SCAN
South East Scotland Cancer Network

NHS SCOTLAND

Working regionally to improve cancer services

# SOUTH EAST SCOTLAND CANCER NETWORK (SCAN) PROSPECTIVE CANCER AUDIT

# Melanoma 2019-2020 Comparative Audit Report


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Report Number: SA Skin01/21W



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## Contents

**Document history**

| Version | Circulation | Date | Comments |
|---|---|---|---|
| Version 1 | Lead clinicians Sign Off Meeting | 26/11/2020 | Draft Report circulated to sign off group meeting |
| Version 2 | SCAN Skin Group Lead clinicians sign off group | 18/12/2020 | For sign off group approval and Lead Clinicians commentary |
| Version 3 | SCAN Skin Group | 13/01/2021 | For final sign off and SCAN Group approval |
| Final Version | SCAN Group, SCAN Governance Framework, SCAN Action Plan Board Leads | 01/02/2021 | Checked for disclosive information |
| Web version | Published to SCAN Website | May 2021 | |

**Comment by SCAN Skin Group Chair**

This report provides comprehensive data on patients who presented with a new diagnosis of cutaneous melanoma in South-East Scotland between 1st July 2019 and to 30th June 2020. Once again, sincere thanks to the SCAN Audit Team for their hard work in compiling this report and for ensuring that the data is of high quality.

A total of 324 new cases of melanoma were recorded in SCAN during the reporting period which is similar to previous years.

There has been a marked improvement in QPI 1 performance compared to previous years and at least 90% of melanoma excision biopsies are now performed by a designated skin cancer clinician. This improvement is largely due to a local agreement being in place in NHS Lothian to ensure that external providers are part of the melanoma MDT and can meet agreed criteria for designation as a 'skin cancer clinician'.

The QPIs for completeness of pathology reporting (QPI2 and 5) have once again been met although it should be acknowledged that there is some regional variation with performance being lower in Dumfries where use of locums and external providers had been potential contributors.

There has been little change in the percentage of patients being discussed at the MDT prior to definitive treatment (88% versus target of 95% for QPI3).

The percentage of patients having documented evidence of a clinical examination of draining lymph nodes is similar to last year (93.5% versus target of 95% for QPI4).

As with previous years there were relatively few patients who did not go on to complete a wide local excision following initial melanoma excision (88% versus target of 95% for QPI6).

Once again, the QPI that causes most concern is QPI7 which confirmed that only 53 and 71% of patients completed a wide local excision within 84 days of a diagnostic biopsy (for QPI 7i and 7ii). There is also considerable regional variation with highest performance in Fife and lowest performance in Lothian. A comprehensive review of the melanoma diagnostic pathway was undertaken and the principal factors that have been identified that contribute to this poor performance include use of external providers for dermatology and pathology; inefficient referral between specialties; and lack of capacity in Plastic Surgery. Although a number of

improvements are being made to the MDT pathway including increasing use of electronic referrals a number of essential further recommendations are suggested including:

1. Increase capacity of dermatology skin cancer team in NHS Lothian in order to reduce reliance on external providers
2. Increase capacity of plastic surgery in NHS Lothian to ensure there is robust cover 52 weeks a year
3. Develop a SCAN 'Melanoma Pathway Manager' in order to ensure better co-ordination between specialities and provide a more efficient patient pathway

As with previous years the interpretation of QPI 8 (regarding BRAF testing) and QPI 10 (use of systemic therapy) is challenging given the relatively small numbers of patients represented.

The percentage of patients completing radiological staging within 35 days of a diagnosis of stage IIC -IV melanoma remains low (25% versus target of 95%) although its acknowledged that the target of 35 days is impossible to meet for the majority of patients.

The proportion of patients where complete excision is undertaken with documented clinical margins of 2mm prior to definitive treatment (QPI 12) has improved although remains relatively low (57%). Further work is required to ensure that all clinicians are aware of the importance of appropriate documentation of operative margins.

Finally, the number of patients with melanoma entering clinical trials remains low (only 2 patients identified during reporting period). Although there remains an active clinical trials programme for patients with metastatic melanoma there are currently no open clinical trials for patients with primary melanoma although new clinical trials are scheduled to open in 2021.

In summary, although improvements in some QPIs have been made significant ongoing challenges remain and a number of important actions are required in order to improve performance across the whole melanoma diagnosis and treatment pathway.

Ewan Brown
SCAN Skin Lead Clinician
January 2021

**Action points from 2019-20**

| QPI | Action required | Person responsible | Date for update |
|---|---|---|---|
| 1 | All Boards to provide updated list of clinicians designated for biopsies | Andrew MacKenzie<br>Lyndsey Yeo<br>Megan Mowbray<br>Mark Butterworth/Shantini Rice | 1st March 2021 |
| | Lothian to ensure external providers are included on list of "designated Clinicians" to be shared with audit staff. | Mark Butterworth/Shantini Rice | 1st March 2021 |
| 2 | All pathologists, including external providers should comply with RCPath dataset. | Asok Biswas | 1st March 2021 |
| | 2 patients had no invasive component to assess after partial excision biopsy, perhaps this should be addressed at the next formal review. | Lorna Bruce | FR |
| 4 | SR to remind dermatology colleagues and external providers of the importance of nodal examination and documentation of this in the patients' clinical notes and the overprint box on the pathology request form | Shantini Rice | 1st March 2021 |
| | MB to remind plastics colleagues and external providers of the importance of nodal examination and documentation of this in the patients' clinical notes and the overprint box on the pathology request form | Mark Butterworth | 1st March 2021 |
| 6, 7 & 9 | Lothian issues highlight the need for a patient pathway coordinator/manager, suggest pursuing a pathway coordinator/manager post in Lothian | Ewan Brown | 1st March 2021 |
| 7 | Reconsider the business case of external providers | Shantini Rice | 1st March 2021 |
| 9 | Remind staff to consider referral to CT with IIC and above. Audit of these outliers is required, | Ewan Brown | 1st March 2021 |
| | Note some patients were upstaged after SLNB, which may be a point to consider at next formal review. | Lorna Bruce | FR |
| 10 | This QPI has never been useful perhaps more relevant to look at adjuvant Tx. Suggest revision of QPI at next formal review. | Lorna Bruce | FR |
| 12 | Remind staff to document all margins on all lesions excised; the overprint box on the pathology request form has been designed to serve as an aide memoire and should be completed. | Mark Butterworth<br>Shantini Rice | 1st March 2021 |
| | Lothian audit of all diagnostic errors required | Shantini Rice | 1st March 2021 |

**Action Points from 2018-19**

| QPI | Action required | Person responsible | Status |
|---|---|---|---|
| 1 | All Boards to provide updated list of clinicians designated for biopsies | Andrew MacKenzie<br>Lyndsey Yeo<br>Megan Mowbray<br>Mark Butterworth | All health boards complete. |
| 3<br>8<br>9<br>10 | AJCC needs to be documented on MDM referral forms and highlighted at the MDM. | Andrew MacKenzie<br>Lyndsey Yeo<br>Megan Mowbray<br>Mark Butterworth | All health boards complete. |
| 6 | Keep a note of numbers of patients who decline treatment in order to inform next formal review of the QPI. | Lorna Bruce | Ongoing |
| 7 | Pathway review is required | Ewan Brown | Ongoing |
| 9 | Review dates of CT requests in cases of >35 days from diagnosis to CT date. | Audit Facilitators / Lead clinicians. | Ongoing |
| 12 | All Boards need to ensure that surgeons are aware of the QPI requirements and that margin sizes are clearly documented on operation notes at time of excisional biopsy. | Andrew MacKenzie<br>Lyndsey Yeo<br>Megan Mowbray<br>Mark Butterworth<br>Ben Aldridge | All health boards complete. |

| Cutaneous Melanoma QPI Attainment 2019-20 | | Target % | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| QPI 1: Excision Biopsy. patients should have their diagnostic excision biopsy carried out by a skin cancer clinician | Excision biopsy | 90 | N 19<br>D 20 | 95.0% | N 18<br>D 18 | 100.0% | N 44<br>D 45 | 97.8% | N 155<br>D 172 | 90.1% | N 236<br>D 255 | 92.5% |
| | Partial biopsy | 90 | N 5<br>D 6 | 83.3% | N 8<br>D 9 | 88.9% | N 13<br>D 13 | 100.0% | N 27<br>D 31 | 87.1% | N 53<br>D 59 | 89.8% |
| QPI 2: Pathology Reporting. Surgical pathology reports cutaneous melanoma should contain full pathology information | | 90 | N 20<br>D 20 | 100.0% | N 15<br>D 20 | 75.0% | N 50<br>D 50 | 100.0% | N 157<br>D 178 | 88.2% | N 242<br>D 268 | 90.3% |
| QPI 3: Multi-Disciplinary Team Meeting (MDT). Patients should be discussed prior to definitive treatment | | 95 | N 24<br>D 26 | 92.3% | N 23<br>D 27 | 85.2% | N 54<br>D 58 | 93.1% | N 181<br>D 211 | 85.8% | N 282<br>D 322 | 87.6% |
| QPI 4: Clinical Examination of Draining Lymph Nodes as part of clinical staging | | 95 | N 25<br>D 26 | 96.2% | N 27<br>D 27 | 100.0% | N 58<br>D 58 | 100.0% | N 193<br>D 213 | 90.6% | N 303<br>D 324 | 93.5% |
| QPI 5: Sentinel Node Biopsy Pathology. Reports should contain full pathology information | | 90 | N 6<br>D 6 | 100.0% | N 3<br>D 3 | 100.0% | N 6<br>D 6 | 100.0% | N 47<br>D 48 | 97.9% | N 62<br>D 63 | 98.4% |
| QPI 6: Wide Local Excisions to reduce the risk of local recurrence | | 95 | N 24<br>D 26 | 92.3% | N 27<br>D 27 | 100.0% | N 54<br>D 58 | 93.1% | N 171<br>D 202 | 84.7% | N 276<br>D 313 | 88.2% |
| QPI 7: Time to Wide Local Excision. WLE within 84 days of diagnostic Biopsy | Excision biopsy | 95 | N 16<br>D 20 | 80.0% | N 12<br>D 18 | 66.7% | N 31<br>D 45 | 68.9% | N 78<br>D 173 | 45.1% | N 137<br>D 256 | 53.5% |
| | Partial biopsy | 95 | N 3<br>D 6 | 50.0% | N 7<br>D 9 | 77.8% | N 11<br>D 13 | 84.6% | N 21<br>D 31 | 67.7% | N 42<br>D 59 | 71.2% |
| QPI 8: BRAF Status. Patients with unresectable stage III or IV | | 75 | N 0<br>D 0 | NA | N 0<br>D 0 | NA | N 2<br>D 2 | 100.0% | N 3<br>D 3 | 100.0% | N 5<br>D 5 | 100.0% |
| QPI 9: Imaging in Advanced Melanoma. CTPET/CT within 35 days of diagnosis (stage IIC, III or IV melanoma) | | 95 | N 2<br>D 6 | 33.3% | N 1<br>D 2 | 50.0% | N 7<br>D 10 | 70.0% | N 5<br>D 40 | 12.5% | N 15<br>D 57 | 26.3% |
| QPI 10: Systemic Therapy. Patients with unresectable stage III or IV melanoma should receive SACT | | 60 | N 0<br>D 0 | NA | N 0<br>D 0 | NA | N 1<br>D 2 | 50.0% | N 2<br>D 3 | 66.7% | N 3<br>D 5 | 60.0% |
| QPI 12: Adequate excision of lesion prior to definitive treatment (with clinical margins of 2mm prior to WLE) | | 85 | N 16<br>D 24 | 66.7% | N 11<br>D 27 | 40.7% | N 28<br>D 53 | 52.8% | N 107<br>D 180 | 59.4% | N 162<br>D 284 | 57.0% |
| Clinical trials N= patients consented to a trial on SCRN database (EDGE). D= 5 year average from Cancer Registry | | 15 | N 0<br>D 37 | 0% | N 0<br>D 34 | 0% | N 0<br>D 71 | 0% | N 2<br>D 188 | 1.0% | N 2<br>D 325 | 0.6% |

## INTRODUCTION AND METHODS

### Cohort

This report covers patients newly diagnosed with Cutaneous Melanoma in SCAN between 01/07/2019 and 30/06/2020. The results contained within this report have been presented by NHS board of diagnosis.

### Dataset and Definitions

The QPIs have been developed collaboratively with the three Regional Cancer Networks, Public Health Scotland (previously known as Information Services Division ISD), and Healthcare Improvement Scotland. QPIs will be kept under regular review and be responsive to changes in clinical practice and emerging evidence.
The overarching aim of the cancer quality work programme is to ensure that activity at NHS board level is focussed on areas most important in terms of improving survival and patient experience whilst reducing variance and ensuring safe, effective and person-centred cancer care.
Following a period of development, public engagement and finalisation, each set of QPIs is published by Healthcare Improvement Scotland.

Accompanying datasets and measurability criteria for QPIs are published on the ISD website. NHS boards are required to report against QPIs as part of a mandatory, publicly reported, programme at a national level.

The standard QPI format is shown below:

| | | |
|---|---|---|
| QPI Title: | Short title of Quality Performance Indicator (for use in reports etc.) | |
| Description: | Full and clear description of the Quality Performance Indicator. | |
| Rationale and Evidence: | Description of the evidence base and rationale which underpins this indicator. | |
| Specifications: | Numerator: | Of all the patients included in the denominator those who meet the criteria set out in the indicator. |
| | Denominator: | All patients to be included in the measurement of this indicator. |
| | Exclusions: | Patients who should be excluded from measurement of this indicator. |
| | Not recorded for numerator: | Include in the denominator for measurement against the target. Present as not recorded only if the patient cannot otherwise be identified as having met/not met the target. |
| | Not recorded for exclusion: | Include in the denominator for measurement against the target unless there is other definitive evidence that the record should be excluded. Present as not recorded only where the record cannot otherwise be definitively identified as an inclusion/exclusion for this standard. |
| | Not recorded for denominator: | Exclude from the denominator for measurement against the target. Present as not recorded only where the patient cannot otherwise be definitively identified as an inclusion/exclusion for this standard. |
| Target: | Statement of the level of performance to be achieved. | |

## QPI Formal review

The three year formal review for Melanoma documents have been published on the ISD and Healthcare Improvement Scotland websites, linked here.
http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Audit/

http://www.healthcareimprovementscotland.org/our_work/cancer_care_improvement/cancer_qpis/quality_performance_indicators.aspx

## Summary of Changes

(NB: Non Cutaneous cases are no longer included in the QPI audit)

QPI1 separated into two specifications: diagnostic excision biopsy
diagnostic partial biopsy
QPI2 No change to QPI. (remove need for macroscopic info)
QPI3 No change to QPI
QPI4 No change to QPI (remove statement within definition specifying 'after diagnosis')
QPI5 No change to QPI (remove need for macroscopic info)
QPI6 Combine two part QPI into one
QPI7 No change to QPIs
QPI8 No change to QPI
QPI9 QPI changed to include stage IIC patients and introduced target within 35 days of diagnosis
QPI10 No change to QPI
QPI11 Archived
QPI12 New QPI (clinical excision margins) (first report will commence Year 5)
QPI13 – Revised clinical trials presentation format

## Reporting in Year 6

QPI report figures for 2019-20 reflect all agreed QPI changes including the new QPI 12 which was not possible to report in year 4.

### Audit Process

Data was analysed by the audit facilitators in each NHS board according to the measurability document provided by ISD. SCAN data was collated by Maria D'Aria, SCAN Cancer Audit facilitator for Melanoma.

Data capture is focused round the process for the fortnightly multidisciplinary meetings ensuring that data covering patient referral, investigation and diagnosis is being picked up through the routine process.

Each of the 5 hospitals provides diagnostic and wider surgery but more serious disease requiring skin grafting and/or Lymph Node biopsy is provided by plastic surgery services in St Johns or Western General hospitals for Lothian patients, and Ninewells for Fife patients.

The process remains dependent on audit staff for capture and entry of data, and for data quality checking

Data was recorded on eCase and reported through SSRS the eCase reporting tool. Due to SSRS permissions problems, Lothian and Borders data was analysed using an MS Access database. Fife and D&G data were analysed using SSRS.

**Lead Clinicians and Audit Personnel**

| SCAN Region | Hospital | Lead Clinician | Audit Support |
|---|---|---|---|
| NHS Borders | Borders General Hospital | Dr Andrew MacKenzie | Maria D'Aria |
| NHS Dumfries & Galloway | Dumfries & Galloway Royal Infirmary | Dr Lindsay Yeo | Christy Bell |
| NHS Fife | Queen Margaret Hospital | Dr Megan Mowbray | Jackie Stevenson |
| NHS Lothian | Lauriston Building and St John's Hospital | Mr Mark Butterworth | Maria D'Aria |
| SCAN | Edinburgh Cancer Centre | Dr Ewan Brown | |

## Data Quality

## Estimate of Case Ascertainment

An estimate of case ascertainment (the percentage of the population with Melanoma recorded in the audit) is made by comparison with the Scottish Cancer Registry three year average data (2017-19). High levels of case ascertainment provide confidence in the completeness of the audit recording and contribute to the reliability of results presented. Levels greater than 100% may be attributable to an increase in incidence. Allowance should be made when reviewing results where numbers are small and variation may be due to chance.

**Estimate of case ascertainment:** calculated using the average of the most recent available three years of Cancer Registry Data

| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| Cases from Audit | 26 | 27 | 58 | 213 | 324 |
| Cancer Registry 3 Year Average | 38 | 34 | 70 | 183 | 325 |
| **Case Ascertainment %** | 68 | 79 | 83 | 116 | 100 |

Data extracted from ACaDMe on 19/11/2020

### Clinical Sign-Off

This report compares data from reports prepared for individual hospitals and signed off as accurate following review by the lead clinicians from each service. The collated SCAN results are reviewed jointly by the lead clinicians, to assess variances and provide comments on results:

- Individual health board results were reviewed and signed-off locally.
- Collated results were presented and discussed at the SCAN Melanoma Leads Meeting on November 26th 2020.

### Actions for Improvement

After final sign off, the process is for the report to be sent to the Clinical Governance groups with action plans for completion at Health Board level. The report is placed on the SCAN website with completed action plans once it has been fully signed-off and checked for any disclosive material.

**QPI Results pages:**

**QPI 1(i): Diagnostic Excision biopsy** Target = 90%

Patients with cutaneous melanoma should have their diagnostic excision biopsy carried out by a skin cancer clinician*

*A skin cancer clinician can be defined as a: Dermatologist, Plastic Surgeon, Oral and Maxillofacial Surgeon, A locally designated clinician with a special interest in skin cancer, who is also a member (or under the supervision of a member) of the melanoma MDT

Numerator = All patients with cutaneous melanoma with diagnostic excision biopsies carried out by skin cancer clinician

Denominator = All patients with cutaneous melanoma undergoing diagnostic excision biopsy (no exclusions)

| Target 90% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 6 | 9 | 13 | 41 | 69 |
| | | | | | |
| Numerator | 19 | 18 | 44 | 155 | 236 |
| Not recorded for numerator | 0 | 0 | 0 | 1 | 1 |
| Denominator | 20 | 18 | 45 | 172 | 255 |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 95.0 | 100.0 | 97.8 | 90.1 | 92.5 |

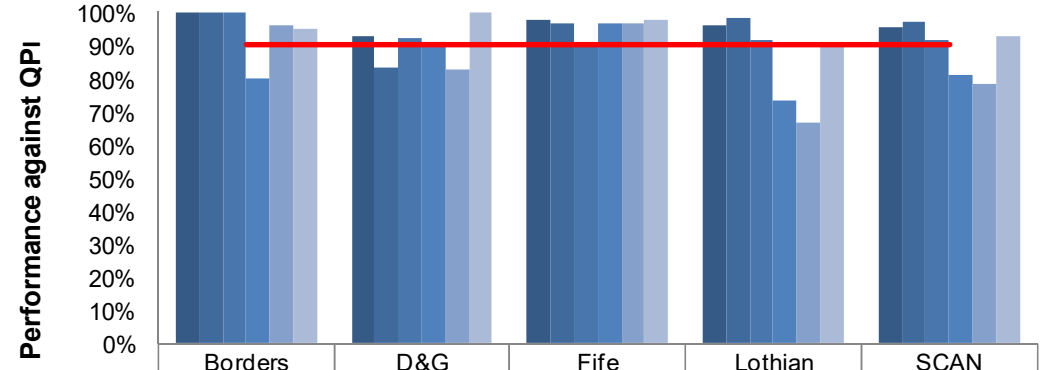
The QPI was met in all Health Boards.

**Borders**: 1 patient had excision biopsy performed by GP

**Lothian:** 1 patient had excision biopsy at a private institution (unknown clinician), 1 GP excision, 1 by gynaecologist, 14 by non designated external provider between July and September 2019.

**Action:** All Boards to update list of designated clinicians. Lothian to ensure external providers are included on list of “designated Clinicians” to be shared with audit staff.

