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 2015 to 31 March 2016

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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 2015 and 31st March 2016. Regular reporting of activity and performance is a fundamental requirement of a Managed Clinical Network (MCN) to assure the quality of care delivered across the country. Results are measured against the Sarcoma Quality Performance Indicators (QPIs) which were introduced for patients diagnosed on or after 1st April 2014.

The National Cancer Quality Steering Group (NCQSG) completed a programme of work to develop national QPIs for all cancer types to enable national comparative reporting and drive continuous improvement for patients in 2014. In collaboration with the three Regional Cancer Networks and Information Services Division (ISD) the Sarcoma QPIs were published by Healthcare Improvement Scotland (HIS) in April 2014[1]. Data definitions and measurability criteria to accompany the cancer QPIs are available from the ISD website[2].

Twelve months of data were measured against the Sarcoma QPIs for the second consecutive year. Year 1 and Year 2 results are presented within this audit report for QPIs where results have remained comparable. Future reports will continue to compare clinical audit data in successive years to further illustrate trends.

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 2015/16 the audit identified 277 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 21st most common cancer, accounting for only 0.7% of all cancers diagnosed in Scotland in 2015[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].

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].

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.

Centre	Constituent Hospital(s)
Aberdeen	Aberdeen Royal Infirmary (ARI)
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

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 1 April 2015 and 31 March 2016 was downloaded from eCASE on 19th October 2016. SCAN data was collected and analysed locally and the final results were submitted to WoSCAN.

Analysis was performed centrally by the WoSCAN Information Team for NOSCAN and WoSCAN Boards 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.

Results

This is the second year of data collection for sarcoma by clinical effectiveness teams across Scotland. Case ascertainment is an estimate of the proportion of expected patients identified through audit and can aid in the assessment of data quality. Overall case ascertainment for Scotland is 83.9% which indicates that the capture of new cases of sarcomas through audit is good. This is an improvement on the year 1 case ascertainment figure of 71%.

Overall data capture is good; however there are areas where improvement is required to enable robust measurement against all QPIs. QPIs 3, 4 and 5 had a high proportion of cases which were not recorded for the numerator or denominator.

Due to the rarity of sarcoma, numbers included within the measurement of the majority of indicators are small and therefore analysis of combined results after Year 3 may provide more meaningful results for comparison.

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

National - Performance Summary	
Clinical Leads:	
Date:	June 17
Audit Reporting Period:	01/04/2015 – 31/03/2016

Colour Key	
	Above QPI target
	Below QPI target

Sarcoma MCN	WoS	NoSCAN	SCAN	Scotland
Number Diagnosed	121	80	76	277

Region	
%	
N	**D**

Quality Performance Indicator (QPI)	QPI target	WoSCAN		NoSCAN		SCAN		Scotland	
QPI 1 – Histological Diagnosis Proportion of patients with extremity sarcoma who have a histological diagnosis before undergoing a planned surgical resection.	**90%**	**87.9%**		**66.7%**		**89.5%**		**83.6%**	
		29	33	10	15	17	19	56	67
QPI 2 – Multi-Disciplinary Team (MDT) Meeting Proportion of patients with extremity sarcoma who are discussed at a MDT meeting before definitive treatment.	**95%**	**79.6%**		**65.2%**		**92.3%**		**79.6 %**	
		39	49	15	23	24	26	78	98
QPI 3 – Clinical Staging Proportion of patients whose extremity soft tissue sarcoma is staged using the TNM staging system prior to definitive treatment.	**95%**	**9.1%**		**10.0%**		**71.4%**		**27.0%**	
		3	33	2	20	15	21	20	74
QPI 4 – Surgical Margins Proportion of patients with extremity sarcoma, who undergo curative surgical resection where R0* resection is achieved.	**85%**	**100%**		**-**		**93.8%**		**96.1%**	
		33	33	-	-	15	16	49	51

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

Quality Performance Indicator (QPI)	QPI target	WoSCAN		NoSCAN		SCAN		Scotland	
QPI 5 – Molecular Staging of Gastrointestinal Stromal Tumour (GIST) Proportion of patients with high or moderate risk GIST, small bowel GISTs and primary metastatic GIST who have mutational analysis within 3 months of diagnosis.	**90%**	**14.3%**		**62.5%**		**-**		**47.4%**	
		1	7	5	8	-	-	9	19
QPI 6 – Limb Sparing Surgery Proportion of patients with extremity sarcoma who undergo a primary limb-sparing surgery.	**85%**	**80.4%**		**60.9%**		**69.2%**		**73.0%**	
		41	51	14	23	18	26	73	100
QPI 7 – Primary Flap Reconstruction Proportion of patients with extremity sarcoma who undergo successful primary flap reconstruction following surgical resection.	**85%**	**95.8%**		**-**		**-**		**96.9%**	
		23	24	-	-	-	-	31	32
QPI 8 – Post Operative Radiotherapy Proportion of patients with an extremity soft tissue sarcoma which is deep and grade 2 or 3 who receive post operative radiotherapy within 3 months of a planned marginal or wide local excision (R0 or R1).	**90%**	**-**		**n/a**		**50.0%**		**62.5%**	
		-	-	0	0	3	6	5	8
QPI 9a - Neo-adjuvant Systemic Anti Cancer Therapy (SACT) for Osteosarcoma Proportion of patients with osteosarcoma sarcoma who receive neoadjuvant combination SACT.	**90%**	**n/a**		**n/a**		**-**		**-**	
		0	0	0	0	-	-	-	-
QPI 9b - Neo-adjuvant Systemic Anti Cancer Therapy (SACT) for Ewings Sarcoma Proportion of patients with Ewings sarcoma who receive neoadjuvant combination SACT.	**90%**	**-**		**n/a**		**-**		**-**	
		-	-	0	0	-	-	-	-
QPI 10 – Adjuvant Oncological Treatment for Gastrointestinal Stromal Tumours (GIST) Proportion of patients with high risk GIST who commence adjuvant imatinib within 3 months of complete macroscopic resection.	**85%**	**-**		**n/a**		**-**		**-**	
		-	-	0	0	-	-	-	-

