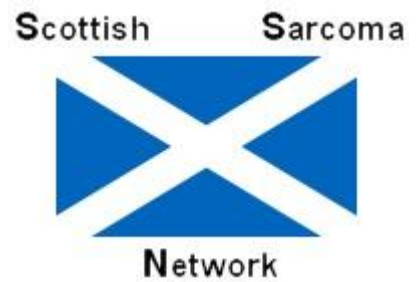


**North, South East and West of Scotland
Cancer Networks**

**Sarcoma
National Managed Clinical Network**



Annual Report

April 2017 – March 2018

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Executive Summary

Introduction

The purpose of this document is to report the Sarcoma National Managed Clinical Network (NMCN) activities in respect of:

- Performance against agreed work plan objectives;
- Outcomes achieved; and
- Challenges encountered and actions taken to remedy defined issues.

This report covers the activity of the NMCN between April 2017 and March 2018. It also reports on service developments and improvements based on the analysis of 2001-2015 Cancer Registry data, the third year of the quality performance indicators and looking forward from April 2018 to March 2019.

NMCN Objectives

The sarcoma NMCN has made progress and delivered a number of key objectives which included:

- **Guideline Development and Review**
The sarcoma pathway for patients residing in Forth Valley was reviewed by June 2017. The positron emission tomography–computed tomography guideline for sarcoma was reviewed by August 2017. The guidelines for bone and soft tissue are being reviewed to reflect the treatments currently available along with developing the guideline for fibromatosis (due by July 2018). Regional guidelines for breast sarcoma and head and neck sarcoma are in development in the West (due by December 2018).
- **Education**
The three Scottish education days were in Perth in May, Glasgow in September and Edinburgh in December 2017, with the first joint British and Irish Sarcoma Group conference in Birmingham in February 2017. Bone Cancer Research Trust held the first meeting of bone tumour patients and carers in parallel with the education day in Perth. GIST Support UK held the third meeting of GIST patients and carers in parallel with the education day in Edinburgh. NHS Education Scotland's a less common cancers (soft tissue sarcoma, pancreatic cancer and brain tumour) module for practice based small group learning had uptake of 30% in its first year.
- **National Clinical Audit**
The third audit of performance against quality performance indicators (for patients diagnosed between 1st April 2016 and 31st March 2017) was reported in March 2018 and includes clinical trials. The second audit was reported in October 2017. The actions from the second and third audits are in progress. The Scottish Cancer Registry data for 2001 to 2015 has been analysed for trends and variations by NHS Board.
- **Service Map**
The West of Scotland service map was reviewed by April 2018 and the service maps for the North and South East are in progress. Surgery for gastrointestinal sarcomas is centred in Glasgow for the North and West of Scotland, and in Edinburgh for the South East.
- **Transforming Care After Treatment (TCAT)**
The national project for reintegration after cancer treatment (ReACT) completed in December 2017 and realised health needs assessments and treatment summaries for 51 patients (approximately one third of the teenagers and young adults diagnosed in that period). 14% of the patients had a bone tumour and 2% had soft tissue sarcoma.
- **Multi-disciplinary Team Working**

Analysis of the Edinburgh and Scottish Sarcoma MDTs and Glasgow virtual clinic showed increasing activity and duplication between the MDTs has been eliminated. The patient referral template is being reviewed to further improve efficiency.

- **Research and Development**

The Scottish Bone Tumour Registry has agreed the migration to a wholly digital Registry that will be accessible by all five specialist centres (currently only Glasgow) and is working with eHealth and Information Governance colleagues to realise this migration to sustain the third oldest bone tumour registry in the world (started in 1952). The first sarcoma research strategy afternoon is scheduled for Tuesday 18th September 2018 in Glasgow.

- **External Scrutiny**

The NMCN is reviewed every five years by National Services Scotland and the latest review was successfully completed in December 2017. The NMCN continues to meet the criteria for national designation and demonstrate achievement of the quality standards. This review also considered the NMCN being managed by their National Network Management Service and concluded the existing management through the West of Scotland Cancer Network will continue for the next five years.

- **Website**

Debi Kirk (patient and website entrepreneur) led the redesign of the [website](#) that was launched in November 2017, is mobile phone friendly and will enable integration with social media in the future.

