbidity and Mortality meeting and provide feedback to MCN.

Completed Action Plans should be returned to WoSCAN within two months of publication of this report. 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.

The NMCN will actively take forward national actions identified and NHS Boards are asked to develop local Action/Improvement Plans in response to the findings presented in the report.

1. Introduction

This report contains an assessment of the performance of Scotland wide Sarcoma services using clinical audit data relating to patients diagnosed with sarcoma in the twelve months between 1st April 2018 and 31st March 2019. 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 a MCN to assure the quality of care delivered across the three regions.

Twelve months of data were measured against v3.0 of the Sarcoma Quality Performance Indicators (QPIs) which were implemented for patients diagnosed on or after 01 April 2017. This was the fifth consecutive year of analysis following the initial Healthcare Improvement Scotland (HIS) publication of Sarcoma QPIs in 2014.

In order to ensure the success of the National Cancer QPIs in driving quality improvement in cancer care across NHS Scotland, a process of formal review was carried out after Year 3 of comparative reporting with tumour-specific Regional Clinical Leads undertaking a key role in determining the extent of the review required for each tumour type. The revised Sarcoma QPIs[1] were published in June 2018 and, as stated above, are valid for patients diagnosed on or after 01 April 2017.

Annual comparisons have been made where indicators remain comparable following this formal review. Future reports will continue to compare clinical audit data in successive years to illustrate trends.

2. Background

Sarcomas are a rare group of cancers that arise from connective tissue, including: bone, cartilage, muscle, blood vessels, nerves and fat[5] which are broadly divided into bone, soft tissue sarcomas and gastrointestinal stromal tumours (GIST). In 2018/19 the audit identified 334 patients diagnosed with a new primary invasive sarcoma in Scotland.

Sarcomas account for around 1% of all new cancer diagnoses in the UK[5]. In Scotland bone and connective tissue cancers are ranked 24th most common cancer, accounting for only 0.6% of all cancers diagnosed in 2017[3]. The most common site of sarcoma is the extremeties[5] which provides the focus for the majority of QPI data analysis.

Incidence of bone sarcomas has been stable in the UK since the late 1970s whilst incidence of soft tissue sarcoma has increased overall since the late 1990s. This likely reflects improved diagnosis and data recording rather than a true increase in incidence[4]. There has been improvement in survival over the past few decades, with 5 year survival rising from 51% in 1996-2000 to 55% in 2006-2010 for soft tissue sarcoma[5]. The picture is very similar for bone sarcoma.

Unlike many other cancers, bone and soft tissue sarcomas can affect people of any age. From 2012 to 2014 in the UK 47% of all bone sarcomas occurred in people under the age of 45, whilst 57% of soft tissue sarcomas occurred in the under 65s in 2010[4].

Gastrointestinal Stromal Tumours (GIST) are rare with an estimated occurrence of 1/100,000[6]. These tumours are extremely rare in children and young people, with the median age reported as 60-65[5].

The table below details the five centres carrying out sarcoma treatment in Scotland. These are considered the centres for specialist treatment, which includes surgery, systemic anti cancer therapy (SACT) and radiotherapy. Patients may receive diagnostic and palliative care in their local hospital where appropriate; however the majority of patients are referred to one of the five centres for specialist management.

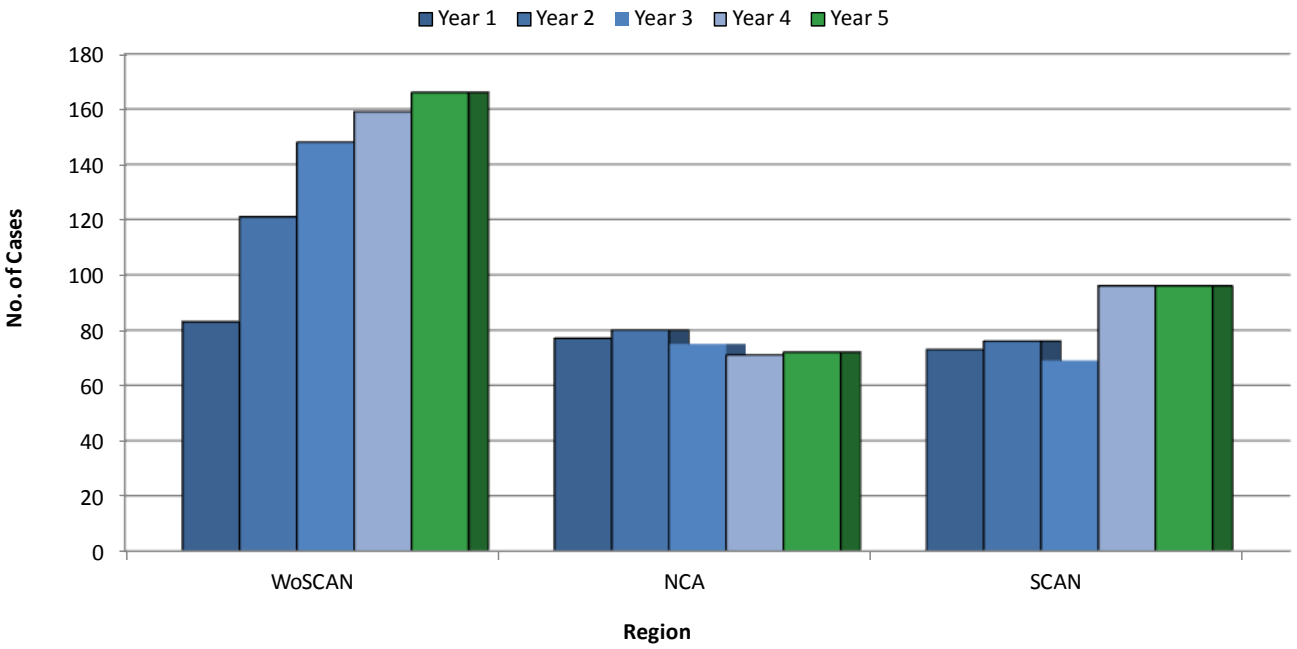
Table 1: Sarcoma treatment centres.

Centre	Constituent Hospital(s)
Aberdeen	Aberdeen Royal Infirmary (ARI), Royal Aberdeen Children's Hospital
Dundee	Ninewells Hospital (NW)
Edinburgh	Surgery: Royal Infirmary of Edinburgh (RIE) Oncology: Western General Hospital (WGH) Royal Hospital for Sick Children (RHSC)
Glasgow	Surgery: Gartnavel General Hospital (GGH); Queen Elizabeth University Hospital (QEUH); and Glasgow Royal Infirmary (GRI) Royal Hospital for Children (RHC) Oncology: Beatson West of Scotland Cancer Centre (BWoSCC)
Inverness	Raigmore Hospital

2.1 National Context

A total of 334 cases of sarcoma were recorded through audit as diagnosed in Scotland between 01 April 2018 and 31 March 2019. The number of patients diagnosed within each NHS Region is presented in Figure 1.

Figure 1: Number of patients diagnosed with sarcoma by NHS Region of diagnosis.