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

Quality Performance Indicator (QPI)	QPI target	WoSCAN		NoSCAN		SCAN		Scotland	
QPI 11(i)a - 30 Day Mortality – Surgery Proportion of patients with sarcoma who die within 30 days of surgical resection for sarcoma.	**<10%**	**1.1%**		**0.0%**		**16.7%**		**1.7%**	
		1	89	0	23	1	6	2	118
QPI 11(i)b - 30 Day Mortality – Radical Radiotherapy Proportion of patients with sarcoma who die within 30 days of radical radiotherapy for sarcoma.	**<10%**	**-**		**-**		**n/a**		**-**	
		-	-	-	-	0	0	-	-
QPI 11(i)c - 30 Day Mortality – Neo-Adjuvant Chemotherapy Proportion of patients with sarcoma who die within 30 days of neo-adjuvant chemotherapy for sarcoma.	**<10%**	**-**		**-**		**n/a**		**-**	
		-	-	-	-	0	0	-	-
QPI 11(i)d - 30 Day Mortality – Neo-Adjuvant Radiotherapy Proportion of patients with sarcoma who die within 30 days of neo-adjuvant radiotherapy for sarcoma.	**<10%**	**-**		**-**		**n/a**		**-**	
		-	-	-	-	0	0	-	-
QPI 11(i)e - 30 Day Mortality – Adjuvant Chemotherapy Proportion of patients with sarcoma who die within 30 days of adjuvant chemotherapy for sarcoma.	**<10%**	**-**		**-**		**-**		**-**	
		-	-	-	-	-	-	-	-
QPI 11(i)f - 30 Day Mortality – Adjuvant Radiotherapy Proportion of patients with sarcoma who die within 30 days of adjuvant radiotherapy for sarcoma.	**<10%**	**0.0%**		**0.0%**		**-**		**3.4%**	
		0	18	0	8	-	-	1	29
QPI 11(i)g - 30 Day Mortality – Chemoradiotherapy Proportion of patients with sarcoma who die within 30 days of chemoradiotherapy for sarcoma.	**<10%**	**n/a**		**n/a**		**n/a**		**n/a**	
		0	0	0	0	0	0	0	0
QPI 11(i)h - 30 Day Mortality – Biological Therapy Proportion of patients with sarcoma who die within 30 days of biological therapy for sarcoma.	**<10%**	**-**		**n/a**		**-**		**-**	
		-	-	0	0	-	-	-	-

Quality Performance Indicator (QPI)	QPI target	WoSCAN		NoSCAN		SCAN		Scotland	
QPI 11(ii)a - 30 Day Mortality – Palliative Radiotherapy Proportion of patients with sarcoma who die within 30 days of palliative radiotherapy for sarcoma.	**<15%**	**0.0%**		**-**		**-**		**26.6%**	
		0	7	-	-	-	-	4	15
QPI 11(ii)b - 30 Day Mortality – Palliative Chemotherapy Proportion of patients with sarcoma who die within 30 days of palliative chemotherapy for sarcoma.	**<15%**	**0.0%**		**-**		**-**		**0.0%**	
		0	6	-	-	-	-	0	14

(-) 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 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.

Results presented in this report demonstrate that work is still required to ensure patients with sarcoma receive an equitable and consistent standard of care across NHS Scotland. It is evident that many of the QPI targets set have been challenging for centres to achieve and some variance 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.

This audit report has identified areas where data capture must improve to enable more meaningful analysis of performance against QPIs in the coming years, specifically with regards to TNM staging and intent of surgery. However overall case ascertainment and data capture has improved in the second year of data collection and analysis. This provides a good foundation from which to measure service improvement in future years, however further work is required.

It is extremely encouraging that all regions have met the target level for a number of QPIs, including: primary flap reconstruction and 30 day mortality following curative treatment.

Action required:

- WoSCAN and NOSCAN should review cases that did not have a histological diagnosis prior to a planned surgical resection and implement action where appropriate.
- All regions should review cases that were not discussed at MDT prior to definitive treatment and implement action where appropriate.
- NoSCAN and WoSCAN to ensure recording of TNM for all sarcomas at MDT meeting.
- NoSCAN should review processes for the recording of ‘intent of surgery’ to reduce the proportion of cases that have not-recorded values.
- NoSCAN and WoSCAN should review cases with high or moderate risk GIST, small bowel GISTs and primary metastatic GIST who did not have mutational analysis within 3 months of diagnosis and implement action where appropriate.
- WoSCAN should review cases where patients with extremity sarcoma did not undergo a primary limb sparing surgery and implement action where appropriate.
- All centres to review cases aged 16 and over, with grade 2 or 3, deep, extremity soft tissue sarcoma undergoing a planned marginal or wide local excision who did not commence post operative radiotherapy within 3 months of surgery and implement action where appropriate.
- SCAN to review cases that died within 30 days of palliative radiotherapy and implement action where appropriate.

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

The purpose of this report is to present an assessment of performance of Sarcoma Services relating to patients diagnosed across Scotland during 2015/16 through clinical audit data. Results are measured against the Sarcoma Quality Performance Indicators[1] (QPIs) which were implemented for patients diagnosed on or after 1st April 2014.

The National Cancer Quality Steering Group (NCQSG) completed a programme of work to develop national QPIs for all cancer types to enable national comparative reporting and drive continuous improvement for patients in 2014. In collaboration with the National Managed Clinical Network (NMCN) for Sarcoma and Information Services Division (ISD) the Sarcoma QPIs[1] were published by Healthcare Improvement Scotland (HIS) in March 2014 and implemented for patients diagnosed on or after 1st April 2014. Data definitions and measurability criteria to accompany the Sarcoma QPIs are available from the ISD website[2].

Twelve months of data were measured against the Sarcoma QPIs for the second consecutive year. Year 1 and Year 2 results are presented within this audit report for QPIs where results have remained comparable. Future reports will continue to compare clinical audit data in successive years to further 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 2015/16 the audit identified 277 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 21st most common cancer, accounting for only 0.7% of all cancers diagnosed in 2013[3]. The most common site of sarcoma is the extremeties[5] which provides the focus for the majority of 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 significant improvement in survival over the past few decades, with 5 year survival from 1996-2000 51% rising to 56% 2006-2010 for soft tissue sarcoma, the picture is very similar for bone sarcoma[5].

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 over page 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.

Centre	Constituent Hospital(s)
Aberdeen	Aberdeen Royal Infirmary (ARI)
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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

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. NOSCAN and WoSCAN 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 1 April 2015 and 31 March 2016 was downloaded from eCASE at 2200 hrs on 19th October 2016. SCAN data was collected and analysed locally and the final results were submitted to WoSCAN. 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 for NOSCAN and WoSCAN Boards 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.