- **Clinical Lead**

Dr Ioanna Nixon attended the Leaders in Healthcare 2017 conference in Liverpool and presented the Scottish Sarcoma Network through a poster that was very well received by delegates.

Key Priority Areas for the NMCN in the next 12 months

The NMCN work plan has been developed with an emphasis on identifying outcomes that improve the quality of patient care and overall efficiency. A number of objectives will be carried over from this year as guideline development and review, education, quality performance indicators and service map continue as priorities in the work plan.

1. Introduction

The sarcoma national managed clinical network (NMCN) was established in 2004 as a means of delivering equitable high quality clinical care to all sarcoma patients across Scotland, covering a population of 5.425 million¹.

The sarcoma NMCN continues to support and develop the clinical service for sarcoma patients (bone, soft tissue and gastrointestinal stromal tumour). The 2001-2015 analysis of Scottish Cancer Registry indicates the average number of sarcomas per year was 303 (rising steadily from 217 in 2001 to 363 in 2015). The effective management of these patients throughout Scotland relies on co-ordinated delivery of treatment and care that requires close collaboration of professions from a range of specialties. Most sarcoma patients are discussed initially in the five centres across Scotland (Aberdeen, Dundee and Inverness in the North; Edinburgh in the South East; Glasgow in the West) and referred to the Scottish sarcoma multi-disciplinary team (MDT). Gastrointestinal stromal tumour patients are managed by the upper gastrointestinal MDTs in the North and South East of Scotland, and by the Scottish sarcoma MDT in the West. Small numbers of sarcoma patients are managed by local or regional MDTs (e.g. head and neck, gynaecological oncology, skin) with the support of the Scottish sarcoma MDT. The majority of treatment is surgical, with patients managed by the most appropriate MDT (dependent on where in the body) in collaboration with the Scottish sarcoma MDT (who manage the extremities), with five year survival of 55%.

The NMCN website is www.ssn.scot.nhs.uk.

The purpose of this document is to report the sarcoma NMCN activities in respect of:

- Performance against agreed objectives;
- Outcomes achieved;
- Challenges encountered and actions taken to remedy defined issues; and
- Update on progress of actions identified from the Audit Report.

NMCN Governance

The NMCN formally meets three times per annum with representation from patients, carers, charities, external companies, local authorities, universities and NHS Boards and all relevant specialities involved in the management of sarcoma. The NMCN is consulted between meetings as required by the Clinical Lead and Manager through the virtual steering group.

Dr Ioanna Nixon, Consultant Clinical Oncologist, NHS Greater Glasgow and Clyde is in her third year as national Clinical Lead. The membership and terms of reference of the NMCN are detailed on the [NMCN website](#).

2. NMCN Workplan and Activities (reporting period 04/2017 to 03/2018)

2.1 Core Objectives

Guideline Development and Review

Clinical management guidelines (CMGs) and clinical guidance documents (CGDs) ensure the safe and equitable management of patients across Scotland whilst optimising the effectiveness of treatment and care.

¹ <https://www.nrscotland.gov.uk/statistics-and-data/statistics/stats-at-a-glance/infographics-and-visualisations>
North, South East and West of Scotland Cancer Networks
Final - Published NMCN for Sarcoma 2017-18 Annual Report v1.0 28/06/2018

- The reviews of the bone and soft tissue CMGs and the development of the fibromatosis CMG have been protracted but are nearing completion (estimated July 2018) and reflect the treatments currently available in Scotland.
- CMGs for breast sarcoma and head and neck sarcoma are being developed for the West of Scotland in partnership with the Breast and Head and Neck managed clinical networks, utilising the 2001-2015 Cancer Registry data to estimate demand.
- NHS Forth Valley patient pathway review was completed in June 2017 and NHS Forth Valley separated bone and soft tissue from gastrointestinal stromal tumour (GIST) as bone and soft tissue patients are managed by the West of Scotland musculoskeletal oncology virtual clinic and Scottish sarcoma MDT, while GIST patients are managed by their local upper gastrointestinal cancer MDT and South East of Scotland upper gastrointestinal cancer MDT.
- The NMCN reviewed the guideline for the use of positron emission tomography–computed tomography (PET-CT) in the management of sarcoma patients and submitted it to the Scottish Clinical Imaging Network’s review of PET-CT by September 2016. Their review confirmed PET-CT for sarcoma is not routinely commissioned and the guideline was published by August 2017.