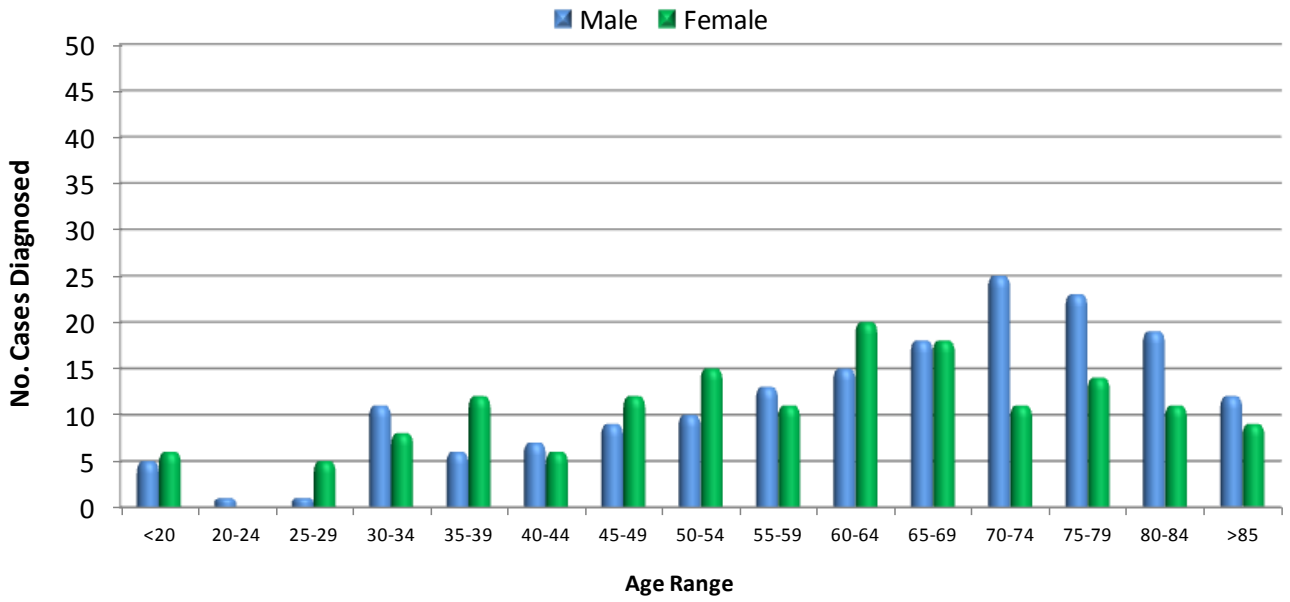


	WoSCAN	NCA	SCAN	Scotland
Year 1	83	77	73	233
Year 2	121	80	76	277
Year 3	148	75	69	292
Year 4	159	71	96	326
Year 5	166	72	96	334

2.2 Age and Gender Distribution

Figure 2 illustrates the distribution of sarcoma cases by age group and gender. In Year 5 occurrence of sarcoma is slightly higher in males (52.7% of cases) than in females (47.3% of cases). 73% of cases diagnosed in Year 5 were in patients' ≥ 50 years.

Figure 2: Age/gender distribution of sarcoma patients in Scotland April 18 to March 19.

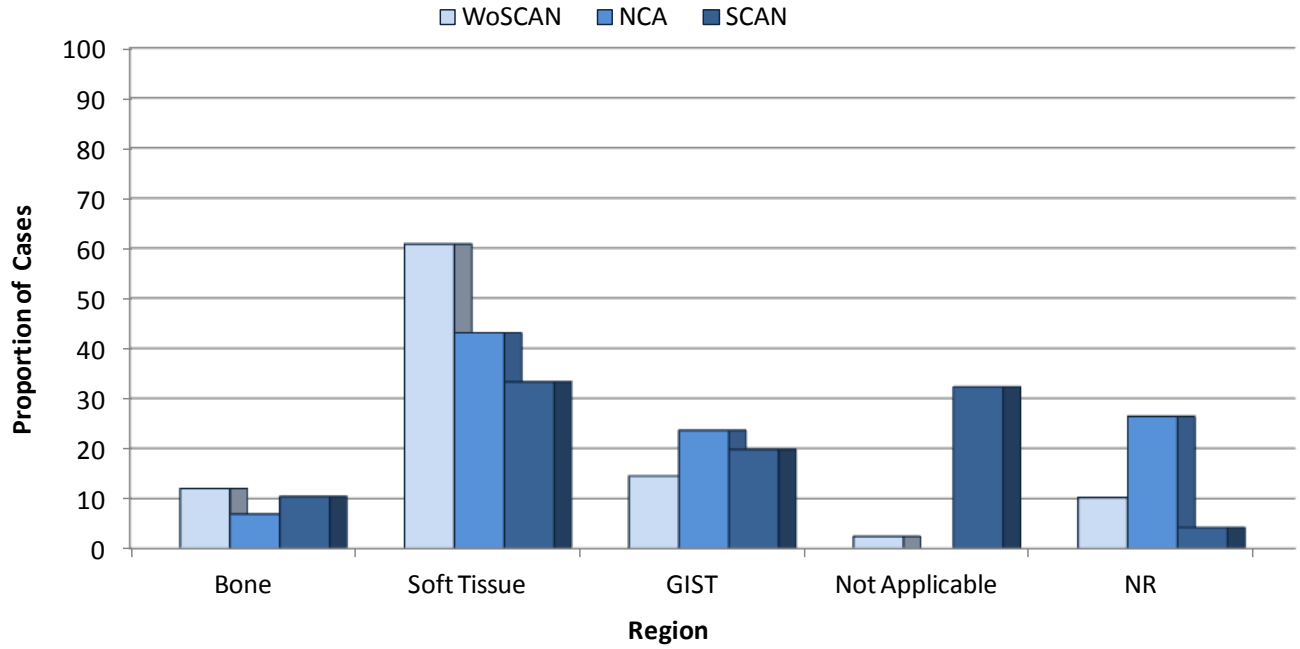


	<20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	>85	Total
Male	6	1	1	11	6	7	9	10	13	15	18	25	23	19	12	176
Female	6	0	5	8	12	6	12	15	11	20	18	11	14	11	9	158

2.3 Type of Sarcoma

Figure 3 illustrates the distribution of sarcoma cases by location within a given site and highlights that soft tissue sarcomas continue to be the most common type of sarcoma, accounting for 49.1% of the total cases registered. This is consistent with previous years analysis and is in line with UK data.

Figure 3: Type of Sarcoma April 18 to March 19.

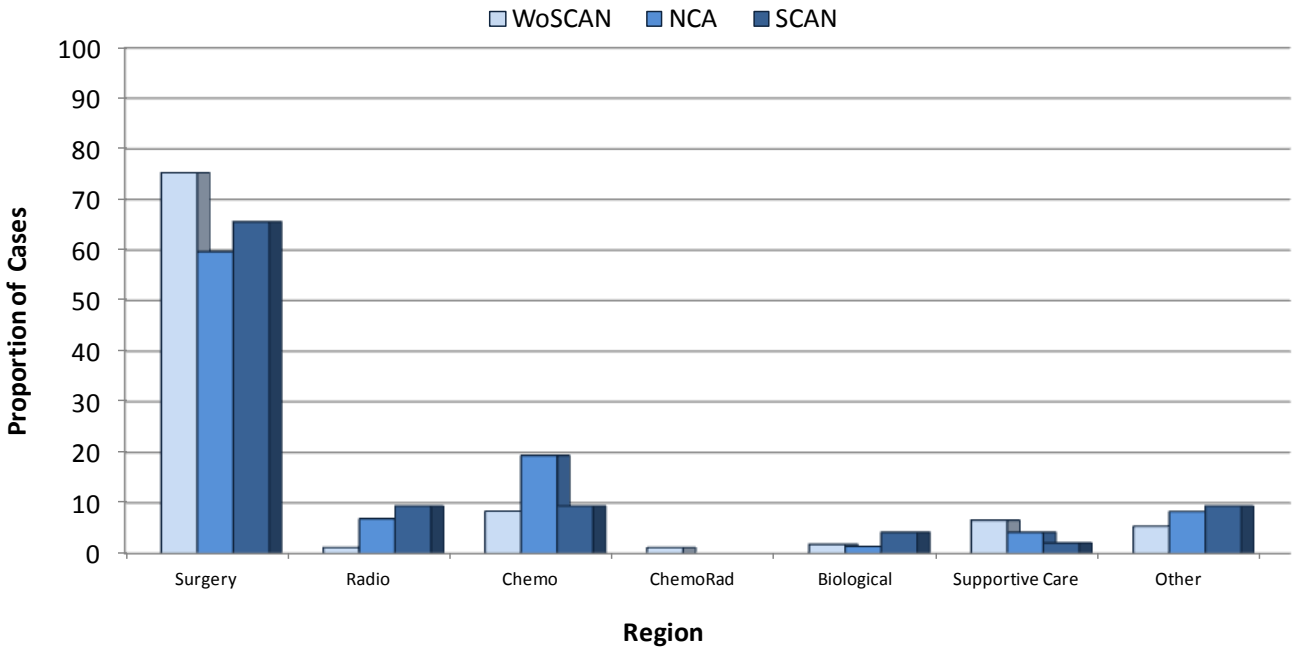


	Bone	Soft Tissue	GIST	Not Applicable	NR
WoSCAN	20	101	24	4	17
NCA	5	31	17	0	19
SCAN	10	32	19	31	4
Scotland	35	164	60	35	40

2.4 Mode of First Treatment

Figure 4 shows the distribution of first treatment for patients diagnosed with sarcoma. In all three regions the majority of sarcoma patients received surgery as their first treatment.

