External Assurance of Performance against Cancer Quality Performance Indicators

Breast Cancer

December 2016 – National Review
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Introduction

Background
In March 2012, the Scottish Government implemented the National Cancer Quality Programme. As part of the programme, Healthcare Improvement Scotland was tasked with providing assurance that NHS boards are meeting, or working to meet, national cancer quality performance indicators (QPIs). Collection of this data is undertaken by NHS boards supported by regional cancer networks. Healthcare Improvement Scotland will undertake a review of the data every three years for each specific tumour type.

All regions submit data to the national review as well as supporting evidence, which provides the clinical context. This information helps the review group to understand how each unit is performing. The data and evidence are then considered by the review group convened by Healthcare Improvement Scotland.

Following the review, Healthcare Improvement Scotland will write to the regional cancer networks highlighting areas of good practice and variations, and will make recommendations. Where required, NHS boards will be asked to submit improvement action plans for any issues that the review group has identified, with timescales for improvement. Members of the review group will then review and monitor these plans.

This approach adds value to, and builds on, the existing governance work undertaken by the regional cancer networks. Regional cancer networks collate and consider the QPI data on an annual basis, monitoring the progress of units through the use of action plans. This annual process of governance is supplemented by the national review which gives an independent view of performance.

Information Services Division (ISD), of NHS National Services Scotland, also publishes a three-year data report for the tumour-specific QPIs. This report includes collation of analysed performance data, trend and survival analysis and is used during the Healthcare Improvement Scotland review. In line with the way ISD presents data, where the number of cases meeting the denominator criteria for any indicator is between one and four, the percentage calculation (and the number) has been recorded as very small numbers. This is both to avoid any unwarranted conclusion being drawn on the basis of small numbers and to minimise the risk of a breach of confidentiality.

What are quality performance indicators?
QPIs are small sets of outcome-focused, evidence-based indicators. Currently, there are 18 specific tumour type sets of indicators. These QPIs have been developed collaboratively by expert groups of clinicians drawn from the three regional cancer networks, ISD and Healthcare Improvement Scotland. The overarching aim is to ensure that activity at NHS board level is focused on the most important areas in terms of improving survival and patient experience, whilst reducing variance and ensuring safe, effective and person-centred cancer care.

The tumour-specific QPIs are underpinned by core generic QPIs that are applicable to the management of all tumour types. These include QPIs relating to patient experience and clinical trials, which are aligned to the key points of quality in a patient pathway for each tumour type.
QPI targets incorporate tolerances to account for the patient’s treatment choice. For example, a woman with a small breast cancer suitable for breast conservation surgery followed by radiotherapy might still choose to have a mastectomy because of concerns about local recurrence of cancer or the practicalities of daily travel for several weeks for treatment. Since the target could only be an estimate of the number of patients making such choices, the number involved will vary from year to year. Failure to meet the target for such reasons is not an indication of a poor service.

The full range of QPIs can be found on the Healthcare Improvement Scotland website: (www.healthcareimprovementscotland.org/our_work/cancer_care_improvement/cancer_qpis/quality_performance_indicators.aspx).

**Format of quality performance indicators**

QPIs are designed to be clear and measurable, based on sound clinical evidence, whilst also taking into account other recognised standards and guidelines.

- Each QPI has a **short title** as well as a fuller **description** which explains exactly what the indicator is measuring.

- This is followed by a brief overview of the **evidence base and rationale** which explains why the development of this indicator was important.

- The measurability **specifications** are then detailed, highlighting how the indicator will actually be measured in practice to allow for comparison across NHSScotland.

- Finally, a **target** is indicated, dictating the level which each unit should be aiming to achieve against each indicator.

The National Cancer Quality Programme, with support from the clinical community, will revise the QPIs as necessary when further evidence or data become available. This will ensure that the chosen target levels are the most appropriate and drive continuous quality improvement as intended.
Summary of review findings

Breast cancer services are available throughout Scotland. These services are arranged around units, with a number of units in each region providing care to their local population. The NHS boards and units considered in the review, and the regional cancer networks responsible for them, are detailed in Appendix 3.

Before the review, the review group was given three years of breast cancer QPI data which covered a reporting period of 2012–2014. Our review group (see Appendix 2) considered regional data as well as NHS board and unit level data. This allowed the group to consider and determine compliance with agreed national QPIs in NHS boards and within individual units. This data provided the foundation of the Healthcare Improvement Scotland review.

In order for the review group to fully understand the data, regional cancer networks were invited to submit an evidence pack of supporting information. This included:

- a position statement from each region
- action plans for improvement, and
- clinical commentary for each QPI to provide the context for the data.

Clinical and data management representatives from each region were invited to attend the review. This was to make sure that each region was able to respond directly to questions raised about the provision of services in their area as well as allowing them to share practice and discuss the outcomes of the QPIs. The clinicians who attended the review were breast cancer clinical network leads, or deputies, who have knowledge of the services provided by all units in their areas.