CMGs and CGDs can be accessed from the [West of Scotland Cancer Network intranet site](#) (when connected to the NHS network).

Education

The NMCN continues to support three education days per year with an average attendance of thirty six members;

- Summer education day included an update on the British Sarcoma Group 2017 conference in Bristol in March, Clinical Lead’s update, 30 day mortality and morbidity for the Aberdeen centre, development of a UK endoprosthesis replacement registry led by Ms Louise McCullough, introduction from the new Epithelioid Haemangioendothelioma charity, update on Sarcoma UK support line’s first year of operation, demonstration of the new website and an update on peer review of radiotherapy planning in Scotland. The first Bone Cancer Research Trust patient and carer day in Scotland ran in parallel, with 10 participants.
- Autumn education day included an overview of the Amputee Football Association Scotland (AFAS) charity by a patient and its Chair, update from Sarcoma UK including their support line, sarcoma patient reported outcomes and experience measures research update, update on pazopanib in Scotland and comparison with the original clinical trial, 30 day mortality and morbidity for the Glasgow centre. The afternoon session was devoted to spine, sacral and skull base sarcoma in Scotland including audit analysis, overview of the London spinal sarcoma service, overview of the Glasgow spinal sarcoma surgical service and agreement on how Scottish patients will be managed between the Scottish sarcoma MDT and other MDTs (e.g. skull base and neuro-oncology).
- Winter education day included presentation and discussion of the first three years of quality performance indicators with recommendations for the indicators for our next three years, pathology update on TNM 8 (implemented 1st January 2018) and small round cell tumours, Clinical Nurse Specialist led diagnostic clinics and GP education in South Wales, head and neck sarcoma surgery in the Glasgow centre, audit of pre- versus post-operative radiotherapy in the Glasgow centre, update on the National Cancer Research Institute bone tumour subgroup, analysis of MDT activity for the last year and agreed short term improvements and the Clinical Lead’s update. The third GIST Support UK patient and carer day in Scotland ran in parallel, with 10 participants.
- The first joint British and Irish Sarcoma Group conference was held on 27th and 28th February 2018 in Birmingham with the programme and abstract book available on [their website](#). Scotland was well represented and an update will be given to the education day in Dundee in May.
- The NHS Education Scotland less common cancers (soft tissue sarcoma, pancreatic cancer and brain tumour) module for practice based small group learning has seen 30% uptake in its first year.

National Clinical Audit Programme

A key area of the sarcoma NMCN was to effectively utilise audit findings to inform and drive service improvement. Prospective clinical audit data was captured by the fourteen NHS Boards for patients diagnosed between 1st April 2015 and 31st March 2016 (the second year), the eleven quality performance indicators (QPIs) were analysed and reported in October 2017 (available on the [NMCN website](#)). Patients diagnosed between 1st April 2016 and 31st March 2017 (the third year) were reported in March 2018 (available on the [NMCN website](#)). The actions from the first year were completed. The sarcoma NMCN is encouraged by the performance of NHS Boards and centres against the national QPIs with results demonstrating that patients with a sarcoma receive a consistent and improving standard of care across all geographical locations; three of the eleven indicators achieved, five improving and three with small number of patients included. The details are:

Achieved

- QPI 1 of patients with extremity sarcoma should have a histological diagnosis before undergoing a planned surgical resection (91% against a target of less than 90%).
- QPI 4 of patients with extremity sarcoma undergoing surgical resection should have their tumour adequately excised (96.2% against a target of 85%).
- QPI 7 of patients with extremity sarcoma should have successful primary flap reconstruction following surgical resection (97.5% against a target of 85%).

Improving

- QPI 2 of patients with extremity sarcoma should be discussed by a multidisciplinary team (MDT) prior to definitive treatment (91.3% against a target of 95% compared to 79.6%).
- QPI 3 of patients with extremity soft tissue sarcoma should be staged using the Tumour Node Metastases (TNM) staging system (43.8% against a target of less than 95% compared to 27.0%).
- QPI 5 of 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 (72.7% against a target of 90% compared to 47.4%)
- QPI 6 of patients with extremity sarcoma should have primary limb-sparing surgery (84.1% against a target of 85% compared to 73.0%).
- QPI 11 of 30 day mortality following (i) curative or (ii) palliative treatment for sarcoma (0.7% or 15.8% against a target of less than 10% or less than 15% compared to 1.7% or 26.6%).