Figure 4: Mode of First Treatment of sarcoma patients in Scotland April 18 to March 19.



	Surgery	Radio	Chemo	ChemoRad	Biological	Supportive Care	Other	Total
WoSCAN	125	2	14	2	3	11	9	166
NCA	43	5	14	0	1	3	6	72
SCAN	63	9	9	0	4	2	9	96
Scotland	231	16	37	2	8	25	15	334

The other category includes watchful wait, patient refused treatment, patient died before treatment and treatment not recorded.

3. Methodology

The clinical audit data presented in this report was collected by clinical audit staff in each NHS Board in accordance with an agreed dataset and definitions. Data was recorded manually and entered locally into the electronic Cancer Audit Support Environment (eCASE): a secure centralised web-based database. Data relating to patients diagnosed between 01 April 2018 and 31 March 2019 was downloaded from eCASE at 2200 hrs on 25 September 2019. Cancer audit is a dynamic process with patient data continually being revised and updated as more information becomes available. This means that apparently comparable reports for the same time period and cancer site may produce slightly different figures if extracted at different times.

Analysis was performed centrally by the WoSCAN Information Team and the timescales agreed took into account the patient pathway to ensure that a complete treatment record was available for each case. Initial results of the analysis were provided to local NHS 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.

Cancer patients under the age of 16 are treated in specialist childrens' centres in Aberdeen, Edinburgh and Glasgow, separately from the adult services. Although QPI audit data are collected for patients under 16, this group is excluded from published QPI figures due to the very low numbers. However regions may report these separately to their clinical groups for internal management purposes.

4. Results and Action Required

4.1 Data Quality

Audit data quality can be assessed in the first instance by estimating the proportion of expected patients that have been identified through audit. Case ascertainment is calculated as the number of new cases identified by the audit as a proportion of the number of cases reported by the National Cancer Registry (provided by Information Services Division, National Services Scotland). Cancer Registry figures were extracted from ACaDMe (Acute Cancer Deaths and Mental Health), a system provided by Information Services Division (ISD). Cancer Registry figures are an average of the previous five years' figures to take account of annual fluctuations in incidence within NHS Regions.

Overall case ascertainment for Scotland is excellent at 94.6%, especially when it is taken into consideration that collection of clinical audit data for Sarcoma was introduced in 2014.

Case ascertainment figures however are provided for guidance and are not an exact measurement as it is not possible to compare directly with the same cohort. Lower or higher figures can also indicate changes in incidence of a particular cancer type within a Board or region over time. Case ascertainment for each region is illustrated in Table 2.

Table 2: Case ascertainment by region for patients diagnosed with sarcomas in Scotland

	WoSCAN	NCA	SCAN	Scotland
Cases from audit	166	72	96	334
ISD Cases (2011-2015 average)	162	92	99	353
% Case ascertainment	102.4%	78.3%	97%	94.6%

4.2 Performance against Quality Performance Indicators (QPIs)

Results of the analysis of Sarcoma Quality Performance Indicators are set out in the following sections. Graphs and charts have been provided where this aids interpretation and, where appropriate, numbers have also been included to provide context.

Data are presented for each QPI at a national or regional level both graphically and in table format. Centre level data has been reviewed by local teams however given the small numbers involved it has not been presented at this level. Aggregated centre level data will be presented in future reports when sufficient data is available to make more robust conclusions on performance. Specific regional and national actions have been identified to address issues highlighted through the data 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 are denoted with a dash (-). Any commentary provided by NHS Boards relating to the impacted indicators is however included as a record of continuous improvement.

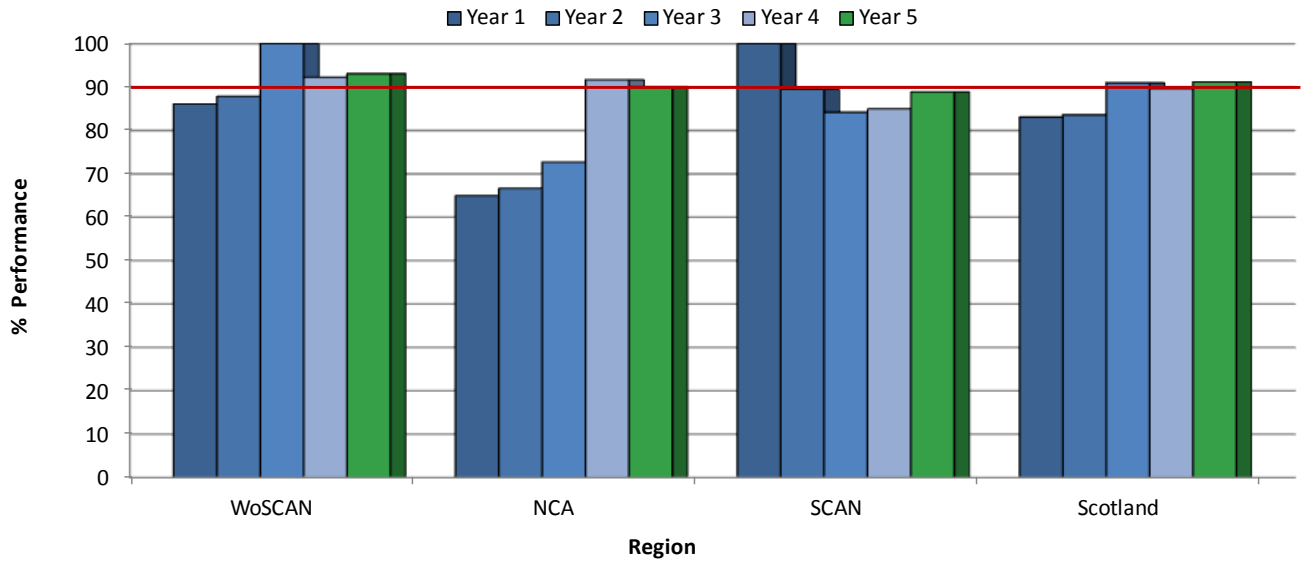
The sarcoma QPIs focus on extremity sarcomas as determined by the Sarcoma QPI Development Group, unless otherwise specified. Data is however collected on all sarcomas diagnosed in Scotland. Extremity sarcoma is defined as sarcoma of the: upper limb, shoulder girdle to fingers or lower extremity, iliac crest/buttock to toes. Extremity sarcomas account for 50-60% of all sarcomas[1].

QPI 1 – Histological Diagnosis

Histological typing of extremity sarcomas is essential for planning appropriate treatment and to provide important information relating to prognosis[1]. A histological diagnosis should be obtained before a planned surgical resection takes place as unplanned surgery has been shown to affect morbidity and mortality[1]. The 90% target set for the QPI accounts for small superficial lesions where the diagnosis of sarcoma may not be reasonably suspected clinically[1].

QPI Title:	Patients with extremity sarcoma should have a histological diagnosis before undergoing a planned surgical resection.
Numerator:	Number of patients with extremity sarcoma who undergo a planned surgical resection who have a histological diagnosis before surgical resection takes place.
Denominator:	All patients with extremity sarcoma who undergo a planned surgical resection.
Exclusions:	Patients with cutaneous sarcomas.
Target:	90%

Figure 5: Proportion of patients with extremity sarcoma that should have a histological diagnosis before undergoing a planned surgical resection.



	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
WoSCAN	93.1%	27	29	0	0.0%	0	0.0%	0
NCA	90.0%	9	10	0	0.0%	0	0.0%	0
SCAN	88.9%	16	18	0	0.0%	0	0.0%	0
Scotland	91.2%	52	57	0	0.0%	0	0.0%	0

Performance across Scotland was 91.2% against the 90% target with 52 of 57 patients with extremity sarcoma undergoing a planned surgical resection having a histological diagnosis before surgical resection took place. WoSCAN and NCA both achieved the target with SCAN just below target with 88.9% of patients meeting the QPI criteria.