4. Results and Action Required

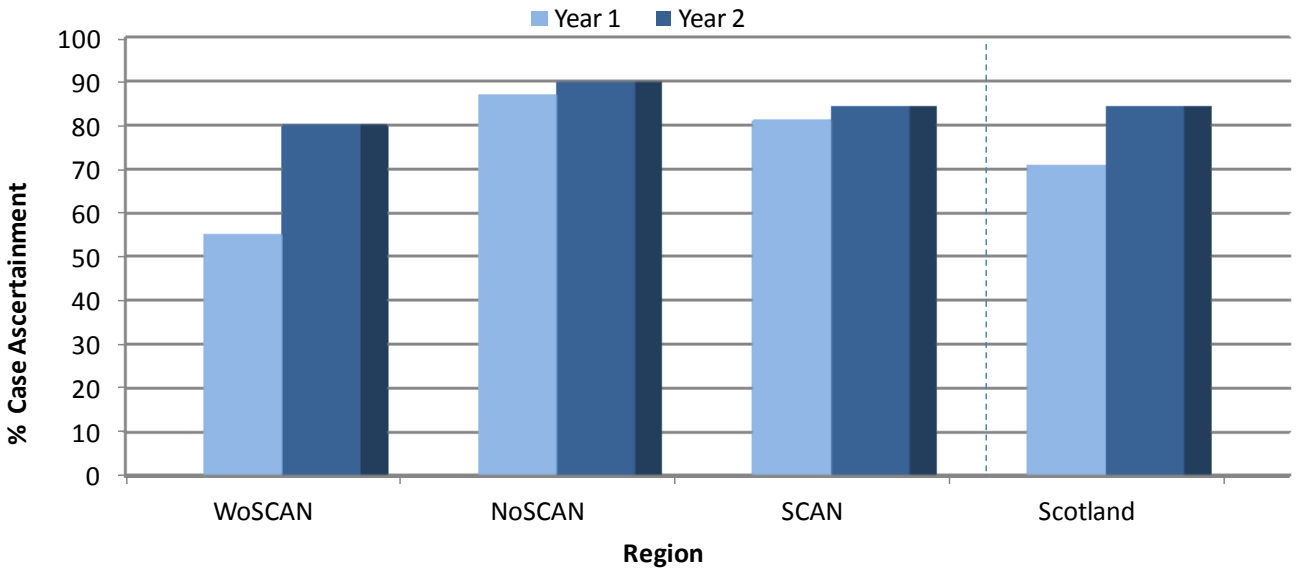
4.1 Data Quality

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 good at 83.9%, especially when it is taken into consideration that collection of clinical audit data for Sarcoma was introduced in 2014 and this is only the second year of collection and analysis. Case ascertainment figures in WoSCAN have shown improvement rising from 55% in year 1 to 80.1% in year 2.

Case ascertainment figures are provided for guidance and are not an exact measurement as it is not possible to compare directly with the same cohort. Case ascertainment for each NHS Region is illustrated in Figure 1. Case ascertainment figures do however highlight that work is required across Scotland to improve data capture and ensure accurate reporting in future. It is not surprising that case ascertainment is relatively low in some areas given this is the second year of data collection and the complexity of both the patient pathway and data collection which crosses Board and regional boundaries.

Figure 1: Case ascertainment by region for patients diagnosed with sarcomas in Scotland in 2014/15



	WoSCAN	NoSCAN	SCAN	Scotland
Cases from audit	121	80	76	277
ISD Cases (2010-2013 average)	151	89	90	330
% Case ascertainment	80.1%	89.9%	84.4%	83.9%

Overall data capture is very good; however there are areas where improvement is required to enable robust measurement against all QPIs. There were three QPIs which had a high proportion of cases which were not recorded for the numerator/denominator; QPIs 3, 4 and 5.

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.

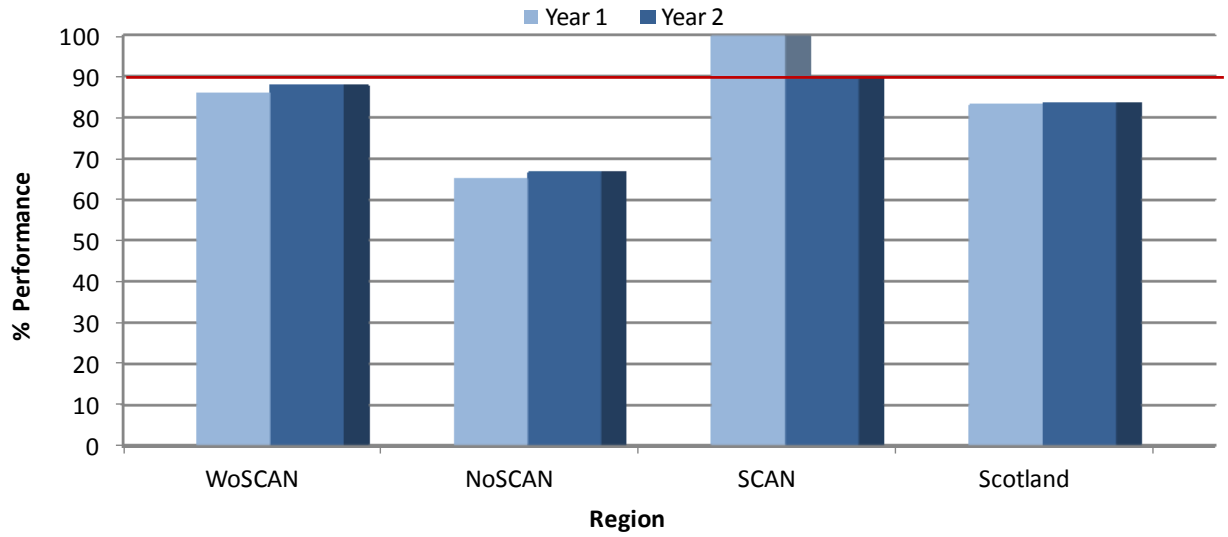
The sarcoma QPIs focus on extremity sarcomas as determined by the Sarcoma QPI Development Group, unless otherwise specified. Data is however collected on all sarcomas diagnosed in Scotland. Extremity sarcoma is defined as sarcoma of the: upper limb, shoulder girdle to fingers or lower extremity, iliac 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 and emergency situations[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 2: Proportion of patients with extremity sarcoma that should have a histological diagnosis before undergoing a planned surgical resection.



QPI 1	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
NOSCAN	66.7%	10	15	0	0.0%	0	0.0%	2
SCAN	89.5%	17	19	0	0.0%	0	0.0%	0
WoSCAN	87.9%	29	33	0	0.0%	0	0.0%	0
Scotland	83.6%	56	67	0	0	0	0	2

QPI 1	Year 1
NOSCAN	65.0%
SCAN	100.0%
WoSCAN	86.1%
Scotland	83.1%

Overall results for Scotland show that 83.6% of patients with extremity sarcoma had a histological diagnosis prior to undergoing surgical resection. This is consistent with the year 1 result of 83.1%.

SCAN reviewed cases not meeting the QPI and commented that initial biopsies were inconclusive therefore patients were diagnosed at surgery.

The Aberdeen centre reviewed cases and provided detailed clinical comments for those cases not meeting the QPI.

Action Required:

- WoSCAN and NOSCAN should review cases that did not have a histological diagnosis prior to a planned surgical resection and implement action where appropriate.