The review group considered each of the QPIs individually, looking at NHS board level data. This provided the group with a sense of performance within a region for the reporting period. The review group then went on to consider the data for individual breast cancer units within each NHS board. This was very helpful in understanding how units were performing. It was noted by the review group that, although some NHS boards met the QPI targets as a whole, individual units did not always meet that same target. Where this is the case, this has been highlighted in the relevant sections of the report.

Through the process of the review, a picture of the performance against the QPIs developed. This has enabled the review group to make a number of national and regional recommendations.

Areas of strength

The review group was satisfied that services were meeting most of the targets set out in the QPIs, and where they were not, there was reasonable clinical justification for this. It was clear that breast cancer care is delivered by a service committed to critical analysis, evaluation and improvement. The review group noted areas where, over the three reporting years, NHS boards and units were exceeding targets.

The representatives present at the review meeting were able to report that clinical teams within NHS board areas were reviewing QPI data regularly and using this information to make improvements to services. In turn, this has enhanced elements of care for those with breast cancer. For example, NHS Lothian has developed a
one-stop breast clinic at St John’s Hospital, Livingston, which has improved access to diagnostic tests. In the West of Scotland region, it was reported that improvements to clinical practice in relation to assessment of the axilla has resulted in the region meeting the QPI target.

**Areas for improvement**

The review group made a number of recommendations, but the most notable areas for improvement were specific to access to specialist clinical skills and consistency of practice in regions.

**QPI 1: Multidisciplinary Team Meetings (MDTs)** – staffing issues in some areas meant that MDTs held during the reporting period did not consistently include radiology input. Although a recommendation has been made, the review group was satisfied that no patients were disadvantaged by difficulties in accessing specialist clinical advice at the MDTs.

**QPI 2: Non-Operative Diagnosis** – the data showed that NHS Grampian had difficulty in meeting the target. The NHS board provided clinical reasons as to why core biopsy was not undertaken, but it was acknowledged that there was inconsistency of practice across the region. The review group was informed that local and regional guidelines are being reviewed to support staff in ensuring consistency of practice. However, the review group remains unclear about what action is being undertaken to address the issue of informed consent for core biopsy in vulnerable patient groups.

The recommendations made by the review group are set out in Appendix 1. The review group expects that regional cancer networks and their constituent NHS boards consider the national and regional recommendations and address all of the areas for improvement.

The review group will seek to monitor improvement against the recommendations through dialogue with the regional cancer networks. To support this, the regional cancer networks will be asked to submit an action plan. The report and details of when the action plans will be available can be found on the Healthcare Improvement Scotland website: www.healthcareimprovementscotland.org/our_work/cancer_care_improvement/cancer_qpis/cancer_qpi_assurance_programme.aspx

Healthcare Improvement Scotland would like to extend its thanks to the regional cancer networks for their timely submission of data and supporting evidence, and to those representatives who attended the review.
Our findings

<table>
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<tr>
<th>QPI 1: Multidisciplinary Team Meeting (MDT)</th>
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<td>Patients with newly diagnosed breast cancer should be discussed by a multidisciplinary team prior to definitive treatment.</td>
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<tr>
<td>Proportion of patients with breast cancer who are discussed at MDT meeting before definitive treatment.</td>
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QPI 1 is a recent addition to the suite of QPIs for breast cancer. Data has therefore not been collected to report against it in the first two years of QPI reporting. Data is available for patients diagnosed in 2014.

Evidence suggests that patients with cancer who are managed by an MDT have better outcomes. There is also evidence that multidisciplinary management increases patients’ overall satisfaction with their care. Discussion prior to definitive treatment decisions being made provides reassurance that patients are being managed appropriately.

Allowing for situations where cancer is not suspected pre-operatively, or where patients receive endocrine treatment prior to discussion, 95% of patients should be discussed by an MDT prior to treatment.

During the review, the review group noted that four NHS boards and three units were missing this target.

NHS Dumfries & Galloway discussed 88.2% of patients before treatment in 2014. Colleagues within NHS Dumfries & Galloway reported to their regional cancer network that there had been difficulties in obtaining radiologist input into MDT meetings. It was noted by the review group that NHS Dumfries & Galloway currently only has one full-time locum radiologist in post and this is a result of wider issues relating to the recruitment and training of specialised clinicians in Scotland. Although this situation is challenging for the MDT in NHS Dumfries & Galloway, the review group were satisfied that patients were not being disadvantaged.

Staffing challenges were also noted in NHS Fife, where 90.7% of patients were discussed before treatment in 2014. While this was not felt to be affecting patients’ interests, the review group considered it to be important that all disciplines relevant to the management decision be represented at MDT meetings.

NHS Orkney discussed 75% of patients before treatment in 2014 and NHS Shetland discussed 90.9%. However, the review group was satisfied that the target was missed due to the small number of patients involved in each case and that the patients involved had required specific management which had started before an MDT meeting could be held.

Although NHS Lanarkshire met the QPI, achieving 97.7% as an NHS board, Monklands Hospital achieved 94.2%. Similarly, NHS Greater Glasgow and Clyde, achieved 96.4% as an NHS board. However, the unit serving North East Glasgow achieved 94.5% and South Glasgow achieved 94.3%.