SCAN commented that all cases not meeting the QPI have been reviewed. Two cases were diagnosed at surgery and sarcoma was not suspected at the time of excision.

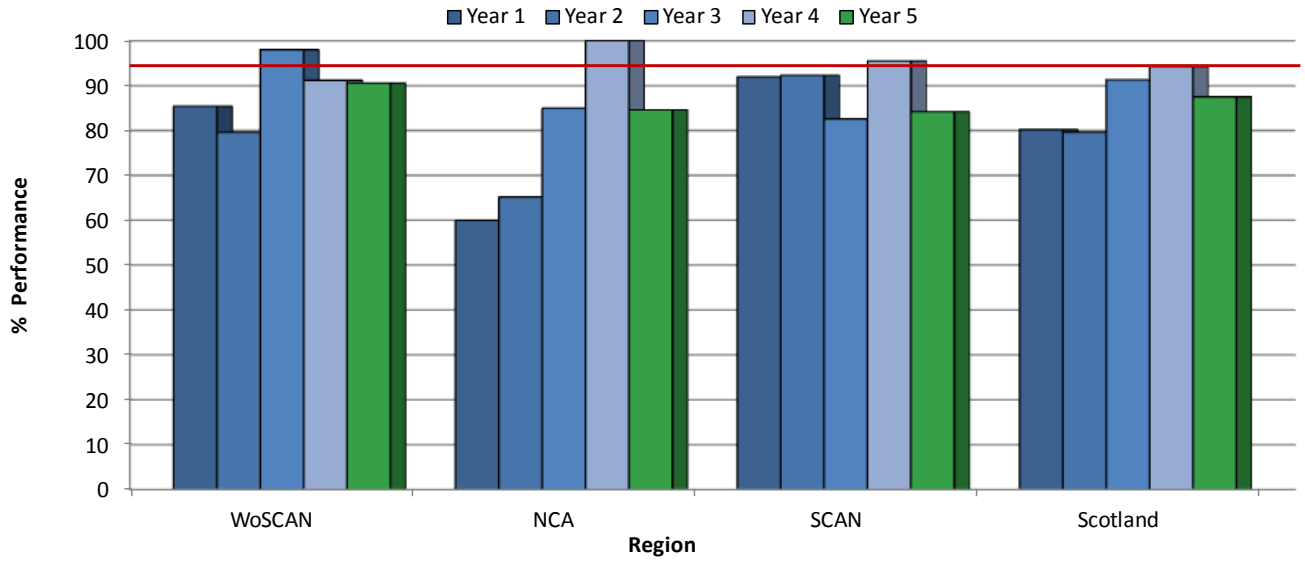
QPI 2 – Multi Disciplinary Team Meeting

Evidence suggests that patients with cancer managed by a multi-disciplinary team have a better outcome. There is also evidence that the multidisciplinary management of patients increases their overall satisfaction with their care[1].

Discussion prior to definitive treatment decisions being made provides reassurance that patients are being managed appropriately[1]. The target for this QPI is 95%, which accounts for situations where patients require treatment urgently[1].

QPI Title:	Patients with extremity sarcoma should be discussed by a multidisciplinary team (MDT) prior to definitive treatment.
Numerator:	Number of patients with extremity sarcoma discussed at the MDT before definitive treatment.
Denominator:	All patients with extremity sarcoma.
Exclusions:	Patients who died before first treatment. Patients with cutaneous sarcomas.
Target:	95%

Figure 6: Proportion of patients with extremity sarcoma that should be discussed by a multidisciplinary team (MDT) prior to definitive treatment.



	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
WoSCAN	90.6%	29	32	0	0.0%	0	0.0%	0
NCA	84.6%	11	13	0	0.0%	0	0.0%	0
SCAN	84.2%	16	19	0	0.0%	0	0.0%	0
Scotland	87.5%	56	64	0	0.0%	0	0.0%	0

Performance across Scotland was 90.6% against the 95% QPI target with 56 of 64 patients diagnosed with extremity sarcoma in Year 5 being discussed at MDT meeting before definitive treatment. No individual region met the target.

All WoSCAN cases were reviewed and detailed clinical explanations provided. Factors such as incidental findings, palliative surgery for pain and synchronous metastatic malignancy impacted upon patient management, and the Glasgow centre noted that no improvement actions had been identified.

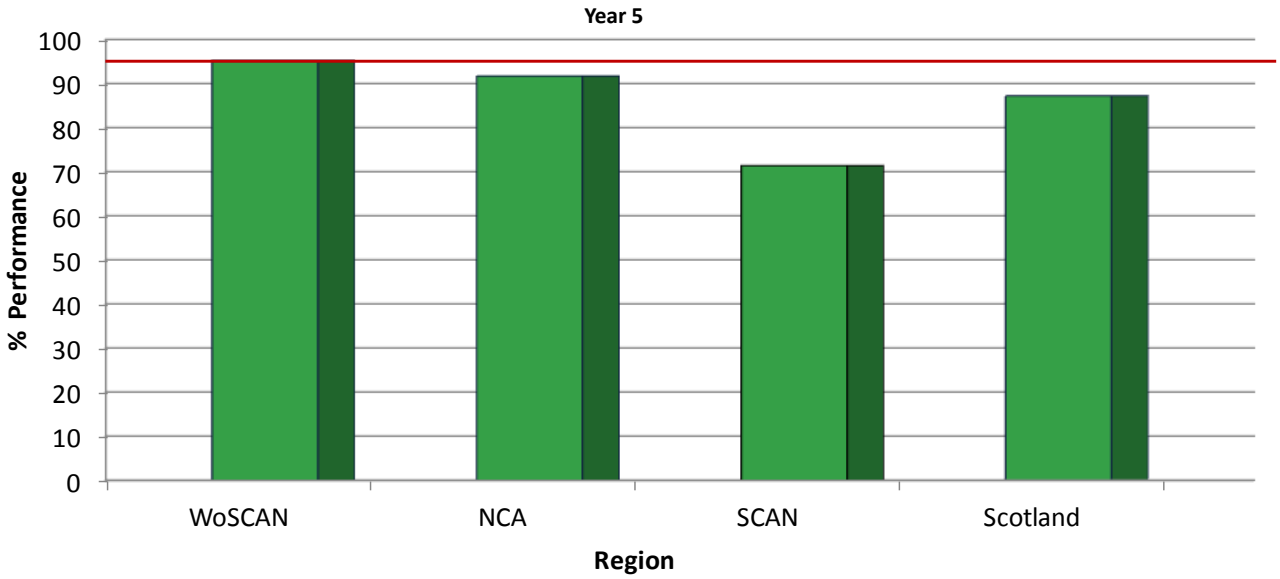
NCA and SCAN reviewed all cases not discussed at MDT prior to definitive treatment and appropriate clinical reasons were documented, including cases where malignancy was not suspected at time of surgery but were discussed at MDT after surgery.

QPI 3 – Clinical Staging

Staging has an important role in determining the most effective treatment for soft tissue sarcoma and provides information on prognosis[1]. Patients with a confirmed soft tissue sarcoma should be staged with a CT chest to exclude pulmonary metastases prior to definitive treatment. Clinical staging should follow the principles of TNM classification; this aids the determination of prognosis and choice of therapy[1].

QPI Title:	(i) Patients with extremity soft tissue sarcoma should be staged by CT scan.
Numerator:	Number of patients with extremity soft tissue sarcoma who undergo staging CT scan where the results are available prior to definitive treatment.
Denominator:	All patients with extremity soft tissue sarcoma.
Exclusions:	Patients with rhabdomyosarcomas, patients with cutaneous sarcomas.
Target:	95%

Figure 7: Proportion of patients with extremity soft tissue sarcoma who undergo staging CT scan where the results are available prior to definitive treatment.



	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
WoSCAN	95.2%	20	21	0	0.0%	0	0.0%	0
NCA	91.7%	11	12	0	0.0%	0	0.0%	0
SCAN	71.4%	10	14	0	0.0%	0	0.0%	0
Scotland	87.2%	41	47	0	0.0%	0	0.0%	0

Following formal review, QPI 3 was separated into two parts with part one focussing on staging CT scan results being available prior to definitive treatment. Due to new data items being required to measure this, this is the first year performance against the revised QPI can be reported.