Small number of patients

- QPI 8 of patients with a high grade, deep, extremity soft tissue sarcoma should receive radiotherapy within 3 months of a planned marginal or wide local excision (75.0% against a target of 90%).
- QPI 9 of patients with osteosarcoma or Ewing's sarcoma should receive neoadjuvant combination Systemic Anti-Cancer Therapy (SACT) when clinically indicated (69.2% or 88.9% against a target of 90%).
- QPI 10 of Patients with high risk Gastrointestinal Stromal Tumour (GIST) should commence adjuvant imatinib within 3 months of complete macroscopic resection (only 3 patients over three years so no performance calculated against a target of 85%).

Clinical trials were reported for the first time in 2016/17. None of the three regions met the target of 7.5% of patients participating in interventional trials or 15% participating in translational trials, with Scottish results of 2.4% or 4.5%. At the recent formal review of the Clinical Trials Access QPI, there was extensive discussion around the evolution of clinical trials, specifically with the move to more genetically selective trials. It was proposed that performance relating to equity of access was better measured by examining 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. It is also more common for current interventional clinical trials to have a translational aspect rather than separate translational research. As these are no longer

distinct categories the QPI will now measure the number of patients consented into clinical trials and the number of patients enrolled as a whole, rather than by trial type. The revised Clinical Trial and Research Study Access QPI document is available from [Healthcare Improvement Scotland's website](#).

The QPIs are being reviewed after the first three years of analysis and any updates will be implemented before data is collected for 2017/18.

The NMCN was able to analyse Scottish Cancer Registry data for patients diagnosed with sarcoma between 2001 and 2015 for the first time. The number of patients diagnosed per year has risen steadily from 217 in 2001 to 363 in 2015 and gives an average per year of 303. Case ascertainment for the first year of QPIs (2014/15) is calculated as 61.5% compared to the 71% in the clinical audit report (based on Scottish Cancer Registry average for 2010 to 2013), and the NMCN is working with the fourteen NHS Boards to continually improve case ascertainment. The majority of patients received surgical treatment (74%) with similar number of patients receiving chemotherapy (21%) and radiotherapy (22%). The comparison by NHS Board with the 2011 census shows small variations by incidence, surgery, chemotherapy and radiotherapy (which is encouraging). The NMCN is continuing to work with Scottish Cancer Registry and fourteen NHS Boards to further analyse the data and utilise it for continuous improvement.

Service Map

During 2017/18 the service map for the West of Scotland was improved by including references to guidelines, audit and activity data, and the current workforce. The service maps (for all major cancers) are available on the [West of Scotland Cancer Network intranet page](#). During 2018/19 the service maps for the North and South East of Scotland will be developed while the West of Scotland will be reviewed after the 2017/18 clinical audit data is reported (planned for February 2019).

Transforming Care After Treatment (TCAT)

The national project for reintegration after cancer treatment (ReACT) completed in December 2017 and realised health needs assessments and treatment summaries for 51 patients (approximately one third of the teenagers and young adults diagnosed in that period). 14% of the patients had a bone tumour and 2% had soft tissue sarcoma. The assessments and summaries were manually written by the Consultants and Clinical Nurse Specialists and well received by patients, carers and General Practitioners. The national programme is working on regional/national eHealth solutions for automating the creation of assessments and summaries to enable all sarcoma patients to receive these clinical documents that continue quality care and enable self-management.

2.2 Other NMCN Activities

Multi-disciplinary Team Working

The new Scottish sarcoma MDT Coordinator (started 30th October 2017) analysed activity for November 2016 to November 2017 which showed 1419 patients discussed (1247 the previous period), 28 patients discussed on average each week (25 the previous period) and North of Scotland patients with gastrointestinal sarcomas receiving surgery in the Glasgow centre (following the retirement of the Aberdeen Surgeon). Duplication of effort was identified between the Scottish MDT (Mondays) and the Edinburgh centre MDT (Wednesdays), and was eliminated. The gastrointestinal Radiologist in Glasgow is being joined by a colleague in May 2018. The referral template is being updated to version two to;

- identify new from returning patients
- assign the patient to either the musculoskeletal oncology, gastrointestinal or skin specialists
- confirm if and why imaging review is needed

- confirm if pathology review is needed
- confirm the understanding and any preferences the patient has

to enable further improvements in the operation of the MDTs (Scottish and Edinburgh centre) and virtual clinics (Glasgow centre and development for the Aberdeen centre) and cope with the rising demand.