The review group carefully considered the evidence submitted by regions and was satisfied that, whilst not all units met this target, there were reasonable clinical
explanations as to why. In the case of NHS Dumfries & Galloway, the review group acknowledged that recruitment of specialists is challenging and this can impact on appropriate disciplinary representation.

The review group recommended that NHS Dumfries & Galloway and NHS Fife continue to work to resolve the situation and consider the ways in which the full range of specialist input into multidisciplinary teams can be achieved.

**QPI 2: Non-Operative Diagnosis**

**Patients with breast cancer should have a non-operative histological diagnosis.**

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<tr>
<th>Proportion of patients with invasive or in-situ breast cancer who have a non-operative diagnosis (core biopsy/large volume biopsy).</th>
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<tr>
<td>Allowing for patient choice and occasions when it is not possible, 95% of patients with invasive or in-situ breast cancer should have their cancer diagnosed by core or large volume biopsy. This allows patients, where possible, to only need one procedure to confirm diagnosis of breast cancer.</td>
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During the review, the group noted that two NHS boards and one unit were missing this target.

NHS Grampian achieved non-operative diagnosis of breast cancer for 90.3% of patients with invasive or in-situ breast cancer in 2014. A similar figure of 91.4% was achieved in 2013. The representative from the North of Scotland Cancer Network explained to the review group that diagnosis by fine needle aspiration (FNA) was used instead of core biopsy for some non-surgical patients in NHS Grampian. FNA uses a fine needle and syringe to take a sample of cells for analysis under a microscope.

It was reported to the review group that FNA was used instead of core biopsy in NHS Grampian largely due to co-morbidities, anti-coagulation issues or impaired mental health preventing informed consent in patients.

It was noted by members of the review group that co-morbidities, anti-coagulation issues and consent issues were not contraindications for core biopsy and that accepted clinical practice should be adopted in all NHS boards. The North of Scotland Cancer Network reported that it is developing clinical management guidelines and putting in place policies to ensure a consistent approach is being taken to issues around co-morbidity. NHS Tayside’s policy covering anti-coagulation issues has also been shared with other NHS boards to support consistency of practice. However, the group was unclear about what actions are being taken forward to address issues of informed consent in vulnerable patient groups.

NHS Shetland provided non-operative diagnosis for 90.9% of patients. The group accepted that the NHS board did not meet this QPI due to the very small number of patients involved, and was satisfied that there were clinical reasons why this QPI had not been met.

Although NHS Greater Glasgow and Clyde achieved 96.1% as an NHS board, South Glasgow only provided non-operative diagnosis for 92.4% of patients. There were 27 patients who did not meet this QPI. Clinicians within NHS Glasgow and Clyde have
carefully reviewed all of the cases and the clinical decisions provided were deemed appropriate by the review group.

The review group recommended that NHS Grampian continues to work to address issues with inconsistency of clinical practice, and provides an action plan showing how these issues will be addressed.

QPI 3: Pre-Operative Assessment of Axilla
Patients with breast cancer should have pre-operative assessment of the axilla.

Proportion of patients with invasive breast cancer who undergo assessment of the axilla: (i) ultrasound (ii)+/- FNA/core biopsy if suspicious morphology is reported on ultrasound, before surgery.

This QPI measures two elements of pre-operative assessment:

(i) all patients with invasive breast cancer should undergo ultrasound, and;

(ii) if findings of ultrasound are suspicious of cancer spread to nodes all patients should undergo fine needle aspiration or core biopsy.

The target for part (i) is 95%. The target for part (ii) of the QPI is 85%. This is due to the fact that FNA or core biopsy of the axilla is not always technically possible.

All NHS boards met both parts of this QPI in 2014. The review group noted that this had not been the case in some NHS boards in previous years. The QPI data had been used to drive improvement in staffing and documentation.

The review group noted that two regions had made progress in improving pre-operative assessment by using the QPI data from the three-year reporting period to inform changes in practice and in service delivery. Using the QPI data, St John’s Hospital, NHS Lothian, has developed a one-stop clinic which has helped this unit to improve the diagnostic service for patients. Although this is not reflected in the three years of QPI data included in this report, the representatives from South East Scotland Cancer Network attending the review explained that this has improved patient experience and access. NHS Borders has also made improvements by using improved standardised reporting forms for their MDT meetings. Likewise, the West of Scotland has used QPI data to improve practice which has resulted in the target being met.
QPI 4: Conservation Rate
Patients with small breast cancers should undergo breast conservation whenever appropriate.

Proportion of surgically treated patients with breast cancer less than 20mm whole tumour size on histology who achieve breast conservation.

This QPI measures the number of patients with small breast cancers who undergo breast conservation, where appropriate. The target for this QPI is 85%, accounting for patient choice. Some patients will prefer to have a mastectomy rather than conservation because of the risk of possible recurrence in the future or ongoing treatment requirements associated with conservation such as the need for radiotherapy.

The review group noted that three NHS boards and two units did not meet this target.