Overall in the WoS, 87.2% of patients with extremity soft tissue sarcoma who underwent staging CT scan had the results available prior to definitive treatment. Only WoSCAN met the target achieving 95.2%.

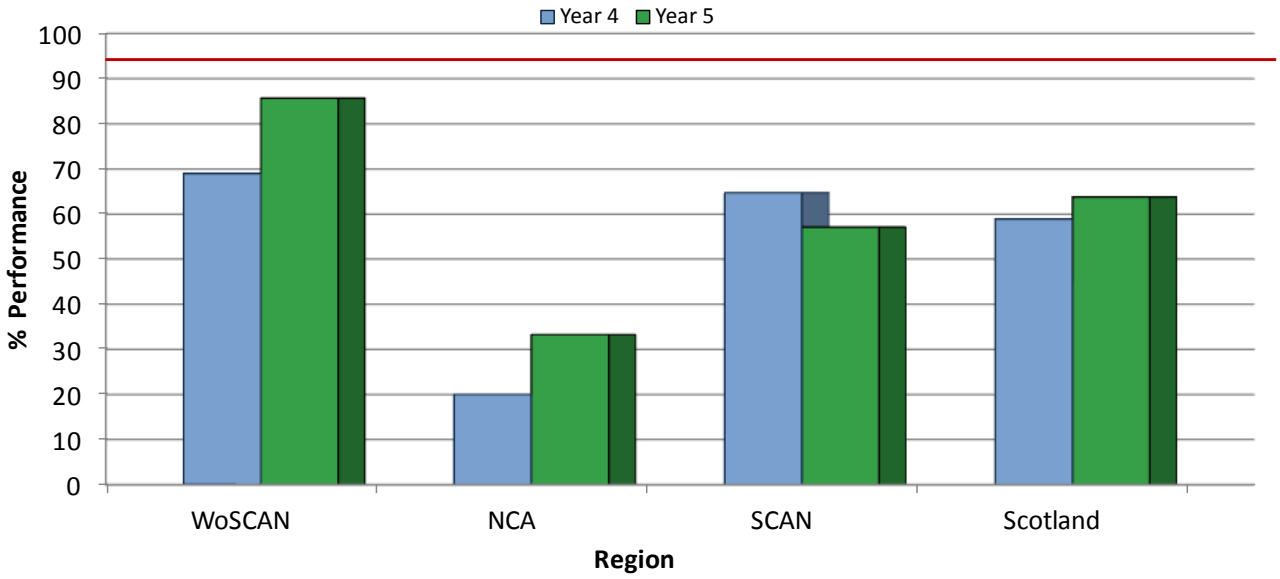
NCA were just below target with 91.7% however this represents one patient not meeting the target. This case was reviewed and detailed clinical commentary provided.

SCAN achieved 71.4% against the QPI target and noted that all cases not meeting the QPI had been reviewed. In all cases a staging CT was carried out however results were not always available prior to treatment due to factors such as incidental findings at surgery, official report not available until after surgery and staging CT performed outwith Scotland. The centre noted that although the official report was not available prior to surgery, findings were discussed and documented at the Multi Disciplinary meeting before definitive treatment.

Part two looks at the number of patients with extremity soft tissue sarcoma who were clinically staged using TNM staging system.

QPI Title:	(ii) Patients with extremity soft tissue sarcoma should be clinically staged using the TNM staging system.
Numerator:	Number of patients with extremity soft tissue sarcoma who are clinically staged using the TNM staging system.
Denominator:	All patients with extremity soft tissue sarcoma.
Exclusions:	Patients with rhabdomyosarcomas, patients with cutaneous sarcomas.
Target:	95%

Figure 8: Proportion of whose extremity soft tissue sarcoma is staged using the TNM staging system.



	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
WoSCAN	85.7%	18	21	0	0.0%	0	0.0%	0
NCA	33.3%	4	12	0	0.0%	0	0.0%	0
SCAN	57.1%	8	14	0	0.0%	0	0.0%	0
Scotland	63.8%	30	47	0	0.0%	0	0.0%	0

Recording of TNM staging at MDT is still extremely variable across NHS Scotland. National performance is 63.8% which is a slight improvement on Year 4 results but still well below the QPI target of 95%. No region met the target however WoSCAN and NCA showed improvement on the previous years result.

All three centres reviewed the QPI results, which indicate a generic issue for the National MDT and reflect the difficulty in assigning TNM to sarcomas. Improvement is noted in the WoSCAN and NCA results with further improvement anticipated as a more formal discussion of TNM takes place at the national MDT. SCAN noted that the Edinburgh MDM has moved towards more immediate TNM recording to inform treatment decision making (rather than retrospectively populating this data item for audit purposes) and therefore a decrease in performance was observed. However the Edinburgh MDM continues to work to improve this going forward as the change in practice is fully embedded.

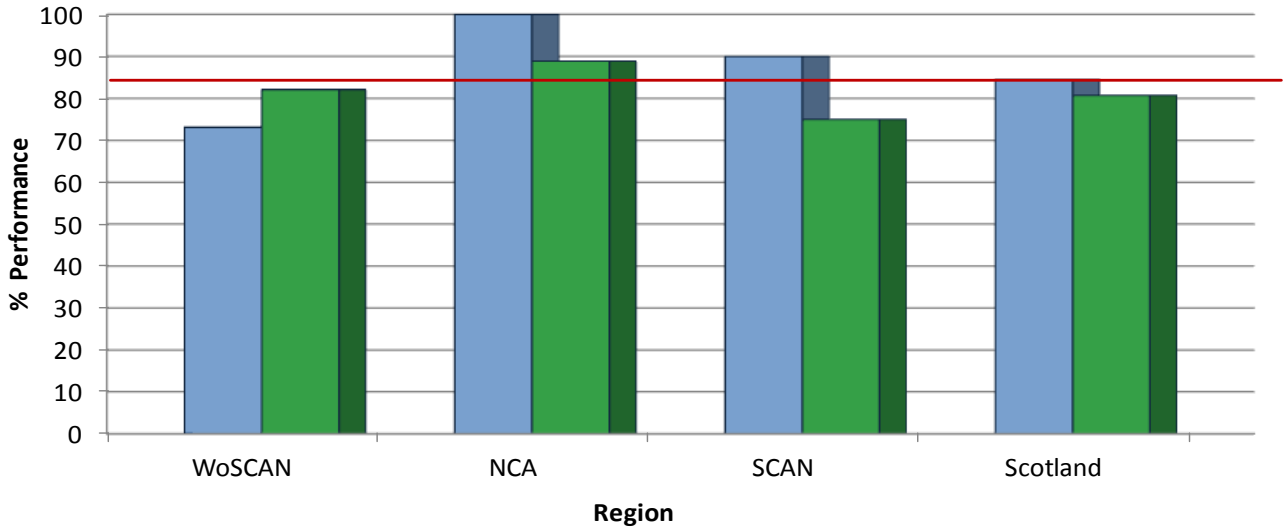
QPI 4 – Surgical Margins

The surgical margin achieved within surgical resection impacts on local recurrence rates and survival of patients[1]. It is important that surgical procedures are planned in advance of surgery, this allows for the necessary treatment planning to take place before the initiation of treatment[1].

The target level for this QPI is set at 85% to account for situations where it is agreed due to anatomical constraints a planned positive surgical margin is acceptable.

QPI Title:	Patients with extremity sarcoma undergoing surgical resection should have their tumour adequately excised.
Numerator:	Number of patients with extremity sarcoma who undergo surgical resection where R0* resection is achieved.
Denominator:	All patients with extremity sarcoma who undergo surgical resection.
Exclusions:	Patients with cutaneous sarcomas.
Target:	85%

Figure 9: Proportion of patients with extremity sarcoma undergoing surgical resection who have their tumour adequately excised.



	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
WoSCAN	82.1%	23	28	0	0.0%	0	0.0%	0
NCA	88.9%	8	9	0	0.0%	0	0.0%	0
SCAN	75.0%	15	20	0	0.0%	0	0.0%	0
Scotland	80.7%	46	57	0	0.0%	0	0.0%	0

Performance across Scotland was 80.7% against the 85% QPI target with 46 of 57 patients diagnosed with extremity sarcoma undergoing surgical resection having their tumour adequately excised. NCA exceeded the target with 88.9%.