**QPI 1(i): Diagnostic Excision biopsy**




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2014-15 | 100.00% | 92.90% | 97.60% | 96.20% | 95.70% |
| 2015-16 | 100.00% | 83.30% | 96.70% | 98.10% | 97.00% |
| 2016-17 | 100.00% | 92.00% | 90.70% | 91.40% | 91.90% |
| 2017-18 | 80.00% | 91.30% | 96.50% | 73.40% | 81.10% |
| 2018-19 | 96.00% | 82.60% | 96.60% | 66.40% | 78.10% |
| 2019-20 | 95.00% | 100.00% | 97.80% | 90.10% | 92.50% |
| Target | 90.00% | 90.00% | 90.00% | 90.00% | 90.00% |

**QPI 1(ii): Diagnostic Partial biopsy** Target = 90%

Patients with cutaneous melanoma should have their diagnostic partial biopsy carried out by a skin cancer clinician

Numerator = All patients with cutaneous melanoma with diagnostic partial biopsies carried out by skin cancer clinician

Denominator = All patients with cutaneous melanoma undergoing diagnostic partial biopsy (no exclusions)

| Target 90% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 20 | 18 | 45 | 182 | 265 |
| | | | | | |
| Numerator | 5 | 8 | 13 | 27 | 53 |
| Not recorded for numerator | 0 | 0 | 0 | 0 | 0 |
| Denominator | 6 | 9 | 13 | 31 | 59 |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 83.3 | 88.9 | 100.0 | 87.1 | 89.8 |

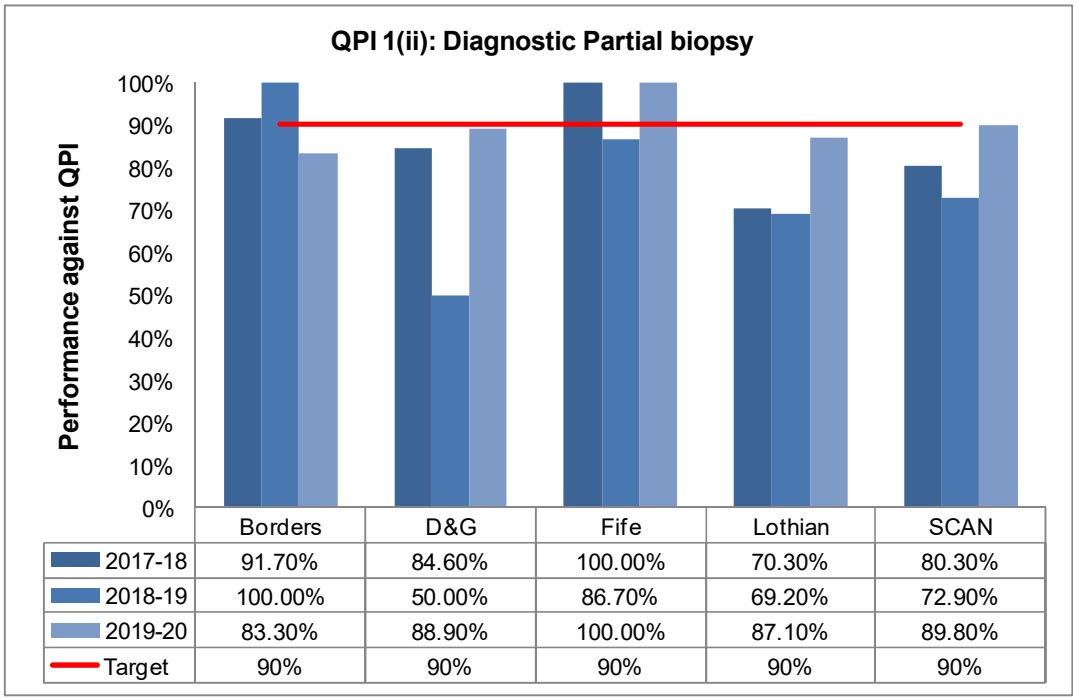
**Comments where QPI was not met**

**Borders**: The QPI was not met showing a shortfall of 6.7% (1 case). The patient had partial biopsy performed by GP.

**D&G**: The QPI was not met showing a shortfall of 1% (1 case). The patient had biopsy carried out by GP (in an institution outwith the NHS)

**Lothian:** The QPI was not met showing a shortfall of 2.9% (4 cases). All 4 had partial biopsy performed by GP.

**Action:** No action identified



**QPI 2: Pathology reporting** Target = 90%

Surgical pathology reports for patients with cutaneous melanoma should contain full pathology information to inform treatment decision making.

Numerator = All patients with cutaneous melanoma undergoing diagnostic excision biopsy where the surgical pathology report contains a full set of data items (as defined by the current Royal College of Pathologists dataset)

Denominator = All patients with cutaneous melanoma undergoing diagnostic excision biopsy (no exclusions)

| Target 90% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 6 | 7 | 8 | 35 | 56 |
| | | | | | |
| Numerator | 20 | 15 | 50 | 157 | 242 |
| Not recorded for numerator | 0 | 0 | 0 | 1 | 1 |
| Denominator | 20 | 20 | 50 | 178 | 268 |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 100.0 | 75.0 | 100.0 | 88.2 | 90.3 |

**Comments where target was not met**

**D&G**: The QPI was not met showing a shortfall of 15 % (5 cases).
Path team has carried out internal audit on their reporting. 2019/20 was a difficult year, with one consultant on sabbatical and one who left in August so were relying heavily on locums. For 2 of the 5 outliers pathology was carried out by an external provider who was not aware of the full pathology requirements to record for this QPI

**Lothian:** The QPI was not met showing a shortfall of 1.8% (21 cases). 18 pathology reports were incomplete, 14 of which were from the external provider, one from outwith NHS, and 3 in house. Within the 3 in house cases, 2 were complex cases where clinical reasons justify the way they have been reported 1 specimen was lost in the transit from dermatology to pathology;
2 had no invasive component to assess after partial excision biopsy, perhaps this should be addressed at the next formal review.

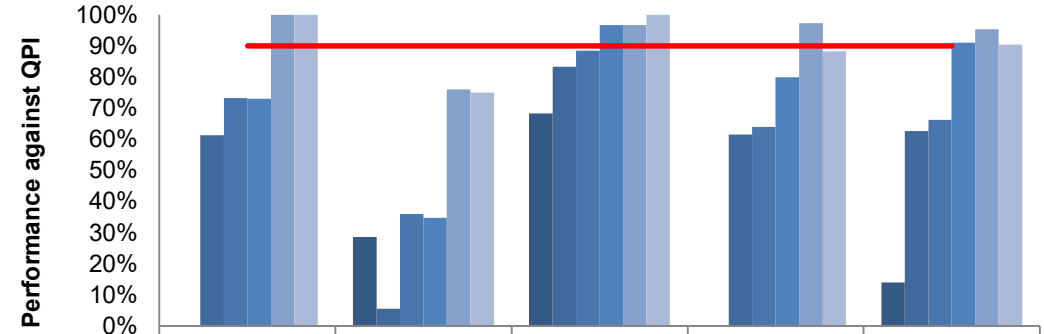
**Comment:** The 14 biopsies reported externally and the one reported outwith the NHS had a significant impact on this year's result, compared to last year where all biopsies were reported in house and the target was met at 97.2%.

The external provider was reminded that they should use the RCPath dataset in order to issue pathology reports. However, given the current result, it does not seem that they have fully complied with the guidance given.

Although an important item "ulceration" was missing in one case, the pathologic T stage was provided in order to stage the patient correctly. In one case the invasive component was incidentally found for an excision for BCC. Finally, the third case was descriptively reported as an epithelioid melanoma with a difficult orientation on a possibly curetted material (for suspected pyogenic granuloma) which made full assessment of all the histopathological parameters impossible.

**Action:**
All pathologists, including external providers, should comply with RCPath dataset.

**QPI 2: Pathology reporting**




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2014-15 | 0.0% | 28.6% | 68.3% | 0.0% | 14.0% |
| 2015-16 | 61.3% | 5.6% | 83.3% | 61.5% | 62.6% |
| 2016-17 | 73.3% | 36.0% | 88.4% | 64.0% | 66.2% |
| 2017-18 | 73.0% | 34.8% | 96.7% | 79.9% | 91.0% |
| 2018-19 | 100.0% | 76.0% | 96.7% | 97.2% | 95.3% |
| 2019-20 | 100.0% | 75.0% | 100.0% | 88.2% | 90.3% |
| Target | 90.0% | 90.0% | 90.0% | 90.0% | 90.0% |

**QPI 3: Multi-Disciplinary Team Meeting (MDT)** Target = 95%
Patients with cutaneous melanoma should be discussed by a multi-disciplinary team prior to definitive treatment

Numerator = All patients with cutaneous melanoma discussed at the MDT before definitive treatment (wide local excision, chemotherapy /SACT, supportive care and radiotherapy).

Denominator = All patients with cutaneous melanoma (excluding patients who died before treatment)

Exclusions = died before treatment

| **Target 95%** | **Borders** | **D&G** | **Fife** | **Lothian** | **SCAN** |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 0 | 0 | 0 | 0 | 0 |
| Exclusions | 0 | 0 | 0 | 2 | 2 |
| | | | | | |
| Numerator | 24 | 23 | 54 | 181 | 282 |
| Not recorded for numerator | 0 | 0 | 0 | 1 | 1 |
| Denominator | 26 | 27 | 58 | 211 | 322 |
| | | | | | |
| Not recorded for exclusions | 0 | 0 | 0 | 0 | 0 |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 92.3 | 85.2 | 93.1 | 85.8 | 87.6 |

**Borders**: The QPI was not met showing a shortfall of 2.7% (2 cases). Both patients had WLE before MDM discussion, both stage IA.

**D&G**: The QPI was not met showing a shortfall of 10% (4 cases). All 4 patients had WLE before MDM discussion, all were stage 1A.

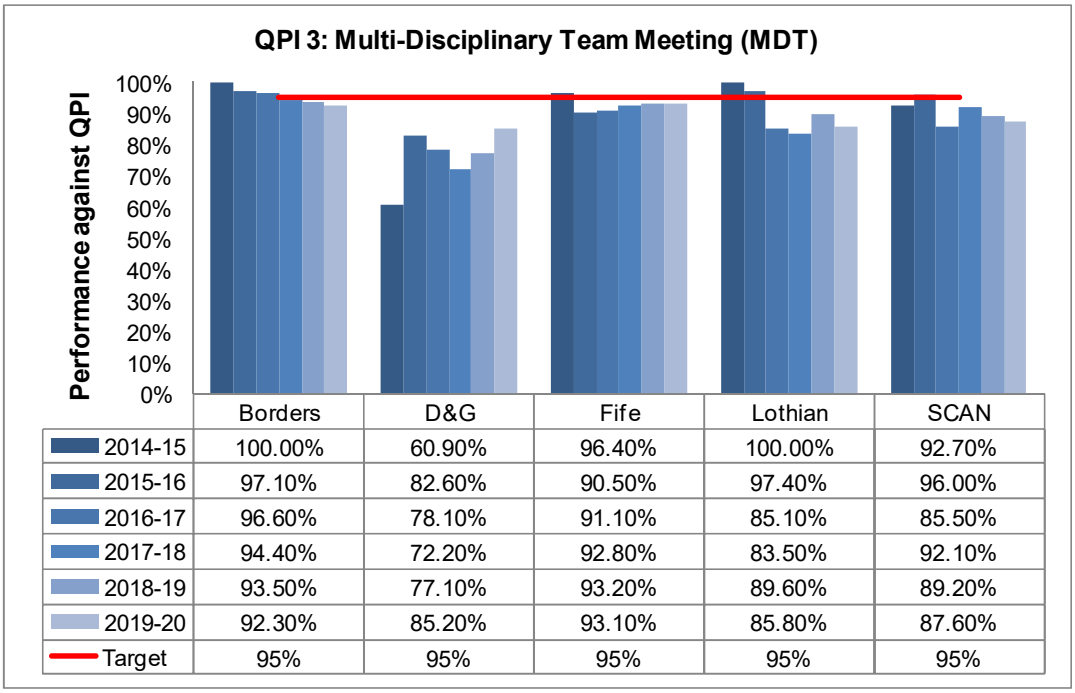
**Fife:** The QPI was not met showing a shortfall of 1.9% (4 cases). All patients were discussed at MDM after treatment. 3 patients were stage 1A. 1 WLE in house prior to MDM discussion, 1 declined further treatment due to COVID & 1 x no WLE due to COVID as wife takes immunosuppressants. 1 had significant primary excision with skin graft, MDM agreed no further WLE required (IIC).

**Lothian:** The QPI was not met showing a shortfall of 9.2 % (30 cases). All patients were discussed after treatment; one patient was not discussed at MDM until several months after excision of the melanoma. However, all patients were treated appropriately.

12 patients were managed with observation only, 7 had acceptable margins (5 stage IA,1 stage IB and 1 stage IIB) and did not warrant WLE, 6 had WLE before MDM, and 4 did not undergo SLNB due to withdrawal of the service during the Covid19 pandemic or a borderline risk benefit ration and were managed with observation only. The final patient was not discussed at MDM till several months later.

Comment: Covid19 has tilted the risk-benefit of WLE in some cases.

**Action:** No action identified.




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2014-15 | 100.00% | 60.90% | 96.40% | 100.00% | 92.70% |
| 2015-16 | 97.10% | 82.60% | 90.50% | 97.40% | 96.00% |
| 2016-17 | 96.60% | 78.10% | 91.10% | 85.10% | 85.50% |
| 2017-18 | 94.40% | 72.20% | 92.80% | 83.50% | 92.10% |
| 2018-19 | 93.50% | 77.10% | 93.20% | 89.60% | 89.20% |
| 2019-20 | 92.30% | 85.20% | 93.10% | 85.80% | 87.60% |
| Target | 95% | 95% | 95% | 95% | 95% |

**QPI 4: Clinical Examination of Draining Lymph Node Basin** Target = 95%

Patients with cutaneous melanoma should undergo clinical examination of relevant draining lymph node basins as part of clinical staging.

Numerator = All patients with cutaneous melanoma who undergo clinical examination of relevant draining lymph node basins as part of clinical staging

Denominator = All patients with cutaneous melanoma (no exclusions)

| Target 95% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 0 | 0 | 0 | 0 | 0 |
| | | | | | |
| Numerator | 25 | 27 | 58 | 193 | 303 |
| Not recorded for numerator | 1 | 0 | 0 | 1 | 2 |
| Denominator | 26 | 27 | 58 | 213 | 324 |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 96.2 | 100.0 | 100.0 | 90.6 | 93.5 |

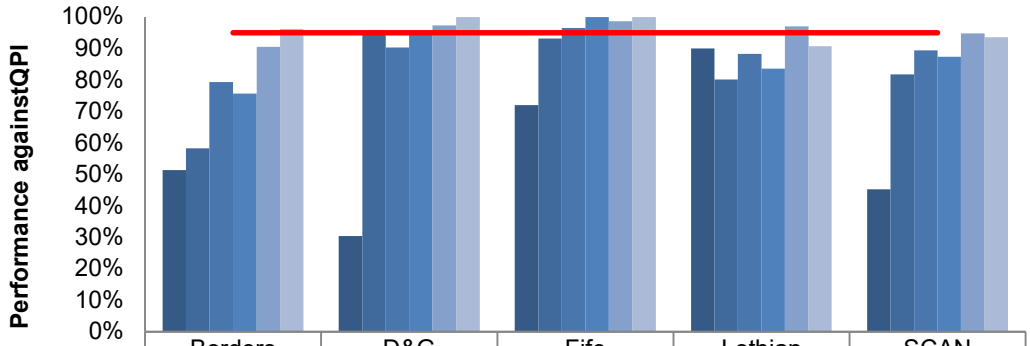
**Comments where QPI was not met**

**Lothian:** The QPI was not met showing a shortfall of 5% (20 cases). 18 patients did not have their nodes examined (8 dermatology cases, 6 from external providers and 4 plastics); 1 declined the examination and the MDM states node negative, and for 1 patient the date of examination was not recorded, with no record in the correspondence.

**Comment:** Some self-examined due to covid19 and were excluded from the calculation.

**Action:** SR to remind dermatology colleagues and external providers of the importance of nodal examination and documentation of this in the patients' clinical notes and the overprint box on the pathology request form.
MB to do the same for plastic surgery colleagues.

**QPI 4: Clinical Examination of Draining Lymph Node Basin**




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2014-15 | 51.4% | 30.4% | 71.9% | 90.0% | 45.3% |
| 2015-16 | 58.3% | 95.7% | 93.2% | 80.1% | 81.8% |
| 2016-17 | 79.3% | 90.3% | 96.4% | 88.2% | 89.3% |
| 2017-18 | 75.7% | 94.4% | 100.0% | 83.5% | 87.4% |
| 2018-19 | 90.5% | 97.3% | 98.6% | 97.0% | 94.8% |
| 2019-20 | 96.2% | 100.0% | 100.0% | 90.6% | 93.5% |
| Target | 95.0% | 95.0% | 95.0% | 95.0% | 95.0% |

**QPI 5: Sentinel Node Biopsy Pathology** Target = 90%

Sentinel node biopsy (SNB) reports for patients with cutaneous melanoma should contain full pathology information to inform treatment decision making

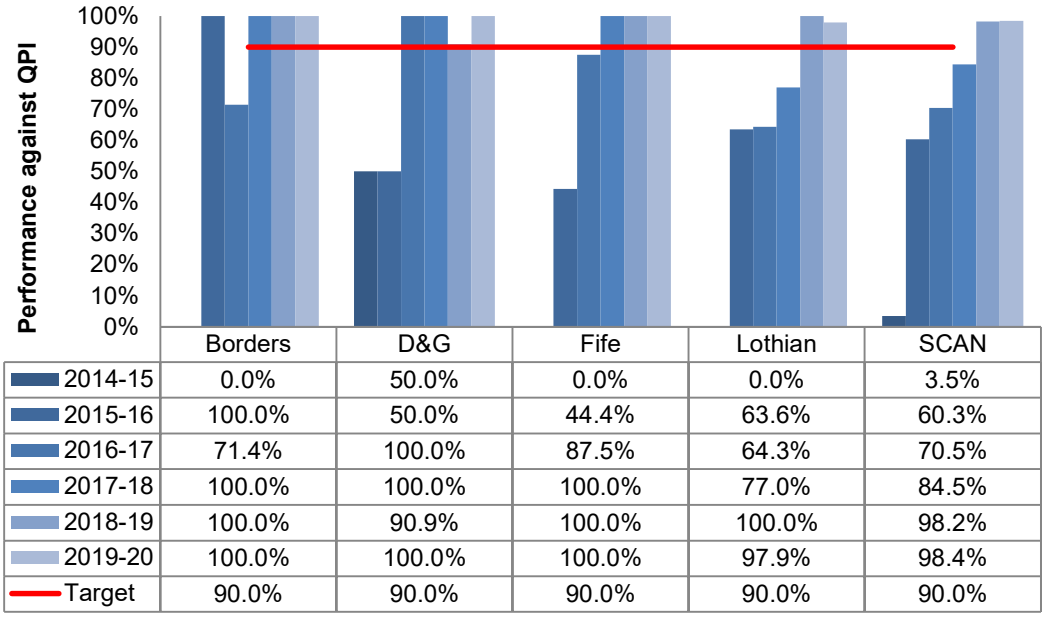
Numerator = All patients with cutaneous melanoma who undergo SLNB where the SNB report contains a full set of data (as defined by the current Royal College of Pathologists dataset)

Denominator = All patients with cutaneous melanoma who undergo SLNB (No exclusions)

| Target 90% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 20 | 24 | 52 | 165 | 261 |
| | | | | | |
| Numerator | 6 | 3 | 6 | 47 | 62 |
| Not recorded for numerator | 0 | 0 | 0 | 0 | 0 |
| Denominator | 6 | 3 | 6 | 48 | 63 |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 100.0 | 100.0 | 100.0 | 97.9 | 98.4 |

The QPI was met by all Health Boards

**QPI 5: Sentinel Node Biopsy Pathology**




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2014-15 | 0.0% | 50.0% | 0.0% | 0.0% | 3.5% |
| 2015-16 | 100.0% | 50.0% | 44.4% | 63.6% | 60.3% |
| 2016-17 | 71.4% | 100.0% | 87.5% | 64.3% | 70.5% |
| 2017-18 | 100.0% | 100.0% | 100.0% | 77.0% | 84.5% |
| 2018-19 | 100.0% | 90.9% | 100.0% | 100.0% | 98.2% |
| 2019-20 | 100.0% | 100.0% | 100.0% | 97.9% | 98.4% |
| Target | 90.0% | 90.0% | 90.0% | 90.0% | 90.0% |

**QPI 6: Wide Local Excisions** Target = 95%

Patients with cutaneous melanoma should undergo a wide local excision of the initial diagnostic excision or partial biopsy site to reduce the risk of local recurrence.