NHS Highland achieved 80.2%, due to 18 patients choosing to proceed to mastectomy. The NHS board reviewed the reasons for this. There had been no change to the approach taken in previous years when the target was met and the review group was satisfied that this was the result of patient choice.

NHS Dumfries & Galloway achieved 84.6% due to a very small number of patients choosing to have mastectomies rather than breast conservation. The review group noted that the South East Scotland Cancer Network intended in future to document the reasons why each patient chose a mastectomy.

NHS Forth Valley achieved 82%. This was due to nine patients opting to have mastectomies rather than breast conservation. Cases which did not meet the standard were reviewed and it was found that eight were due to patient choice. No reason was recorded for the ninth case.

While NHS Lanarkshire achieved 85.4%, Hairmyres and Wishaw achieved 84.6% and 82.1% respectively.

The review group was generally satisfied that NHS boards have considered the cases where breast conservation has not been undertaken; all of the cases have either been the result of patient choice, or due to specific clinical reasons for not undertaking conservation surgery. The review group also welcomed the efforts made by the South of Scotland Cancer Network to record the reasons for patients choosing to forgo conservation surgery and instead requesting mastectomy.

The review group recommended that the reasons are recorded in cases where patients choose to undergo mastectomy rather than breast conservation.
QPI 5: Surgical Margins

Breast cancers which are surgically treated should be adequately excised.

Proportion of surgically treated patients with breast cancer (invasive or ductal carcinoma in situ) with final radial excision margins of less than 1mm.

This QPI measures the proportion of patients who undergo surgery where the tumour has not been completely excised. The rationale behind this QPI is that there is an increased risk of local recurrence if the surgical margins are less than 1mm. A target of less than 5% was set for this.

NHS Forth Valley achieved 5.5%. The review group was satisfied that there were clinical reasons why this target was not met for a very small number of patients. All other NHS boards achieved this QPI.

Clinical representatives advised that some evidence now suggests the surgical margin could be safely reduced to 0.5mm and that re-excision rates might be a better measure of quality. The QPI may be amended in the future to reflect this.

QPI 6: Immediate Reconstruction Rate

Patients undergoing mastectomy for breast cancer should have access to immediate breast reconstruction.

Proportion of patients who undergo immediate breast reconstruction at the time of mastectomy for breast cancer.

Immediate reconstruction following mastectomy has no influence on recurrence and may have psychological benefits. This QPI is intended to demonstrate access to immediate reconstruction. However, access to reconstruction is difficult to measure, so uptake is used instead. The target for this QPI is greater than 10%, taking into account patient choice.

Three NHS boards did not meet this target. NHS Orkney and NHS Shetland figures related to very small numbers of patients. It was noted that a very small number of patients from NHS Shetland who had received immediate reconstruction had done so through NHS Grampian and were, therefore, included in the NHS Grampian figures. The review group noted that had they been included in NHS Shetland’s figures, the target would have been met.

NHS Dumfries & Galloway also missed this target, achieving 6.7%. It was noted that patients from NHS Dumfries & Galloway identified through the Scottish Breast Screening Programme were treated in NHS Ayrshire & Arran. Those who were not having reconstruction after their mastectomy were referred back to NHS Dumfries & Galloway for surgery. However, patients who were considered suitable for immediate reconstruction were treated in NHS Ayrshire & Arran. While the number of patients involved was very small, their inclusion in figures for NHS Dumfries & Galloway would have meant the target was met. Other NHS boards also had different pathways for symptomatic patients and those identified through the national screening programme. It was apparent to the review group that the variation in these referral patterns complicated interpretation of this QPI.
The review group noted that QPI 6 measures the availability of immediate reconstruction and whether the patient had the reconstruction. Representatives noted that it does not measure how long it took to get to the point of reconstruction. They also noted that a longer wait may affect patient choice, resulting in patients declining this aspect of treatment.

Clinical representatives reported to the review group that consideration was being given to raising this QPI target to 25%. While most NHS boards are meeting the current target, it was suggested that meeting this revised target would be challenging. Through discussions, the review group noted that waiting times for reconstructive surgery could become a concern due to surgical capacity in regions. Delays in access to reconstructive surgery can impact on patient choice as well as on quality of life.

The review group recommended that the Scottish Government External Review of Cancer Waiting Time Standards considers the potential impact of the QPI on local surgical capacity and any delays which might arise from increased surgical demand.

**QPI 7: Negative Axillary Clearance Rate**

*Over treatment of the axilla should be minimized.*

Proportion of patients with breast cancer undergoing an axillary clearance with no pathological evidence of nodal metastatic disease.

This QPI measures patients undergoing surgical treatment of the axilla in order to minimise over-treatment. The target for this QPI is less than 10%.

Only one NHS board did not meet this target.

NHS Fife achieved 11.8% due to a very small number of patients having a false positive FNA of the axillary nodes. No positive nodes were found at subsequent surgery. The South East Scotland Cancer Network confirmed that the reasons for this have now been addressed.