WoSCAN and SCAN cases were reviewed by the relevant treatment centre and detailed clinical feedback was provided at patient level. Reasons such as synchronous metastatic malignancy, large extensive tumours and complex disease with areas of dedifferentiated liposarcoma within well differentiated liposarcoma were cited as clinical factors impacting upon surgical margin status. Additionally for a small number of patients positive margins were planned as an alternative to amputation or due to palliative surgery to relieve pain. Both centres concluded that all patients were treated appropriately.

QPI 5 – Molecular Staging of Gastrointestinal Stromal Tumour (GIST)

Results for QPI 5 relating to GIST tumours have not been included as data definition and measurability issues have been identified in these measures. For example there would appear to be variance in how audit staff have captured the data for this QPI due to the issues with the wording of the data definitions. Some boards may have taken the date the sample was taken (i.e. date biopsy/surgical procedure carried out rather than date mutational analysis was reported). Additionally there appears to be variance in whether the biopsy sample or surgical sample is used for mutational analysis and this will potentially impact upon timelines for measurement of the QPI and skew the QPI results. Further clinical discussion is required to refine the data recording and measurement of this QPI and to ensure that all GISTs are being captured for inclusion in the QPI audit. The Glasgow centre is currently reviewing ChemoCare data (prescribing of imatinib) to identify GIST patients, compare to those captured in the QPI audit and identify via molecular pathology whether samples were sent for molecular pathology analysis. The aim of this audit is to accurately identify the denominator for this QPI, track where delays may be occurring and establish robust mechanisms for capturing GIST patients going forward.

Action

- MCN to further explore with ISD and Information Managers the data recording and measurability issues raised via the ISD Query Log to ensure national agreement on how to measure this indicator going forward.

- Glasgow centre to share any learning from the ongoing GIST imatinib audit with other Scottish centres to ensure the accurate capture of GIST patients going forward.

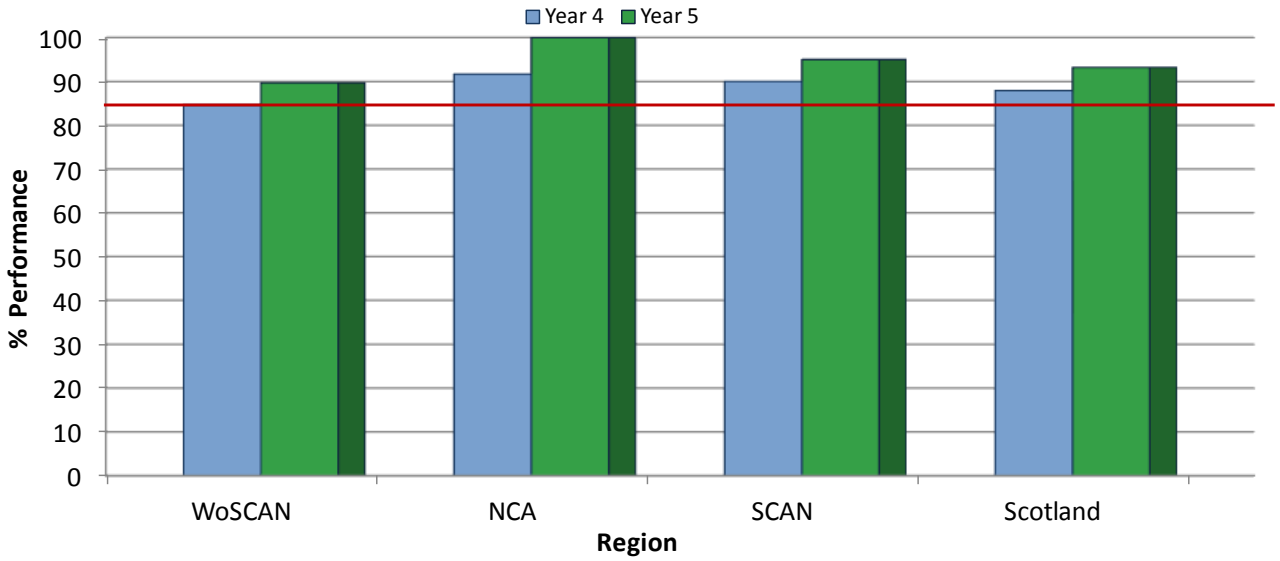
QPI 6 – Limb Sparing Surgery

Studies have shown that surgical treatment for approximately 90-95% of patients involves limb sparing surgery[1]. Rates of amputation have decreased over the years and this treatment approach is typically reserved for patients with locally advanced disease that cannot be managed by limb sparing surgery[1]. Patients who undergo limb sparing surgery have reportedly improved quality of life post treatment, uncompromised survival rates and local tumour control, as well as, an asymptomatic and functional limb[1].

Following formal review this QPI was updated to account only for those patients who undergo surgery and the target tolerance statement has been updated to account for those patients with advanced disease that cannot be managed with limb sparing surgery and also to reflect factors of patient choice.

QPI Title:	Patients with extremity sarcoma should have primary limb-sparing surgery.
Numerator:	Number of patients with extremity sarcoma who undergo a primary limb-sparing surgery.
Denominator:	All patients with extremity sarcoma.
Exclusions:	Patients who died before first treatment and patients with cutaneous sarcomas.
Target:	85%

Figure 10: Proportion of patients with extremity sarcoma who undergo a primary limb-sparing surgery.



	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
WoSCAN	89.7%	26	29	0	0.0%	0	0.0%	0
NCA	100.0%	10	10	0	0.0%	0	0.0%	0
SCAN	95.0%	19	20	0	0.0%	0	0.0%	0
Scotland	93.2%	55	59	0	0.0%	0	0.0%	0

Overall performance across Scotland for QPI 6 was 93.2% against the 85% target which demonstrates a 5.3 percentage-point improvement on the previous years results. All regions met the target and all showed year on year improvement.

QPI 7 – Primary Flap Reconstruction

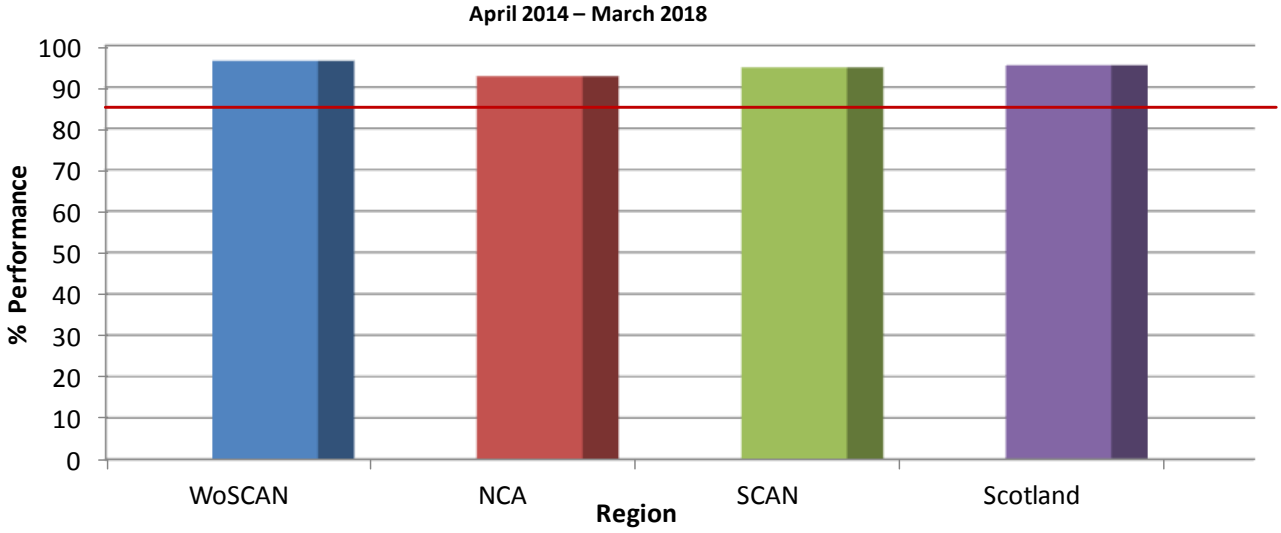
After surgical resection, reconstructive surgery may be needed to cover wounds, preserve function and/or improve the cosmetic outcome[1]. When conducting reconstructive surgery, surgeons should consider the flap success rate as one factor in choosing the best construction for any individual patient[1].