Numerator = All patients with cutaneous melanoma undergoing diagnostic excision or partial biopsy who undergo a wide local excision

Denominator = All patients with cutaneous melanoma who undergo diagnostic biopsy

Exclusions = died before treatment

| Target 95% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 0 | 0 | 0 | 9 | 9 |
| Exclusions | 0 | 0 | 0 | 2 | 2 |
| | | | | | |
| Numerator | 24 | 27 | 54 | 171 | 276 |
| Not recorded for numerator | 0 | 0 | 0 | 0 | 0 |
| Denominator | 26 | 27 | 58 | 202 | 313 |
| | | | | | |
| Not recorded for exclusions | 0 | 0 | 0 | 0 | 0 |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 92.3 | 100.0 | 93.1 | 84.7 | 88.2 |

| Reasons for not meeting the QPI | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| Excision margins deemed acceptable | | | 2 | 5 | 7 |
| Disease progression | 1 | | 1 | | 2 |
| Co-morbidities | | | | 7 | 7 |
| Delicate area/watch and wait | | | | 1 | 1 |
| Declined further treatment | 1 | | | 10 | 11 |
| Other/awaiting treatment | | | 1 | 8 | 9 |
| Totals | 2 | | 4 | 31 | 37 |

**Comments where QPI not met**

**Borders:** The QPI was not met showing a shortfall of 2.7 % (2 cases). 1 declined treatment (IB) and 1 had palliative care (IIC)

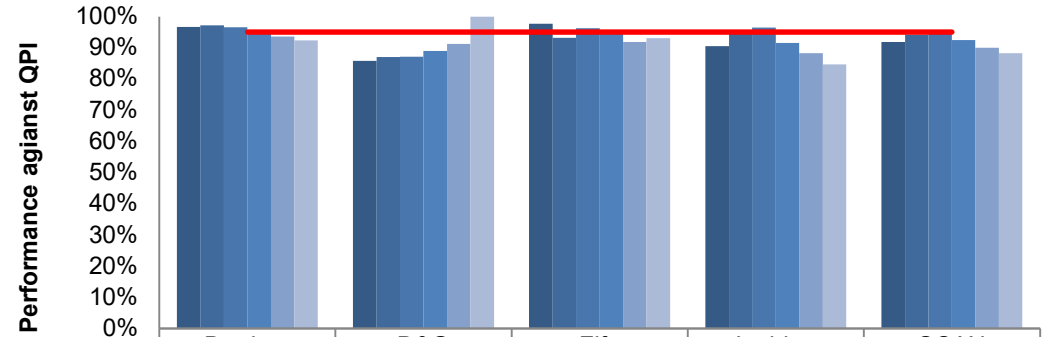
**Fife:** The QPI was not met showing a shortfall of 1.9 % (4 cases). 1 had significant primary excision with skin graft, MDM agreed no further WLE required (IIC). 1 had no WLE (microsatellites on diagnostic biopsy & lymph node spread). 2 had no WLE due to COVID19 & patient choice (adequate margins at diagnostic biopsy)

**Lothian:** The QPI was not met showing a shortfall of 10.3 % (31 cases).
7 had co-morbidities, 1 delicate area IIC,10 declined treatment, 5 had sufficient margin, 8 others 1 died before WLE, IIB, 1 radical vulvectomy IA, 2 no follow up, 1x III, 1x IA, (4x COVID19, 2x IA, 2x IB).

**Comment:**
Only 2 outliers are clinically problematic and had no follow up, both were initially seen by external providers.

**Action:** Lothian issues highlight the need for a patient pathway coordinator/manager, suggest pursuing such a post in Lothian.

**QPI 6: Wide Local Excisions**




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2014-15 | 96.7% | 85.7% | 97.6% | 90.4% | 91.8% |
| 2015-16 | 97.1% | 87.0% | 93.2% | 94.9% | 94.2% |
| 2016-17 | 96.6% | 87.1% | 96.2% | 96.4% | 95.3% |
| 2017-18 | 94.4% | 88.9% | 95.6% | 91.5% | 92.4% |
| 2018-19 | 93.5% | 91.2% | 91.8% | 88.3% | 90.0% |
| 2019-20 | 92.3% | 100.0% | 93.1% | 84.7% | 88.2% |
| Target | 95.0% | 95.0% | 95.0% | 95.0% | 95.0% |

**QPI 7(i): Wide Local Excision within 84 days (Excision biopsy)** Target = 95%

Patients with cutaneous melanoma should have their wide local excision within 84 days of their diagnostic excision biopsy

Numerator = All patients undergoing wide local excision within 84 days of their diagnostic excision biopsy

Denominator = All patients with cutaneous melanoma undergoing diagnostic excision biopsy

| Target 95% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 6 | 9 | 13 | 40 | 68 |
| | | | | | |
| Numerator | 16 | 12 | 31 | 78 | 137 |
| Not recorded for numerator | 0 | 0 | 0 | 0 | 0 |
| Denominator | 20 | 18 | 45 | 173 | 256 |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 80.0 | 66.7 | 68.9 | 45.1 | 53.5 |

**Borders:** The QPI was not met showing a shortfall of 15 % (4 cases).
1 declined treatment, IB, 1 delay due to COVID, III, 2 went to Lothian for WLE, IB, III

**D&G**: The QPI was not met showing a shortfall of 28 % (6 cases). 1 went to Lothian for SLNB and WLE, procedures done at Lothian, 4 went to Lothian for WLE +SLNB, and declined SLNB, 1 results delayed, originally seen by Backlogs (Locum) then sent off to Lothian for second opinion.

**Fife:** The QPI was not met showing a shortfall of 26.1 % (14 cases). 4 had No WLE performed, 3 were due to plastics capacity, 3 were patient induced delay, 1 due to Path reporting, 1 due to Path reporting & Plastics capacity, 1 Plastics delay awaiting path 2nd opinion, 1 Patient induced delay & Plastics capacity

**Lothian:** The QPI was not met showing a shortfall of 49.4 % (95 cases).

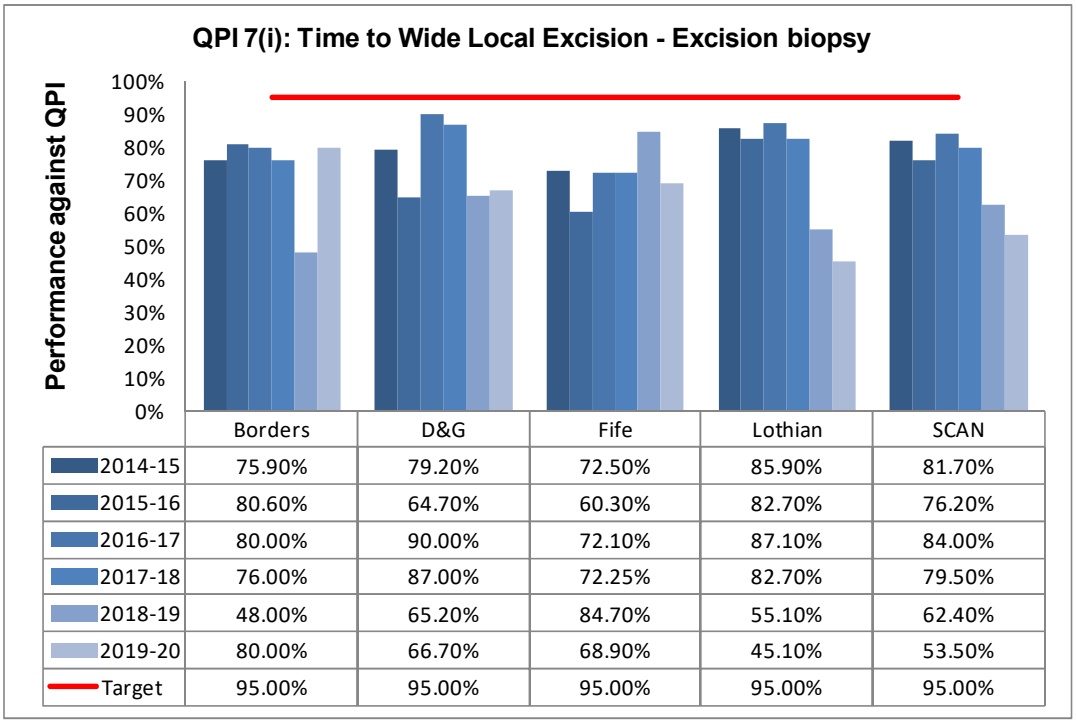
33 Path reporting delays, (25 reported by external provider), 20 plastics capacity, 10 delays due to covid, 10 declined treatment , 5 comorbidities and 27 with various different reasons (see table on page 48).

**Comment:** Concerns that outsourcing pathology reporting of urgent cancer cases to external pathologists due to insufficient capacity in the pathology service causes delays in the timely treatment of patients in Lothian has currently led to a change in practice whereby all urgent suspected cancer pathology samples will be processed and reported by our local dermatopathology team as much as possible. This may have knock-on effects on other non-urgent pathology reporting which may have to be outsourced instead.

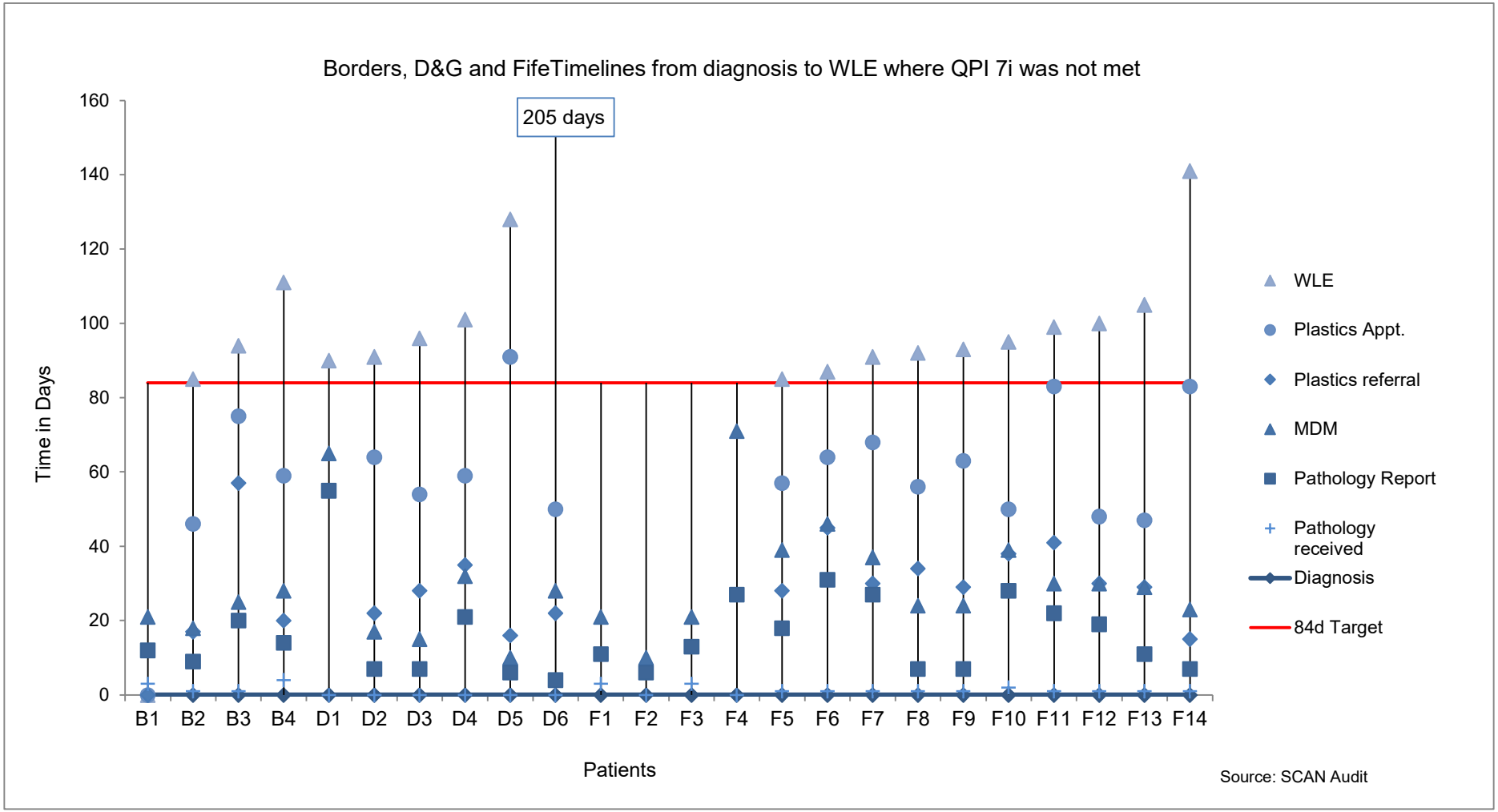
Long-standing capacity issues remain in the skin cancer service in Lothian which has been supported by more than a decade by external provider, waiting list initiative or locum services. An increase in medical and allied staffing is required to enable a high quality service which meets the demands of both the existing and projected increasing incidence in skin cancer.

The plastic surgery service in Lothian is overwhelmingly in the hands of one surgeon. This has been highlighted to service management in order to look at ways of improving capacity. The referral pathway is currently being reviewed in order to streamline initial times to plastic surgery appointments for patients.

**Action:** Reconsider the business case of external providers. Pathway coordinator/manager role would help here.

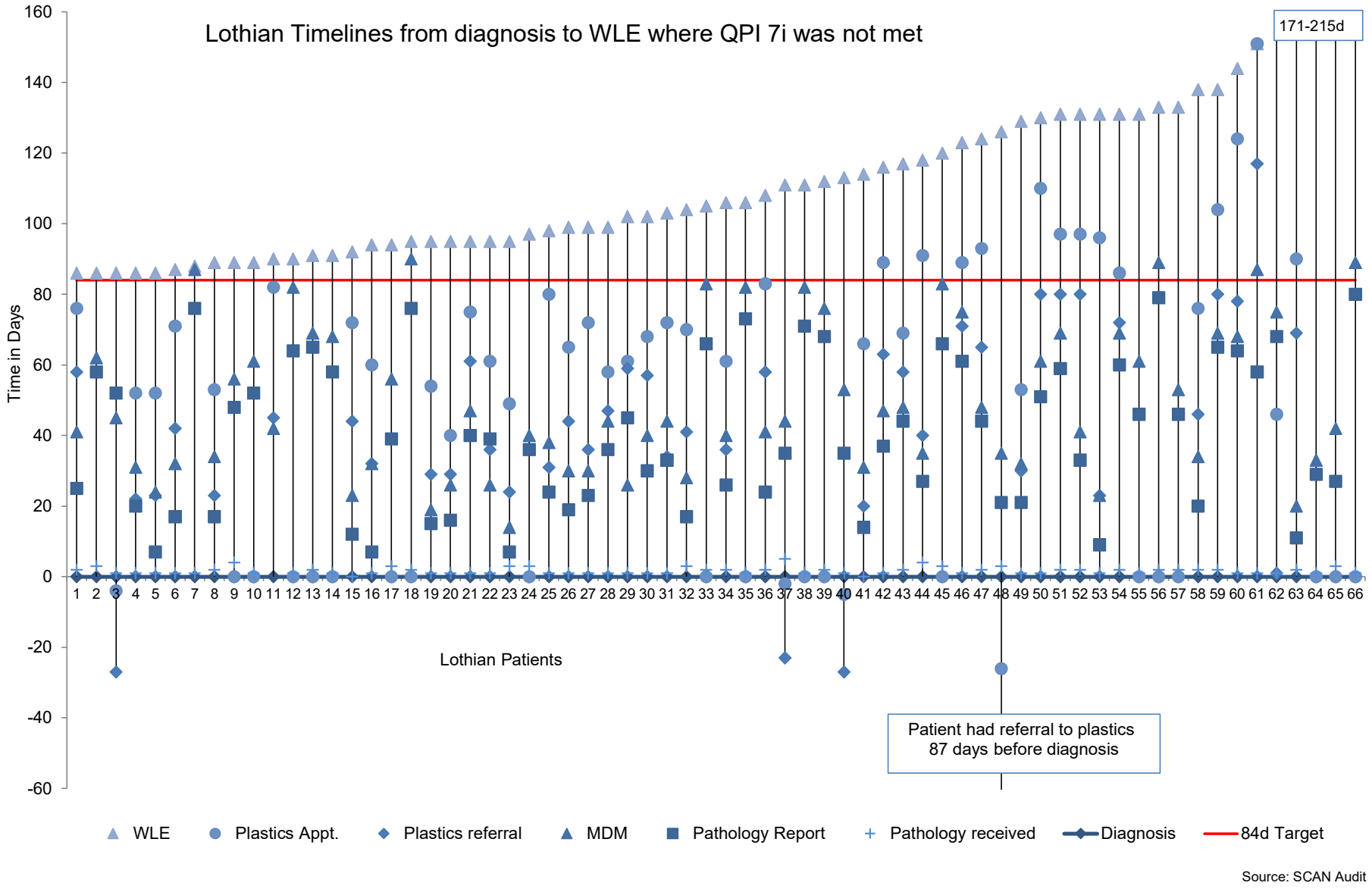



| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2014-15 | 75.90% | 79.20% | 72.50% | 85.90% | 81.70% |
| 2015-16 | 80.60% | 64.70% | 60.30% | 82.70% | 76.20% |
| 2016-17 | 80.00% | 90.00% | 72.10% | 87.10% | 84.00% |
| 2017-18 | 76.00% | 87.00% | 72.25% | 82.70% | 79.50% |
| 2018-19 | 48.00% | 65.20% | 84.70% | 55.10% | 62.40% |
| 2019-20 | 80.00% | 66.70% | 68.90% | 45.10% | 53.50% |
| Target | 95.00% | 95.00% | 95.00% | 95.00% | 95.00% |




B: Borders patients
D: Dumfries & Galloway
F: Fife patients

See Appendix for detailed breakdown




See Appendix for detailed breakdown (29 patients with no WLE not included on graph).

**QPI 7(ii): Wide Local Excision within 84 days (partial biopsy)** Target = 95%

Patients with cutaneous melanoma should have their wide local excision within 84 days of their partial biopsy

Numerator = All patients with cutaneous melanoma undergoing wide local excision within 84 days of their diagnostic partial biopsy

Denominator = All patients with cutaneous melanoma who undergo diagnostic partial biopsy (No Exclusions)

| Target 95% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 20 | 18 | 45 | 182 | 265 |
| | | | | | |
| Numerator | 3 | 7 | 11 | 21 | 42 |
| Not recorded for numerator | 0 | 0 | 0 | 0 | 0 |
| Denominator | 6 | 9 | 13 | 31 | 59 |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 50.0 | 77.8 | 84.6 | 67.7 | 71.2 |

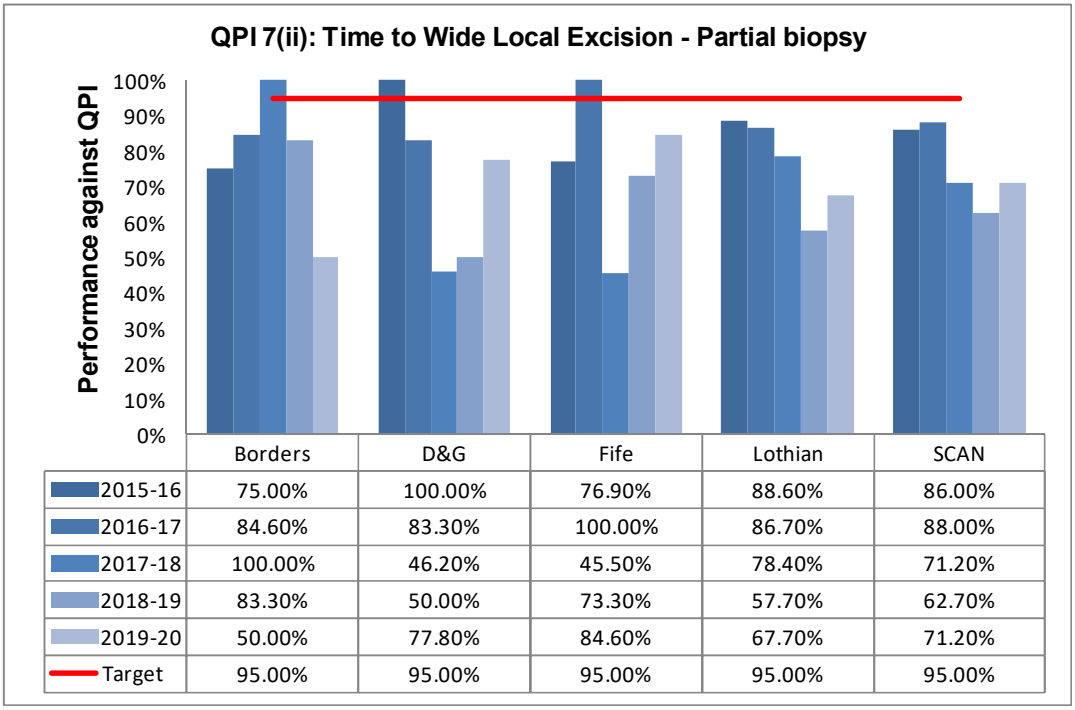
**Borders:** The QPI was not met showing a shortfall of 45 % (3 cases). 1 supportive care, 1 patient induced delay, 1 plastics capacity