**QPI 8: Minimising Hospital Stay – “23 Hour” Surgery**

*Patients should have the opportunity for “23 hour” surgery (a maximum of 1 overnight stay following surgery) wherever appropriate.*

Proportion of patients undergoing wide excision and/or axillary sampling procedure for breast cancer with a maximum 1 night hospital stay following their procedure.

It is safe to perform wide excision or axillary sampling as a short-stay procedure for the majority of patients. This approach has been shown to improve clinical quality, resulting in better patient outcomes. The target for this QPI is 80%.

All but one NHS board were able to show that they achieved the 80% target for this QPI in 2014. NHS Grampian identified inaccuracies in the data they had recorded relating to hospital stay and the NHS board was, therefore, unable to report against
this QPI for 2014. Changes have since been made to the systems which were in place and it is expected that the data recorded for 2015 would be accurate.

**QPI 9: HER2 Status for Decision Making**

**HER2 status should be available to inform treatment decision making.**

Proportion of patients with invasive breast cancer for whom the HER2 status, as defined by ImmunoHistochromy (IHC), is known at the initial MDT meeting to decide first treatment. The target for this QPI is 90%.

HER2 is a protein involved in the growth of cells. Around 20% of breast cancers have higher than normal levels of HER2 (known as HER2 positive) which stimulates the cancers to grow. HER2 status has a significant impact on survival and, therefore, on decisions on treatment. Not having the patient’s HER2 status available when making decisions about treatment may lead to a delay in appropriate treatment.

Only two NHS boards were achieving the 90% target for this QPI. NHS Tayside achieved 95.4% while NHS Ayrshire & Arran achieved 90.2%. Each of these NHS boards had facilities on site to carry out the required analysis. Laboratory configuration and capacity, and the timing of MDT meetings following clinics, was thought to be an issue elsewhere.

The review group understands that there is a close relationship with higher volumes of work and good outcomes in laboratories. However, the review group recommended that regional cancer networks, in collaboration with regional planning groups and commissioners of laboratory services, should consider ways to ensure that MDTs have the results of HER2 measurement when it is required for treatment decision making.

**QPI 10: Radiotherapy for Breast Conservation**

**After wide local excision patients with breast cancer should receive radiotherapy.**

Proportion of patients with breast cancer who receive radiotherapy to the breast after conservation for invasive cancer.

The proportion of patients receiving radiotherapy following breast conservation should be 95% or higher.

Four NHS boards were not meeting this target. These were NHS Borders (87.8%), NHS Dumfries & Galloway (94%), NHS Lothian (93.8%) and NHS Lanarkshire (85.4%).

In NHS Dumfries & Galloway, only a very small number of patients did not receive radiotherapy to the breast after conservation for invasive cancer. In NHS Borders, the figure was five patients. In NHS Lanarkshire the figure was 22 and in NHS Lothian the figure was 34. The reasons for these decisions had been reviewed and were agreed to be clinically appropriate.

The review group noted that these decisions reflected the findings of the PRIMEII clinical trial, which was published in *The Lancet, Vol 16, pp266-273, March 2015.*
The trial assessed the effect of not giving whole-breast radiotherapy to older women who were at low risk of a local recurrence of a tumour. It suggested that there could be adverse risks and inconvenience to patients from having radiotherapy, and survival was not improved and the likelihood of local recurrence was only slightly reduced by postoperative radiotherapy. There has, therefore, been a national move towards giving less radiotherapy where possible. This QPI may require amendment in the light of this clinical research.

**QPI 11: Adjuvant Chemotherapy**

Patients with higher risk breast cancer should receive chemotherapy post operatively.

Proportion of patients between 50 and 70 years of age at diagnosis with surgically proven node positive or at least G3 >20mm breast cancer who receive adjuvant chemotherapy.

Adjuvant chemotherapy is chemotherapy given in addition to surgery. It improves relapse-free survival and overall survival of breast cancer, but the degree of potential benefit varies and can be estimated using one of a number of computer algorithms. The target for this QPI is 85%.

Two NHS boards and one unit met the 85% target for this QPI. These were NHS Highland (89.2%), NHS Orkney (which treated a very small number of patients) and St John’s Hospital, NHS Lothian (88.9%). However, it was felt that there were clinically appropriate reasons why other NHS boards did not meet this target.

The review group noted that since the QPIs were first developed, some new tools have been put into clinical use on a more routine basis. It was reported that these tools provide a better way of identifying which patients would benefit from adjuvant chemotherapy than the parameters originally identified and defined for this QPI. Consideration is being given to the recording of MDT discussions relating to the predicted benefit of chemotherapy using tools such as PREDICT and also genomic tests such as the Oncotype DX® test. It is likely that the QPI definitions will be amended to reflect these advances in practice.

Considering the supporting evidence submitted to the review group, and through discussion, the review group recognised that whilst this QPI was not met by some NHS boards, it was satisfied that patients are being correctly advised about the risks and benefits of chemotherapy.

**The review group recommended that the use of any assessment tool in decision making, and the outcome, should be recorded.**
QPI 12: Anti-HER2 Positive Therapy

Patients with HER2 positive intermediate or high risk breast cancer should receive anti-HER2 positive therapy.