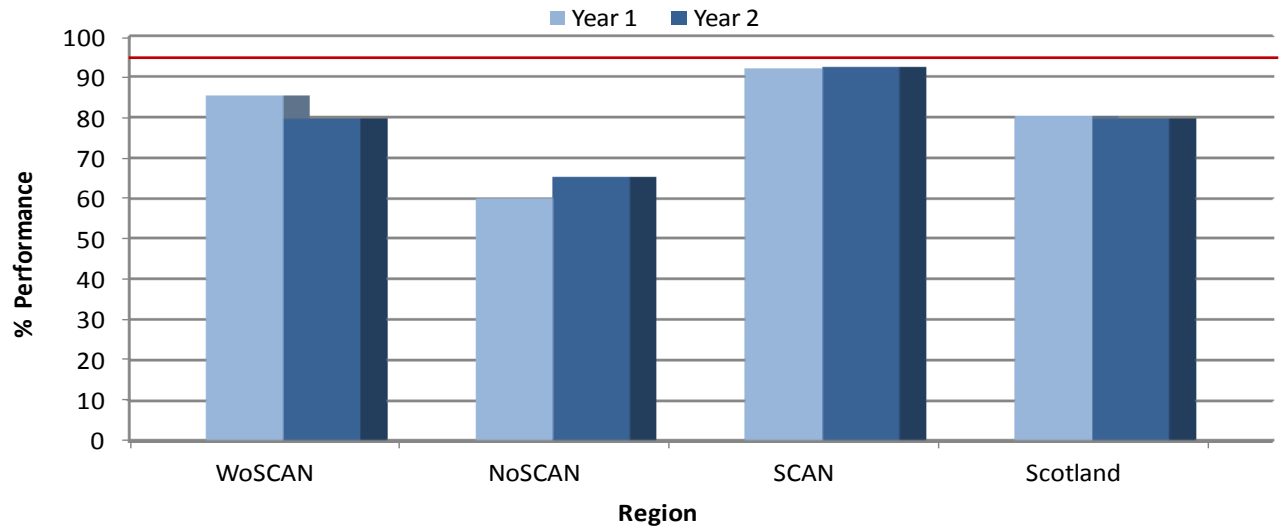
QPI 2 – Multi Disciplinary Team Meeting

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



QPI 2	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
NOSCAN	65.2%	15	23	1	4.3%	0	0.0%	0
SCAN	92.3%	24	26	0	0.0%	0	0.0%	0
WoSCAN	79.6%	39	49	1	2.0%	0	0.0%	0
Scotland	79.6%	78	98	2	2.0%	0	0	0

QPI 2	Year 1
NOSCAN	60.0%
SCAN	92.0%
WoSCAN	85.4%
Scotland	80.2%

Performance across Scotland was 79.6% against the 95% QPI target with 78 of 98 patients diagnosed with extremity sarcoma in Year 2 being discussed at MDT meeting before definitive treatment. SCAN was just slightly below target with 92.3% of patients meeting the QPI criteria. WoSCAN and NOSCAN did not meet the target.

SCAN and the Aberdeen centre reviewed all cases not meeting the QPI and detailed clinical commentary was provided.

Action Required:

- All regions should review cases that were not discussed at MDT prior to definitive treatment and implement action where appropriate.

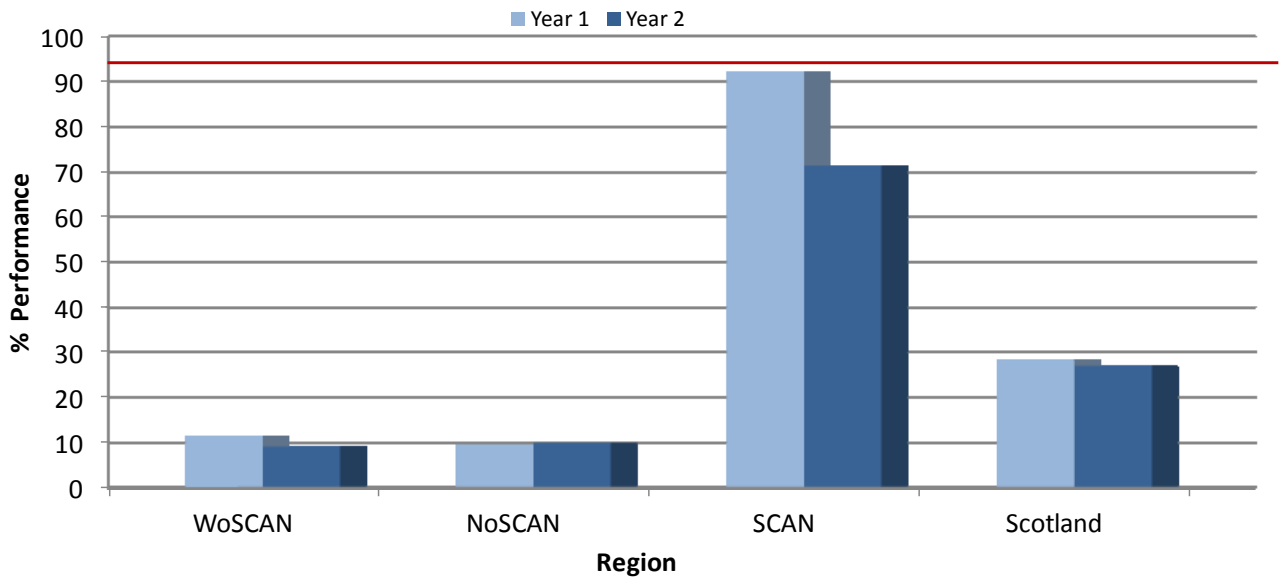
QPI 3 – Clinical Staging

Staging has an important role in determining the most effective treatment for soft tissue sarcoma and provides information on prognosis[1]. Clinical staging should follow the principles of TNM classification; this aids the determination of prognosis and choice of therapy[1].

The target for this QPI is set at 95% to account for the fact that some patients may present with very advanced disease therefore may not be fit for investigation and/or treatment. It also accounts for emergency situations.

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

Figure 4: Proportion of patients with extremity soft tissue sarcoma who should be staged using the Tumour Node Metastases (TNM) staging system.



QPI 3	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
NOSCAN	10.0%	2	20	15	75.0%	0	0.0%	0
SCAN	71.4%	15	21	0	0.0%	0	0.0%	0
WoSCAN	9.1%	3	33	29	87.9%	0	0.0%	0
Scotland	27.0%	20	74	44	59.5%	0	0	0

QPI 3	Year 1
NOSCAN	9.5%
SCAN	92.3%
WoSCAN	11.5%
Scotland	28.3%

Recording of TNM staging at MDT is still extremely variable across NHS Scotland, with national performance of only 27% which is down 1.3 percentage points from Year 1 results. As with Year 1

results there are a high proportion of cases with not recorded information, of T, N, or M stage, in both NOSCAN and WoSCAN, which accounts for the considerably lower percentage performance in these regions.