**D&G**: The QPI was not met showing a shortfall of 17 % (2 cases). Both went to Lothian for WLE and SLNB.

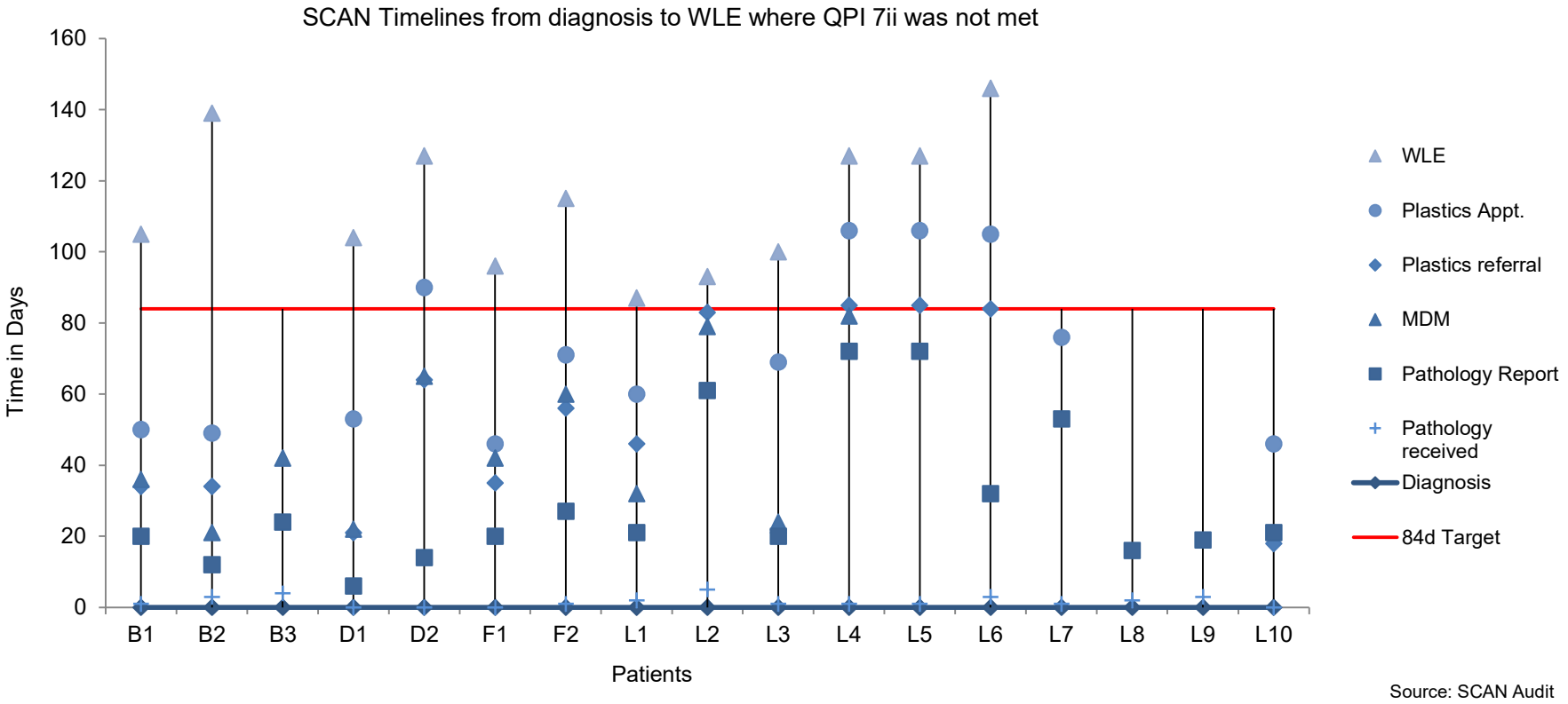
**Fife:** The QPI was not met showing a shortfall of 10.4 % (2 cases). 1 Patient induced delay, 1 Path reporting & Plastics capacity

**Lothian:** The QPI was not met showing a shortfall of 27.3 % (10 cases). 3 path report delays (2 by external provider), 2 died before treatment , 1 plastics capacity, 1 delay due to COVID19, 1 patient induced delay, 1 declined treatment, 1 sufficient margin

**Action:** No action identified




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2015-16 | 75.00% | 100.00% | 76.90% | 88.60% | 86.00% |
| 2016-17 | 84.60% | 83.30% | 100.00% | 86.70% | 88.00% |
| 2017-18 | 100.00% | 46.20% | 45.50% | 78.40% | 71.20% |
| 2018-19 | 83.30% | 50.00% | 73.30% | 57.70% | 62.70% |
| 2019-20 | 50.00% | 77.80% | 84.60% | 67.70% | 71.20% |
| Target | 95.00% | 95.00% | 95.00% | 95.00% | 95.00% |




See appendix for detailed breakdown.

**QPI 8: B-RAF Status** Target = 75%

Patients with unresectable stage III or IV cutaneous melanoma should have their BRAF status checked.

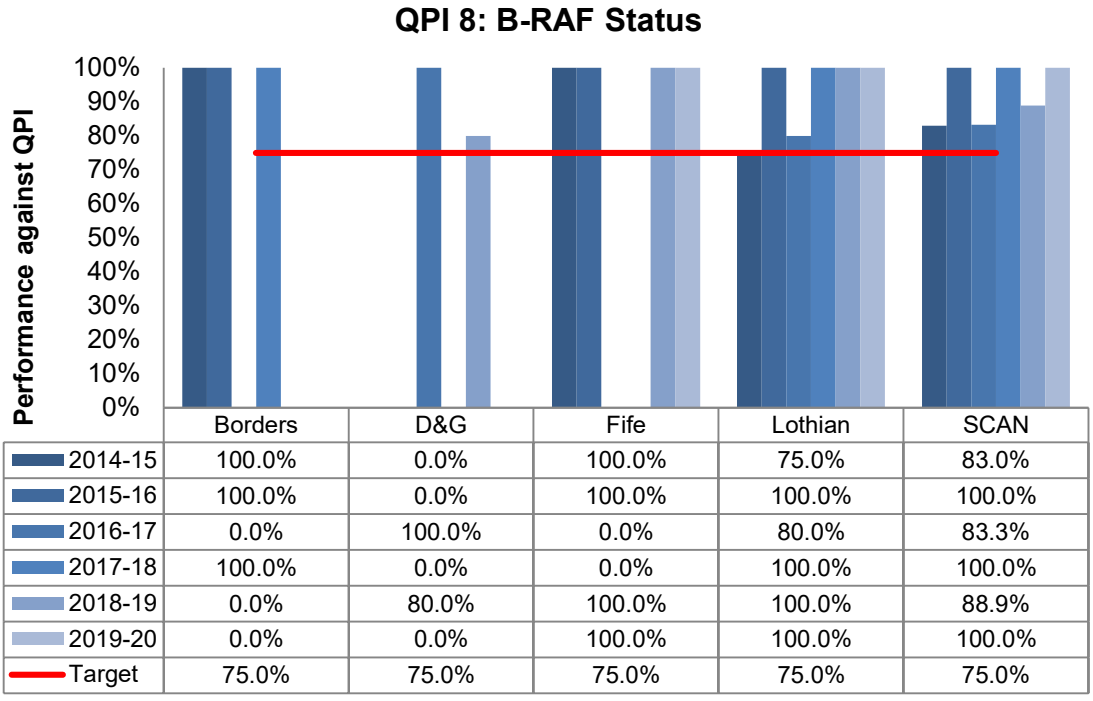
Numerator = All patients with unresectable stage III or IV cutaneous melanoma who have their BRAF status checked

Denominator = All patients with unresectable stage III or IV cutaneous melanoma (No exclusions)

| Target 75% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 26 | 27 | 56 | 210 | 319 |
| | | | | | |
| Numerator | 0 | 0 | * | * | * |
| Not recorded for numerator | 0 | 0 | 0 | 0 | 0 |
| Denominator | 0 | 0 | * | * | * |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | NA | NA | 100.0 | 100.0 | 100.0 |

*Results suppressed due to small numbers

The QPI was met in all Health Boards with eligible patients




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2014-15 | 100.0% | 0.0% | 100.0% | 75.0% | 83.0% |
| 2015-16 | 100.0% | 0.0% | 100.0% | 100.0% | 100.0% |
| 2016-17 | 0.0% | 100.0% | 0.0% | 80.0% | 83.3% |
| 2017-18 | 100.0% | 0.0% | 0.0% | 100.0% | 100.0% |
| 2018-19 | 0.0% | 80.0% | 100.0% | 100.0% | 88.9% |
| 2019-20 | 0.0% | 0.0% | 100.0% | 100.0% | 100.0% |
| Target | 75.0% | 75.0% | 75.0% | 75.0% | 75.0% |

**QPI 9: Imaging for Patients with Advanced Melanoma** Target = 95%

Patients with stage IIC, III or IV cutaneous melanoma should be evaluated with appropriate imaging within 35 days of diagnosis to guide treatment decision making

Numerator = All patients with stage IIC and above who undergo CT or PET CT within 35 days of diagnosis.

Denominator = All patients with stage IIC or above (No exclusions).

| Target 95% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 20 | 25 | 10 | 173 | 228 |
| | | | | | |
| Numerator | 2 | 1 | 7 | 5 | 15 |
| Not recorded for numerator | 0 | 0 | 0 | 0 | 0 |
| Denominator | 6 | 2 | 10 | 40 | 57 |
| | | | | | |
| Not recorded for denominator | 0 | 1 | 0 | 1 | 2 |
| **% Performance** | 33.3 | 50.0 | 70.0 | 12.5 | 26.3 |

**Borders:** The QPI was not met showing a shortfall of 61.7 % (4 cases). 1 not performed, for palliative care, 1 not performed due to comorbidity, 1 upstaged after SLNB positive result, 1 suspicious during SLNB.

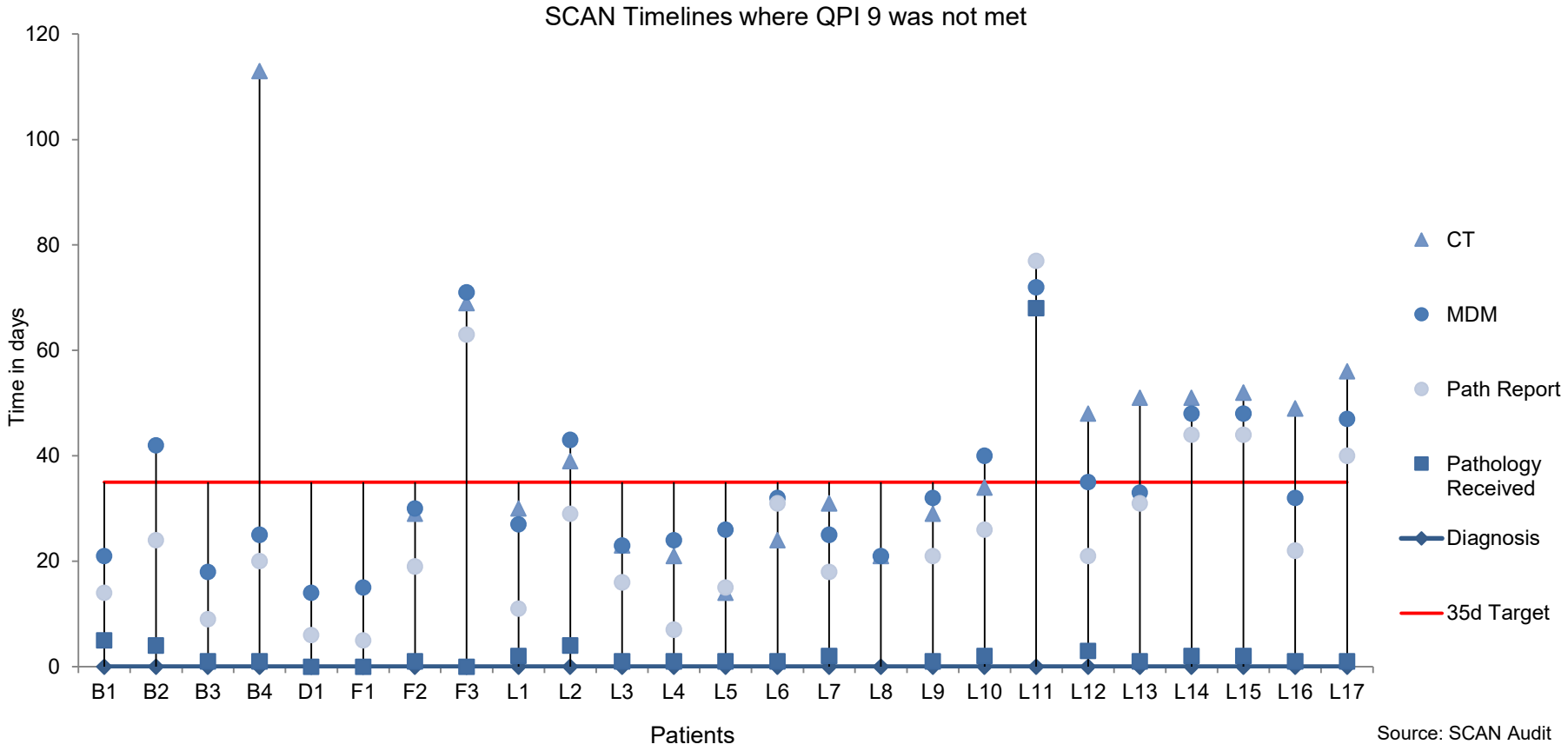
**D&G**: The QPI was not met showing a shortfall of 45 % (1 case). The family declined further treatment/ investigation.

**Fife:** The QPI was not met showing a shortfall of 25 % (3 cases). 1 path second opinion required, 1 patient did not attend the first CT appointment, 1 had no CT in view of age & co-morbidities.

**Lothian:** The QPI was not met showing a shortfall of 82.2 % (35 cases). 11 path report delays(5 by external provider), 9 pathway delays. 8 were upstaged after SLNB positive result, 5 had no CT scan due to comorbidity,1 upstaged after WLE1 (outwith NHS)

**Comment:** Plastics capacity similar to QPI 7 A Pathway coordinator/manager would help here in Lothian. Note some patients were upstaged after SLNB, which may be a point to consider at next formal review.

**Action:** Remind staff to consider referral to CT with IIC and above. Audit of these outliers is required.


SCAN Timelines where QPI 9 was not met
120
100
80
60
40
20
0
Time in days
B1
B2
B3
B4
D1
F1
F2
F3
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12
L13
L14
L15
L16
L17
Patients
CT
MDM
Path Report
Pathology Received
Diagnosis
35d Target
Source: SCAN Audit

**QPI 10: Systemic Therapy** Target = 60%

Patients with unresectable stage III and IV cutaneous melanoma should receive Systemic Anti Cancer Therapy (SACT)

Numerator = All patients with unresectable stage III or IV cutaneous melanoma who undergo SACT

Denominator = All patients with unresectable stage III or IV cutaneous melanoma

| Target 60% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 26 | 27 | 58 | 210 | 319 |
| Exclusions (died before treatment) | 0 | 0 | 0 | 0 | 0 |
| | | | | | |
| Numerator | 0 | 0 | * | * | * |
| Not recorded for numerator | 0 | 0 | 0 | 0 | 0 |
| Denominator | 0 | 0 | * | * | * |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | NA | NA | 50.0 | 66.7 | 60.0 |

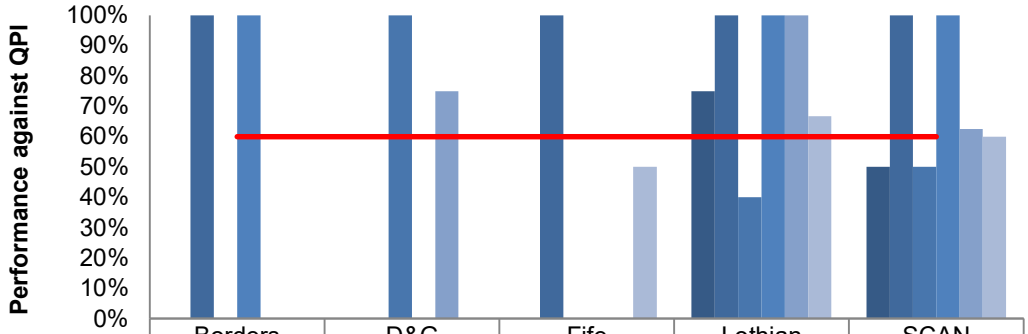
**Comments where QPI was not met**

*Results suppressed due to small numbers

The QPI was not met in Fife. Small numbers produce large percentage changes

**Action:** This QPI has never been useful perhaps more relevant to look at adjuvant treatment. Suggest revision of QPI at next formal review.

**QPI 10: Systemic Therapy**




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2014-15 | 0.0% | 0.0% | 0.0% | 75.0% | 50.0% |
| 2015-16 | 100.0% | 0.0% | 100.0% | 100.0% | 100.0% |
| 2016-17 | 0.0% | 100.0% | 0.0% | 40.0% | 50.0% |
| 2017-18 | 100.0% | 0.0% | 0.0% | 100.0% | 100.0% |
| 2018-19 | 0.0% | 75.0% | 0.0% | 100.0% | 62.5% |
| 2019-20 | 0.0% | 0.0% | 50.0% | 66.7% | 60.0% |
| Target | 60.0% | 60.0% | 60.0% | 60.0% | 60.0% |

**QPI 12: Adequate excision of lesion** Target = 85%

Proportion of patients with cutaneous melanoma where complete excision is undertaken with documented clinical margins of 2mm prior to definitive treatment (wide local excision).

Numerator = Number of patients with cutaneous melanoma where complete excision is undertaken with documented clinical margins of 2mm prior to definitive treatment (wide local excision).

Denominator = All patients with cutaneous melanoma who undergo wide local excision. (No exclusions).

| Target 85% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2019-20 cohort | 26 | 27 | 58 | 213 | 324 |
| Ineligible for this QPI | 2 | 0 | 5 | 33 | 40 |
| | | | | | |
| Numerator | 16 | 11 | 28 | 107 | 162 |
| Not recorded for numerator | 2 | 0 | 13 | 16 | 31 |
| Denominator | 24 | 27 | 53 | 180 | 284 |
| | | | | | |
| Not recorded for denominator | 0 | 0 | 0 | 0 | 0 |
| **% Performance** | 66.7 | 40.7 | 52.8 | 59.4 | 57.0 |

**Comments where QPI not met**

**Borders:** The QPI was not met showing a shortfall of 18.3 % (8 cases) .5 had only partial biopsy and no excision biopsy, 2 margin not recorded, (1 performed by GP) 1 margin more than 2mm due to lesion being suspicious for BCC (where margin required is 5mm).

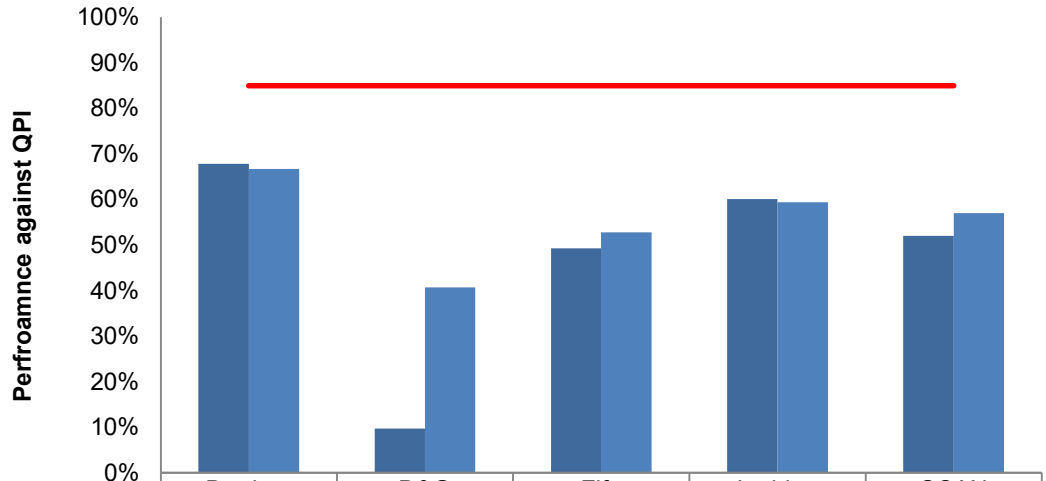
**D&G**: The QPI was not met showing a shortfall of 44.3 % (16 cases). 9 with clinical margins not written in case note letters accessed by audit staff, 3 with wider margins and 4 not excision biopsy prior to WLE (shave/punch or curette biopsies)

**Fife:** The QPI was not met showing a shortfall of 32.2 % (25 cases). 13 clinical margin not recorded, 4 margin > 2mm, 8 had no excision (partial biopsy)

**Lothian:** The QPI was not met showing a shortfall of 25.6 % (73 cases).
23 margin more than 2mm (15 diagnostic error), 23 only partial biopsy (no excision biopsy), 16 had no margin recorded, 8 WLE only (6 initial in-situ or lentigo maligna, turned invasive at WLE). 2 due to COVID19 and strong clinical suspicion WLE was performed. 2 margins less than 2mm, (both 1mm)
1 excision biopsy margin was 2mm, however the patient subsequently underwent an FNA biopsy in between excision biopsy, and WLE, so doesn't fulfil the QPI criteria.

**Action:** Remind staff to document all margins on all lesions excised; the overprint box on the pathology request form has been designed to serve as an aide memoire and should be completed. Lothian audit of all diagnostic errors required.