Proportion of patients with breast cancer (who are between 50 and 70 years of age at diagnosis) with HER2 positive cancer greater than 10mm or node-positive who receive anti-HER2 positive therapy.

This QPI aims to encourage the treatment of HER2 positive cancers with anti-HER2 therapy, such as Trastuzumab (more commonly known by the trade name Herceptin™). The target for this QPI is 90%.

The review group noted that only four NHS boards and four units were meeting this target. The NHS boards which met the target all achieved 100%. These were NHS Forth Valley, NHS Borders, NHS Dumfries & Galloway and NHS Fife. The units were Hairmyres Hospital, NHS Lanarkshire (100%); and North East Glasgow (100%), Clyde (100%) and South Glasgow (94.4%), NHS Greater Glasgow and Clyde.

The review group noted that for adjuvant treatment, anti-HER2 positive therapies are only licensed to be given in conjunction with chemotherapy. If a patient is HER2 positive, but not receiving adjuvant chemotherapy, they should not be receiving anti-HER2 positive therapy. As such, representatives from regional cancer networks felt that this QPI may encourage off-label prescribing of anti-HER2 positive therapies in order to meet the 90% target.

Representatives advised that the target was met for patients who had received chemotherapy and were HER2 positive.

QPI for Clinical Trial Access

All patients should be considered for participation in available clinical trials, wherever eligible.

Proportion of patients with breast cancer who are enrolled in an interventional clinical trial or translational research.

This QPI states that all patients should be considered for participation in available clinical trials, wherever eligible. The target for participation in interventional trials is 7.5%, and for translational research it is 15%.

Only three NHS boards met the target for interventional clinical trials. These were NHS Forth Valley (13.3%), NHS Lanarkshire (9.4%) and NHS Lothian (26.8%). Only NHS Lothian achieved the target for translational research, with 32.1% of eligible patients considered for participation.

During the review, the review group heard that these are very challenging targets, particularly for smaller units. Meeting the targets required the availability of suitable trials as well as a significant research infrastructure. A great deal of time is needed to be invested to enrol any patients in a trial, particularly as these could be highly selective and might only be relevant to a very small number of patients. Explaining the nature of the trial to a patient and obtaining properly informed consent is time consuming on its own.
The review group recommends that while there are challenges in meeting the targets, particularly for smaller units, NHS boards should invest further in the infrastructure and resource needed to participate effectively in clinical trials.

### QPIs for Cancer Patient Experience

The patient experience QPIs include a toolkit which addresses a number of areas that are recognised as important issues in relation to patient experience. These include communication, information provision and shared decision making. The toolkit was developed to support NHS boards in identifying issues and focusing activity on areas of local priority.

Although regions did submit patient experience information as part of the breast cancer QPI review, the review group could not draw any firm conclusions about common themes and areas of best practice as comparative data were not available.

However, a Scottish Cancer Patient Experience Survey 2015/16, conducted in partnership by the Scottish Government and Macmillan Cancer Support, was published in June 2016 ([www.gov.scot/cancersurvey](http://www.gov.scot/cancersurvey)). This survey looked at the full journey of care that a cancer patient experiences and grouped the national findings under a number of key themes, including those contained within the QPI toolkit. Separate reports, with more detailed findings, were also developed for each regional cancer network and NHS board.

**The review group recommended that all NHS boards further develop their activities to support ongoing improvement of patient experience.**

### Survival QPIs

Survival from diagnosis of breast cancer patients in Scotland has been published regularly by ISD and information on survival was not requested as part of this review.
Appendix 1 – National and regional recommendations

National recommendations
The review group found that there were a number of national recommendations for the breast cancer clinical community within NHSScotland which will apply to all NHS Boards. All regional breast cancer network leads should consider these recommendations within their local clinical community.

The context for the recommendations listed below is detailed in the report.

<p>| QPI 1: Multidisciplinary Team Meeting (MDT) | No recommendations made |
| QPI 2: Non-Operative Diagnosis | No recommendations made |
| QPI 3: Pre-operative Assessment of Axilla | No recommendations made |
| QPI 4: Conservation Rate | 1 The review group recommended that the reasons are recorded in cases where patients choose to undergo mastectomy rather than breast conservation. |
| QPI 5: Surgical Margins | No recommendations made |
| QPI 6: Immediate Reconstruction Rate | 2 The review group recommended that the Scottish Government External Review of Cancer Waiting Time Standards considers the potential impact of the QPI on local surgical capacity and any delays which might arise from increased surgical demand. |
| QPI 7: Negative Axillary Clearance | No recommendations made |</p>
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<th>QPI 9: HER2 Status for Decision Making</th>
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<tbody>
<tr>
<td>3 The review group understands that there is a close relationship with higher volumes of work and good outcomes in laboratories. However, the review group recommended that regional cancer networks, in collaboration with regional planning groups and commissioners of laboratory services, should consider ways to ensure that MDTs have the results of HER2 measurement when it is required for treatment decision making.</td>
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<tr>
<th>QPI 10: Radiotherapy for Breast Conservation</th>
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<tr>
<td>No recommendations made</td>
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<tr>
<th>QPI 11: Adjuvant Chemotherapy</th>
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<tr>
<td>4 The review group recommended that the use of any assessment tool in decision making, and the outcome, should be recorded.</td>
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<tr>
<th>QPI 12: Anti-HER 2 Positive Therapy</th>
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<td>No recommendations made</td>
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<th>Clinical Trial Access QPI</th>
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<tr>
<td>5 The review group recommends that while there are challenges in meeting the targets, particularly for smaller units, NHS boards should invest further in the infrastructure and resource needed to participate effectively in clinical trials.</td>
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<tr>
<th>Patient Experience QPI</th>
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<tr>
<td>6 The review group recommended that all NHS boards further develop their activities to support ongoing improvement of patient experience.</td>
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<th>Survival QPIs</th>
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<tr>
<td>No recommendations made</td>
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</table>
Regional recommendations