Improved recording of TNM staging would improve the quality of results for QPI 3. In Scotland, 59.5% of cases in the numerator do not have T, N, or M stage recorded and an improvement in data capture through MDT outcomes would likely have a significant effect on results presented for this QPI in subsequent years.

After Year 1 analysis feedback received from clinical teams stated that TNM was not traditionally utilised for sarcomas by all centres however the NMCN had agreed this system should be used in future to ensure consistency and comparability across the country.

SCAN reviewed all cases not meeting the QPI and reasons provided included no CT done prior to surgery due to cases initially thought to be benign/not suspicious and were then diagnosed at surgery and in some cases it was noted that staging CT was carried out after patient had surgery.

The Aberdeen centre noted that TNM should be a formal part of MDT discussion and that there should be a dedicated section added to the MDT proforma for recording of TNM.

Action required:

- NoSCAN and WoSCAN to ensure recording of TNM for all sarcomas at MDT meeting.

QPI 4 – Surgical Margins

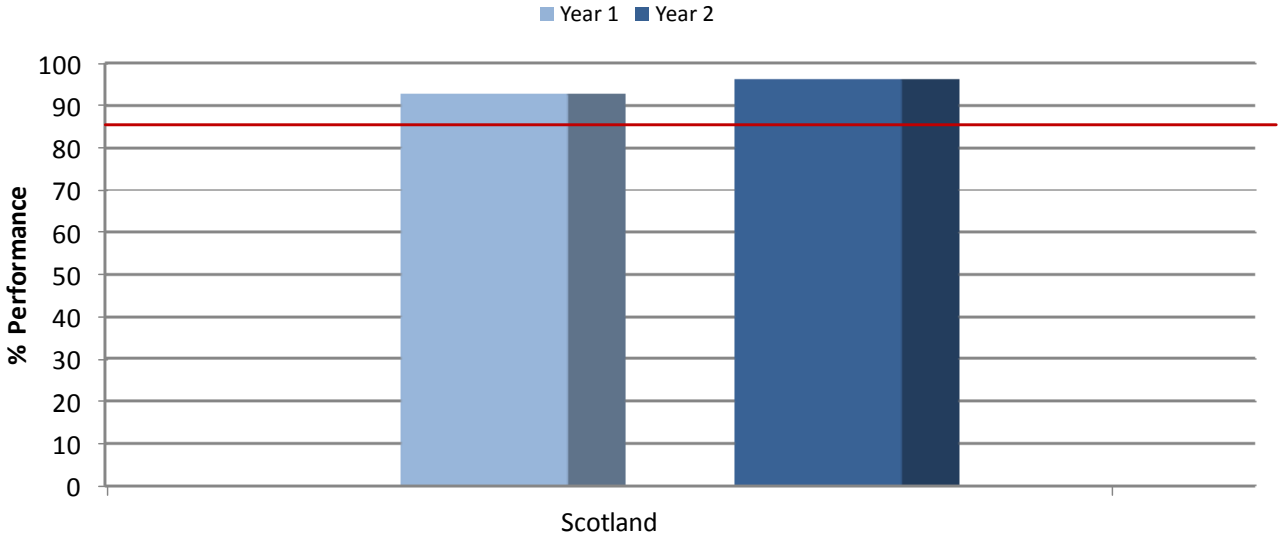
The surgical margin achieved within surgical resection impacts on local recurrence rates and survival of patients[1]. It is important that surgical procedures are planned in advance of surgery, this allows for the necessary treatment planning to take place before the initiation of treatment[1].

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 with curative intent where R0* resection is achieved.
Denominator:	All patients with extremity sarcoma who undergo surgical resection with curative intent.
Exclusions:	Patients with cutaneous sarcomas.
Target:	85%

*R0 resection is a surgical resection where surgical margins are clear of microscopic disease.

Figure 5: Proportion of patients with extremity sarcoma undergoing surgical resection who have their tumour adequately excised.



QPI 4	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator		QPI 4	Year 1
Scotland	**96.1%**	**49**	**51**	**1**	**2.0%**	**0**	**0**	**16**		**Scotland**	**92.6%**

Due to small numbers in NoSCAN, individual regional data cannot be shown. Performance across Scotland was 96.1% against the 85% target for QPI 4 with 49 of 51 cases meeting the QPI criteria. This was an increase of 3.5 percentage points on Year 1 results. NoSCAN were noted to have a number of cases not recorded for intent of surgery which resulted in 14 cases not being included within the denominator.

Action required:

- NoSCAN should review processes for the recording of 'intent of surgery' to reduce the proportion of cases that have not-recorded values.

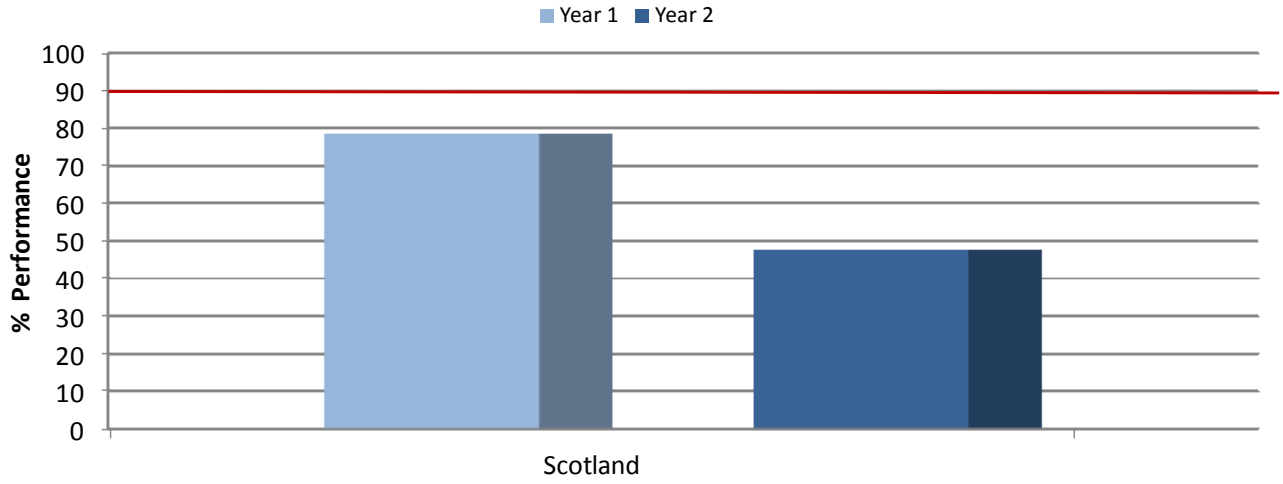
QPI 5 – Molecular Staging of Gastrointestinal Stromal Tumour

All small bowel GISTs and all intermediate and high risk GISTs, regardless of location, should have mutational analysis performed[1]. Mutational analysis provides information on the tumour, allows for a more detailed prognosis and influences the choice of treatment[1]. Mutational analysis for this patient group should include at least assessment of KIT exons 9 and 11, and PDGFRA exons 12 and 18 for mutations. If apparently wildtype, additional exons will need to be examined to rule out rare primary mutations[1].