**QPI 12: Adequate excision of lesion**




| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| 2018-19 | 67.9% | 9.7% | 49.3% | 60.1% | 52.0% |
| 2019-20 | 66.7% | 40.7% | 52.8% | 59.4% | 57.0% |
| Target | 85.0% | 85.0% | 85.0% | 85.0% | 85.0% |

**Clinical Trials QPI** Target = 15%

Proportion of patients diagnosed with Melanoma who were consented for a clinical trial

**Numerator** Number of patients with Melanoma consented for a clinical trial

**Denominator** All patients with Melanoma - Average 5 year incidence from Cancer Registry (2014-2019)

| Target 15% | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| Numerator | 0 | 0 | 0 | 2 | 2 |
| Denominator | 37 | 34 | 71 | 188 | 325 |
| **% Performance** | 0 | 0 | 0 | 1 | 0.6 |

**Trials Registered on SCRN database**

| Clinical Trials in 2019 | Numbers |
|---|---|
| MK7902-003 | 2 |

**Comment**

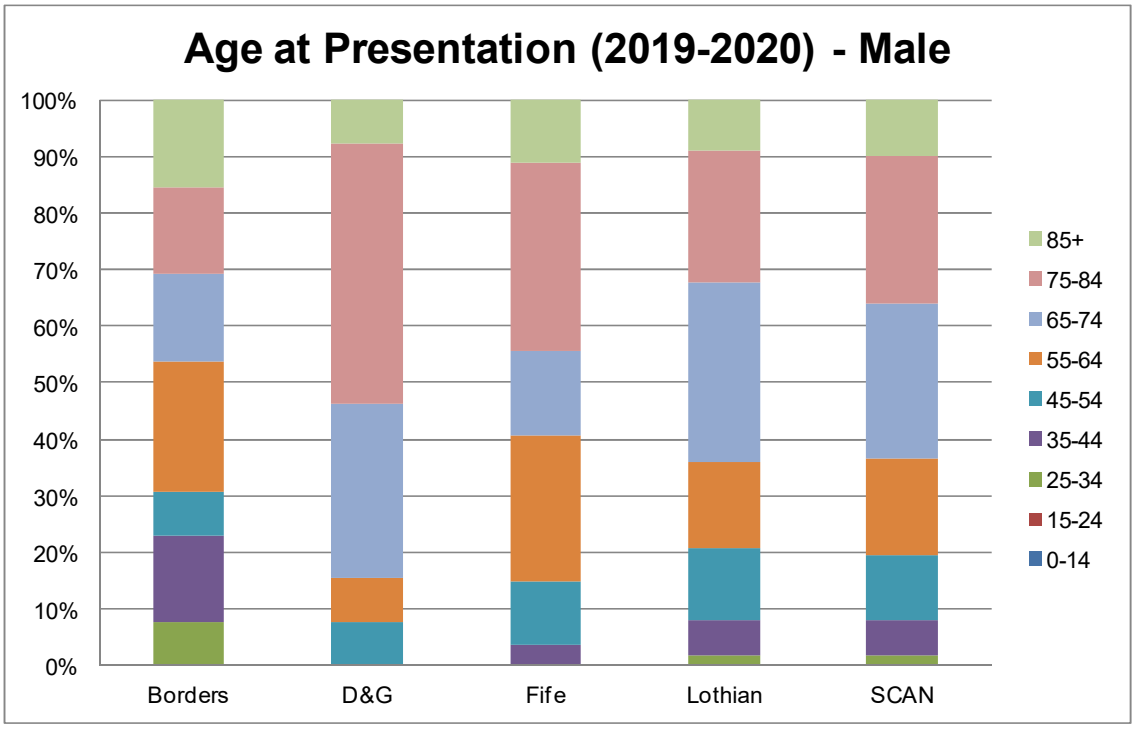
Numbers of patients being consented for melanoma trials are always small because it's currently a small subset of metastatic patients that are being offered trials. There were no missed opportunities and all patients with advanced disease are considered for clinical trials.

## Non QPI Results

### Table 1: Age at Presentation

| Male | Borders | | Fife | | Lothian | | D&G | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| Age | n | % | n | % | n | % | n | % | n | % |
| 0-14 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 15-24 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 25-34 | 1 | 7.7 | 0 | 0.0 | 2 | 1.8 | 0 | 0.0 | 3 | 1.8 |
| 35-44 | 2 | 15.4 | 1 | 3.7 | 7 | 6.3 | 0 | 0.0 | 10 | 6.1 |
| 45-54 | 1 | 7.7 | 3 | 11.1 | 14 | 12.6 | 1 | 7.7 | 19 | 11.6 |
| 55-64 | 3 | 23.1 | 7 | 25.9 | 17 | 15.3 | 1 | 7.7 | 28 | 17.1 |
| 65-74 | 2 | 15.4 | 4 | 14.8 | 35 | 31.5 | 4 | 30.8 | 45 | 27.4 |
| 75-84 | 2 | 15.4 | 9 | 33.3 | 26 | 23.4 | 6 | 46.2 | 43 | 26.2 |
| 85+ | 2 | 15.4 | 3 | 11.1 | 10 | 9.0 | 1 | 7.7 | 16 | 9.8 |
| Total | 13 | 100.0 | 27 | 100.0 | 111 | 100.0 | 13 | 100.0 | 164 | 100.0 |

| Female | Borders | | Fife | | Lothian | | D&G | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| Age | n | % | n | % | n | % | n | % | n | % |
| 0-14 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 15-24 | 0 | 0.0 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 25-34 | 1 | 7.7 | 4 | 12.9 | 3 | 2.9 | 0 | 0.0 | 8 | 5.0 |
| 35-44 | 0 | 0.0 | 3 | 9.7 | 8 | 7.8 | 2 | 14.3 | 13 | 8.1 |
| 45-54 | 1 | 7.7 | 9 | 29.0 | 15 | 14.7 | 2 | 14.3 | 27 | 16.9 |
| 55-64 | 7 | 53.8 | 3 | 9.7 | 20 | 19.6 | 0 | 0.0 | 30 | 18.8 |
| 65-74 | 3 | 23.1 | 3 | 9.7 | 19 | 18.6 | 6 | 42.9 | 31 | 19.4 |
| 75-84 | 0 | 0.0 | 7 | 22.6 | 25 | 24.5 | 3 | 21.4 | 35 | 21.9 |
| 85+ | 1 | 7.7 | 1 | 3.2 | 12 | 11.8 | 1 | 7.1 | 15 | 9.4 |
| Total | 13 | 100.0 | 31 | 100.0 | 102 | 100.0 | 14 | 100.0 | 160 | 100.0 |



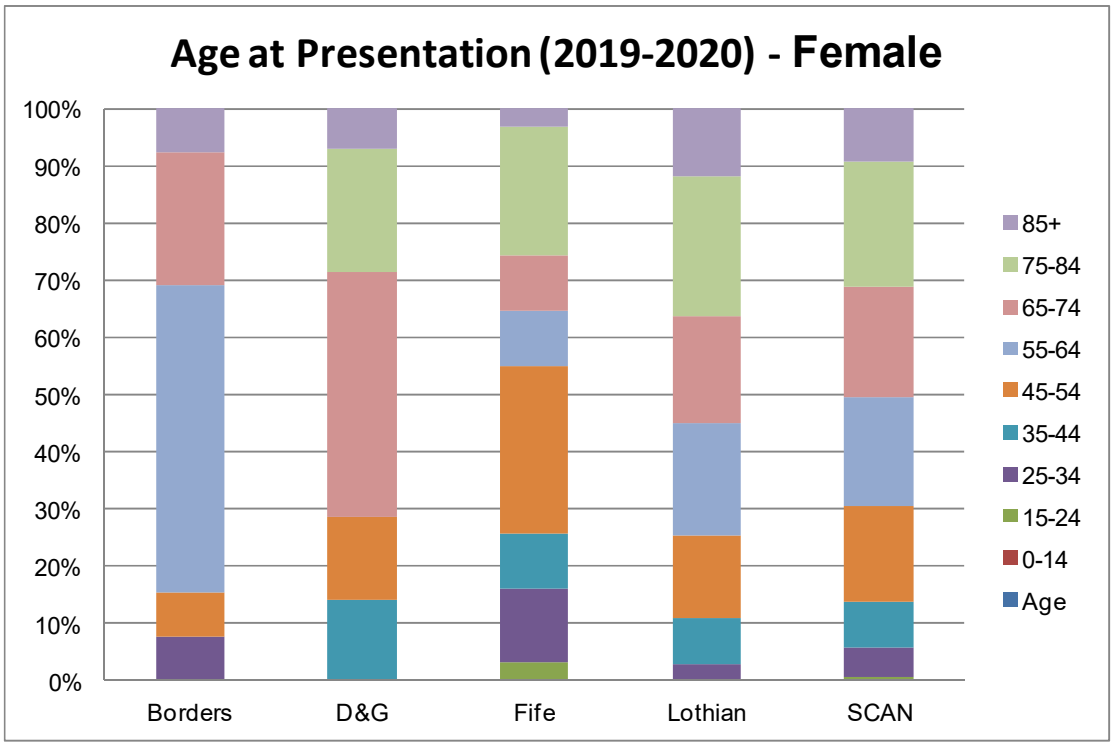



**Table 1a: Incidence in Working Age Population (18 to 64)**

| | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | n | % |
| 2019-20 | 16 | 61.5 | 6 | 22.2 | 31 | 53.4 | 94 | 44.1 | 147 | 45.4 |
| 2018-19 | 10 | 32.3 | 15 | 40.5 | 32 | 43.2 | 81 | 48.2 | 138 | 44.5 |
| 2017-18 | 10 | 25.6 | 11 | 30.6 | 37 | 53.6 | 92 | 50.8 | 150 | 46.4 |
| 2016-17 | 11 | 37.9 | 8 | 25.0 | 23 | 38.3 | 91 | 50.3 | 133 | 44.0 |
| 2015-16 | 20 | 55.6 | 11 | 47.8 | 40 | 54.0 | 98 | 48.8 | 169 | 50.6 |
| 2014-15 | 12 | 34.2 | 15 | 32.6 | 21 | 36.8 | 95 | 47.5 | 143 | 42.3 |

**Table 1b: Incidence in Working Age Population Year on Year (18 to 64)**

| Year | Number of working age people | % of Total |
|---|---|---|
| *2019-20* | *147* | *45.4* |
| *2018-19* | *138* | *44.5* |
| *2017-18* | *150* | *46.4* |
| *2016-17* | *133* | *44.0* |
| 2015-16 | 169 | 50.6 |
| 2014-15 | 143 | 42.3 |
| 2013 | 135 | 45.3 |
| 2012 | 155 | 48.6 |
| 2011 | 156 | 51.5 |

**Table 1c: Median age at Diagnosis**

| | Borders | | D&G | | Fife | | Lothian | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 2019-20 | 62 | 58 | 75 | 70 | 72 | 52 | 70 | 65 |
| 2018-19 | 77 | 66 | 66 | 69 | 73 | 62 | 69 | 61 |
| 2017-18 | 73.5 | 76 | 76 | 65 | 69 | 58 | 69 | 61 |
| 2016-17 | 62 | 71 | 76 | 67 | 69 | 67 | 66 | 62 |
| 2015-16 | 66 | 59 | 69.5 | 61 | 65 | 61 | 69 | 61 |

**Table 1d: Median age at Diagnosis Year on Year**

| Year | Male | Female | Area Covered |
|---|---|---|---|
| 2019-20 | 70 | 64 | SCAN |
| 2018-19 | 71 | 63 | SCAN |
| 2017-18 | 69 | 58 | SCAN |
| 2016-17 | 68 | 65.5 | SCAN |
| 2015-16 | 68 | 61 | SCAN |
| 2014-15 | 71 | 66 | SCAN |
| 2013 | 68.5 | 63.5 | SCAN |
| 2012 | 66 | 66 | B F L |
| 2011 | 65 | 61 | B F L |
| 2010 | 65 | 54 | B L |
| 2009 | 64 | 53 | B L |
| 2008 | 64 | 56 | B F L |
| 2007 | 64 | 55 | B F L |

**Table 1e: Gender Incidence Ratio**

| Year | Male | Female |
|---|---|---|
| 2019-20 | 1 | 1.0 |
| 2017-18 | 1 | 1.0 |
| 2016-17 | 1 | 0.9 |
| 2015-16 | 1 | 1.1 |
| 2014-15 | 1 | 1.0 |
| 2013 | 1 | 1.0 |
| 2012 | 1 | 1.2 |
| 2011 | 1 | 1.0 |
| 2010 | 1 | 1.1 |
| 2009 | 1 | 1.1 |
| 2008 | 1 | 1.4 |
| 2007 | 1 | 1.7 |

**Table 2: Anatomical Site**

| Site | SCAN 2019-20 | | | | | SCAN 01/2012 - 06/2018 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | | Male | | Female | |
| | n | % | n | % | | n | % | n | % |
| Head and Neck | 48 | 29.3 | 29 | 18.1 | | 263 | 27.8 | 182 | 18.6 |
| Trunk anterior | 27 | 16.5 | 8 | 5.0 | | 113 | 12.0 | 62 | 6.4 |
| Trunk Posterior | 50 | 30.5 | 24 | 15.0 | | 251 | 26.6 | 150 | 15.4 |
| Arm | 1 | 0.6 | 7 | 4.4 | | 16 | 1.7 | 21 | 2.2 |
| Arm above elbow | 5 | 3.0 | 23 | 14.4 | | 77 | 8.1 | 130 | 13.3 |
| Arm below elbow | 10 | 6.1 | 10 | 6.3 | | 71 | 7.5 | 85 | 8.7 |
| Leg | 2 | 1.2 | 4 | 2.5 | | 8 | 0.8 | 16 | 1.6 |
| Leg above knee | 8 | 4.9 | 19 | 11.9 | | 38 | 4.0 | 85 | 8.7 |
| Leg below knee | 9 | 5.5 | 27 | 16.9 | | 54 | 5.7 | 190 | 19.5 |
| Dorsum of hand | 0 | 0.0 | 1 | 0.6 | | | | | |
| Dorsum of foot | 0 | 0.0 | 2 | 1.3 | | | | | |
| Acral | 0 | 0.0 | 0 | 0.0 | | 20 | 2.1 | 31 | 3.2 |
| Mucosal | 0 | 0.0 | 0 | 0.0 | | 5 | 0.5 | 7 | 0.7 |
| Sole | 3 | 1.8 | 4 | 2.5 | | | | | |
| Subungual | 1 | 0.6 | 0 | 0.0 | | 7 | 0.7 | 3 | 0.3 |
| Mets at Presentation | 0 | 0.0 | 0 | 0.0 | | 22 | 2.3 | 14 | 1.4 |
| Other | 0 | 0.0 | 2 | 1.3 | | | | | |
| SCAN | 164 | 100 | 160 | 100 | | 945 | 100 | 976 | 100 |

| **Top 3 anatomical sites 2019-20** | | | |
|---|---|---|---|
| **Male** | Trunk Posterior (30.5%) | Head and Neck (29.3%) | Trunk anterior (16.5%) |
| **Female** | Head and Neck (18.1%) | Leg below knee (16.9%) | Trunk Posterior (15%) |

| **Top 3 anatomical sites 2018-19** | | | |
|---|---|---|---|
| **Male** | Trunk Posterior (29.2%) | Head and Neck (24.2%) | Trunk anterior (14.3%) |
| **Female** | Trunk Posterior (17.4%) | Head and Neck (16.8%) | Leg below knee (15.4%) |

| **Top 3 anatomical sites 2017-18** | | | |
|---|---|---|---|
| **Male** | Head and Neck (28.8%) | Trunk Posterior (26.9%) | Trunk anterior (11.3%) |
| **Female** | Head and Neck (20.9%) | Leg below Knee (19.6%) | Arm above elbow (17.2%) |

| **Top 3 anatomical sites 2016-17** | | | |
|---|---|---|---|
| **Male** | Trunk Posterior (27.8%) | Head and Neck (24.7%) | Trunk anterior/ Arm above elbow (8.9%) |
| **Female** | Leg below Knee (28.5%) | Arm above elbow (16.7%) | Head and Neck/ Leg above knee (12.5%) |

| Top 3 anatomical sites 2015-16 | | | |
|---|---|---|---|
| **Male** | Head and Neck (28.5%) | Trunk Posterior (25.8%) | Trunk anterior (11.5%) |
| **Female** | Leg below Knee (20.2%) | Head and Neck (18.5%) | Trunk Posterior (14.9%) |

**Table 3a: Histogenetic Type of Melanoma**

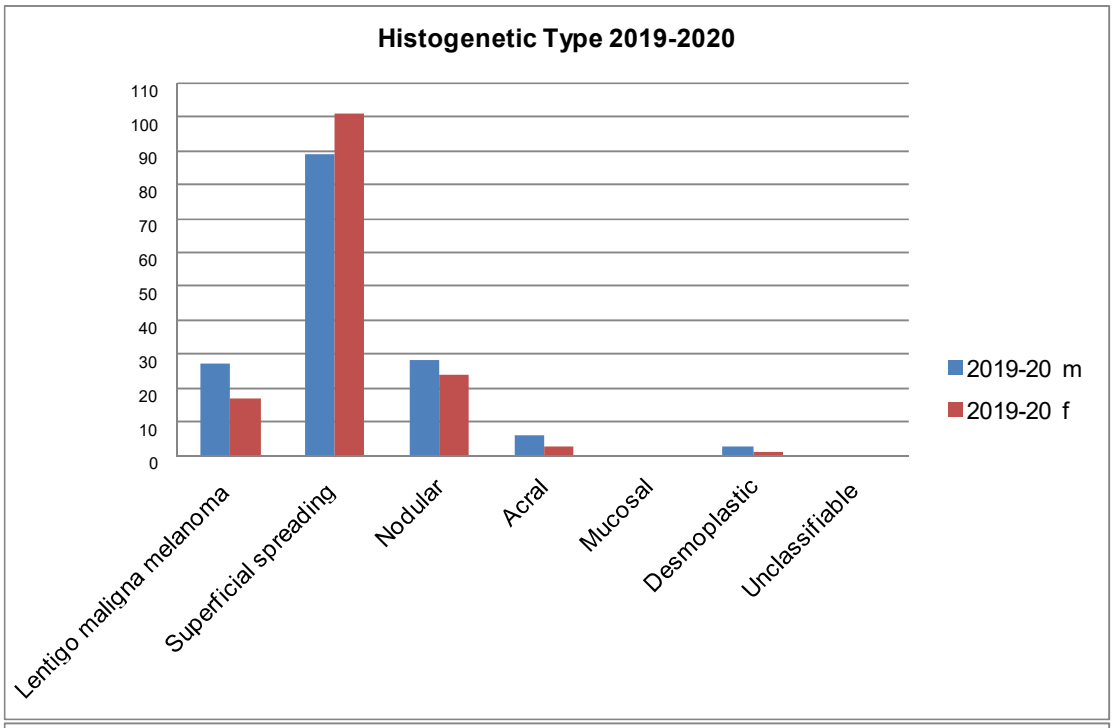
| Histogenetic Type | SCAN 2019-20 | | | |
|---|---|---|---|---|
| | Male | | Female | |
| | n | % | n | % |
| Lentigo maligna melanoma | 27 | 16.5 | 17 | 10.6 |
| Superficial spreading | 89 | 54.3 | 101 | 63.1 |
| Nodular | 28 | 17.1 | 24 | 15.0 |
| Acral | 6 | 3.7 | 3 | 1.9 |
| Mucosal | 0 | 0.0 | 0 | 0.0 |
| Desmoplastic | 3 | 1.8 | 1 | 0.6 |
| Mied (desmopastic) | 0 | 0.0 | 4 | 2.5 |
| Spindle cell | 1 | 0.6 | 0 | 0.0 |
| not assessable | 2 | 1.2 | 3 | 1.9 |
| Unclassifiable (Melanoma NOS) | 0 | 0.0 | 0 | 0.0 |
| Spitzoid | 0 | 0.0 | 1 | 0.6 |
| Other* | 7 | 4.3 | 6 | 3.8 |
| secondary MM | 0 | 0.0 | 0 | 0.0 |
| Not Recorded | 1 | 0.6 | 0 | 0.0 |
| TOTAL | 164 | 100.0 | 160 | 100.0 |

**Table 3b: Unclassifiables by board**

| | Borders | | D & G | | Fife | | Lothian | |
|---|---|---|---|---|---|---|---|---|
| Year | n | % | n | % | n | % | n | % |
| 2019-20 | 0 | - | 0 | - | 0 | - | 0 | - |
| 2018-19 | 0 | - | 6 | 16.2 | 1 | 1.4 | 0 | - |
| 2017-18 | 0 | - | 2 | 5.6 | 1 | 1.4 | 3 | 1.7 |
| 2016-17 | 1 | 3.4 | 2 | 6.3 | 3 | 5.0 | 5 | 2.8 |

**Table 3c: Histogenetic Type – year on year**

| Histogenetic Type | 2013 | | 2014-15 | | 2015-16 | | 2016-17 | | 2017-18 | | 2018-19 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m | f | m | f | m | m | m | f | m | f | m | f |
| Lentigo maligna melanoma | 20 | 21 | 30 | 2 | 3 | 30 | 31 | 15 | 30 | 26 | 25 | 21 |
| Superficial spreading | 79 | 91 | 95 | 9 | 8 | 91 | 78 | 91 | 91 | 101 | 91 | 85 |
| Nodular | 22 | 10 | 11 | 1 | 2 | 33 | 30 | 22 | 33 | 17 | 24 | 27 |
| Acral | 7 | 7 | 1 | 2 | 2 | 1 | 3 | 8 | 1 | 3 | 7 | 6 |
| Mucosal | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 |
| Desmoplastic | 1 | 2 | 3 | 1 | 2 | 0 | 3 | 0 | 0 | 1 | 2 | 2 |



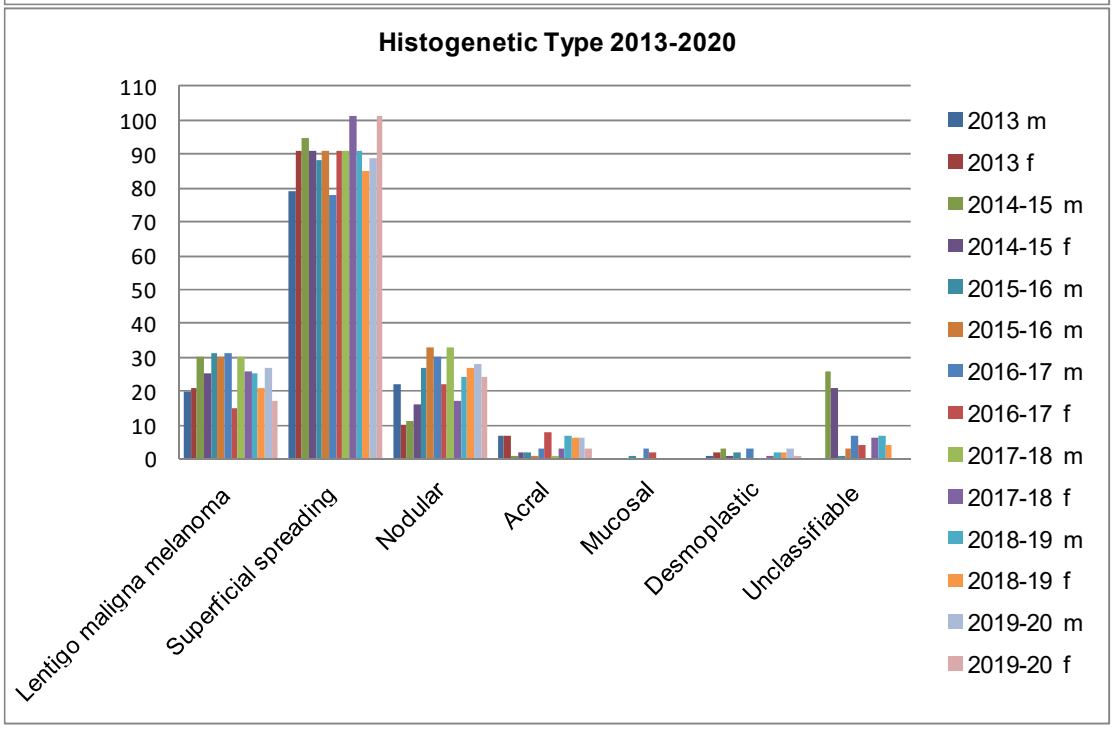




**Table 4a: Method of diagnosis**

| | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | n | % |
| Sample biopsy* | 6 | 23.1 | 9 | 33.3 | 13 | 22.4 | 31 | 14.6 | 59 | 18.2 |
| Excision/Amputation | 20 | 76.9 | 18 | 66.7 | 45 | 77.6 | 181 | 85.0 | 264 | 81.5 |
| FNA | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Other | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.5 | 1 | 0.3 |
| Not known/Inapplicable | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Total | 26 | 100 | 27 | 100 | 58 | 100 | 213 | 100 | 324 | 100 |

*Sampling of suspect lesions is used when there is diagnostic doubt or for planning/staging purposes in larger lesions or those on cosmetically challenging areas.