For the purpose of reporting this QPI a successful primary flap has been defined as a patient who does not need to return to theatre for unplanned surgery. The target level for this QPI is 85%; this is to account for situations where re-exploration of flaps is undertaken due to vascular insufficiency.

QPI Title:	Patients with extremity sarcoma should have successful primary flap reconstruction following surgical resection.
Numerator:	Number of patients with extremity sarcoma who undergo successful* primary flap reconstruction.
Denominator:	All patients with extremity sarcoma who undergo primary flap reconstruction.
Exclusions:	Patients with cutaneous sarcomas.
Target:	85%

*Successful has been defined as patients who do not need to return to theatre for unplanned surgical debridement of a sufficient volume of the flap reconstruction such that secondary reconstruction is required.

Figure 11: Proportion of patients with extremity sarcoma who undergo successful* primary flap reconstruction.



	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
WoSCAN	96.3%	78	81	0	0.0%	0	0.0%	0
NCA	92.6%	25	27	0	0.0%	0	0.0%	0
SCAN	94.7%	18	19	0	0.0%	0	0.0%	0
Scotland	95.3%	121	127	0	0.0%	0	0.0%	0

Due to the small numbers meeting the denominator criteria in each year of analysis individual year results cannot be presented therefore Figure 11 shows aggregated five year results.

Overall Scotland performance was 97.5% with 121 of 127 patients undergoing a successful primary flap reconstruction. All three regions exceeded the 85% target.

QPI 8 – Post Operative Radiotherapy

Post operative radiotherapy is advocated for those with a deep tumour (any size, grade 2 or 3), who have had an R0 or R1 excision. Evidence suggests that post operative radiotherapy should start within 3 months of surgery[1]. The target level for this indicator is set at 90% to account for situations where co-morbidities, severe post-operative complications or frailty can mean the patient is not suitable for post operative radiotherapy.

QPI Title:	Patients with extremity sarcoma should receive radiotherapy within 3 months of surgery.
Numerator:	All patients aged 16 and over, with extremity sarcoma who commenced post operative radiotherapy within 3 months of surgery.
Denominator:	All patients aged 16 and over, with extremity sarcoma who undergo post operative radiotherapy.
Exclusions:	Patients with cutaneous sarcomas. Patients with osteosarcomas. Patients with Ewings sarcoma. Patients with chondrosarcomas.
Target:	90%

* Deep can be defined as: deep to fascia, this is determined radiologically.

Due to the small numbers meeting the denominator criteria in each year of analysis individual region results cannot be presented. Scotland performance against this QPI for Year 5 was 71.4% (10 out of 14 cases).

WoS achieved 80% against the 90% QPI target with 8 out of 10 patients with extremity sarcoma receiving radiotherapy within 3 months of surgery. NCA and SCAN both achieved 50% however numbers were very small in these regions. Issues such as equivocal pathology delaying final pathology report and impacting on oncology referral, wound healing/mobility limiting planning CT and requirement for wide local excision after initial surgery were cited by the centres as reasons for delayed radiotherapy.

Action required:-

- NHS Grampian and NHS Tayside to report back to the MCN the findings of the audit to identify discrepancies in numbers.

QPI 9 – Multi-agent Chemotherapy for Osteosarcoma or Ewing's sarcoma

Only a very small number of patients were included within the measurement of this QPI across Scotland and therefore individual regional results cannot be presented at this time. At a national level, data shows that 3 of 4 patients with osteosarcoma under the age of 40 underwent multi-agent chemotherapy resulting in a performance of 75% against the 90% target. The single cases not receiving multi agent chemotherapy was reviewed by the relevant centre and it was confirmed that chemotherapy was not recommended by the MDT.

NHS Grampian commented that the single patient not meeting the QPI had low grade paraosteal osteosarcoma and chemotherapy was not recommended by MDT.

Results for Ewing's sarcoma show that 100% (2 out of 2) of patients under the age of 50 underwent multi- agent chemotherapy.

QPI 10 – Adjuvant Oncological Treatment for Gastrointestinal Stromal Tumour (GIST)

Results for QPI 10 relating to GIST tumours have not been included as data definition and measurability issues cited earlier in this report have been identified in these measures. ISD, Information Managers and the MCN are working to resolve these to ensure these QPIs can be measured consistently across the country.

QPI 11 – 30 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]. Treatment should only be undertaken in individuals that may benefit from that treatment, that is, treatments should not be undertaken in futile situations. This QPI is intended to ensure treatment is given appropriately, and the outcome reported on and reviewed[1].

The QPI is split into 2 separate sections; the first measures the proportion of patients who die within 30 days of treatment with curative intent and the second those patients who die within 30 days of palliative treatment. The target level is less than 10% for curative treatments and less than 15% for palliative treatments.

QPI Title:	30 day mortality following curative treatment for sarcoma.
Numerator:	Number of patients with sarcoma who undergo surgical resection or oncological treatment with curative intent who die within 30 days of treatment.
Denominator:	All patients with sarcoma who undergo surgical resection or oncological treatment with curative intent.
Exclusions:	No exclusions.
Target:	<10%

Table 3: Proportion of patients with sarcoma who undergo surgical resection or oncological treatment with curative intent who die within 30 days of treatment.

	QPI Target	WoSCAN	NCA	SCAN	Scotland
Surgery	<10 %	0.0%	0.0%	0.0%	0.0%
Radical Radiotherapy	<10 %	n/a	100% (1/1)	n/a	100% (1/1)
Neo-Adjuvant Chemotherapy	<10%	0.0%	0.0%	0.0%	0.0%
Neo-Adjuvant Radiotherapy	<10%	0.0%	0.0%	0.0%	0.0%
Adjuvant Chemotherapy	<10%	0.0%	0.0%	0.0%	0.0%
Adjuvant Radiotherapy	<10%	0.0%	0.0%	0.0%	0.0%
Chemoradiotherapy	<10%	0.0%	0.0%	n/a	0.0%
Biological Therapy	<10%	0.0%	0.0%	0.0%	0.0%

Overall in Scotland the 30 day mortality target for patients undergoing treatment with curative intent was achieved for all treatment types with the exception of radical radiotherapy. Regionally only NCA did not meet the target for radical radiotherapy 30 day mortality achieving 100%. However, it should be noted that small numbers have impacted upon percentages and this represented a single death.

There was a single death within 30 days of radiotherapy. This case has been reviewed by the treating centre. The centre confirmed that the treating team agreed that palliative radiotherapy was appropriate for this patient.

QPI Title:	30 day mortality following palliative treatment for sarcoma.
Numerator:	Number of patients with sarcoma who undergo palliative treatment who die within 30 days of treatment.
Denominator:	All patients with sarcoma who undergo palliative treatment.
Exclusions:	No exclusions.
Target:	<15%

Table 4: Proportion of patients with sarcoma who undergo palliative radiotherapy or palliative chemotherapy who die within 30 days of treatment.

	QPI Target	WoSCAN	NCA	SCAN	Scotland
Palliative Radiotherapy	<15 %	0.0%	20.0% (1/5)	0.0%	8.3% (1/12)
Palliative Chemotherapy	<15%	0.0%	16.7% (1/6)	0.0%	5.0% (2/20)

Overall in Scotland 8.3% (1 out of 12) of patients who received palliative radiotherapy died within 30 days of treatment which is below the <15% target. With regards to palliative chemotherapy treatment 2 out of 20 cases in Scotland died within 30 days of treatment. This resulted in an overall performance of 5%. NCA did not meet the QPI target achieving 16.7% however, the number of patients included in the denominators is low and this can have a considerable effect on proportions.

Action Required:

- NCA should discuss cases where patients died within 30 days of palliative chemotherapy and radiotherapy at the National Morbidity and Mortality meeting and provide feedback to MCN.

Clinical Trial Access QPI

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].