The 90% target level accounts for situations where the patient died before the clinical features of GIST, small bowel GISTs and primary metastatic GIST were identified and reported[1].

QPI Title:	Patients with high or moderate risk gastrointestinal stromal tumour (GIST), small bowel GISTs and primary metastatic GIST should have mutational analysis within 3 months of diagnosis.
Numerator:	Number of patients with high or moderate risk GIST, small bowel GISTs and primary metastatic GIST who have mutational analysis within 3 months of diagnosis.
Denominator:	All patients with high or moderate risk GIST, small bowel GISTs and primary metastatic GIST at diagnosis.
Exclusions:	No exclusions
Target:	90%

Figure 6: Proportion of patients with high or moderate risk GIST, small bowel GISTs and primary metastatic GIST who have mutational analysis within 3 months of diagnosis.



QPI 5	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
Scotland	47.4%	9	19	4	21.1%	0	0	20

QPI 5	Year 1
Scotland	78.6%

Following baseline review this QPI has been revised to measure molecular analysis being undertaken within 3 months of diagnosis rather than 6 months of diagnosis as per year 1, therefore Year 2 data is not directly comparable to Year 1. This change has made achieving the QPI more challenging which is evident in the results. Performance across Scotland in Year 2 was 47.4% against the 90% target with only 9 of 19 cases meeting the QPI criteria. Individual region numbers were restricted due to low numbers.

It is important to note that there were a number of cases which were not recorded for the denominator criteria; therefore these cases were not included in the analysis, which has lowered the numbers

included even further. This is principally due to TNM staging data not being complete, as per QPI 3. Due to low numbers across all centres analysis of combined results after Year 3 may provide more meaningful results for comparison.

SCAN reviewed the cases not meeting the QPI and valid clinical reasons were noted.

Action Required:

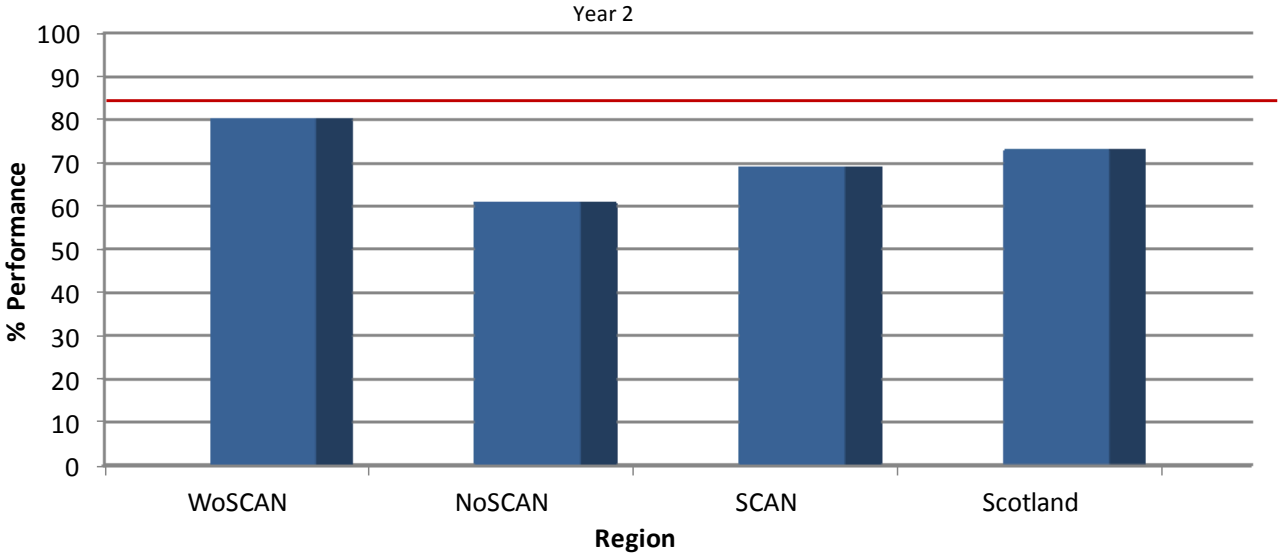
- NoSCAN and WoSCAN should review cases with high or moderate risk GIST, small bowel GISTs and primary metastatic GIST who did not have mutational analysis within 3 months of diagnosis and implement action where appropriate.

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 improved quality of life post treatment, uncompromised survival rates and local tumour control, as well as, an asymptomatic and functional limb[1]. This indicator has a target level of 85% to account for 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 7: Proportion of patients with extremity sarcoma who undergo a primary limb-sparing surgery.



QPI 6	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
NOSCAN	60.9%	14	23	1	4.3%	0	0.0%	0
SCAN	69.2%	18	26	0	0.0%	0	0.0%	0
WoSCAN	80.4%	41	51	0	0.0%	0	0.0%	0
Scotland	73.0%	73	100	1	1.0%	0	0	0

Due to significant issues with the Year 1 measurability document, specifically the inclusion of inappropriate cases, QPI 6 was revised following baseline review to ensure it was capturing the correct cohort of patients and for this reason Year 2 data is not comparable to Year 1 results.

Overall performance across Scotland was 73% with 73 of 100 patients with extremity sarcoma undergoing a primary limb sparing surgery. No individual region met the 85% target.

SCAN reviewed all cases not meeting the QPI and reasons provided included; metastatic disease, patient refusal of further treatment, not operable without major morbidity and mortality, palliative radiotherapy for fungating mass and patients who had amputations.

Grampian reviewed all cases and commented that extensive disease was the reason for the majority of cases not meeting the target.

Action Required:

- WoSCAN should review cases not meeting the QPI and implement action where appropriate.