**Table 4b: Sample biopsy Year on Year**

| | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | n | % |
| 2019-20 | 6 | 23.1 | 9 | 33.3 | 13 | 22.4 | 31 | 14.6 | 59 | 18.2 |
| 2018-19 | 6 | 19.4 | 12 | 32.4 | 15 | 20.0 | 26 | 15.5 | 59 | 19.0 |
| 2017-18 | 12 | 32.4 | 12 | 33.3 | 11 | 15.9 | 37 | 20.4 | 72 | 28.5 |
| 2016-17 | 13 | 44.9 | 8 | 25.0 | 10 | 16.7 | 30 | 16.6 | 61 | 20.2 |
| 2015-16 | 5 | 13.9 | 6 | 26.1 | 14 | 18.9 | 35 | 17.4 | 60 | 18.0 |
| 2014-15 | 5 | 14.3 | 19 | 41.3 | 17 | 29.8 | 37 | 18.5 | 78 | 23.1 |
| 2013 | 6 | 20.0 | 18 | 40.0 | 14 | 29.8 | 43 | 23.8 | 81 | 26.7 |
| 2012 | 5 | 15.2 | 8 | 27.6 | 15 | 23.1 | 49 | 25.5 | 77 | 24.1 |
| 2011 | 5 | 25.0 | 8 | 34.8 | 12 | 21.4 | 58 | 28.3 | 83 | 27.3 |

**Table 5a: Pathology: Time from diagnosis to issue of Pathology report**

| Time interval in days | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | n | % |
| 0 -14 | 13 | 50.0 | 21 | 77.8 | 33 | 56.9 | 69 | 32.4 | 136 | 42.0 |
| 15-28 | 10 | 38.5 | 4 | 14.8 | 22 | 37.9 | 69 | 32.4 | 105 | 32.4 |
| >28 | 3 | 11.5 | 2 | 7.4 | 3 | 5.2 | 73 | 34.3 | 81 | 25.0 |
| Data n/a | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 0.9 | 2 | 0.6 |
| Inapplicable | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Total | 26 | 100 | 27 | 100.0 | 58 | 100 | 213 | 100 | 324 | 100 |
| | | | | | | | | | | |
| Median | 15 | | 6 | | 14 | | 21 | | 17 | |
| Range | 8-44 | | 2-55 | | 4-36 | | 0-149 | | 0-149 | |

**Table 5b: Median Time (days) from diagnosis to Path Report (Year on Year)**

| Year of Report | Borders and Lothian | D&G | Fife |
|---|---|---|---|
| 2018-19 | 19 | 6 | 14 |
| 2017-18 | 15.5 | n/a | 13 |
| 2016-17 | 17 | n/a | 14 |
| 2015-16 | 16 | n/a | 11 |
| 2014-15 | 15 | n/a | 8 |
| 2013 | 14 | 6 | 10 |
| 2012 | 14 | 7 | 9 |
| 2011 | 13 | 5 | 8 |
| 2010 | 14 | 9 | 7 |

**Table 6a: Breslow Depth**

| Breslow Depth | SCAN 2019-20 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Male** | **Borders** | | **D&G** | | **Fife** | | **Lothian** | | **SCAN** | |
| mm | n | % | n | % | n | % | n | % | n | % |
| 0-0.99 | 6 | 46.2 | 5 | 38.5 | 9 | 33.3 | 51 | 45.9 | 71 | 43.3 |
| 1-1.99 | 3 | 23.1 | 4 | 30.8 | 8 | 29.6 | 26 | 23.4 | 41 | 25.0 |
| 2-2.99 | 0 | 0.0 | 2 | 15.4 | 2 | 7.4 | 9 | 8.1 | 13 | 7.9 |
| 3-3.99 | 0 | 0.0 | 0 | 0.0 | 2 | 7.4 | 11 | 9.9 | 13 | 7.9 |
| ≥4 | 4 | 30.8 | 2 | 15.4 | 6 | 22.2 | 13 | 11.7 | 25 | 15.2 |
| Mets | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Unrecorded | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.9 | 1 | 0.6 |
| Total | 13 | 100.0 | 13 | 100.0 | 27 | 100.0 | 111 | 100.0 | 164 | 100.0 |

| Breslow Depth | SCAN 2019-20 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Female** | **Borders** | | **D&G** | | **Fife** | | **Lothian** | | **SCAN** | |
| mm | n | % | n | % | n | % | n | % | n | % |
| 0-0.99 | 8 | 61.5 | 4 | 28.6 | 20 | 64.5 | 56 | 54.9 | 88 | 55.0 |
| 1-1.99 | 5 | 38.5 | 3 | 21.4 | 4 | 12.9 | 20 | 19.6 | 32 | 20.0 |
| 2-2.99 | 0 | 0.0 | 2 | 14.3 | 1 | 3.2 | 5 | 4.9 | 8 | 5.0 |
| 3-3.99 | 0 | 0.0 | 1 | 7.1 | 3 | 9.7 | 6 | 5.9 | 10 | 6.3 |
| ≥4 | 0 | 0.0 | 4 | 28.6 | 3 | 9.7 | 14 | 13.7 | 21 | 13.1 |
| Mets | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Unrecorded | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.0 | 1 | 0.6 |
| Total | 13 | 100.0 | 14 | 100.0 | 31 | 100.0 | 102 | 100.0 | 160 | 100.0 |

**Table 6b: Breslow Depth - males (past five cohorts)**

| Breslow Depth | SCAN 2014/15-2018/19 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Male** | **Borders** | | **D&G** | | **Fife** | | **Lothian** | | **SCAN** | |
| mm | n | % | n | % | n | % | n | % | N | % |
| 0-0.99 | 45 | 48.4 | 25 | 31.3 | 92 | 50.8 | 211 | 46.17 | 373 | 46.0 |
| 1-1.99 | 12 | 12.9 | 17 | 21.3 | 32 | 17.7 | 87 | 19.04 | 148 | 18.2 |
| 2-2.99 | 15 | 16.1 | 11 | 13.8 | 16 | 8.8 | 39 | 8.53 | 81 | 10.0 |
| 3-3.99 | 8 | 8.6 | 5 | 6.3 | 12 | 6.6 | 26 | 5.69 | 51 | 6.3 |
| ≥4 | 13 | 14.0 | 14 | 17.5 | 27 | 14.9 | 79 | 17.29 | 133 | 16.4 |
| Mets | 0 | 0.0 | 3 | 3.8 | 0 | 0.0 | 7 | 1.53 | 10 | 1.2 |
| Unrecorded | 0 | 0.0 | 5 | 6.3 | 2 | 1.1 | 8 | 1.75 | 15 | 1.8 |
| Total | 93 | 100.0 | 80 | 100.0 | 181 | 100.0 | 457 | 100.00 | 811 | 100.0 |

**Table 6c: Breslow Depth - females (past five cohorts)**

| Breslow Depth | SCAN 2014/15-2018/19 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Female** | **Borders** | | **D&G** | | **Fife** | | **Lothian** | | **SCAN** | |
| mm | n | % | N | % | n | % | n | % | N | % |
| 0-0.99 | 40 | 53.3 | 43 | 45.7 | 71 | 46.1 | 270 | 57.0 | 424 | 53.2 |
| 1-1.99 | 11 | 14.7 | 25 | 26.6 | 34 | 22.1 | 89 | 18.8 | 159 | 19.9 |
| 2-2.99 | 6 | 8.0 | 8 | 8.5 | 15 | 9.7 | 37 | 7.8 | 66 | 8.3 |
| 3-3.99 | 5 | 6.7 | 5 | 5.3 | 13 | 8.4 | 15 | 3.2 | 38 | 4.8 |
| ≥4 | 13 | 17.3 | 9 | 9.6 | 17 | 11.0 | 51 | 10.8 | 90 | 11.3 |
| Mets | 0 | 0.0 | 0 | 0.0 | 3 | 1.9 | 9 | 1.9 | 12 | 1.5 |
| Unrecorded | 0 | 0.0 | 4 | 4.3 | 1 | 0.6 | 3 | 0.6 | 8 | 1.0 |
| Total | 75 | 100.0 | 94 | 100.0 | 154 | 100.0 | 474 | 100.0 | 797 | 100.0 |

**Table 7: Pathology - Mitotic Rate**

| | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| Mitotic rate per mm | n | % | n | % | n | % | n | % | n | % |
| 0 - .99 | 16 | 61.5 | 9 | 33.3 | 22 | 37.9 | 114 | 53.5 | 161 | 49.7 |
| ≥1 | 10 | 38.5 | 17 | 63.0 | 35 | 60.3 | 89 | 41.8 | 151 | 46.6 |
| NR/NA/not assessable | 0 | 0.0 | 1 | 3.7 | 1 | 1.7 | 10 | 4.7 | 12 | 3.7 |
| Total | 26 | 100.0 | 27 | 100.0 | 58 | 100.0 | 213 | 100.0 | 324 | 100.0 |

**Table 8: Pathology - Ulceration**

| | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | n | % |
| Ulceration | 22 | 84.6 | 5 | 18.5 | 22 | 37.9 | 162 | 76.1 | 211 | 65.1 |
| No Ulceration | 3 | 11.5 | 22 | 81.5 | 36 | 62.1 | 47 | 22.1 | 108 | 33.3 |
| NR/NA/not assessable | 1 | 3.8 | 0 | 0.0 | 0 | 0.0 | 4 | 1.9 | 5 | 1.5 |
| Total | 26 | 100.0 | 27 | 100.0 | 58 | 100.0 | 213 | 100.0 | 324 | 100.0 |

**Table 9a: Median Wait in days for 2nd stage WLE treatment following diagnosis (Year on Year)**

| | Borders | D&G | Fife | Lothian | SCAN |
|---|---|---|---|---|---|
| **Year of Report** | days | days | days | days | days |
| 2019-20 | 67.5 | 42 | 65.5 | 78 | 71.5 |
| 2018-19 | 76 | 68 | 66 | 71 | 70 |
| 2017-18 | 62 | - | 77 | 53 | - |
| 2016-17 | 69.5 | - | 65 | 43 | - |
| 2015-16 | 55 | 46 | 74 | 57 | - |
| 2014-15 | 57 | 48 | 71 | 51 | - |
| 2013 | 67 | 51 | 66 | 51 | - |
| 2012 | 61 | 59 | 64 | 47 | - |
| 2011 | 65 | 48 | 58 | 48 | - |
| 2010 | 58 | 53 | 57 | 51 | - |

**Table 9b: Patient wait > 84 days for 2nd stage WLE treatment following diagnosis**

| | Borders | | D&G | | Fife | | Lothian | |
|---|---|---|---|---|---|---|---|---|
| **Year of Report** | n | % of Total WLE | n | %of Total WLE | n | %of Total WLE | n | %of Total WLE |
| 2019-20 | 5 | 20 | 8 | 29.6 | 12 | 22.2 | 73 | 42 |
| 2018-19 | 12 | 41.4 | 11 | 35.5 | 6 | 9.0 | 52 | 36.1 |
| 2017-18 | 5 | 14.3 | 10 | 27.8 | 23 | 33.3 | 20 | 12.4 |
| 2016-17 | 5 | 17.9 | 3 | 11.5 | 12 | 23.0 | 21 | 13.0 |
| 2015-16 | 6 | 19.4 | 6 | 27.3 | 26 | 36.6 | 30 | 15.4 |
| 2014-15 | 7 | 24.1 | 5 | 20.8 | 11 | 27.5 | 20 | 14.1 |
| 2013 | 5 | 21.0 | 6 | 17.1 | 11 | 24.4 | 13 | 7.8 |

**Table 10a: Sentinel Lymph Node Biopsy (SLNB)**

| | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % of Total | n | % of Total | n | % of Total | n | % of Total | n | % of Total |
| Patients eligible for SLNB | 11 | 42.3 | 23 | 85.2 | 37 | 63.8 | 117 | 54.9 | 188 | 58 |
| Patients receiving SLNB | 6 | 23.1 | 3 | 11.1 | 6 | 10.3 | 48 | 22.5 | 63 | 19.4 |
| Patients with +ve SLNB | 2 | 7.7 | 0 | 0 | 0 | 0 | 16 | 7.5 | 18 | 5.6 |

**Table 10b: Patients Eligible for SLNB – Year on Year**

| | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % of Total | n | % of Total | n | % of Total | n | % of Total | n | % of Total |
| 2019-20 | 11 | 42.3 | 23 | 85.2 | 37 | 63.8 | 117 | 54.9 | 188 | 58 |
| 2018-19 | 12 | 38.7 | NA | NA | 29 | 39.2 | 85 | 50.6 | NA | NA |
| 2017-18 | 28 | 75.7 | 30 | 83.3 | 38 | 55.1 | 107 | 59.1 | 203 | 62.9 |
| 2016-17 | 15 | 51.7 | 23 | 79.3 | 45 | 75.0 | 85 | 47.0 | 168 | 55.6 |
| 2015-16 | 12 | 33.3 | 18 | 78.3 | 39 | 52.7 | 100 | 49.8 | 169 | 50.6 |
| 2014-15 | 20 | 57.1 | 33 | 71.1 | 40 | 70.2 | 87 | 43.5 | 180 | 61.6 |
| 2013 | 16 | 53.3 | 29 | 64.4 | 33 | 70.2 | 82 | 45.3 | 160 | 52.3 |
| 2012 | 20 | 60.6 | 13 | 44.8 | 40 | 61.5 | 83 | 43.2 | 156 | 48.9 |

**Table 10c: Sentinel Node Biopsy (SLNB) – Year on Year**

| | % SLNB Eligible of patient total | No of SLNB carried out of patient total | No of SLNB carried out (% total of eligible) | Positive SLNB no of patient total | Positive % SLNB of total carried out |
|---|---|---|---|---|---|
| 2019-20 | 58 | 63 | 33.5 | 18 | 9.6 |
| 2018-19 | 51.6 | 57 | 35.6 | 12 | 21.0 |
| 2017-18 | 62.9 | 60 | 29.6 | 9 | 15.0 |
| 2016-17 | 55.6 | 46 | 27.4 | 11 | 24.0 |
| 2015-16 | 50.6 | 58 | 34.3 | 13 | 22.4 |
| 2014-15 | 61.6 | 56 | 31.1 | 14 | 25.0 |
| 2013 | 52.3 | 51 | 31.9 | 15 | 29.4 |
| 2012 | 48.9 | 65 | 41.7 | 11 | 16.9 |
| 2011 | 53.9 | 92 | 56.1 | 15 | 16.3 |
| 2010 | 46.9 | 86 | 70.0 | 15 | 16.7 |

NB: Increasing numbers of SLNB eligible patients reflect changed staging guidelines. Figures above show a significantly reduced % of positives as a result.

**Table 11: Lymph Node dissection (Year on Year)**

| Year of Report | SCAN Total | % of total patients | | No of Positive | Dissection % Positive |
|---|---|---|---|---|---|
| 2018-19 | Data item no longer collected | | | | |
| 2017-18 | 10 | 4.0 | | 6 | 60.0 |
| 2016-17 | 9 | 3.3 | | 4 | 44.4 |
| 2015-16 | 12 | 3.6 | | 5 | 41.7 |
| 2014-15 | 11 | 3.3 | | 5 | 45.5 |
| 2013 | 19 | 6.3 | | 11 | 57.9 |
| 2012 | 16 | 5.0 | | 5 | 31.3 |
| 2011 | 20 | 6.6 | | 8 | 40.0 |
| 2010 | 17 | 5.6 | | 4 | 23.5 |

**Table 12a: contact with Cancer Nurse Specialist (CNS) for Melanoma**

| | Borders | | *D&G | | *Fife | | Lothian | |
|---|---|---|---|---|---|---|---|---|
| | n | % of Total | n | % of Total | n | % of Total | n | % of Total |
| Contact | 11 | 42.3 | n/a | n/a | 57 | 98.3 | 196 | 92.0 |
| No contact | 15 | 57.7 | n/a | n/a | 1 | 1.7 | 17 | 8.0 |
| Total | 26 | 100 | 27 | n/a | 58 | 100 | 213 | 100 |

*Fife doesn't have a CNS but instead has 3 Skin Cancer Link Nurses (SCLN) 1 based at each site in dermatology - Victoria Hospital in Kirkcaldy and Queen Margaret Hospital in Dunfermline, 1 based in plastics surgery.

***For guidance: Macmillan levels of intervention for healthcare posts and services are* defined as:**

**Level 1 –** Indirect input: No direct involvement with patient/service user and/or carer, general advice via telephone or email, e.g. general dietary advice given over the phone

**Level 2 –** Single consultation: Face-to-face/Skype/digital/telephone consultation, usually one off to assess requirements with referring health professional to give basic advice to with patient/service user and/or carer, e.g. one-off appointment following assessment to provide basic advice

**Level 3 –** Direct short-term intervention: Face-to-face/Skype/digital/telephone consultations, advice on specific issue(s) and/or extra support for short periods for with patient/service user and/or carer, e.g. therapeutic conversation resulting in care plan

**Level 4 –** Long term intervention: long term involvement and/or carer with patient/service user and/or carer for multiple and/or complex issues

**Table 12b: Contact with Cancer Nurse Specialist (CNS) for Melanoma (Year on Year)**

| Patient contact % of Total | | | | | |
|---|---|---|---|---|---|
| **Year of report** | **Borders** | **D&G** | **Fife** | **Lothian** | **SCAN** |
| 2019-20 | 42.3 | n/a | 98.3 | 92.0 | n/a |
| 2018-19 | n/a | n/a | 97.3 | n/a | n/a |
| 2017-18 | n/a | n/a | 100 | n/a | n/a |
| 2016-17 | 45.0 | 19 | 93.3 | 86.0 | 83.3 |
| 2015-16 | 25.0 | n/a | 85.1 | 82.6 | 76.5 |
| 2014-15 | 45.7 | 15.2 | 86.0 | 85.7 | 80.0 |
| 2013 | 36.7 | 35.6 | 37.0 | 87.3 | 61.4 |
| 2012 | 60.6 | 17.2 | 61.5 | 80.7 | 67.4 |

**ABBREVIATIONS**

**ACaDME** **A**cute **C**ancer **D**eaths and **M**ental Health: ISD data mart contains linked inpatient and day-case, mental health, cancer registration and death (GRO) records. It is updated on a monthly basis.