Some of the recommendations made during the review were particular to specific NHS boards and regional cancer networks. The responsible regional breast cancer network leads should consider these recommendations within their local clinical community.

### QPI 1: Multidisciplinary Team Meeting (MDT)

**1** The review group recommended that NHS Dumfries & Galloway and NHS Fife continue to work to resolve the situation and consider the ways in which the full range of specialist input into multidisciplinary teams can be achieved.

### QPI 2: Non-operative Diagnosis

**2** The review group recommended that NHS Grampian continues to work to address issues with inconsistency of clinical practice, and provides an action plan showing how these issues will be addressed.

### QPI 3: Pre-operative Assessment of Axilla

No recommendations made

### QPI 4: Conservation Rate

No recommendations made

### QPI 5: Surgical Margins

No recommendations made

### QPI 6: Immediate Reconstruction Rate

No recommendations made

### QPI 7: Negative Axillary Clearance

No recommendations made

### QPI 8: Minimising Hospital Stay – “23 – Hour” Surgery

No recommendations made
### QPI 9: HER2 Status for Decision Making
No recommendations made

### QPI 10: Radiotherapy for Breast Conservation
No recommendations made

### QPI 11: Adjuvant Chemotherapy
No recommendations made

### QPI 12: Anti-HER 2 Positive Therapy
No recommendations made

### Clinical Trial Access QPI
No recommendations made

### Patient Experience QPI
No recommendations made

### Survival QPIs
No recommendations made
Appendix 2 – Review group membership

Core members

Dr Mike Cornbleet (Chair), External Advisor

Alan Finlayson, Service Manager, Information Services Division, NHS National Services Scotland

Stella Macpherson, Public Partner, Healthcare Improvement Scotland

Aimee Taylor, Information Analyst, Information Services Division, NHS National Services Scotland

Professor Pamela Warrington, External Advisor

Regional representatives

Lorna Bruce, Audit Manager, South East Scotland Cancer Network

Wilma Jack, Senior Clinical Research Fellow, South East Scotland Cancer Network

Kate MacDonald, Network Manager, South East Scotland Cancer Network

Iona Reid, Breast Cancer Clinical Lead, West of Scotland Cancer Network

Iona Scott, Quality and Service Improvement Manager, West of Scotland Cancer Network

Evelyn Thomson, Regional Manager (Cancer), West of Scotland Cancer Network

Christine Urquhart, Cancer Audit & Information Manager, North of Scotland Cancer Network

Healthcare Improvement Scotland staff

Lucy Aitken, Data & Measurement Advisor

Gregor Auld, Information Analyst

Tammy Fenton, Project Officer

Belinda Henshaw, Senior Programme Manager

Sue Lovatt, Programme Manager

Stephanie Macmillan, Project Officer
Appendix 3 – Regional cancer networks

Where an NHS board has more than one cancer unit, these have been listed below the NHS board.

North of Scotland Cancer Network (NOSCAN)
- NHS Grampian
- NHS Highland
- NHS Orkney
- NHS Shetland
- NHS Tayside

South East Scotland Cancer Network (SCAN)
- NHS Borders
- NHS Dumfries & Galloway
- NHS Fife
- NHS Lothian
  - Western General Hospital, Edinburgh
  - St John’s Hospital, Livingston

West of Scotland Cancer Network (WOSCAN)
- NHS Ayrshire & Arran
- NHS Forth Valley
- NHS Greater Glasgow and Clyde
  - Clyde (Royal Alexandra Hospital, Paisley)
  - North East Glasgow (Stobhill Hospital, Glasgow)
  - South Glasgow
  - Western Infirmary, Glasgow
- NHS Lanarkshire
  - Hairmyres Hospital, East Kilbride
  - Monklands Hospital, Airdrie
  - Wishaw General Hospital
### Appendix 4 – Glossary of terms

Some of the terms noted below were compiled using the Breast Cancer Care glossary. This can be found here: [www.breastcancercare.org.uk/smallbreast-cancersmall-information/glossary-breast-cancer-terms](http://www.breastcancercare.org.uk/smallbreast-cancersmall-information/glossary-breast-cancer-terms)