Dr Walter Mmeka is single-handed in the Inverness centre while Clinical Nurse Specialists in Aberdeen and Glasgow are retiring and being replaced.

Research and Development

In collaboration with Sarcoma UK, Bone Cancer Research Trust and GIST Support UK sarcoma research performed across the UK was mapped and identified research projects the Scottish Researchers successfully bid for. In the afternoon of 18th September 2018 the first Scottish sarcoma research strategy meeting will be held to further improve the research undertaken in Scotland.

The Scottish Bone Tumour Registry (sub-group of the NMCN) has agreed the migration to a wholly digital Registry that will be accessible by all five specialist centres (currently only Glasgow) and populated by the Clinicians and Scottish Sarcoma MDT Coordinator (Data Manager retired in September 2017). The sub-group is currently working with eHealth and Information Governance colleagues to realise this migration to sustain the third oldest bone tumour registry in the world (started in 1952).

External Scrutiny

The NMCN is reviewed every five years by National Services Scotland and the latest review was successfully completed in December 2017. The NMCN continues to meet the criteria for national designation and demonstrate achievement of the quality standards. This review also considered the NMCN being managed by their National Network Management Service and concluded the existing management through the West of Scotland Cancer Network will continue for the next five years.

Charities

Sarcoma UK, Bone Cancer Research Trust and GIST Support UK continue to be active members of the NMCN with EHE Rare Cancer Charity (UK) and Amputee Football Scotland joining the NMCN and introducing themselves at summer and autumn education days respectively.

Website

Debi Kirk (patient and website entrepreneur) led the redesign of the [Scottish Sarcoma Network website](#) that was launched in November 2017. The new website is mobile phone friendly and will enable integration with social media in the future.

Clinical Lead

Dr Ioanna Nixon attended the [Leaders in Healthcare 2017 conference](#) in Liverpool and presented the Scottish Sarcoma Network through a poster that was very well received by delegates.

3. Quality Assurance / Service Development and Improvement

The primary function of the NMCN is to facilitate continuous service improvement, supporting delivery of high-quality, equitable treatment and care to patients with sarcoma in Scotland. The NMCN prospective clinical audit programme underpins much of the service improvement work of the NMCN. It supports quality assurance (QA) by providing the means for regular assessment, and reporting, against recognised and agreed measures of service performance and quality.

The National Cancer Quality Programme requires comparative assessment of performance to be published annually by Regional Cancer Networks and every three years a national comparative report will be produced by Information Services Division (ISD) containing trend and survival analysis.

Audit and Governance Process

The clinical audit process captured new cases of sarcoma between 1st April 2016 and 31st March 2017. These data have been used to measure quality of clinical care provided, utilising national cancer QPIs.

Following analyses of the local, regional and national data by the WoSCAN Information Team and reporting of provisional results, local multi-disciplinary teams are required to critically review and verify their own results before these are collated to provide local, regional and national comparative report of performance.

The report of the 2015/16 clinical audit data was published on 18th October 2017 and the report of 2016/17 on 16th March 2018.

Following publication of the reports and in accordance with agreed governance procedure, the five specialist centres have produced an Action/Improvement Plan for 2015/16 and are producing the Plan for 2016/17 in response to the key findings and actions identified in the report;

QPI 1 – Histological Diagnosis

- Aberdeen Centre to provide further detail on cases not meeting the QPI to NMCN.
- Dundee centre to review cases not meeting the QPI and report results to NMCN.

QPI 2 – MDT Meeting

- The Dundee centre to review cases not discussed at MDT prior to definitive treatment and report results to NMCN.

QPI3 – Clinical Staging

- Aberdeen and Glasgow centres to ensure recording of TNM for all sarcomas at MDT meeting.
- The Dundee centre to review cases not discussed at MDT prior to definitive treatment and report results to NMCN.

QPI 4 – Surgical Margins

- NoSCAN should review processes for the recording of 'intent of surgery' to reduce the proportion of cases that have not-recorded values.
- The Dundee centre to review cases not meeting the QPI and report results to NMCN.