QPI 7 – Primary Flap Reconstruction

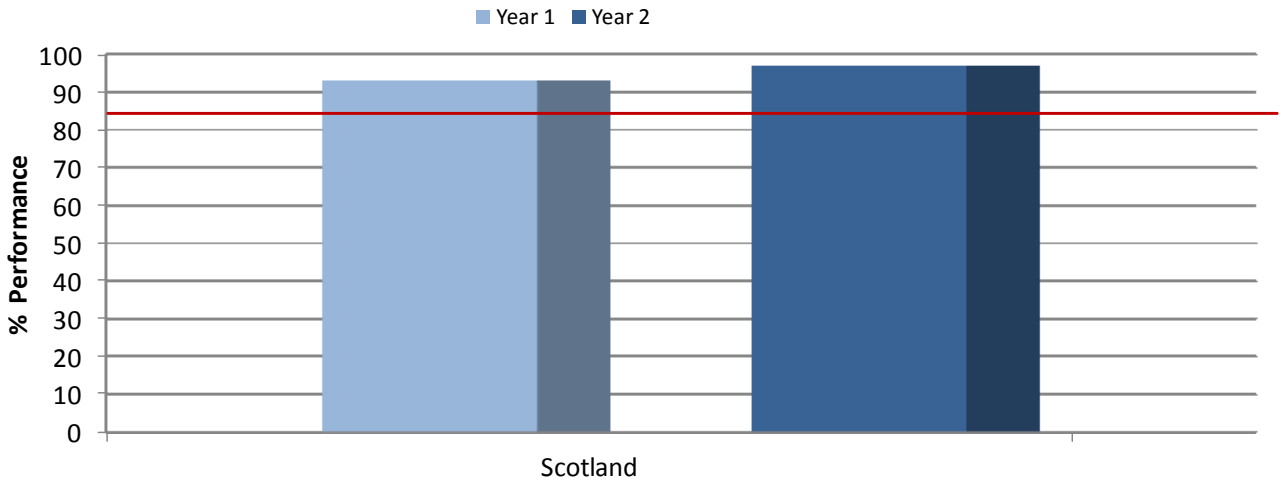
After surgical resection, reconstructive surgery may be needed to cover wounds, preserve function and/or improve the cosmetic outcome[1]. When conducting reconstructive surgery, surgeons should consider the flap success rate as one factor in choosing the best construction for any individual patient[1].

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[1] 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 8: Proportion of patients with extremity sarcoma who undergo successful* primary flap reconstruction.



QPI 7	Performance (%)	Numerator	Denominator	Not recorded numerator	Not recorded numerator (%)	Not recorded exclusions	Not recorded exclusions (%)	Not recorded denominator
Scotland	**96.9%**	**31**	**32**	**0**	**0.0%**	**0**	**0.0%**	**4**

QPI 7	Year 1
Scotland	**92.9%**

It is encouraging that for the second consecutive year Scotland wide performance is above the QPI target of 85%. Year 2 result was 96.9% (31 of 32 cases) 4 percentage points above Year 1 results. As with previous QPIs, aggregated centre results will be presented in future years.

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 a high grade, deep*, extremity soft tissue sarcoma should receive radiotherapy within 3 months of a planned marginal or wide local excision.
Numerator:	Number of patients, aged 16 and over, with grade 2 or 3, deep*, extremity soft tissue sarcoma undergoing a planned marginal or wide local excision who commenced post operative radiotherapy within 3 months of surgery.
Denominator:	All patients, aged 16 and over, with grade 2 or 3, deep*, extremity soft tissue sarcoma undergoing a planned marginal or wide local excision.
Exclusions:	Patients undergoing amputation. Patients who undergo a compartmentectomy. Patients who have had pre operative radiotherapy. Patients with rhabdomyosarcoma. Patients with a tumour superficial to the fascia. Patients with cutaneous sarcomas.
Target:	90%

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

Scotland performance against this QPI was 62.5% (5 out of 8 cases), this compares to 90% in year 1 (9 out of 10 cases), however given the very small number of cases included within the measurement of the indicator further data is required before any assessment of quality of service can be made.

Action Required:

- All centres to review cases aged 16 and over, with grade 2 or 3, deep, extremity soft tissue sarcoma undergoing a planned marginal or wide local excision who did not commence post operative radiotherapy within 3 months of surgery and implement action where appropriate.

QPI 9 – Neo-adjuvant Systemic Anti Cancer Therapy for Osteosarcoma or Ewing's Sarcoma

Evidence suggests that patients with Osteosarcoma or Ewing's sarcoma should be given combination neoadjuvant SACT[1]. Due to the intensity and toxicity of this neoadjuvant combination chemotherapy it may not be clinically indicated for patients over the age of 40 (osteosarcoma) or 50 (Ewing's sarcoma)[1]. This is due to a number of factors including performance status. Patients who are unsuitable for this type of treatment are considered for alternative treatment plans. The target level for this QPI is 90% this is designed to account for factors of patient choice, co-morbidities and fitness for treatment.

QPI Title:	Patients with osteosarcoma or Ewing's sarcoma should receive neoadjuvant combination SACT when clinically indicated.
Numerator:	Number of patients with osteosarcoma or Ewing's sarcoma who are under the age of 40 (50 for Ewing's sarcoma) who undergo neoadjuvant combination SACT.
Denominator:	All patients with osteosarcoma or Ewing's sarcoma who are under the age of 40 (50 for Ewing's sarcoma).
Exclusions:	Patients undergoing emergency primary surgery or radiotherapy.
Target:	90%

Only a very small number of patients were included within the measurement of this QPI across Scotland and therefore figures cannot be presented at this time, even at a national level for both osteosarcoma and Ewing's sarcoma combined (4 patients in total across Scotland). It should be noted that data for osteosarcoma and Ewing's sarcoma were reported separately for local Board management purposes.

QPI 10 – Adjuvant Oncological Treatment for Gastrointestinal Stromal Tumours

Data for clinical trials demonstrated that adjuvant imatinib therapy given for a period of three years compared to one year, significantly improved the recurrence free survival in adult patients at significant risk of relapse following resection of GIST[1]. The target level of this indicator is set at 85% to account for the fact that due to co-morbidities and fitness not all patients will be suitable for imatinib following complete macroscopic resection.

QPI Title:	Patients with high risk* Gastrointestinal Stromal Tumour (GIST) should commence adjuvant imatinib within 3 months of complete macroscopic resection.
Numerator:	Number of patients, aged 16 and over, with high risk* GIST undergoing complete macroscopic resection who commence adjuvant imatinib within 3 months of complete macroscopic resection.
Denominator:	All patients aged 16 and over, with high risk* GIST undergoing complete macroscopic resection.
Exclusions:	Patients who are enrolled in a clinical trial.
Target:	85%

* High risk is defined as: patients with large GIST tumours that have a high chance of recurring.

Once again only a very small number of patients were included within the measurement of this QPI across Scotland (2 patients) and therefore figures cannot be presented at this time, even at a national level. Results were circulated to centres for local management purposes.