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>adjuvant</strong></td>
<td>Treatment given in addition to other treatment, for example chemotherapy or radiotherapy given as well as surgery.</td>
</tr>
<tr>
<td><strong>axilla</strong></td>
<td>Under the arm, the armpit.</td>
</tr>
<tr>
<td><strong>axillary clearance</strong></td>
<td>An operation to remove all the lymph glands from under the arm (axilla).</td>
</tr>
<tr>
<td><strong>axillary dissection</strong></td>
<td>An operation to remove some of the lymph glands from under the arm (axilla).</td>
</tr>
<tr>
<td><strong>axillary nodes</strong></td>
<td>The lymph nodes (also called lymph glands) under the arm (axilla).</td>
</tr>
<tr>
<td><strong>biopsy</strong></td>
<td>Removal of tissue to be looked at under a microscope.</td>
</tr>
<tr>
<td><strong>breast-conserving surgery</strong></td>
<td>(Also known as wide local excision or lumpectomy.) The removal of the cancer with a margin (border) of normal breast tissue around it.</td>
</tr>
<tr>
<td><strong>carcinoma</strong></td>
<td>The medical term for cancer.</td>
</tr>
<tr>
<td><strong>chemotherapy</strong></td>
<td>Treatment aimed at destroying cancer cells using anti-cancer drugs, which are also called cytotoxic drugs.</td>
</tr>
<tr>
<td><strong>co-morbidities</strong></td>
<td>One or more additional disorders (or diseases) occurring at the same time as a primary disease or disorder.</td>
</tr>
<tr>
<td><strong>core biopsy</strong></td>
<td>Biopsy using a hollow needle to take a sample(s) of tissue for analysis under a microscope.</td>
</tr>
<tr>
<td><strong>ductal carcinoma in situ (DCIS)</strong></td>
<td>An early type of breast cancer where the cells have not yet developed the ability to spread outside the walls of the ducts into surrounding breast tissue or to other parts of the body. Sometimes called a pre-invasive, intraductal or non-invasive cancer.</td>
</tr>
<tr>
<td><strong>excision</strong></td>
<td>Surgical removal.</td>
</tr>
<tr>
<td><strong>fine needle aspiration (FNA)</strong></td>
<td>Using a fine needle and syringe to take a sample of cells for analysis under a microscope.</td>
</tr>
<tr>
<td><strong>HER2 (human epidermal growth factor receptor 2)</strong></td>
<td>A protein involved in the growth of cells. Around 20% of breast cancers have higher than normal levels of HER2 (known as HER2 positive) which stimulates them to grow.</td>
</tr>
<tr>
<td><strong>histology</strong></td>
<td>Microscopic study of tissues.</td>
</tr>
<tr>
<td><strong>ImmunoHistoChemistry (IHC)</strong></td>
<td>Identification of specific proteins by staining tissues with antibodies.</td>
</tr>
<tr>
<td><strong>ISD</strong></td>
<td>Information Services Division</td>
</tr>
<tr>
<td><strong>invasive cancer</strong></td>
<td>Has the potential to spread to other parts of the body.</td>
</tr>
<tr>
<td><strong>lymph nodes</strong></td>
<td>Also known as lymph glands. Small oval-shaped structures found in clusters throughout the lymphatic system, for example under the arm (axilla).</td>
</tr>
<tr>
<td><strong>mastectomy</strong></td>
<td>Removal of all the breast tissue including the nipple area.</td>
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<tr>
<td><strong>morphology</strong></td>
<td>Microscopic appearance.</td>
</tr>
<tr>
<td><strong>multidisciplinary team (MDT)</strong></td>
<td>A team of clinicians from a variety of disciplines including nursing, oncology and surgery.</td>
</tr>
<tr>
<td><strong>nodal metastatic disease</strong></td>
<td>Spread of cancer to nearby lymph nodes. Also referred to as 'node positive'.</td>
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<tr>
<td><strong>non-operative diagnosis</strong></td>
<td>Diagnosis by core or large volume biopsy.</td>
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<tr>
<td><strong>quality performance indicator (QPI)</strong></td>
<td>A proxy measure of quality care.</td>
</tr>
<tr>
<td><strong>radiotherapy</strong></td>
<td>The use of high energy X-rays to destroy cancer cells.</td>
</tr>
<tr>
<td><strong>surgical margin</strong></td>
<td>How close the cancer cells are to the edges of the whole area of tissue removed during surgery.</td>
</tr>
<tr>
<td><strong>tumour</strong></td>
<td>An overgrowth of cells forming a lump; may be benign (not cancer) or cancer.</td>
</tr>
<tr>
<td><strong>unit</strong></td>
<td>Centre for delivering care.</td>
</tr>
<tr>
<td><strong>wide local excision (WLE)</strong></td>
<td>Surgery to remove breast cancer with a margin of healthy tissue. Sometimes called breast-conserving surgery or lumpectomy.</td>
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