QPI 6 – Limb Sparing Surgery

- The Dundee centre to review cases that did not undergo primary limb sparing surgery and report results to NMCN.

QPI 11 - 30 day Mortality

- NoSCAN and SCAN should discuss cases where patients died within 30 days of palliative radiotherapy/chemotherapy at Morbidity and Mortality meeting and provide feedback to NMCN.

Initial responses are required to be submitted to the WoSCAN Information Manager within two months of publication of the audit report. All actions are progressed and monitored via local Board governance structures.

Progress against these actions is monitored throughout the year by the NMCN.

Action/Improvement Plan Progression on 2015/16 and 2016/17 Audit Reports

All three Regions returned their action/improvement plans in response to the 2015/16 audit report and are returning their plans for the 2016/17 report by June 2018.

Escalation Process

Any service or clinical issue which the NMCN considers not to have been adequately addressed will be escalated to the Regional Lead Cancer Clinician and relevant Territorial NHS Board Cancer Clinical Lead by the NMCN Clinical Lead. There were no issues needing to be escalated this year.

Service Development and Improvement

Surgery for gastrointestinal sarcomas was available in the Aberdeen, Edinburgh and Glasgow centres but due to the retirement of the Aberdeen Surgeon the North of Scotland patients now receive their surgery in the Glasgow centre. The Glasgow centre has two Surgeons and will have two Radiologists by May 2018 and through NHS Greater Glasgow and Clyde is reviewing this service to sustain and continually improve it.

The sarcoma MDTs and virtual clinics have a plan to cope with the rising demand within the existing timings and this will be reflected in version two of the referral template due to go live in June 2018. This will enable the Scottish sarcoma MDT Coordinator to work with Radiologists and Pathologists to ensure patients are fully prepared for the MDT they will be discussed at, as well as communicating the outcomes of the discussion to the referring Clinician within 48 hours. Referral templates for the Aberdeen, Edinburgh and Glasgow centres will then be developed to enable those teams to improve in parallel.

4. Key Priority Areas for the NMCN in the next twelve months

The NMCN work plan has been developed with an emphasis on identifying outcomes that improve the quality of patient care and overall efficiency. Below are the objectives to be progressed in the coming year:

Core Objectives

- Manage the development/review of clinical management guidelines/clinical guideline documents
- Participation in the rolling programme of national education events; utilising the opportunity for learning and sharing of current best practice and innovation
- Support delivery of the national cancer quality programme for 2018/19, ensuring the regional/national governance process is adhered to
- Annual update of the regional service maps

Individual Objectives

- Continue the improvements in the operation of the sarcoma MDTs and virtual clinics
- Migrate the Scottish Bone Tumour Registry to its wholly digital and networked environment
- Develop the first Scottish sarcoma research strategy

The work plan is published on the NMCN [website](#).

5. Conclusion

This has been a productive year and the NMCN has continued to work closely with local, regional and national clinical and management teams across Scotland to progress the work plan objectives.

Ongoing development and update of CMGs and other clinical guidance continue to drive consistency of practice and provide improved care for patients with sarcoma in Scotland.

Recognising the pressures on clinical time, the NMCN is looking at the most time efficient and effective way to engage and involve members in NMCN activities to ensure essential clinical input to the ongoing improvement and development of sarcoma services in Scotland.

Looking ahead the membership welcomes the opportunity to continue improving sarcoma pathways and treatments locally, regionally and nationally while increasing international collaborations in research.

Acknowledgement

This report represents the achievements and challenges progressed across the fourteen partner NHS Boards of the North, South East and West of Scotland Cancer Networks:

NHS Ayrshire & Arran
NHS Borders
NHS Dumfries & Galloway
NHS Forth Valley
NHS Fife
NHS Grampian
NHS Greater Glasgow and Clyde
NHS Highland
NHS Lanarkshire
NHS Lothian
NHS Orkney
NHS Tayside
NHS Shetland
NHS Western Isles

We would like to thank all members and active participants in the cancer network for their continued support of the National Managed Clinical Network, without their efforts this level of progress would not be possible.

We would also like to thank the Scottish Children and Young people with Cancer Managed Service Network, the Scottish Cancer Research Network, the Scottish Primary Care Cancer Group, the Scottish Clinical Imaging Network, the Scottish Pathology Network, the Scottish Imaging Network and NHS Education for Scotland for their support and collaboration.