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 1: 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	NoSCAN	SCAN
Surgery	<10 %	1.1%	0.0%	16.7%
Radical Radiotherapy	<10 %	0.0%	0.0%	0.0%
Neo-Adjuvant Chemotherapy	<10%	0.0%	0.0%	0.0%
Neo-Adjuvant Radiotherapy	<10%	0.0%	0.0%	0.0%
Adjuvant Chemotherapy	<10%	0.0%	0.0%	0.0%
Adjuvant Radiotherapy	<10%	0.0%	0.0%	33.3%
Chemoradiotherapy	<10%	n/a	n/a	n/a

NoSCAN and WoSCAN achieved the target for all treatment types in Year 2. Two deaths were recorded for SCAN patients diagnosed in Year 2. One within 30 days of surgery resulting in a mortality rate of 16.7% and one within 30 days of adjuvant radiotherapy resulting in a mortality rate of 33.3%, however numbers are low and this can have a considerable effect on proportions. Results from Year 1 could not be compared to Year 2 due to the changes in the measurement of this QPI.

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%

Scotland wide performance against this indicator was 13.8% (4 of 29 cases) which is below the target of 15%. This is also an improvement on Year 1 result of 33.3%. Cases which did not meet the target should be reviewed by Boards at local morbidity and mortality meetings.

The Aberdeen centre reviewed cases where patients undergoing palliative radiotherapy had died within 30 days and concluded that appropriate treatment had been given.

Action Required:

- SCAN to review cases that died within 30 days of palliative radiotherapy and implement action where appropriate.

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.

Results presented in this report demonstrate that work is still required to ensure patients with sarcoma receive an equitable and consistent standard of care across NHS Scotland. It is evident that many of the QPI targets set have been challenging for centres to achieve and some variance 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.

This audit report has identified areas where data capture must improve to enable more meaningful analysis of performance against QPIs in the coming years, specifically with regards to TNM staging and intent of surgery. However overall case ascertainment and data capture has improved in the second year of data collection and analysis. This provides a good foundation from which to measure service improvement in future years, however further work is required.

It is extremely encouraging that all regions have met the target level for a number of QPIs, including: primary flap reconstruction and 30 day mortality following curative treatment. Areas for service improvement have been identified relating to variation in histological diagnosis and MDT discussion.

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

Action required:

- WoSCAN and NOSCAN should review cases that did not have a histological diagnosis prior to a planned surgical resection and implement action where appropriate.
- All regions should review cases that were not discussed at MDT prior to definitive treatment and implement action where appropriate.
- NoSCAN and WoSCAN to ensure recording of TNM for all sarcomas at MDT meeting.
- NoSCAN should review processes for the recording of ‘intent of surgery’ to reduce the proportion of cases that have not-recorded values.
- NoSCAN and WoSCAN should review cases with high or moderate risk GIST, small bowel GISTs and primary metastatic GIST who did not have mutational analysis within 3 months of diagnosis and implement action where appropriate.
- WoSCAN should review cases where patients with extremity sarcoma did not undergo a primary limb sparing surgery and implement action where appropriate.
- All centres to review cases aged 16 and over, with grade 2 or 3, deep*, extremity soft tissue sarcoma undergoing a planned marginal or wide local excision who did not commence post operative radiotherapy within 3 months of surgery and implement action where appropriate.
- SCAN to review cases that died within 30 days of palliative radiotherapy and implement action where appropriate.

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
NOSCAN	North of Scotland Cancer Network
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

References

1. Healthcare Improvement Scotland. Sarcoma Quality Performance Indicators, v1.0; March 2014 [Accessed on: 27th April 2016] Available at: http://www.healthcareimprovementscotland.org/our_work/cancer_care_improvement/cancer_qpis/quality_performance_indicators.aspx

2. Information Services Division. National Data Definitions for the Minimum Core Data Set for Sarcoma Quality Performance Indicators v1.4; November 2015 [Accessed on: 27th April 2016] Available at: http://www.isdscotland.scot.nhs.uk/Health-Topics/Cancer/Cancer-Audit/

3. Information Services Division, Cancer Statistics, Summary statistics for bone and connective tissue cancer - Scotland. [Accessed on: 27th April 2016]. Available at: http://www.isdscotland.scot.nhs.uk/Health-Topics/Cancer/Cancer-Statistics/Bone-and-Connective-Tissue/

4. Cancer Research UK. Soft Tissue Sarcoma Statistics. [Accessed on: 27th April 2016]. Available at: http://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/soft-tissue-sarcoma

5. National Cancer Intelligence Network. Bone and Soft Tissue Sarcomas UK Incidence and Survival 1996 to 2010 v2.0 November 2013.

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:	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.	WoSCAN should review cases that did not have a histological diagnosis prior to a planned surgical resection and implement action where appropriate.						
2.	WoSCAN should review cases that were not discussed at MDT prior to definitive treatment and implement action where appropriate.						
3.	WoSCAN to ensure recording of TNM for all sarcomas at MDT meeting.						
4.	WoSCAN should review cases with high or moderate risk GIST, small bowel GISTs and primary metastatic GIST who did not have mutational analysis within 3 months of diagnosis and implement action where appropriate.						
5.	WoSCAN should review cases not meeting the QPI and implement action where appropriate.						
6.	All centres to review cases aged 16 and over, with grade 2 or 3, deep*, extremity soft tissue						

No	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see key)
			Start	End			
	sarcoma undergoing a planned marginal or wide local excision who did not commence post operative radiotherapy within 3 months of surgery and implement action where appropriate.						

Action / Improvement Plan

Region:	NoSCAN
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.	NoSCAN should review cases that did not have a histological diagnosis prior to a planned surgical resection and implement action where appropriate.						
2.	NoSCAN should review cases that were not discussed at MDT prior to definitive treatment and implement action where appropriate.						
3.	NoSCAN to ensure recording of TNM for all sarcomas at MDT meeting.						
4.	NoSCAN should review processes for the recording of 'intent of surgery' to reduce the proportion of cases that have not-recorded values.						
5.	NoSCAN should review cases with high or moderate risk GIST, small bowel GISTs and primary metastatic GIST who did not have mutational analysis within 3 months of diagnosis and implement action where appropriate.						
6.	All centres to review cases aged 16 and over, with grade 2 or 3, deep*, extremity soft tissue sarcoma undergoing a planned marginal or wide local excision who did not commence post operative radiotherapy within 3 months of surgery						

No	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see key)
			Start	End			
	and implement action where appropriate.						

Action / Improvement Plan

Region:	SCAN
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.	SCAN should review cases that were not discussed at MDT prior to definitive treatment and implement action where appropriate.						
2.	All centres to review cases aged 16 and over, with grade 2 or 3, deep*, extremity soft tissue sarcoma undergoing a planned marginal or wide local excision who did not commence post operative radiotherapy within 3 months of surgery and implement action where appropriate.						
3.	SCAN to review cases that died within 30 days of palliative radiotherapy and implement action where appropriate						