The clinical trials QPI is measured utilising Scottish Cancer Research Network (SCRN) data and ISD incidence data, as this is the methodology currently utilised by the Chief Scientist Office (CSO) and the National Cancer Research Institute (NCRI). The principal benefit of this approach is that this data is already collected utilising a robust mechanism[1]. The QPI looks at *all* patients with sarcoma entered into a trial in the calendar year 1st January to 31st December 2018, and not just those patients who had an initial diagnosis in that same period.

Following formal review the Clinical Trials Access QPI was updated to measure the number of patients consented for participation in a clinical trial rather than only those who are enrolled. There are a number of patients who undergo screening but do not proceed to enrolment for various reasons, e.g. they do not have the mutation required for entry on to the trial.

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

The target is to consent a minimum of 15% of patients with sarcoma for a clinical trial/research study.

Table 5: Proportion of patients consented for clinical trials for Sarcoma by NHS Board of residence.

Sarcoma	Consented (QPI target 15%)		
	N	D	%
NCA	3	92	3.3%
SCAN	2	99	2.0%
WoSCAN	8	162	4.9%
Scotland	13	353	3.7%

Overall for patients in Scotland, 3.7% patients were consented for clinical trials for sarcoma. It is important to note that the denominator used in the measurement of this QPI is the 5 year average of ISD incidence data for sarcoma in Scotland (2011 -2015). No regions met the 15% target for patients consented for clinical trials.

There has been recent expansion in trial activity for sarcoma, however, these are for sub groups of rare cancers and there can be delays in getting trials open due to regulatory processes, particularly if trial is multinational. However, recent cross NHS Board referrals from across Scotland have assisted in boosting trial recruitment figures in this rare cancer setting.

The Scottish Sarcoma Network (SSN) published its first research strategy in August 2019 which details a way forward with clinical trials and access in Scotland. Presently, the SSN discusses not opening every trial at all centres but to ensure where possible, patients are referred to the treatment centre with the most appropriate trial. It is worth noting that as with other cancers, the sarcoma team advise that individual cases are often complex and there can be insufficient time in clinics to fully embrace inclusion to a clinical trial.

Table 6: List of clinical trials carried out in 2018 and the number of patients with sarcoma recruited into each clinical trial per year.

Short Title	Consented
Euro Ewing 2012	5
HGUSStudy	1
rEECur	2
SSG XXII	1
IMRiS	1
A Phase I trial of oral CCT245737	1
CX-072 in patients with advanced/recurrent solid tumours or lymphomas	1
A Phase 1b (Open Label) / Phase 2 (Randomized, Double-Blinded) Study Evaluating the Efficacy of Gemcitabine and Docetaxel With or Without a Human Anti-PDGFRa Monoclonal Antibody (Olaratumab) in the Treatment of Advanced Soft Tissue Sarcoma	1
Total	**13**

5. Conclusions

Cancer audit underpins much of the development and service improvement work of Managed Clinical Networks and the regular reporting of activity and performance are fundamental in assuring the quality of care delivered across NHSScotland. The development and implementation of Sarcoma QPIs will help drive continuous quality improvement in patient care whilst ensuring that activity is focussed on those areas that are most important in terms of improving survival and patient experience. In addition, the introduction of QPIs and the associated governance structure will facilitate regular monitoring and reporting of data to ensure equitable care across the country.

It is evident that many of the QPI targets set have been challenging for centres to achieve and a number of areas for improvement have been highlighted. It should however be noted that given the rarity of sarcoma, numbers included within the measurement of the majority of indicators are small and therefore percentages should be compared with caution.

Data capture has improved over the five year period which provides a good foundation from which to measure service improvement. All regions met QPI targets for limb sparing surgery, primary flap reconstruction, multi agent chemotherapy for Ewings sarcoma and 30 day mortality following curative treatment and palliative radiotherapy.

Results for QPIs 5 and 10 relating to GIST tumours have not been included as data definition and measurability issues have been identified in these measures. ISD, Information Managers and the MCN are working to resolve these to ensure these QPIs can be measured consistently across the country.

NHS Boards are asked to develop local Action/Improvement Plans in response to the findings presented in the report.

Action required:

QPI 5:- Molecular Staging of Gastrointestinal Stromal Tumours (GISTs)

- MCN to further explore with ISD and Information Managers the data recording and measurability issues raised via the ISD Query Log to ensure national agreement on how to measure this indicator going forward.
- Glasgow centre to share any learning from the ongoing GIST imatinib audit with other Scottish centres to ensure the accurate capture of GIST patients going forward.

QPI 8:- Post Operative Radiotherapy

- NHS Grampian and NHS Tayside to report back to the MCN the findings of the audit to identify discrepancies in numbers.

QPI 11:- 30 day Mortality Following Palliative Chemotherapy/Radiotherapy

- NCA should discuss cases where patients died within 30 days of palliative chemotherapy and radiotherapy at Morbidity and Mortality meeting and provide feedback to MCN.

Completed Action Plans should be returned to WoSCAN within two months of publication of this report.

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 to the Regional Cancer Advisory Group (RCAG) annually by NHS Board Territorial Lead Cancer Clinicians and MCN Clinical Leads, as part of the regional audit governance process to enable RCAG to review and monitor regional improvement.

Acknowledgement

This report has been prepared using clinical audit data provided by each of the fourteen NHS Boards in Scotland. We would like to thank colleagues in the clinical effectiveness departments throughout Scotland for gathering, submitting and verifying these data. We would also like to thank the clinicians, nurses and others involved in the management of patients with sarcoma for their contribution to the clinical audit process.

Abbreviations

ARI	Aberdeen Royal Infirmary
ACaDMe	Acute Cancer Deaths and Mental Health
BWoSCC	Beatson West of Scotland Cancer Centre
CMG	Clinical Management Guideline
CT	Computed Tomography
eCASE	Electronic Cancer Audit Support Environment
GGH	Gartnavel General Hospital
GIST	Gastrointestinal Stromal Tumour
GRI	Glasgow Royal Infirmary
HIS	Healthcare Improvement Scotland
ISD	Information Services Division
MDT	Multidisciplinary Team
NW	Ninewells Hospital
NMCN	National Managed Clinical Network
NCQSG	National Cancer Quality Steering Group
NHSGGC	NHS Greater Glasgow and Clyde
NCA	North Cancer Alliance
QEUH	Queen Elizabeth University Hospital
QPI (s)	Quality Performance Indicator (s)
RCAG	Regional Cancer Advisory Group
RHC	Royal Hospital for Children
RHSC	Royal Hospital for Sick Children
RIE	Royal Infirmary of Edinburgh
SACT	Systemic Anti Cancer Therapy
SCAN	South and East of Scotland Cancer Network

TNM	Classification of Malignant Tumours
WGH	Western General Hospital
WHO	World Health Organisation
WoS	West of Scotland
WoSCAN	West of Scotland Cancer Network

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Appendix 1: NHS Board Action Plans

A summary of actions for each NHS Board has been included within the Action Plan templates in Appendix 1. Completed Action Plans should be returned to WoSCAN within two months of publication of this report.

Action / Improvement Plan

Region:	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	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see key)
			Start	End			
	Action	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*
1.	*QPI 5:- Molecular Staging of Gastrointestinal Stromal Tumours (GISTs)* MCN to further explore with ISD and Information Managers the data recording and measurability issues raised via the ISD Query Log to ensure national agreement on how to measure this indicator going forward.						

Action / Improvement Plan

Region:	WoSCAN
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**	**Health Board Action Taken**	**Timescales**		**Lead**	**Progress/Action Status**	**Status (see key)**
			Start	**End**			
	Action	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*
1.	*QPI 5:- Molecular Staging of Gastrointestinal Stromal Tumours (GISTs)* Glasgow centre to share any learning from the ongoing GIST imatinib audit with other Scottish centres to ensure the accurate capture of GIST patients going forward.						

Action / Improvement Plan

Region:	NCA
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	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see key)
			Start	End			
	Action	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*
1.	*QPI 8:- Post Operative Radiotherapy* NHS Grampian and NHS Tayside to report back to the MCN the findings of the audit to identify discrepancies in numbers.						
2.	*QPI 11:- 30 day Mortality Following Palliative Chemotherapy/Radiotherapy* NCA should discuss cases where patients died within 30 days of palliative chemotherapy and radiotherapy at Morbidity and Mortality meeting and provide feedback to MCN.						