**AJCC** American Joint Committee on Cancer
**BGH** Borders General Hospital, Melrose
**B** Biopsy
**CM** Cutaneous Melanoma
**CNS** Cancer Nurse Specialist
**D&G** Dumfries and Galloway
**FNA** Fine Needle Aspirate
**GP** General Practitioner
**ISD** Information Services Division, National Services Scotland
**LMM** Lentigo Maligna Melanoma
**MDM** Multidisciplinary Meeting
**MDT** Multidisciplinary Team
**Mets** Metastasis/Metastases
**QA** Quality Assurance
**SCAN** Southeast Scotland Cancer Network
**SCR** Scottish Cancer Registry
**SIGN** Scottish Intercollegiate Guidelines Network
**SLNB** Sentinel Lymph Node Biopsy
**SMG** Scottish Melanoma Group
**SSMM** Superficial Spreading Malignant Melanoma
**WLE** Wide local excision

**Acral:** relating to the etremities of peripheral body parts (fingers/palms/soles)

**Adjuvant treatment:** treatment that is given in addition to the primary, main or initial treatment

**Anterior:** nearer the front (of body)

**Breslow Depth:** prognostic factor in melanoma of the skin which describes how deeply tumour cells have invaded.

**Desmoplastic:** growth of fibrous or connective tissue

**Desmoplastic melanoma:** rare subtype of melanoma characterised by malignant spindle cells

**Histogenetic Type:** relating to formation of body tissue

**Incidental finding**: patient may be attending or referred to hospital for investigation or treatment of a condition unrelated to their cancer and a melanoma is diagnosed

**Lentigo Maligna**: a specific type of melanoma in situ that occurs around hair follicles on the sun-damaged skin of the head and neck

**Lentigo Maligna Melanoma**: melanoma evolving from Lentigo Maligna

**Mitosis (pl. Mitoses):** the process of cell division

**Mitotic Rate**: a measurement of how fast tumour cells are dividing.

**Mucosal:** relating to mucous membranes

**Naevoid:** resembling/in the form of a naevus/naevi

**Nodular Melanoma:** type of malignant, often fast-growing melanoma which typically presents as a raised bluish-black tumour

**Pathological T stage:** pathological staging of the tumour based on examined specimens of tissue

**Polypoid:** resembling/in the form of a polyp

**Review patient**: patient attending outpatient cancer clinic as part of follow-up for a previous melanoma

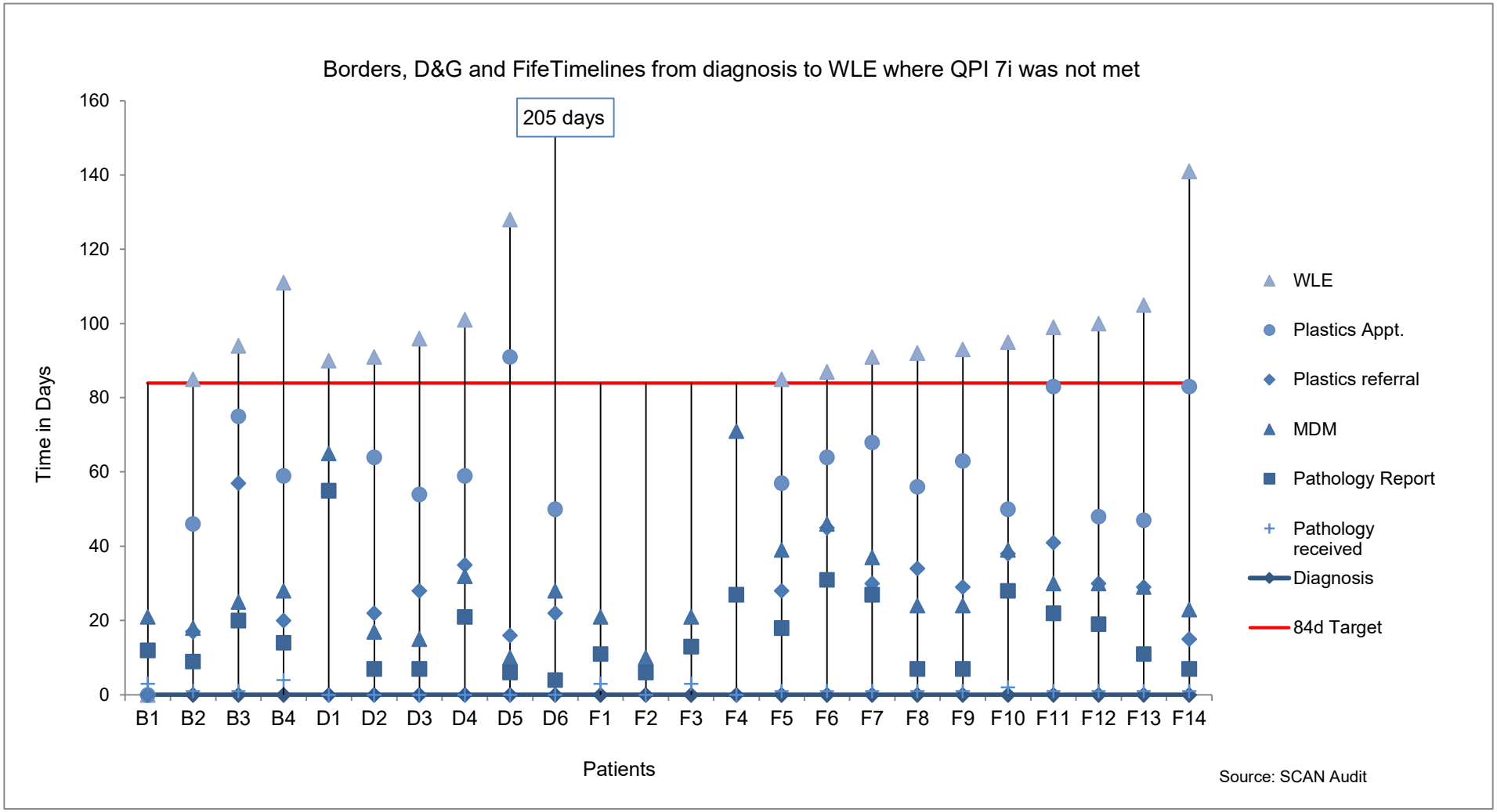
**Spitzoid melanoma:** melanoma with the features of a Spitz naevus (a rare melanocytic lesion)

**Subungual:** beneath a fingernail or toenail

**Superficial spreading melanoma:** most common form of cutaneous melanoma in Caucasians. Occurs most frequently from middle age onwards on sun-exposed skin. especially on the backs of males and lower limbs of females.

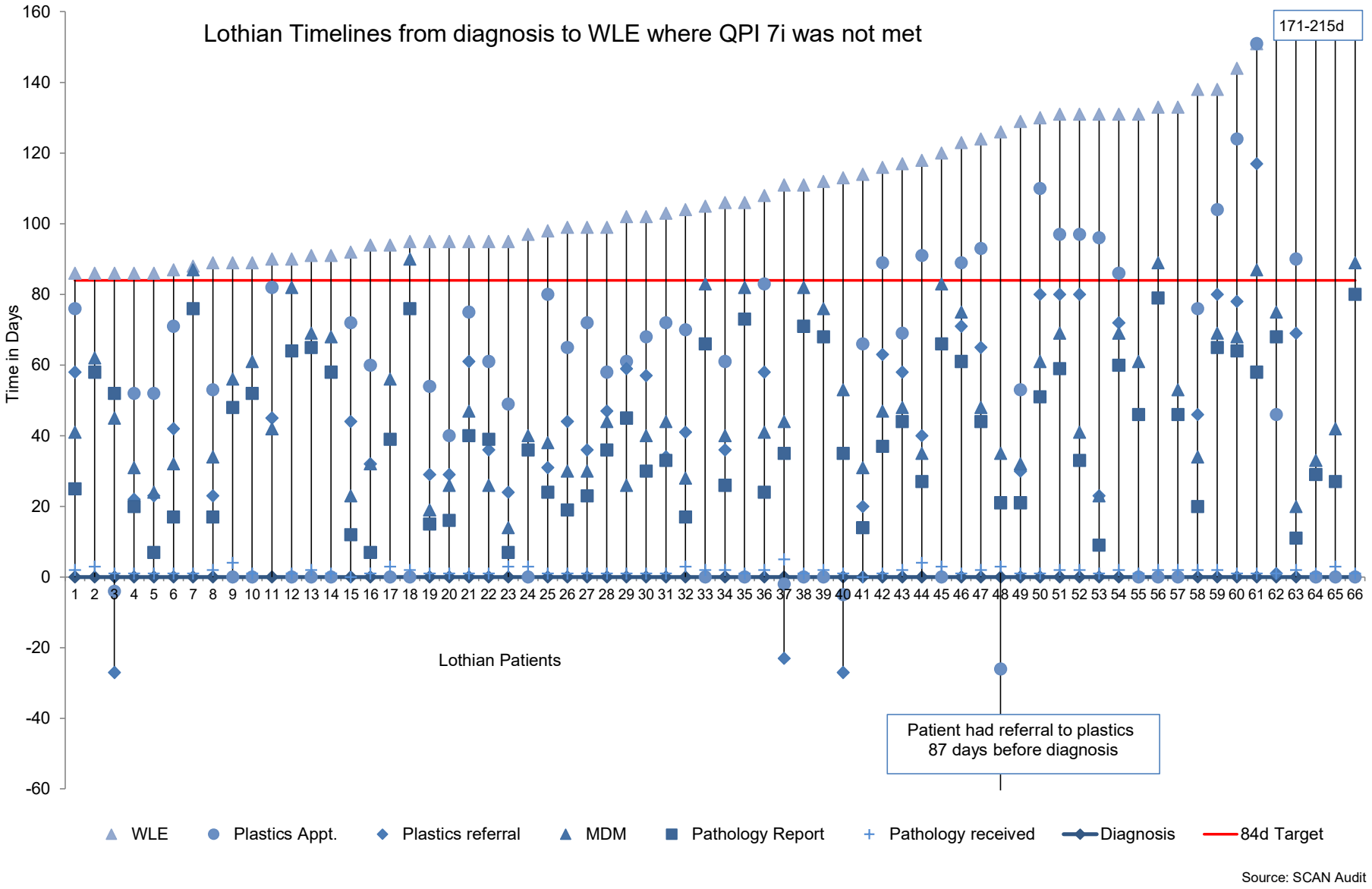
| Cutaneous Melanoma QPI Attainment 2018-19 | | Target % | Borders | | D&G | | Fife | | Lothian | | SCAN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| QPI 1: Excision Biopsy. patients should have their diagnostic excision biopsy carried out by a skin cancer clinician | Excision biopsy | 90 | N 24<br>D 25 | 96.0% | N 19<br>D 23 | 82.6% | N 57<br>D 59 | 96.6% | N 93<br>D 140 | 66.4% | N 193<br>D 247 | 78.1% |
| | Partial biopsy | 90 | N 6<br>D 6 | 100% | N 6<br>D 12 | 50.0% | N 13<br>D 15 | 86.7% | N 18<br>D 26 | 69.2% | N 43<br>D 59 | 72.9% |
| QPI 2: Pathology Reporting. Surgical pathology reports cutaneous melanoma should contain full pathology information | | 90 | N 25<br>D 25 | 100% | N 19<br>D 25 | 76.0% | N 58<br>D 60 | 96.7% | N 139<br>D 143 | 97.2% | N 241<br>D 253 | 95.3% |
| QPI 3: Multi-Disciplinary Team Meeting (MDT). Patients should be discussed prior to definitive treatment | | 95 | N 29<br>D 31 | 93.5% | N 27<br>D 35 | 77.1% | N 68<br>D 73 | 93.2% | N 150<br>D 163 | 89.6% | N 273<br>D 306 | 89.2% |
| QPI 4: Clinical Examination of Draining Lymph Nodes as part of clinical staging | | 95 | N 29<br>D 31 | 90.5% | N 36<br>D 37 | 97.3% | N 73<br>D 74 | 98.6% | N 163<br>D 168 | 97% | N 300<br>D 310 | 96.8% |
| QPI 5: Sentinel Node Biopsy Pathology. Reports should contain full pathology information | | 90 | N 5<br>D 5 | 100% | N 10<br>D 11 | 90.9% | N 7<br>D 7 | 100% | N 32<br>D 32 | 100% | N 54<br>D 55 | 98.2% |
| QPI 6: Wide Local Excisions to reduce the risk of local recurrence | | 95 | N 29<br>D 31 | 93.5% | N 31<br>D 34 | 91.2% | N 67<br>D 73 | 91.8% | N 144<br>D 163 | 88.3% | N 271<br>D 301 | 90.0% |
| QPI 7 Time to Wide Local Excision. WLE within 84 days of diagnostic Biopsy | Excision biopsy | 95 | N 12<br>D 25 | 48.0% | N 15<br>D 23 | 65.2% | N 50<br>D 59 | 84.7% | N 76<br>D 138 | 55.1% | N 153<br>D 245 | 62.4% |
| | Partial biopsy | 95 | N 5<br>D 6 | 83.3% | N 6<br>D 12 | 50% | N 11<br>D 15 | 73.3% | N 15<br>D 26 | 57.7% | N 37<br>D 59 | 62.7% |
| QPI 8: BRAF Status. Patients with unresectable stage III or IV | | 75 | N 0<br>D 0 | NA | N 4<br>D 5 | 80.0% | N 2<br>D 2 | 100% | N 2<br>D 2 | 100% | N 8<br>D 9 | 88.9% |
| QPI 9: Imaging in Advanced Melanoma. CTPET/CT within 35 days of diagnosis (stage IIC, III or IV melanoma) | | 95 | N 0<br>D 3 | 0% | N 4<br>D 8 | 50.0% | N 3<br>D 10 | 30.0% | N 3<br>D 19 | 15.8% | N 10<br>D 40 | 25.0% |
| QPI 10: Systemic Therapy. Patients with unresectable stage III or IV melanoma should receive Systemic Anti Cancer Therapy (SACT) | | 60 | N 0<br>D 0 | NA | N 3<br>D 4 | 75.0% | N 0<br>D 2 | 0.0% | N 2<br>D 2 | 100% | N 5<br>D 8 | 62.5% |
| QPI 12:Adequate excision of lesion prior to definitive treatment (with clinical margins of 2mm prior to WLE) | | 85 | N 19<br>D 28 | 67.9% | N 3<br>D 31 | 9.7% | N 33<br>D 67 | 49.3% | N 86<br>D 143 | 60.1% | N 141<br>D 269 | 52.0% |
| Clinical trials N= patients consented to a trial on SCRN database (EDGE). D= 5 year average from Cancer Registry | | 15 | N 0<br>D 38 | 0.0% | N 0<br>D 36 | 0.0% | N 1<br>D 68 | 1.5% | N 4<br>D 185 | 2.2% | N 5<br>D 327 | 1.5% |

**Appendix 2**


Borders, D&G and FifeTimelines from diagnosis to WLE where QPI 7i was not met
205 days
Time in Days
160
140
120
100
80
60
40
20
0
B1 B2 B3 B4 D1 D2 D3 D4 D5 D6 F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14
Patients
WLE
Plastics Appt.
Plastics referral
MDM
Pathology Report
Pathology received
Diagnosis
84d Target
Source: SCAN Audit

Cumulative Times and additional information for QPI 7i Outliers

| QPI7i | Breslow | Surgeon/ Derm Cons | Path received | Path report | MDM | Plastics referral | Plastics Appt | WLE | Comments |
|---|---|---|---|---|---|---|---|---|---|
| B1 | 1 | MacKenzie | 3 | 12 | 21 | - | - | - | Declined treatment |
| B2 | 1.6 | MacKenzie | 1 | 9 | 18 | 17 | 46 | 85 | Plastics capacity - |
| B3 | 1.9 | MacKenzie | 1 | 20 | 25 | 57 | 75 | 94 | Covid related treatment delay |
| B4 | 1.5 | MacKenzie | 4 | 14 | 28 | 20 | 59 | 111 | Plastics capacity - |
| D1 | 8 | Gardner | 0 | 55 | 65 | | | 90 | |
| D2 | 1.6 | Malone | 0 | 7 | 17 | 22 | 64 | 91 | Lothian Plastics app, WLE in D&G |
| D3 | 1.2 | Malone | 0 | 7 | 15 | 28 | 54 | 96 | Lothian Plastics app, WLE in D&G |
| D4 | 1.0 | Cahoon | 0 | 21 | 32 | 35 | 59 | 101 | Lothian WLE |
| D5 | 1.8 | Muir | 0 | 6 | 10 | 16 | 91 | 128 | Lothian Plastics app, WLE in D&G |
| D6 | 0.9 | Muir | 0 | 4 | 28 | 22 | 50 | 205 | Lothian Plastics app, WLE in D&G |
| F1 | 4.07 | A Mitchell | 3 | 11 | 21 | | | | |
| F2 | 0.4 | MM | 0 | 6 | 10 | | | | |
| F3 | 0.2 | MM | 3 | 13 | 21 | | | | |
| F4 | 4.1 | D Graham | 0 | 27 | 71 | | | | |
| F5 | 1.1 | KA | 1 | 18 | 39 | 28 | 57 | 85 | |
| F6 | 0.6 | JL | 1 | 31 | 46 | 45 | 64 | 87 | |
| F7 | 0.6 | JL | 1 | 27 | 37 | 30 | 68 | 91 | |
| F8 | 4.64 | A Mitchell | 1 | 7 | 24 | 34 | 56 | 92 | |
| F9 | 0.6 | SMcC | 1 | 7 | 24 | 29 | 63 | 93 | |
| F10 | 1.6 | MM | 2 | 28 | 39 | 38 | 50 | 95 | |
| F11 | 3.5 | SMcC | 1 | 22 | 30 | 41 | 83 | 99 | |
| F12 | 5.4 | SMcC | 1 | 19 | 30 | 30 | 48 | 100 | |
| F13 | 0.48 | MM | 1 | 11 | 29 | 29 | 47 | 105 | |
| F14 | 3.75 | SMcC | 1 | 7 | 23 | 15 | 83 | 141 | |




Source: SCAN Audit

Cumulative times (days) and additional information for Lothian Outliers in QPI 7i

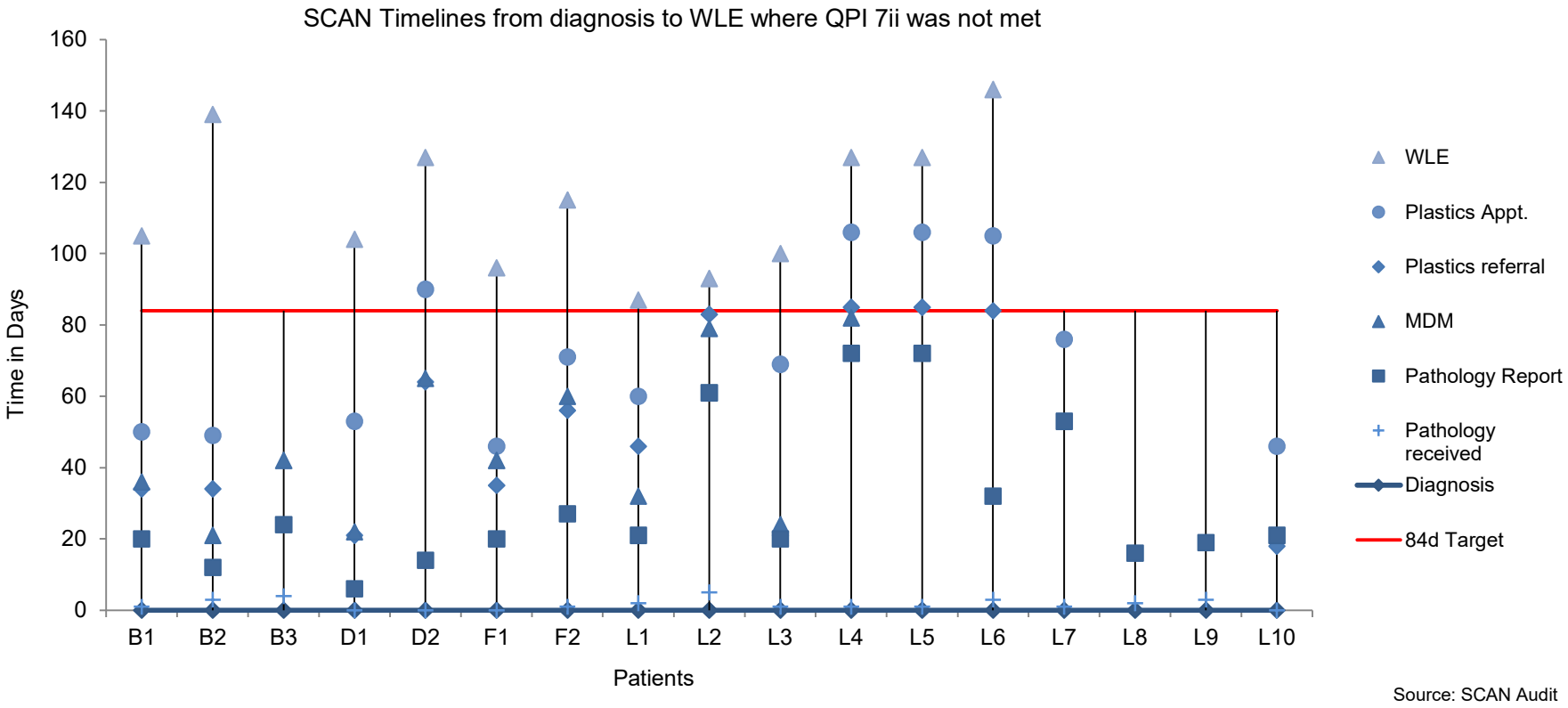
| QPI7i | Breslow | Surgeon | Path received | Path report | MDM | Plastics referral | Plastics Appt | WLE | AJCC Stage | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.9 | Ahmed* | 2 | 25 | 41 | 58 | 76 | 86 | IB | Plastics capacity |
| L2 | 0.8 | Lohana* | 3 | 58 | 62 | in house | | 86 | IB | path report delay |
| L3 | 0.6 | Butterworth | 1 | 52 | 45 | -27 | -4 | 86 | IB | path report delay |
| L4 | 5.8 | locum | 1 | 20 | 31 | 22 | 52 | 86 | IIB | Plastics capacity |
| L5 | 4.5 | Gupta | 1 | 7 | 24 | 23 | 52 | 86 | IIC | Plastics capacity |
| L6 | 2.3 | locum | 1 | 17 | 32 | 42 | 71 | 87 | III | Plastics capacity |
| L7 | 0.5 | Cordey | 1 | 76 | 87 | in house | | 88 | IA | path report delay |
| L8 | 5.2 | other | 2 | 17 | 34 | 23 | 53 | 89 | IIC | Plastics capacity |
| L9 | 1.06 | R.D. Aldridge | 4 | 48 | 56 | in house | - | 89 | IB | path report delay |
| L10 | 3.5 | Lohana* | 1 | 52 | 61 | in house | - | 89 | IIA | patient out of contact |
| L11 | NR | Naysmith | | | 42 | 45 | 82 | 90 | | lost biopsy |
| L12 | 0.3 | other | 1 | 64 | 82 | in house | - | 90 | IA | path report delay |
| L13 | 0.7 | other | 2 | 65 | 69 | in house | - | 91 | IA | path report delay |
| L14 | 0.3 | Lohana* | 1 | 58 | 68 | in house | - | 91 | IA | path report delay |
| L15 | 1.0 | Gupta | 0 | 12 | 23 | 44 | 72 | 92 | IB | Plastics capacity |
| L16 | 1.95 | locum | 1 | 7 | 32 | 32 | 60 | 94 | IIA | Plastics capacity |
| L17 | 0.45 | locum | 3 | 39 | 56 | in house | - | 94 | IA | path report delay |
| L18 | 0.35 | Lohana * | 2 | 76 | 90 | in house | - | 95 | IA | path report delay |
| L19 | 1.8 | Connolly * | 1 | 15 | 19 | 29 | 54 | 95 | III | Plastics capacity |
| L20 | 0.9 | other | 1 | 16 | 26 | 29 | 40 | 95 | IA | Plastics capacity |
| L21 | 4.3 | Ahmed * | 1 | 40 | 47 | 61 | 75 | 95 | IIC | path report delay |
| L22 | 1.6 | Chatterjee * | 1 | 39 | 26 | 36 | 61 | 95 | III | path report delay |
| L23 | 3.9 | Naysmith | 3 | 7 | 14 | 24 | 49 | 95 | | shielding (transplant) |
| L24 | 0.41 | Chatterjee * | 3 | 36 | 40 | in house | - | 97 | IA | path report delay |
| L25 | 1.1 | Kavanagh | 1 | 24 | 38 | 31 | 80 | 98 | III | patient induced delay |
| L26 | 1.2 | Cordey | 1 | 19 | 30 | 44 | 65 | 99 | IB | Plastics capacity |

| QPI7i | Breslow | Surgeon | Path received | Path report | MDM | Plastics referral | Plastics Appt | WLE | AJCC Stage | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| L27 | 0.5 | Gupta | 1 | 23 | 30 | 36 | 72 | 99 | IA | Plastics capacity |
| L28 | 1.5 | Cordey | 1 | 36 | 44 | 47 | 58 | 99 | III | Plastics capacity |
| L29 | 0.3 | other | 1 | 45 | 26 | 59 | 61 | 102 | IA | path report delay |
| L30 | 2.3 | Ahmed * | 1 | 30 | 40 | 57 | 68 | 102 | IIA | path report delay |
| L31 | 7.0 | GP | 1 | 33 | 44 | 34 | 72 | 103 | IIC | Plastics capacity |
| L32 | 1.8 | Aldridge | 3 | 17 | 28 | 41 | 70 | 104 | IB | Plastics capacity |
| L33 | 0.4 | Chatterjee * | 2 | 66 | 83 | in house | - | 105 | IA | path report delay |
| L34 | 5.2 | Ahmed * | 2 | 26 | 40 | 36 | 61 | 106 | III | Plastics capacity |
| L35 | 2.5 | Ekwobi * | 1 | 73 | 82 | in house | - | 106 | IIA | path report delay |
| L36 | 0.25 | Ahmed * | 2 | 24 | 41 | 58 | 83 | 108 | IA | Plastics capacity |
| L37 | 7.0 | Hamilton | 5 | 35 | 44 | -23 | -2 | 111 | IIB | path report delay |
| L38 | 0.3 | other | 1 | 71 | 82 | in house | - | 111 | IA | path report delay |
| L39 | 0.6 | Ahmed * | 2 | 68 | 76 | in house | - | 112 | IA | path report delay |
| L40 | 1.3 | Bertram | 1 | 35 | 53 | -27 | -5 | 113 | IB | path report delay |
| L41 | 0.87 | Aldridge | 0 | 14 | 31 | 20 | 66 | 114 | IA | Plastics capacity |
| L42 | 2.0 | Chatterjee * | 1 | 37 | 47 | 63 | 89 | 116 | IB | path report delay |
| L43 | 6.1 | Ahmed * | 2 | 44 | 48 | 58 | 69 | 117 | IIC | path report delay |
| L44 | 1.2 | locum | 4 | 27 | 35 | 40 | 91 | 118 | IIA | Covid induced Tx |
| L45 | 0.5 | Ahmed * | 3 | 66 | 83 | in house | - | 120 | IA | path report delay |
| L46 | 1.9 | Lohana * | 1 | 61 | 75 | 71 | 89 | 123 | IB | path report delay |
| L47 | 2.2 | Ahmed * | 2 | 44 | 48 | 65 | 93 | 124 | III | path report delay |
| L48 | 8.0 | Bahia | 3 | 21 | 35 | -87 | -26 | 126 | IIC | Plastics capacity |
| L49 | 4.2 | Aldridge | 1 | 21 | 32 | 30 | 53 | 129 | III | unclear delay, ?COVID |
| L50 | 1.1 | other | 1 | 51 | 61 | 80 | 110 | 130 | IB | path report delay |
| L51 | 9.5 | 8889 | 2 | 59 | 69 | 80 | 97 | 131 | IIC | path report delay |
| L52 | 0.85 | Lohana * | 2 | 33 | 41 | 80 | 97 | 131 | IB | path report delay |

| QPI7i | Breslow | Surgeon | Path received | Path report | MDM | Plastics referral | Plastics Appt | WLE | AJCC Stage | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| L53 | 0.4 | Leitch | 1 | 9 | 23 | 23 | 96 | 131 | IA | Plastics capacity |
| L54 | 0.8 | Chatterjee * | 2 | 60 | 69 | 72 | 86 | 131 | IB | path report delay |
| L55 | 0.4 | Arkoulis * | 1 | 46 | 61 | in house | - | 131 | | shielding (transplant) |
| L56 | 0.6 | Lohana * | 2 | 79 | 89 | in house | - | 133 | IA | path report delay |
| L57 | 0.4 | Chatterjee * | 2 | 46 | 53 | in house | - | 133 | IA | Covid induced Tx |
| L58 | 3.6 | Lohana * | 2 | 20 | 34 | 46 | 76 | 138 | IIB | Plastics capacity |
| L59 | 2.6 | other | 2 | 65 | 69 | 80 | 104 | 138 | III | path report delay |
| L60 | 1.2 | Lohana * | 1 | 64 | 68 | 78 | 124 | 144 | IB | path report delay |
| L61 | 1.2 | other | 1 | 58 | 87 | 117 | 151 | 151 | IB | path report delay |
| L62 | 1.9 | Ahmed * | 1 | 68 | 75 | 1 | 46 | 171 | IB | Covid induced Tx |
| L63 | 0.6 | Lohana * | 2 | 11 | 20 | 69 | 90 | 180 | IA | no initial follow up |
| L64 | 0.58 | Ahmed * | 1 | 29 | 33 | in house | - | 204 | IA | Covid induced Tx |
| L65 | 0.6 | Naysmith | 3 | 27 | 42 | in house | - | 215 | IA | Covid induced Tx |
| L66 | 1.2 | Chatterjee * | 1 | 80 | 89 | in house | - | 255 | IB | Covid induced Tx |
| L67 | 8.0 | Widdowson | 1 | 50 | 67 | - | - | - | IIC | comorbidity |
| L68 | 3.5 | other | 2 | 51 | 62 | - | - | - | IIB | died before WLE |
| L69 | 1.2 | Bahia | 1 | 30 | 39 | - | - | - | IB | sufficient margin |
| L70 | 0.65 | Aldridge | 0 | 28 | 45 | - | - | - | IIC | comorbidity |
| L71 | 0.6 | Rice | 1 | 21 | 30 | - | - | - | IA | declined treatment |
| L72 | 3.0 | NR | - | | 21 | 10 | 42 | - | III | declined treatment |
| L73 | 1.1 | Aldridge | 0 | 13 | 23 | 21 | 72 | - | IB | comorbidity |
| L74 | 0.37 | Aldridge | 0 | 13 | 23 | 21 | 72 | - | IA | comorbidity |
| L75 | 0.2 | Aldridge | 1 | 9 | 16 | 28 | - | - | IA | declined treatment |
| L76 | 0.4 | Lohana * | 2 | 82 | 89 | - | - | - | IA | sufficient margin |
| L77 | 14.1 | Chatterjee * | 2 | 55 | 55 | - | - | - | III | no initial follow up |
| L78 | 4.5 | McKay | 1 | 14 | 31 | - | 129 | - | IIC | declined treatment |

| QPI7i | Breslow | Surgeon | Path received | Path report | MDM | Plastics referral | Plastics Appt | WLE | AJCC Stage | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| L79 | 0.55 | Ahmed * | 2 | 62 | 83 | - | - | - | IA | sufficient margin |
| L80 | 0.7 | Ahmed * | 1 | 29 | 257 | - | - | - | IA | no initial follow up |
| L81 | 4.6 | Ooi | 0 | 16 | 25 | 36 | 116 | - | IIC | other cancer treatment |
| L82 | 0.75 | Rice | 1 | 8 | 24 | - | - | - | IIC | declined treatment |
| L83 | 0.5 | Aldridge | 1 | 18 | 32 | - | - | - | IA | sufficient margin |
| L84 | 3.7 | Arkoulis * | 2 | 11 | 27 | 27 | 76 | - | IIB | declined treatment |
| L85 | 0.7 | MacKenzie | 68 | 77 | 72 | - | - | - | III | other cancer treatment |
| L86 | 1.4 | Aldridge | 1 | 22 | 32 | - | - | - | IB | COVID (observation) |
| L87 | 1.3 | Aldridge | 1 | 49 | 66 | - | - | - | IB | COVID (observation) |
| L88 | 0.6 | Mitchell | 1 | 41 | 50 | - | - | - | IA | COVID (observation) |
| L89 | 3.3 | Aldridge | 1 | 8 | 24 | - | - | - | IIB | declined treatment |
| L90 | 0.6 | Aldridge | 1 | 8 | 24 | - | - | - | IA | COVID (observation) |
| L91 | 10.0 | Aldridge | 1 | 22 | 32 | - | - | - | IIC | comorbidity |
| L92 | 3.7 | Widdowson | 2 | 29 | 39 | -3 | 7 | - | IIB | declined treatment |
| L93 | 0.7 | Gynae Onc | 1 | 16 | 31 | N/A | | | IA | vulvectomy |
| L94 | 4.4 | Cahoon | 4 | 29 | 43 | -11 | -3 | | IIC | declined treatment |
| L95 | 0.84 | Butterworth | 0 | 26 | 36 | -55 | -41 | | IB | declined treatment |

*External Provider

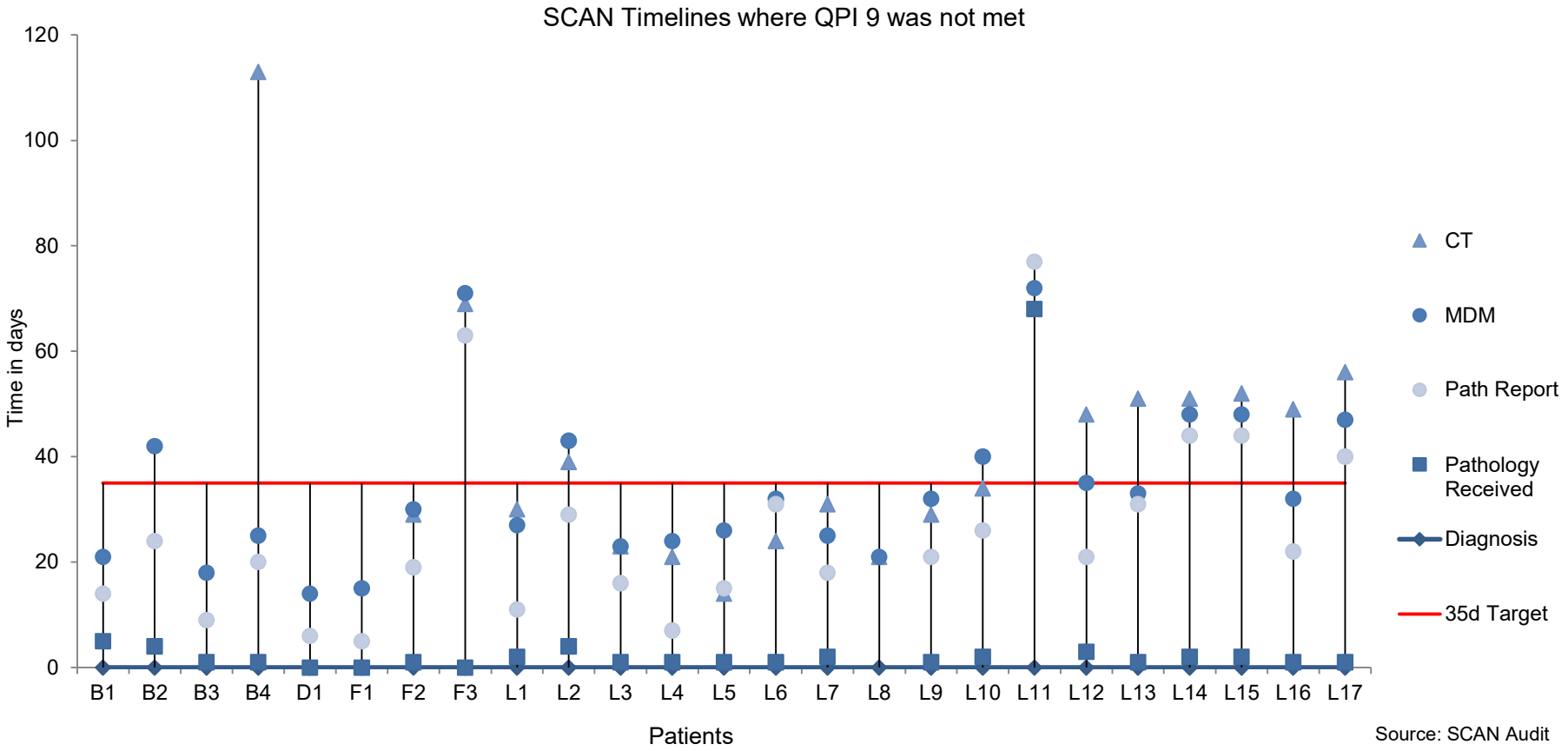



Source: SCAN Audit

Cumulative times for QPI 7ii

| QPI7ii | Breslow | Operating Surgeon/ Dermatology Cons | Path received | Path report | MDM | Plastics referral | Plastics Appt | WLE | Comments |
|---|---|---|---|---|---|---|---|---|---|
| B1 | 24 | MacKenzie | 1 | 20 | 36 | 34 | 50 | 105 | plastic capacity |
| B2 | 0.78 | MacKenzie | 3 | 12 | 21 | 34 | 49 | 139 | patient induced delay |
| B3 | 4.0 | MacKenzie | 4 | 24 | 42 | | | | BSC only |
| D1 | 3.5 | Muir | 0 | 6 | 22 | 21 | 53 | 104 | Lothian plastics app, WLE in D&G |
| D2 | 9 | Butterworth | 0 | 14 | 65 | 64 | 90 | 127 | Lothian WLE |
| F1 | 1.1 | AS | 0 | 20 | 42 | 35 | 46 | 96 | patient induced delay |
| F2 | 0.3 | SMcC | 1 | 27 | 60 | 56 | 71 | 115 | path reporting & plastics capacity |
| L1 | 2.1 | Ooi | 2 | 21 | 32 | 46 | 60 | 87 | |
| L2 | 3.6 | Hamilton | 5 | 61 | 79 | 83 | | 93 | |
| L3 | 0.7 | McKay | 1 | 20 | 24 | 21 | 69 | 100 | |
| L4 | 0.98 | Lohana* | 1 | 72 | 82 | 85 | 106 | 127 | |
| L5 | 1.9 | Tripathi* | 2 | 67 | 76 | 80 | 90 | 117 | |
| L6 | 1.8 | Kavanagh | 3 | 32 | 42 | 84 | 105 | 146 | patient induced delay |
| L7 | 0.4 | Bahia | 1 | 53 | 71 | | 76 | | patient died before treatment |
| L8 | NA | Gupta | 2 | 16 | 25 | | | | patient died before treatment |
| L9 | 9 | Rees | 3 | 19 | 35 | | | | acceptable margin |
| L10 | 2.3 | R.B. Aldridge | 0 | 21 | 39 | 18 | 46 | | patient declined treatment |

*External provider


SCAN Timelines where QPI 9 was not met
120
100
80
60
40
20
0
Time in days
B1
B2
B3
B4
D1
F1
F2
F3
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12
L13
L14
L15
L16
L17
Patients
CT
MDM
Path Report
Pathology Received
Diagnosis
35d Target
Source: SCAN Audit

Cumulative times for Outliers in QPI9

| Patient | diagnosis | Pathology Received | Pathology Report | MDM | CT Requested | CT Scan |
|---|---|---|---|---|---|---|
| B1 | 0 | 5 | 14 | 21 | | |
| B2 | 0 | 4 | 24 | 42 | | |
| B3 | 0 | 1 | 9 | 18 | | 108 |
| B4 | 0 | 1 | 20 | 25 | 113 | 116 |
| D1 | 0 | 0 | 6 | 14 | | |
| F1 | 0 | 0 | 5 | 15 | | |
| F2 | 0 | 1 | 19 | 30 | 29 | 61 |
| F3 | 0 | 0 | 63 | 71 | 69 | 81 |
| L1 | 0 | 2 | 11 | 27 | 30 | 39 |
| L2 | 0 | 4 | 29 | 43 | 39 | 40 |
| L3 | 0 | 1 | 16 | 23 | 23 | 42 |
| L4 | 0 | 1 | 7 | 24 | 21 | 42 |
| L5 | 0 | 1 | 15 | 26 | 14 | 42 |
| L6 | 0 | 1 | 31 | 32 | 24 | 43 |
| L7 | 0 | 2 | 18 | 25 | 31 | 43 |
| L8 | 0 | | | 21 | 21 | 48 |
| L9 | 0 | 1 | 21 | 32 | 29 | 50 |
| L10 | 0 | 2 | 26 | 40 | 34 | 54 |
| L11 | 0 | 68 | 77 | 72 | | 58 |
| L12 | 0 | 3 | 21 | 35 | 48 | 59 |
| L13 | 0 | 1 | 31 | 33 | 51 | 65 |
| L14 | 0 | 2 | 44 | 48 | 51 | 69 |
| L15 | 0 | 2 | 44 | 48 | 52 | 69 |
| L16 | 0 | 1 | 22 | 32 | 49 | 78 |
| L17 | 0 | 1 | 40 | 47 | 56 | 86 |
| L18 | 0 | 0 | 16 | 25 | 25 | 100 |
| L19 | 0 | 1 | 18 | 29 | 104 | 113 |
| L20 | 0 | 2 | 59 | 69 | 77 | 116 |
| L21 | 0 | 1 | 17 | 31 | 101 | 121 |
| L22 | 0 | 2 | 65 | 69 | 104 | 122 |
| L23 | 0 | 1 | 15 | 19 | 121 | 123 |
| L24 | 0 | 1 | 24 | 38 | 127 | 128 |

| Patient | diagnosis | Pathology Received | Pathology Report | MDM | CT Requested | CT Scan |
|---|---|---|---|---|---|---|
| L25 | 0 | 1 | 14 | 31 | 129 | 132 |
| L26 | 0 | 1 | 36 | 44 | 138 | 153 |
| L27 | 0 | 5 | 61 | 79 | 140 | 161 |
| L28 | 0 | 3 | 18 | 21 | 147 | 166 |
| L29 | 0 | 1 | 39 | 26 | | 166 |
| L30 | 0 | 1 | 17 | 32 | 158 | 186 |
| L31 | 0 | 1 | 50 | 67 | | |
| L32 | 0 | 0 | 28 | 45 | | |
| L33 | 0 | 2 | 55 | 55 | | |
| L34 | 0 | 1 | 14 | 31 | | |
| L35 | 0 | 0 | 2 | 33 | | |